George Mason University

IT Consulting Services | RFP Number GMU-1700-21
1/22/2021
Digital Copy

CDW Government LLC
2001 Edmund Halley Dr.
Suite 500
Reston, VA 20191

Michele Rogers, Senior Buyer
Katherine Sirotin, Assistant Director
George Mason University
4400 University Drive, Mailstop 3C5
Fairfax, VA 22030

1/22/2021

RE: CDW·G's Response to IT Consulting Services, RFP No. GMU-1700-21

Dear Ms. Rogers and Ms. Sirotin,

George Mason University (Mason) is seeking qualified vendors to provide information technology related support services and consulting services. CDW Government LLC (CDW·G) is the right partner for Mason – with over 20 years specializing in serving higher education, we have both the capacity and the experience that Mason requires for a successful IT consulting services contract.

We have reviewed Mason's requirements and have developed a comprehensive proposal to exceed your expectations by offering the following benefits:

- **CDW Amplified™ Services Catalog**. CDW's Amplified Services will provide Mason with access to Business Management Services, Enterprise Application and Infrastructure Services, Program and Project Management and Security Services.
- **Pre-Sales Technical Resources.** Mason will have access to Pre-Sales Technical Resources for all of CDW·G's Services area's including Cisco, Cloud, Data Center, ITIL, Microsoft, Security and Digital Transformation.
- **Strategic Expertise.** Working with CDW·G, Mason will be partnering with a IT services company that can provide high-level strategic and technical expertise on a wide range of services, supporting key technologies used by the universities.

Growing a relationship with Mason is of highest priority to CDW·G. For questions regarding our response, please feel free to contact Melissa Goldman, Proposal Specialist, at 847.419.7438 or meliche@cdwg.com.

Sincerely,

Pam Janutolo
Manager, Proposals
CDW Government LLC

Table of Contents

Tab 1: Procedural Information

Return signed cover page and all addenda, if any, signed and completed as required.

Please see attached required documentation following this page:

- Cover Page and Addenda (signed)

- Attachment A – Small Business Subcontracting Plan

- Payment Preference

- Attachment B – Sample Contract

REQUEST FOR PROPOSALS
GMU-1700-21

ISSUE DATE: November 13, 2020

TITLE: IT Consulting Services

PRIMARY PROCUREMENT OFFICER: Michele Rogers, Senior Buyer, mroger19@gmu.edu
SECONDARY PROCUREMENT OFFICER: Katherine Sirotin, Assistant Director, ksirotin@gmu.edu

QUESTIONS/INQUIRIES: **E-mail** all inquiries to both Procurement Officers listed above, no later than 4:00 PM EST on December 4, 2020. **All questions must be submitted in writing.** Responses to questions will be posted on the Mason Purchasing Website by 5:00 PM EST on December 10, 2020. Note: Questions must be submitted in WORD format. Also see section III. COMMUNICATION, herein.

PROPOSAL DUE DATE AND TIME: January 22, 2021 @ 2:00 PM EST. **SEE SECTION XIII.A.1 FOR DETAILS ON ELECTRONIC PROPOSAL SUBMISSION.**

In Compliance With This Request For Proposal And To All The Conditions Imposed Therein And Hereby Incorporated By Reference, The Undersigned Offers And Agrees To Furnish The Goods/Services In Accordance With The Attached Signed Proposal Or As Mutually Agreed Upon By Subsequent Negotiations.

Name and Address of Firm:

Legal Name: CDW Government LLC   Date: 01/21/2021

DBA:

Address: 230 N. Milwaukee Ave.

            Vernon Hills, IL 60061   By: _____
                                                                        Signature

FEI/FIN No.   36-4230110   Name: Pam Janutolo

Fax No.   847.968.0565   Title: Manager, Proposals

                                                         Erica Kordes
Email: erica.kordes@cdw.com   Advanced Technology
                                                         Account Executive
                                            Telephone No.   703.262.8044

SWaM Certified: Yes: _____ No: X   (See Section VII. SWaM CERTIFICATION for complete details).

SWaM Certification Number: _____

This public body does not discriminate against faith-based organizations in accordance with the *Governing Rules, § 36* or against a Bidder/Offeror because of race, religion, color, sex, national origin, age, disability, or any other prohibited by state law relating to discrimination in employment.

RFP GMU-1700-21 ADDENDUM NO. 1:

Date: December 9, 2020
Reference: GMU-1700-21 IT Consulting Services
Proposal Due Date: Friday, January 22, 2021 @ 2:00 PM EST; Electronic Submission
Procurement Officers: Michele Rogers, mroger19@gmu.edu
Katherine Sirotin, ksirotin@gmu.edu

Questions received by Friday, December 4, 2020 by 4:00 PM EST; Answers in **red** below.

Addendum No. 1 will be considered part of the RFP GMU-1700-21. Vendors should include any changes that result from this addendum as well as the information provided below in their offer:

1. Who is the incumbent for these services?
   - Answer: The incumbents are: System Soft, WTC Consulting, Censeo, Sycom and Datastrong

2. What is the previous spend for these services?
   - Answer: Spending under GMU-1288-16 was approximately $4.3M for roughly twenty-five (25) unique purchases. Projects spanned a wide area of strategic engagements including:
       i. Network strategic plan development and road map
       ii. Systems and storage engineering support
       iii. Business analytics support
       iv. Enterprise data integration
       v. Salesforce development
       vi. Data governance
       vii. IT service management and process support

3. What is the budget for the services within this bid? Our firm intents to bid on the above RFP as we have all the required skills set and past performance. We do not see any specific statement of work or technology/tools landscape and overview in the RFP. Could you please let me know if we are missing any attachment or this is it?
   - Answer: The Statement of Needs, Section XI, page 4 of the RFP document provides a description of the services Mason is requesting under this RFP. All documents for RFP GMU-1700-21 IT Consulting can be found in eVA as well as on Mason's Fiscal Services Page. The following links should be helpful:
       i. https://fiscal.gmu.edu/purchasing/do-business-with-mason/view-current-solicitation-opportunities/
       ii. https://mvendor.cgieva.com/Vendor/public/AllOpportunities

4. Sample Report – Please specify the type of detail you would like provided in these reports. For Services. Answer: No additional guidance will be provided to Offerors.

5. "Provide Proposed Financial Offer". What licenses are expected to be needed?
   - Answer: The incumbents are: System Soft, WTC Consulting, Censeo, Sycom and Datastrong

6. Does the university currently have an incumbent vendor for IT Consulting Services?
   - Answer: Please refer to Question 1.

7. If so, what is the incumbent's pricing for these services?

   - Answer: Please use the following link to our **VASCUPP site** which houses all the contracts awarded under the previous IT Consulting RFP https://vascupp.org/contracts The easiest way to search for these contracts is either by contract number or by the buyer's name, Michele Rogers. Use the right-hand page with arrow icon to access the link to the contract:

+ IT Consulting	Datastrong	GMU-1288-16-02	GMU	Michele Rogers		Information Technology	05/31/2021	⬀
+ IT Consulting	WTC	GMU-1288-16-03	GMU	Michele Rogers		Information Technology	05/30/2021	⬀
+ IT Consulting	Censeo Consulting	GMU-1288-16-04	GMU	Michele Rogers		Information Technology	05/21/2021	⬀
+ IT Consulting	System Soft Technologies	GMU-1288-16-05	GMU	Michele Rogers		Information Technology	05/31/2021	⬀
+ IT Consulting	SyCom Technologies	GMU-1288-16-06	GMU	Michele Rogers		Information Technology	05/31/2021	⬀

   - Once you have opened the contract link, you will want to scroll to the bottom of the Contract Database page under **Attachments** to find the original contract and any modifications/renewals:

   Attachments

Name
Datastrong - Final.pdf
Contract Renewal Option 4 GMU-1288-02 DataStrong 5.31.2020-5.30.2021 fully executed.pdf
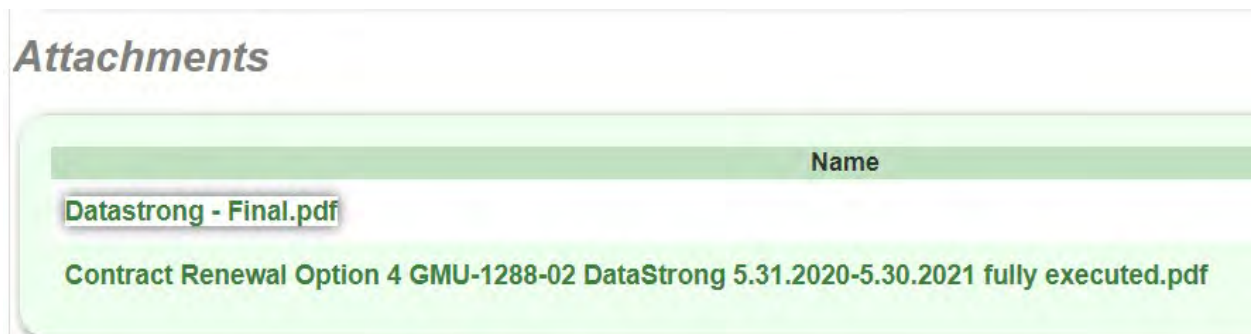
8. What is the university's budget allocated for this IT consulting contract?
   - Answer: No budget to be provided. Please see Question 2 for previous spend history.

9. With reference to Page number 5, clause XII subclause c – "For your last ten most recent projects (Determined by date of final payment by the customer) that exceeded $50k and were billed on an hourly basis, list the following"; I want to check whether my company will

get disqualified or not, if instead of 10 projects we submit 4.5 projects? Answer: The ability to list projects may impact a proposal's score

10. Do firms need to provide all five categories of the on-demand IT consulting services listed in Section XI.1.a, Items i – v to be considered for a contract award? Or can we bid on some categories (Items i – v) and not others? Answer: Vendors are not required to bid on all five categories.

   • If we can bid on specific categories, is it acceptable to say "Not applicable" to proposal requirements that do not appear relevant to the categories we are bidding on? Answer: Yes

11. Does the potential exist for the "Enterprise Applications Services" listed in Section XI.1.a, Item 2 (on page 4 of the RFP) to include consulting services such as system requirements definition, system needs assessments, system selection, and implementation oversight? Answer: Yes

12. Please clarify the level of participation desired for SWaM businesses. Is there a specific percentage per project? Per project, will this participation be an aspirational goal or a requirement? Answer: Mason does not have a set aside requirement.

13. We are required to complete and return a SWaM Utilization Plan (Attachment A of the RFP). Since this is a convenience contract, we won't know what portion of each project can be subcontracted until we see a specific Statement of Needs from Mason. Is it acceptable for us to say that we will identify SWaM subcontractors on a case-by-case basis? Answer: Mason does not have a set aside requirement.

14. Is this a new contract or a re-bid of an earlier contract? If it's a re-bid:

   • How many vendors were included in the contract? Answer: Please see Question 1.

   • How many projects were conducted through the previous contract? Answer: Please see Question 2.

   • What is the total dollar value of the projects conducted through the previous contract? Answer: Please see Question 2.

   • Please provide a list of the types of projects (i.e. the nature of the work) conducted through the previous contract? Answer: Please see Question 2.

15. Does Mason have a limit on how many firms it will pre-approve within each of the five on-demand IT consulting service categories listed in Section XI.1.a, Items i – v? Answer: No

   • If yes, what is Mason's cap in terms of the number of firms it will include in its pool of pre-qualified firms?

16. Section XIII.B.2 (References) and Section XIII.B.4 make reference to "trademark licensing services." Is this correct? Section XIII.B.7 also makes reference to "licensees."

- Answer: No, this is not correct and a typo. "IT related support services and consulting" should replace "trademark licensing services" in all these sections

17. When Mason has a project need, will it contact all of the firms on this contract (within the applicable category in Section XI.1.a, Items i – v of the RFP) and provide them with an opportunity to submit a proposal? If no, what selection process will be used when project needs arise? Answer: The purpose of this RFP is to provide ITS with additional resources on an "as needed basis". Vendor selection criteria will be based on the project being undertaken, and contract award does not guarantee any future work from Mason.

18. Will Mason contemplate exceptions to the RFP terms and conditions, which would follow professional and industry standards for the type of work contemplated. Such exceptions may include modifications to termination of contract, indemnification, and audit rights?

- Answer: Mason is open to negotiation on terms and conditions. Please see Section XIII B. 1. d. We are asking for offerors to identify those proposed or preferred changes in their proposal submission. However, Mason is prohibited from agreeing to any indemnification language in a contractual agreement. Please see VA Code 2.2-1837 A.1.c. https://law.lis.virginia.gov/vacode/title2.2/chapter18/section2.2-1837/). According to the Virginia Code, an institution of higher education cannot agree to any indemnification unless it is approved by the Governor of Virginia. This process is on an exception basis, very lengthy and rarely done.

19. Regarding Attachment C, Item 11 (Audits): Is having a completed SOC report (SSAE16) a requirement for this work (as opposed to other third party independent assessments)? If yes, could this be negotiated depending upon the categories we are bidding on in Section XI.1.a, Items i – v of the RFP? Answer: This is a requirement, and Mason is open to negotiation based on Offerors proposal.

20. In addition to the services lists on RFP page 4-5, is GMU interested in receiving proposals from bidders who provide strategic information technology services? That is, bidders who can provide guidance and expertise on higher education-specific IT governance, data governance, privacy, and information security strategic initiatives like program strategy assessments, risk assessments, and business continuity and disaster recovery planning? Answer: The University is open to receiving proposals for these services.

21. Regarding RFP page 7, section B.2. Our company appreciates our clients' generosity in providing references for our firm and we do not wish to overwhelm our clients with reference requests. We are glad to provide project profiles for similar projects, but would like to provide a customer references (such as contact name, title, phone and email addresses) for similar projects upon being named a finalist for the project. Is this acceptable? Answer: The ability to provide references will impact a proposal's score.

22. What is your governance structure for information technology decisions such as policy creation, control implementation, and risk mitigation? Is decision-making overseen at the state level (e.g., from a state CIO with broad authority for all IT operations within the state) or does your information technology unit have significant decision-making discretion?

- Answer: Through collaboration and a primary focus on customer success, ITS finds solutions to meet the university's wide-ranging technology needs and provides an IT environment in which our students can thrive. We invite you to learn more about working with ITS including our governance structure at https://its.gmu.edu/working-with-its/.

23. Please describe the roles of the distributed versus central IT with approximate staff numbers.

- Answer: Information Technology Services (ITS) provides superior technology and collaborative solutions that inspire life changing learning and success for our students and the entire Mason community. We invite you to learn more about what we do to drive excellence in teaching, research, and administrative operations at https://its.gmu.edu/about-its/.

24. Please provide information size of the size of the GMU IT environment? a) Number of employees? b) Number of Servers? c) Number of laptops & desktops? d) Number of switches, routers, firewalls? e) Number of internet connections? Answer: Please see Question 23.

25. Have you adopted, are you considering for adoption, an industry recognized information security framework (e.g., NIST, ISO/IEC, CIS Critical Security Controls)? Please specify the framework used. Answer: Masons Security Policy and Standard are based upon a tailored version of NIST 800-53 modified to the support the Universities unique needs and requirements.

26. Will all potential Bidders receive copies of all submitted questions and answers issued as an Addendum to the RFP? Answer: Responses to questions will be posted on the Mason Purchasing Website https://fiscal.gmu.edu/purchasing/do-business-with-mason/view-current-solicitation-opportunities/ by 5:00 PM EST on December 10, 2020. If you submitted questions for this RFP, you would have received an email response providing this link as well.

27. Is there an incumbent and are they eligible to bid on this project? If so, who was the incumbent and what was the value of the contract? Answer: Please see Question 1.

28. Regarding Section XII, Page 5 - COST OF SERVICES: Please provide hourly pricing for any and all rates associated with consulting, planning, install, implementation, development project management, etc. Question : Please provide a rate card template or please provide broader guidelines on the information to be included in the rate card. Answer: No further guidance will be provided to Offerors.

29. Regarding Section XI, point d., Page 5 - Describe the ability to provide continuity of consultants throughout the duration of a project. Provide examples of both on-site and remote teams that would work with George Mason University. Question: Please let us know if on-site team are expected to work from GMU. Remote teams are expected to work from supplier location within US or GMU is open outside US location as well Answer: US locations only.

30. Regarding Section XI, point e., Page 5 - Describe services available from your firm and/or partners and associated costs. Examples of services that could be included are: Implementation
    ii. Development
    iii. Project Management

iv. Architecture and Design

v. Capacity Planning

vi. Installation and Configuration

vii. Performance and Scalability

viii. Conversion

ix. Monitoring, administration and upgrades

x. Operations metrics

- Question: Our understanding is these services are expected to be covered as part of the rate card. Please confirm. Let us know if vendor is expected to provide any specific costs of details other than rate card. Answer: No further guidance will be provided to Offerors.

31. Application specific questions:

- What is student information system being used? Is it on cloud or On-premise? Answer: Banner, On-premise
  b. What is the LMS (learning Management System) being used? Is it on cloud or On-premise? Answer: Blackboard, cloud
  c. What is the Marketing & Campaign management system being used Answer: many different systems, including Salesforce TargetX
  d. What is the Student admissions system being used?
  e. What are all the 3rd party applications (eg. Medical records management, cafeteria   management. Smart card services etc) that are linked to core GMU apps? Answer: The University uses too many different things to list them all. Offerors should respond with what their firm is capable of supporting.
  f. What Is the app/platform being used for placements? Answer: Please refine/define the meaning of "placements".

32. Enterprise Application specific questions:

- What Is the HR system being used? Answer: Banner
  b. What is the Procurement system being used? Answer: Banner
  c. What is the Finance system being used? Answer: Banner

33. IT Platform Specific Questions:

- For Custom applications, what is the technology stack being used
  b. What is the integration platform to connect across the apps Answer: Informatica for new integrations, legacy using scripts and Automic scheduler
  c. Is there any data warehouse or data analytics platform present ? if yes, What is the platform? Answer: Homegrown Oracle warehouse (PLSQL packages for ETL), MicroStrategy for reporting
  d. What are all the collaboration platforms exist? << e.g. Teams, sharepoint etc >> Answer: https://its.gmu.edu/service/category/email-and-collaboration/
  e. What is the service help desk platform being used for ticket raising? Answer: Team Dynamix
  f. Is there predictive analytics usage ? (basically in functional areas like Marketing, student success, student drop out and advancement) If yes, details of the tools and technology Answer: SAS and MicroStrategy
  g. Is there any Devops platform?

34. Regarding Analytic Application, what are the most important pain points / challenges faced with regards to data & Analytics in the enterprise? What are the most significant drivers for this programme? Answer: Security model, business rules around data, aligning data from disparate sources

35. Regarding Analytic Application ,please share the technology stack in the current landscape for ETL, Datawarehouse, BI & Reporting Answer: Homegrown Oracle warehouse (PLSQL packages for ETL), MicroStrategy for reporting

36. Regarding Analytic Application, please let us know if the existing system is on-premise or on cloud. If on cloud, please share the technology stack. Answer: Oracle and MicroStrategy both run on-premise.

37. Regarding Analytic Application, what are the different projects planned for Data & Analytics Stream under this RFP? Does it include development projects or support work? Answer: No additional guidance will be provided to Offerors.

38. Regarding Analytic Application, can you please share your current IT spend? Also, please share approximate ballpark of the spend for Data & Analytics stream. Answer: Please see https://budget.gmu.edu/budget-books-and-fact-books/.

39. Regarding Analytic Application, how is the current Data & Analytics team organized? Answer: Please see Question 23.

40. Regarding Analytic Application, is there any scope for Data Science/Advanced Analytics use case implementation using techniques like Machine Learning, Advanced statistics, etc.? If yes, please share details like the use cases to be implemented as part of the scope for this RFP, data sources available for consumption by Analytics models, current/preferred tech stack on premise/cloud-based for Data Science, etc. Answer: At this time we have few requirements for Advanced Analytics

41. Please clarify what the University means by trademark licensing services. Answer: Please see Answer 16.

42. P. 7, #2, Please clarify if the University is only requesting trademark licensing services for references. Answer: Please see Answer 16.

43. P. 8, #5, Is it the University's intent to know how to deploy this contract or how to kick-off a specific project/SOW? Answer: No.

44. P. 8, #7 – Proposed Financial Offer/Considerations – Please clarify what service pricing the University is requesting for licenses (retail and internal). Answer: Mason intends to utilize the resulting contract(s) solely for the purpose of obtaining information technology consulting services.

45. How many contractors does University procured last year under this contract? Answer: Please see question 2.

46. Could you please share the last years annual spent under this contract? Answer: Please see question 2.

47. Is this RFP strictly for staff augmentation or project based Task Order services be procured through this? Answer: Please see question 44.

48. How do we provide the rates for consulting, planning, install, implementation, development, project management since we don't have the scope of the work or are you just looking for hourly rates? Answer: No additional guidance will be provided to Offerors.

49. What are the labor categories we should provide rates for or we should assume labor categories and provide rates? Answer: No additional guidance will be provided to Offerors.

50. What sample quarterly sales report we need to submit? What would University like to see in the report? Answer: No additional guidance will be provided to Offerors.

51. Section XI, item c, "… names, qualifications, and experience in personnel to be assigned". Following are the questions:
    - By providing representative resumes, would it suffice to meet this requirement?
    - If yes, how many resumes are you anticipating? One in each Service Area – totaling 5? Answer: No additional guidance will be provided to Offerors.

52. Section XI, item e, what is expected here? A rough-order-of-magnitude, which is will be provided as a range or a close to estimate one? If you are seeking close to estimate one, please provide us your IT Infrastructure Environment – number of servers, types of OS, number of VMs, number of desktops and laptops, to begin with. Answer: Please see question 23.

53. Section XIII, item B SPECIFIC REQUIREMENTS, 2. References – are you preferring three (3) Education Institutions references? Answer: No additional guidance will be provided to Offerors.

54. Services: Are you considering adding IT strategy and roadmapping services? Answer: The University is open to receiving proposals for these services.

55. References/Case Studies: Are you seeking 3 references/case studies for each category, or 3 overall references? Answer: Three reference overall.

56. Proposal Deadline: Because of the upcoming December/January holidays, are you considering an extension to the January 22 deadline? Answer: No

57. How many contract awards are anticipated?   In Section XI it says "It is anticipated that contracts will be awarded to multiple firms"; but in Section XIV B. AWARD, it suggests that one contract will be awarded Answer: Please see Question 17.

58. Section XIII.B.4. Offerors are to provide a narrative describing experience and qualifications in providing "trademark licensing services" but that does not appear to be part of the scope outlined in Section XI. Statement of Needs. Please clarify. Answer: Please see Answer 16.

59. Will an offeror be disqualified if it does not have 10 completed projects that were billed on an hourly basis, as per Section XII.c. ? Answer: No additional guidance will be provided to Offerors.

60. How many task orders are anticipated on this contract? Can GMU provide an estimate to the amount of funds that will be awarded at the task order level? Answer: Please see Question 2.

61. How many of the five corporate competencies described in Section XI.1.a. must an offeror be deemed capable in to be considered for award? Answer: Please see question 10.

62. Referring to Section XI (Statement of Needs)- Item 1, Sub Bullet e- "Description of Services available"- Is the expectation from the respondents to provide services and associated costs for Services listed in Sub-bullet a (Business Management Services, Enterprise Application Services, Enterprise Infrastructure Services, Project Management Services and Security Services)? Answer: Yes

63. What is the breakup of George Mason's current IT footprint- Data Center, Co-Lo and Cloud?

64. What connectivity services are provided to students, faculty and guest as it relates to internet and intranet services? Answer: Please see https://its.gmu.edu/service/network-access/.

65. Are there any specific project management tools, practices (agile, hybrid, waterfall) that George Mason prefers in the execution of this MSA? Answer: Please see https://its.gmu.edu/working-with-its/ppmo/.

66. Are there current processes in place from an incident response, disaster recovery and business recovery standpoint? If yes, please provide an overview. Answer: Please see Question 23.

67. Referencing RFP Text, Page 4, Section XI.1.a.i-v, Provide detailed corporate competencies/experience serving one or more of the technologies and capabilities listed below:
    - Business Management Services
    - Enterprise Applications Services
    - Enterprise Infrastructure Services
    - Project, Program, and Portfolio Management Services
    - Security Services

    Question: Can Mason confirm if the Offeror is required to bid on all five competencies provided in Section XI.1.a.i-v or does Mason plan to issue separate awards for each core competency/experience? Answer: Please see Question 10.

68. Referencing, RFP Text, Page 5, Section XI.1.i, *Describe how your firm would propose a functional staffing plan indicating the number, characteristics, and schedule for the consultants.* **Question:** To adequately define a staffing plan required in the Statement of Needs in Section XI.1.i, can Mason clarify if the task orders issued under this RFP will be focused on deploying full teams to satisfy requirements or will task orders be more staff augmentation focused? Answer: Please see Question 17.

69. Referencing, RFP Text, Page 5, Section: XII.c, For your last ten most recent projects (Determined by date of final payment by the customer) that exceeded $50k and were billed on an hourly basis, list the following: 1. The type of consulting 2. The original estimated hours 3. The final hours billed 4. The original project cost estimated 5. The final price (all charges) paid by the customer **Question:** Does Mason require the last 10 most recent projects be directly related to the five competencies listed in the Statement of Needs in Section XI.1.a.i – v.? Answer: No additional guidance will be provided to Offerors.

70. Referencing, RFP Text, Page 6, Section: XIII.A.1.b, The subject line of your email submission should read, "RFP GMU-1700-21" If you are sending multiple emails, please state so in the subject line with the wording, "This is email # _ of _ total" .
      - Does Mason require offerors to submit a separate technical volume and price volume referenced in Proposal Preparation and Submission Requirements in Section XIII.A.1.b? Answer: No additional guidance will be provided to Offerors.

71. Referencing, RFP Text, Page 7, Section XIII.B.2, References: No fewer than three (3), preferably from other comparable higher education institutions to which your firm is/has provided trademark licensing services which are similar in size and scope to that which has been described herein, that demonstrate the offeror's qualifications.
      - Does the Offeror need to provide three (3) references for each corporate competency they are bidding on in Section XI.1.a.i-v? Answer: No additional guidance will be provided to Offerors.

72. Can you please provide a sampling of key IT initiatives in the next 12 – 24 months where there is the potential to engage consulting resources? Answer: Please see Question 23.

73. Can you provide any high-level technology strategy and\or direction that might provide insight into the areas of technology investment where you need outside assistance? Answer: Please see Question 23 to learn more about ITS.

74. Can you quantify the # of hours, resources, or other indication of demand for technology resources to augment your team? Answer: Not at this time.

75. Are you open to project-based scope or IT managed services with a defined service level for any of the mentioned IT skill areas? Answer: Potentially.

76. Please provide a list of key technology platforms used for the following areas. This information will help us to align resource availability with platforms that George Mason has in-use today. If there are plans to change any technology platforms in the near-future, please provide that information.
      - Student Information System (SIS)
      - Learning Management System (LMS)
      - Office productivity software, e.g. Office 365, Google Suite
      - Website content management system (CMS)
      - Database platforms, e.g. Oracle, Microsoft SQL Server
      - Integration middleware, e.g. Mulesoft, Informatica, SQL batch jobs
      - Customer relationship management – Salesforce is specified, is this native Salesforce, TargetX, other
      - Hypervisor platform, e.g. VMWare, Microsoft HyperV

- Operating system platform, e.g. X # of RedHat Linux, # of Windows
- Security technology platforms
  Answer: Please see Questions 33-40.

77. Are data centers and server infrastructure managed in-house? Are cloud infrastructure-as-a-service providers (Amazon Web Services, Microsoft Azure) in-use? Answer: Yes.

78. XI: Would you share a list of technologies relevant to XI.1.a that are currently in use at GMU? Answer: The University uses too many different things to list them all. Offerors should respond with what their firm is capable of supporting.

79. XI.1.a: Would you share specific areas among those listed that are of the highest priority to GMU? Answer: No additional guidance will be provided to Offerors.

80. XI.1.d: Please describe accommodations that are place to support remote work should the situation require it. Would you please share guidance regarding where GMU allows work to be conducted? For example, does GMU allow remote work to be done outside of the United States? Please share any restrictions regarding where GMU data resides. Answer: Please see Question 29.

81. XIII.A.2.b: We understand that the offer is to be prepared "simply and economically," but are there expectations regarding the number of pages? Answer: No additional guidance will be provided to Offerors.

82. XIII.B.2. References This section refers to "Trademark Licensing services" which does not seem to fit the requested requirements. Could you please clarify the references requested? Answer: Please see question 16.

83. XIII.B.4. Written Narrative: This section refers to "trademark licensing services", could you please clarify what you are looking for in terms of this RFP? Answer: Please see question 16.

84. XIII.B.6 a. Sample reports: Could you please share additional details on what types of sample quarterly sales reports you are looking for specific to IT services? Answer: No additional guidance will be provided to Offerors.

85. XIII.B.7 What licenses (retail or internal) does George Mason anticipate needing? Answer: Please see Question 44.

86. Is there a budget that has been allocated to this project? Answer: No budget to be provided. Please see Question 2 for previous spend history.

87. Do we have to provide resumes of key personnel in the proposal itself or after the contract award? Answer: Proposal

88. What will be the starting date for this project? Answer: N/A

89. Is it compulsory for us to provide sample quarterly sales report in the proposal? Answer: No additional guidance will be provided to Offerors.

90. Will there be additional marks given in scoring, if we show Higher Education Institution

references? Answer: No additional guidance will be provided to Offerors.

91. Can we propose our own approach to provide advisory services for the given scope in an effective way? Answer: Yes

92. Is it necessary to provide advisory services for all the services given in scope or can we give advisory services for individual services? Answer: Please see Question 10.

93. Is it compulsory to sub-contract 42% of the project to small businesses? Answer: No, it is not a requirement and 42% is the Commonwealth's goal (this is not a goal or requirement for offerors). Offerors are not required to subcontract any of this work but, if your firm does plan to subcontract any work, we encourage you to consider SWaM vendors. If you do plan to subcontract to SWaM vendors you may enter that information into Attachment A, Small Business Subcontracting Plan and list out the SWaM vendors you will be using on Attachment A. If you do not plan on subcontracting any work you will only fill out the top section and mark the box that states "I plan to complete all work".

94. Section VII: SWaM Certification: States that Vendors currently SWaM certified agree to maintain their certification for the duration of the contract and shall submit all renewal documentation at least 30 days prior to existing SWaM expiration. In the event that Datastrong graduates out of the SWaM program during the 5 year period, what impacts would that have on the contract? Answer: Is not a requirement that a vendor be SWaM in order to be awarded a contract with Mason. The only impact that SWaM certification has on the scoring is, if a vendor is certified as a SWaM business by the Commonwealth of Virginia at time of proposal submission, they will receive five (5) points for being certified SWaM (see Section XIV. Initial Evaluation Criteria). The contractual requirement is that any company that is awarded a contract by Mason, who is eligible/qualifies to be SWaM certified, either seek SWaM certification (if they qualify and are not currently certified) and/or maintain that certification and do not allow it lapse if they continue to be eligible for SWaM. If you are no longer eligible to be certified as SWaM after a contract is awarded it would not affect the award decision and there would be no penalty for no longer being eligible or no longer qualifying as a SWaM business.

95. Section XI: Statement of Needs – Section A In the event a firm feels they don't have the past experience to address one of the five areas, should they include a section in the response for that area, and if so, should they just indicate they don't intend to respond to that section? Answer: Please see Question 10.

96. Section XI: Statement of needs – Section E For the services available from the firm and associated costs, Datastrong's primary project approach is done on a time and materials basis (T&M), so without scope/requirements, it is difficult to provide associated cost information. We can provide rate card labor categories that would apply to the service areas depicted which would have the associated hourly cost defined in Section XII – Cost of Services. Is that an acceptable approach or can the University provide more instruction on how to respond to Section E? Answer: No additional guidance will be provided to Offerors.

97. Section XI: Statement of needs – Section I Just want to confirm that the University is really just looking for how a firm would determine the plan for staffing and how it would come up with

the number, characteristics, and schedule for the project. The question reads as if the University may be looking for the firm to define the actual number, characteristics, and schedule, which would be difficult to do without specific scope, budget, and anticipated timelines. Answer: No additional guidance will be provided to Offerors.

98. Section XI: Statement of needs - Section J Without specific scope / requirements, it is difficult to determine what, if any, roles/functions would need to be subcontracted. Can you please elaborate as to what the goal of this question is? The intent of this question is to have vendors list in their proposal is they plan on subcontracting out any work to other entities. If you do not know if you will be utilizing subcontractors you may state as such in your proposal. If you are awarded a contract with Mason and receive projects/tasking under the contract and decide to subcontract work at that time, you would need to disclose that you are subcontracting work and provide the name and information of the party you are subcontracting with to the Contract Administrator and Contracting Officer.

99. Section XII: Cost of Services – Section C For the last ten most recent projects – want to confirm that we can only use projects that have "ended". If the firm has several multi-year government contracts where we provide program support (versus project support) – are we unable to use those? The size and scale of our projects supporting these types of efforts highlights our ability to manage multiple workstreams, client requirements, as well as our ability to partner with our customers in developing multi-year program vision and development initiatives. These projects have an annual period of performance that is renewed so the project really doesn't end. We have experience supporting a program at the University that we think we should be able to reference that also falls into this category. Answer: Ongoing projects can be listed.

100.   Section XII: Cost of Services – Section C As a follow on to question 6 – several of the projects we would look to include are estimated based on scope but in terms of resources needed to support the program. As a result, we are required to stay within budget or request additional funds in order to meet evolving needs. In the types of projects where we provide program support, the ability to manage budget related to specific scope isn't something that is done as scope is redefined based on changing priorities during the course of the period of performance – typically annually. In these scenarios, we are unclear as to how we would depict those in section C. Answer: Offerors may wish to identify the structure of the work as either Design/Detail, Level-of-Effort, or Performance-based.

101. Who is the current incumbent on this contract? Answer: Please see Answer 7.

102. What is the current pricing on the contract? Answer: Please see Answer 7.

103. What is the budget allocated to this contract? Answer: No budget to be provided. Please see Question 2 for previous spend history.

104. How many temps are currently working on the existing contract and will they all be transitioned to the new vendors? Answer: N/A

105. Is it a multiple award contract? Answer: Yes

106. In reference to Technologies and capabilities, Please share the list of the all the products that will be used to deliver the project Answer: Mason uses too many different things to list them all. Offerors should respond with what their firm is capable of supporting.

107. In reference to Project, Please confirm the list of applications and services to implemented and transition from. Answer: Please see Question 106.

108. In reference to Project, Please provide the volume and the type of data/documents to be migrated/converted from the existing application (As Is) to the proposed new application (To be). Answer: Please see Question 106.

109. In reference to Project, Please share the list and names of licenses (Products and Services) which need to be priced. Answer: Please see Question 44.

110. In reference to Project, Please share the high-level timeline or project duration. Answer: N/A

111. In reference to Project, Please share the project budget and contract amount for this project. Answer: Please see Question 2.

112. In reference to Project, Please confirm if training will be for the entire project team or for "Train the Trainer" only. Answer: N/A

113. Please confirm if all or few services can be performed and delivered utilizing offshore resources. Answer: No offshore resources are requested.

114. Due to Covid situation - Will any of the consultant need to be onsite for project related activities immediately or can be performed remotely. Answer: The length of the contract should extend beyond the pandemic, and onsite consulting may be needed.

115. Please confirm if QA testing resources will be considered in end-to- end project methodology and resource pricing. Answer: No additional guidance will be provided to Offerors.

116. Regarding the Statement of Needs, Please confirm the requirements for the post-production support. Answer: No additional guidance will be provided to Offerors.

117. Regarding the Statement of Needs, Please confirm if more environments (e.g. UAT, DR etc.) are required other than production, development & test environments. Answer: No additional guidance will be provided to Offerors.

118. Regarding the Statement of Needs, Please confirm if Infrastructure for Development, QA, etc. will be provided by George Mason University. Answer: No additional guidance will be provided to Offerors.

119. Regarding the Statement of Needs, Please confirm who will be taking care of any infrastructure related work. Answer: No additional guidance will be provided to Offerors.

120. Regarding the Statement of Needs, Do you have any current incumbent vendors on this contract? If yes, how many vendors are currently performing work on this ITconsulting contract? Answer: Please see Question 1

121. Regarding the Statement of Needs Please provide the list of technology platforms/vendors currently in use by IT staff and applications. For example, Microsoft or AWS or Google or IBM or multiple vendor products. Answer: Mason uses too many different things to list them all. Offerors should respond with what their firm is capable of supporting.

122. Regarding the Statement of Needs Please provide the details as to where do you see the skill/knowledge/expertise gap in the IT services being provided by in-house IT staff and/or incumbent IT vendor staff. Answer: No additional guidance will be provided to Offerors.

123. Regarding the Statement of Needs Please let us know the details about how the incumbent vendor contractors are structured along with the Mason IT team. Answer: Please see Question 2

124. Regarding the Statement of Needs Please let us know what all the IT functions/services are considered as on-demand consulting services. Answer: No additional guidance will be provided to Offerors.

125. Regarding the Statement of Needs Please let us know the other departments and stakeholders of Mason for whom on-demand IT services are provided apart from Mason IT team/department. Answer: No additional guidance will be provided to Offerors.

126. Are the vendors responding to this RFP required to have SWaM certification? Answer: No

127. Do we get the maximum point value – 5 (Page # 8 of the RFP) if we subcontract with certified firm in order to meet this requirement instead? Answer: No

128. What would be the subcontracting goal % percentage for this RFP that the vendor needs to have in order to work with the Small Business? Is it a mandatory requirement to subcontract with Small Business for this contract in case the vendor responding to this RFP is not a small business? Answer: Mason does not have a set aside requirement.

129. Can we propose the references from any state agencies or commercial clients other than higher education institutions? Are we required to provide their contract details? Please advise
Answer: Yes

130. How much advance notice is given with an on demand consulting request? Answer: As much as possible.

131. How large is your IT department? Answer: Please see Question 23

132. How many people work on the help desk? Answer: 8-10 FTE and 10-15 part-time staff.

133. Is there a prevailing event/initiative/etc. that triggered the creation and release of this solicitation? Answer: No

134. Do firms need to provide all five categories of the on-demand IT consulting services listed in Section XI.1.a, Items i – v to be considered for a contract award? Or can we bid on some categories (Items i – v) and not others? If we bid on specific categories, is it acceptable to say "Not applicable" to proposal requirements that do not appear relevant to the categories we are bidding on? Answer: Please see Question 10

135. Does the potential exist for the "Enterprise Applications Services" listed in Section XI.1.a, Item 2 (on page 4 of the RFP) to include consulting services such as system requirements definition, system needs assessments, system selection, and implementation oversight? Answer: Yes

136. Please clarify the level of participation desired for SWaM businesses. Is there a specific percentage per project? Per project, will this participation be an aspirational goal or a requirement? Answer: Mason does not have a set aside requirement.

137. We are required to complete and return a SWaM Utilization Plan (Attachment A of the RFP). Since this is a convenience contract, we won't know what portion of each project can be subcontracted until we see a specific Statement of Needs from Mason. Is it acceptable for us to say that we will identify SWaM subcontractors on a case-by-case basis? Answer: Mason does not have a set aside requirement.

138. Is this a new contract or a re-bid of an earlier contract? If it's a re-bid:

    - How many vendors were included in the contract?

    - How many projects were conducted through the previous contract?

    - What is the total dollar value of the projects conducted through the previous contract?

    - Please provide a list of the types of projects (i.e. the nature of the work) conducted through the previous contract? Answer: Please see Questions 1 and 2.

139. Does Mason have a limit on how many firms it will pre-approve within each of the five on-demand IT consulting service categories listed in Section XI.1.a, Items i – v? If yes, what is Mason's cap in terms of the number of firms it will include in its pool of pre-qualified firms?
Answer: No

140. Section XIII.B.2 (References) and Section XIII.B.4 make reference to "trademark licensing services." Is this correct? Section XIII.B.7 also makes reference to "licensees." Answer: Please see Question 16.

141. When Mason has a project need, will it contact all of the firms on this contract (within the applicable category in Section XI.1.a, Items i – v of the RFP) and provide them with an opportunity to submit a proposal? If no, what selection process will be used when project needs arise? Answer: Please see Question 17

142. Will Mason contemplate exceptions to the RFP terms and conditions, which would follow professional and industry standards for the type of work contemplated. Such exceptions may include modifications to termination of contract, indemnification, and audit rights? Answer: Mason is open to negotiation based on Offerors proposal.

143. Regarding Attachment C, Item 11 (Audits): Is having a completed SOC report (SSAE16) a requirement for this work (as opposed to other third party independent assessments)? If yes, could this be negotiated depending upon the categories we are bidding on in Section XI.1.a, Items i – v of the RFP? Answer: This is a requirement, and Mason is open to negotiation based on Offerors proposal.

_____

Pam Janutolo, Manager, Proposals
CDW Government LLC

Attachment A – Small Business Subcontracting Plan

Please see Attachment A following this page.

ATTACHMENT A
SMALL BUSINESS SUBCONTRACTING PLAN
TO BE COMPLETED BY OFFEROR

It is the goal of the Commonwealth that over 42% of its purchases be made from small businesses. All potential offerors are required to include this document with their proposal in order to be considered responsive.

Small Business: "Small business (including micro)" means a business which holds a certification as such by the Virginia Department of Small Business and Supplier Diversity (DSBSD) on the due date and time for proposals. This shall also include DSBSD certified women- owned and minority-owned businesses and businesses with DSBSD service disabled veteran owned status when they also hold a DSBSD certification as a small business on the proposal due date. Currently, DSBSD offers small business certification and micro business designation to firms that qualify.

Certification applications are available through DSBSD online at www.SBSD.virginia.gov (Customer Service).

Offeror Name: CDW Government LLC

Preparer Name: Pam Janutolo, Manager, Proposals   **Date:** 01/21/2021

Who will be doing the work: ☒ I plan to use subcontractors ☐ I plan to complete all work

Instructions

A. If you are certified by the DSBSD as a micro/small business, complete only Section A of this form.

B. If you are not a DSBSD-certified small business, complete Section B of this form. For the proposal to be considered and the offeror to be declared responsive, the offeror shall identify the portions of the contract that will be subcontracted to DSBSD certified small business for the initial contract period in relation to the offeror's total price for the initial contract period in Section B.

Section A
If your firm is certified by the DSBSD provide your certification number and the date of certification.
Certification Number: _____ Certification Date: _____

Section B
If the "I plan to use subcontractors" box is checked, populate the requested information below, per subcontractor to show your firm's plans for utilization of DSBSD-certified small businesses in the performance of this contract for the initial contract period in relation to the offeror's total price for the initial contract period. Certified small businesses include but are not limited to DSBSD-certified women-owned and minority-owned businesses and businesses with DSBSD service disabled veteran-owned status that have also received the DSBSD small business certification. Include plans to utilize small businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc. It is important to note that these proposed participation will be incorporated into the subsequent contract and will be a requirement of the contract. Failure to obtain the proposed participation dollar value or percentages may result in breach of the contract.

B. Plans for Utilization of DSBSD-Certified Small Businesses for this Procurement
Subcontract #1
Company Name: Betis Group, Inc.   SBSD Cert #: 9435
Contact Name: Christine Stevens   SBSD Certification: Minority-owned
Contact Phone: 703.532.2008   Contact Email: christine.stevens@betis.com
Value % or $ (Initial Term): TBD   Contact Address: 1420 Beverly Road, Suite 330
Description of Work: Engineering, project management, networking,   McLean, VA 22101
                    virtualization, etc.
Subcontract #2
Company Name: _____   SBSD Cert #: _____
Contact Name: _____   SBSD Certification: _____
Contact Phone: _____   Contact Email: _____
Value % or $ (Initial Term): _____   Contact Address: _____
Description of Work: _____

Subcontract #3

Company Name: _____ SBSD Cert #: _____
Contact Name: _____ SBSD Certification: _____
Contact Phone: _____ Contact Email: _____
Value % or $ (Initial Term): _____ Contact Address: _____
Description of Work: _____

Subcontract #4

Company Name: _____ SBSD Cert #: _____
Contact Name: _____ SBSD Certification: _____
Contact Phone: _____ Contact Email: _____
Value % or $ (Initial Term): _____ Contact Address: _____
Description of Work: _____

Subcontract #5

Company Name: _____ SBSD Cert #: _____
Contact Name: _____ SBSD Certification: _____
Contact Phone: _____ Contact Email: _____
Value % or $ (Initial Term): _____ Contact Address: _____
Description of Work: _____

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF SMALL BUSINESS & SUPPLIER DIVERSITY

101 N. 14th Street, 11th Floor
Richmond, VA 23219

BETIS GROUP, INC.

is a certified Small,Minority Owned
Business meeting all the requirements set forth under the Code of Virginia Section 2.2-16.1 et seq.
and Administrative Code 7VAC 13-20 et seq.

Certification Number: 9435
Valid Through: Sep 21, 2023

Accordingly Certified

Tracey G. Wiley, Director

CERTIFIED

SWaM Small, Women and Minority-Owned

Supplier Diversity Strengthens the Commonwealth
by the Virginia Department of Small Business & Supplier Diversity

Payment Preference

State your payment preference in your proposal response. (See section XVI; page 8)

CDW•G selects Option #3. CDW•G will enroll in Paymode-X where all payments will be made electronically to CDW•G's bank account. We will require clarification on expectations. CDW•G cannot manually upload invoices into Paymode. CDW•G can accept credit card payments upfront at the time of purchase, not after invoicing. CDW•G can accept Net 30 via Check or ACH. Mason is currently set up on Net 30 with CDW•G.

Attachment B – Sample Contract

It is Mason's intent to use our Standard Two Party Contract as the award vehicle for this RFP (see Attachment B – Sample Contract). If your firm takes exception to this contract or would like to make redlines or have other documentation (such as MSA/SaaS/etc). incorporated into the final contract/agreement please provide those redlines and any other changes or requests to modify the contract or add additional documents at the time of proposal submission.

Please see CDW•G's attached exceptions for Attachment B – Sample Contract.

ATTACHMENT B – SAMPLE CONTRACT
GMU-1700-21

Note: Other documents may be incorporated into this document, either by way of attachment or by reference, but in all cases this contract document shall take precedence over all other documents and will govern the terms and conditions of the contract.

This Contract entered on this _____ day of _____ by CDW Government LLC hereinafter called "Contractor," "CDW-G" (located at 230 N. Milwaukee Avenue, Vernon Hills, IL 60061) and George Mason University hereinafter called "Mason," "University".

I.   **WITNESSETH** that the Contractor and Mason, in consideration of the mutual covenants, promises and agreement herein contained, agree as follows:

II.   **SCOPE OF CONTRACT:** The Contractor shall provide _____ for the _____ of George Mason University as set forth in the Contract documents.

III. **PERIOD OF CONTRACT:** As negotiated

IV.   **PRICE SCHEDULE:** As negotiated

V.   **CONTRACT ADMINISTRATION:** _____ shall serve as Contract Administrator for this Contract and shall use all powers under the Contract to enforce its faithful performance. The Contract Administrators shall determine the amount, quality and acceptability of work and shall decide all other questions in connection with the work. All direction and order from Mason shall be transmitted through the Contract Administrator, however, the Contract Administrator shall have no authority to approve changes which shall alter the concept or scope or change the basis for compensation.

VI.   **METHOD OF PAYMENT:** As negotiated

VII. **THE CONTRACT DOCUMENTS SHALL CONSIST OF (In order of precedence):**

    A.   This signed form; Subject to the terms and conditions of this Agreement, Contractor may perform certain Services for Mason as described generally in this Agreement and as more particularly described in a Statement of Work or SOW (meaning a document in electronic or written form that is signed and delivered by each of the Parties for the performance of Services as the same may be amended or modified from time to time and that incorporates the terms and conditions of this Agreement), which shall substantially take the form of Exhibit B.1; Sample Sow, which is incorporated herein. Each SOW constitutes a separate agreement with respect to the Services performed thereunder. In the event of an addition to or a conflict between any term or condition of the SOW and the terms and conditions of this Agreement, the terms and conditions of this Agreement will control, except as expressly amended for an individual SOW by specific reference to the amended provision.
    B.   RFP No. GMU-XXXX-XX, in its entirety (incorporated herein by reference);
    C.   Contractor's proposal dated XXXXXX (incorporated herein by reference);
    D.   Negotiation Responses dated XXXXX (incorporated herein by reference).

VIII. **GOVERNING RULES:** This Contract is governed by the provisions of the Restructured Higher Education Financial and Administrative Operations Act, Chapter 10 (§ 23.1-1000 et seq.) of Title 23.1 of the Code of Virginia, and in particular § 23.1-1003 of the Restructuring Act ("Memoranda of Understanding"), and the *"Governing Rules"* and the *Purchasing Manual for Institutions of Higher Education and their Vendors.* Documents may be viewed at: https://vascupp.org.

IX.   **CONTRACT PARTICIPATION:** *As negotiated.* It is the intent of this Contract to allow for cooperative procurement.

Commented [RF1]: As a general note, it is CDWG's understanding that this Contract will be for the purchase of services, and that the purchase of goods/products is not contemplated in the scope of this Contract. There are provisions that CDWG does not believe are applicable to the provision of services. Rather than strike these provisions, CDWG may seek to gain a better understanding from Mason on the necessity or relevancy of certain provisions that may not appear to be applicable to the provision of services.

Accordingly, any public body, public or private health or educational institutions, or affiliated corporations may access this Contract if authorized by the Contractor.

Participation in this Contract is strictly voluntary. If authorized by the Contractor, the contract will be extended to the entities indicated above to purchase goods and services in accordance with contract terms. As a separate contractual relationship, the participating entity will place its own orders directly with the Contractor(s) and shall fully and independently administer its use of the contract(s) to include contractual disputes, invoicing and payments without direct administration from the University. No modification of this Contract or execution of a separate agreement is required to participate; however, the participating entity and the Contractor may modify the terms and conditions of the contract to accommodate specific governing laws, regulations, policies, and business goals required by the participating entity. Any such modification will apply solely between the participating entity and the Contractor.

The University may request the Contractor provide semi-annual usage reports for all entities accessing the Contract. The University shall not be held liable for any costs or damages incurred by any other participating entity as a result of any authorization by the Contractor to extend the Contract. It is understood and agreed that the University is not responsible for the acts or omissions of any entity and will not be considered in default of the contract no matter the circumstances.

Use of this Contract does not preclude any participating entity from using other contracts or competitive processes as needed.

X.   **STANDARD TERMS AND CONDITIONS:**

A.   <u>APPLICABLE LAW AND CHOICE OF FORUM</u>: This Contract shall be construed, governed, and interpreted pursuant to the laws of the Commonwealth of Virginia. All disputes arising under this Contract shall be brought before an appropriate court in the Commonwealth of Virginia.

B.   <u>ANTI-DISCRIMINATION</u>: By entering into this Contract Contractor certifies to the Commonwealth that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and §§ 9&10 of the *Governing Rules.* If Contractor is a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the Contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (*Governing Rules,* § 36).

In every contract over $10,000 the provisions in 1. and 2. below apply:

1.   During the performance of this Contract, the Contractor agrees as follows:

a.   The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

b.   The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.

c.   Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.

2.   The Contractor will include the provisions of 1. above in every subcontract or purchase order over $10,000, so that the provisions will be binding upon each subcontractor or Contractor.

C.   <u>ANTITRUST</u>: By entering into a contract, the Contractor conveys, sells, assigns, and transfers to the Commonwealth of Virginia all rights, title and interest in and to all causes of action it may now have or hereafter

acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the Commonwealth of Virginia under said contract.

D. ASSIGNMENT: Neither party will assign or otherwise transfer its rights or obligations under this Contract without both parties' prior written consent. Any attempted assignment, transfer, or delegation without such consent is void.

E. AUDIT: The Contractor shall retain all books, records, and other documents relative to this Contract for five (5) years after final payment, or until audited by the Commonwealth of Virginia, whichever is sooner. The agency, its authorized agents, and/or state auditors shall have full access to and the right to examine any of said materials during said period.

F. AVAILABILITY OF FUNDS: It is understood and agreed between the parties herein that the agency shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this Contract.

G. AUTHORIZED SIGNATURES: The signatory for each Party certifies that he or she is an authorized agent to sign on behalf such Party.

H. BACKGROUND CHECKS: Contractor's employees (including subcontractors) performing services on any Mason campus must have successfully completed a criminal background check prior to the start of their work assignment/service. As stated in Administrative Policy Number 2221 – Background Investigations, the criminal background investigation will normally include a review of the individual's records to include Social Security Number Search, Credit Report (if related to potential job duties), Criminal Records Search (any misdemeanor convictions and/or felony convictions are reported) in all states in which the employee has lived or worked over the past seven years, and the National Sex Offender Registry. In addition, the Global Watch list (maintained by the Office of Foreign Assets Control of The US Department of Treasury) should be reviewed. Signature on this contract confirms your compliance with this requirement.

I. CANCELLATION OF CONTRACT: Mason reserves the right to cancel this Contract, in part or in whole, without penalty, for any reason, upon 60 days written notice to the Contractor. Upon written notice of cancellation from Mason, Mason shall be fully released from any further obligation under the Contract and Contractor agrees to directly refund all payments, for services not already performed, to Mason, including any pre-paid deposits, within 14 days. In the event the initial Contract period is for more than 12 months, the resulting Contract may be terminated by either party, without penalty, after the initial 12 months of the Contract period upon 60 days written notice to the other party. Any contract cancellation notice shall not relieve the Contractor of the obligation to deliver and/or perform on all outstanding orders issued prior to the effective date of cancellation.

J. CHANGES TO THE CONTRACT: Changes can be made to this Contract in any of the following ways:

1. The parties may agree in writing to modify the scope of this Contract. An increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of this Contract.

2. Mason may order changes within the general scope of Contract at any time by written notice to Contractor. Changes within the scope of this Contract include, but are not limited to, things such as services to be performed, the method of packing or shipment, and the place of delivery or installation. Contractor shall comply with the notice upon receipt. Contractor shall be compensated for any additional costs incurred as the result of such order and shall give Mason a credit for any savings. Said compensation shall be determined by one of the following methods:

    a. By mutual agreement between the parties in writing; or

    b. By agreeing upon a unit price or using a unit price set forth in the contract, if the work to be done can be expressed in units, and the contractor accounts for the number of units of work performed, subject to the Mason's right to audit Contractor's records and/or to determine the correct number of units independently; or

    c. By ordering Contractor to proceed with the work and keep a record of all costs incurred and savings realized. A markup for overhead and profit may be allowed if provided by Contract.

The same markup shall be used for determining a decrease in price as the result of savings realized. Contractor shall present Mason with all vouchers and records of expenses incurred and savings realized. Mason shall have the right to audit the records of Contractor as it deems necessary to determine costs or savings. Any claim for an adjustment in price under this provision must be asserted by written notice to Mason within thirty (30) days from the date of receipt of the written order from Mason. If the Parties fail to agree on an amount of adjustment, the question of an increase or decrease in the contract price or time for performance shall be resolved in accordance with the procedures for resolving disputes provided by the Disputes Clause of this Contract or, if there is none, in accordance with the disputes provisions of the Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and Their Contractors. Neither the existence of a claim nor a dispute resolution process, litigation or any other provision of this contract shall excuse the contractor from promptly complying with the changes ordered by Mason or with the performance of the contract generally.

K. <u>CLAIMS</u>: Contractual claims, whether for money or other relief, shall be submitted in writing no later than 60 days after final payment. However, written notice of the Contractor's intention to file a claim shall be given at the time of the occurrence or beginning of the work upon which the claim is based. Nothing herein shall preclude a contract from requiring submission of an invoice for final payment within a certain time after completion and acceptance of the work or acceptance of the goods. Pendency of claims shall not delay payment of amounts agreed due in the final payment.

1. The firm must submit written claim to:
Chief Procurement Officer
George Mason University
4400 University Drive, MSN 3C5
Fairfax, VA 22030

2. The firm must submit any unresolved claim in writing no later than 60 days after final payment to the Chief Procurement Officer.

3. Upon receiving the written claim, the Chief Procurement Officer will review the written materials relating to the claim and will mail his or her decision to the firm within 60 days after receipt of the claim.

4. The firm may appeal the Chief Procurement Officer's decision in accordance with § 55 of the *Governing Rules.*

L. <u>COLLECTION AND ATTORNEY'S FEES</u>: The Contractor shall pay to Mason any reasonable attorney's fees or collection fees, at the maximum allowable rate permitted under Virginia law, incurred in enforcing this Contract or pursuing and collecting past-due amounts under this Contract.

M. <u>COMPLIANCE</u>: All goods and services provided to Mason shall be done so in accordance with any and all applicable local, state, federal, and international laws, regulations and/or requirements and any industry standards, including but not limited to: the Family Educational Rights and Privacy Act (FERPA), Health Insurance Portability and Accountability Act (HIPAA) and Health Information Technology for Economic and Clinical Health Act (HITECH), Government Data Collection and Dissemination Practices Act, Gramm-Leach-Bliley Financial Modernization Act (GLB), Payment Card Industry Data Security Standards (PCI-DSS), Americans with Disabilities Act (ADA), and Federal Export Administration Regulations. Any Contractor personnel visiting Mason facilities will comply with all applicable Mason policies regarding access to, use of, and conduct within such facilities. Mason's policies can be found at https://universitypolicy.gmu.edu/all-policies/ and any facility specific policies can be obtained from the facility manager.

N. <u>CONFIDENTIALITY OF PERSONALLY IDENTIFIABLE INFORMATION</u>: The Contractor shall ensure that personally identifiable information ("PII") which is defined as any information that by itself or when combined with other information can be connected to a specific person and may include but is not limited to personal identifiers such as name, address, phone, date of birth, Social Security number, student or personal identification numbers, driver's license numbers, state or federal identification numbers, biometric information, religious or political affiliation, non-directory information, and any other information protected by state or federal privacy laws, will be collected and held confidential and in accordance with this Contract, during and

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following the term of this Contract, and will not be divulged without the individual's and Mason's written consent and only in accordance with federal law or the Code of Virginia.

O. CONFLICT OF INTEREST: Contractor represents to Mason that its entering into this Contract with Mason and its performance through its agents, officers and employees does not and will not involve, contribute to nor create a conflict of interest prohibited by Virginia State and Local Government Conflict of Interests Act (Va. Code 2.2-3100 *et seq*), the Virginia Ethics in Public Contracting Act (§57 of the *Governing Rules)*, the Virginia Governmental Frauds Act (Va. Code 18.2 – 498.1 *et seq*) or any other applicable law or regulation.

P. DEBARMENT STATUS: As of the effective date, the Contractor certifies that it is not currently debarred by the Commonwealth of Virginia from submitting bids or proposals on contracts for the type of services covered by this Contract, nor is the Contractor an agent of any person or entity that is currently so debarred.

Q. DEFAULT: In the case of failure to deliver goods or services in accordance with any resulting contract terms and conditions, George Mason University, after due oral or written notice, may procure them from other sources and hold the contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which George Mason University may have.

R. DRUG-FREE WORKPLACE: During the performance of this Contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subcontractor or Contractor.

For the purposes of this section, "*drug-free workplace"* means a site for the performance of work done in connection with a specific contract awarded to a contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of this Contract.

S. ENTIRE CONTRACT: This Contract constitutes the entire understanding of the Parties with respect to the subject matter herein and supersedes all prior oral or written contracts with respect to the subject matter herein. This Contract can be modified or amended only by a writing signed by all of the Parties.

UNDER NO CIRCUMSTANCES AND NOTWITHSTANDING THE FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY SET FORTH HEREIN WILL EITHER PARTY ITS AFFILIATES OR ITS SUPPLIERS SUBCONTRACTORS OR AGENTS BE LIABLE FOR ANY INCIDENTAL INDIRECT SPECIAL PUNITIVE OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS BUSINESS REVENUES OR SAVINGS. IN THE EVENT OF ANY LIABILITY INCURRED BY A PARTY OR ANY OF ITS AFFILIATES HEREUNDER, THE ENTIRE LIABILITY OF SUCH PARTY AND ITS AFFILIATES FOR DAMAGES FROM ANY CAUSE WHATSOEVER WILL NOT EXCEED THE DOLLAR AMOUNT PAID BY MASON TO CONTRACTOR IN THE TWELVE (12) MONTHS IMMEDIATELY PROCEEDING THE CLAIM.

T. EXPORT CONTROL:

1. **Munitions Items**: If the Contractor is providing any items, data or services under this order that are controlled by the Department of State, Directorate of Defense Trade Controls, International Traffic in Arms Regulations ("ITAR"), or any items, technology or software controlled under the "600 series" classifications of the Bureau of Industry and Security's Commerce Control List ("CCL") (collectively, "Munitions Items"), prior to delivery, Contractor must:

    A. notify Mason (by sending an email to export@gmu.edu), and

    B. receive written authorization for shipment from Mason's Director of Export Controls.

    The notification provided by the Contractor must include the name of the Mason point of contact, identify and describe each ITAR or CCL-controlled commodity, provide the associated U.S.

Munitions List (USML) category number(s) or Export Control Classification Number, and indicate whether or not the determination was reached as a result of a commodity jurisdiction determination, or self-classification process. The Contractor promises that if it fails to obtain the required written pre-authorization approval for shipment to Mason of any Munitions Item, it will reimburse Mason for any fines, legal costs and other fees imposed for any violation of export controls regarding the Munition Item that are reasonably related to the Contractor's failure to provide notice or obtain Mason's written pre-authorization.

2. **Dual-Use Items**: If the Contractor is providing any dual-use items, technology or software under this order that are listed on the CCL in a series other than a "600 series", Contractor must (i) include the Export Control Classification Number (ECCN) on the packing or other transmittal documentation traveling with the item(s) and, (ii) send a description of the item, its ECCN, and the name of the Mason point of contact to: export@gmu.edu.

U. FORCE MAJEURE: Mason shall be excused from any and all liability for failure or delay in performance of any obligation under this Contract resulting from any cause not within the reasonable control of Mason, which includes but is not limited to acts of God, fire, flood, explosion, earthquake, or other natural forces, war, civil unrest, accident, any strike or labor disturbance, travel restrictions, acts of government, disease, pandemic, or contagion, whether such cause is similar or dissimilar to any of the foregoing. Upon written notification from Mason that such cause has occurred, Contractor agrees to directly refund all payments to Mason, for services not yet performed, including any pre-paid deposits within 14 days.

V. FUTURE GOODS AND SERVICES: Mason reserves the right to have contractor provide additional goods and/or services that may be required by Mason during the term of this contract. Any such goods and/or services will be provided by the contractor under the same pricing, terms and conditions of this contract. Such additional goods and/or services may include other products, components, accessories, subsystems or related services that are newly introduced during the term of the contract. Such newly introduced additional goods and/or services will be provided to Mason at Favored Customer pricing, terms and conditions.

W. IMMIGRATION REFORM AND CONTROL ACT OF 1986: By entering into this Contract Contractor certifies that they do not and will not during the performance of this Contract employ illegal alien workers or otherwise violate the provisions of the federal Immigration Reform and Control Act of 1986.

X. INDEMNIFICATION; WARRANTIES: Contractor agrees to indemnify, defend and hold harmless George Mason University the Commonwealth of Virginia, its officers, agents, and employees from any third party claims, damages and actions resulting in death, bodily injury, or damage to tangible personal property of any kind or nature, whether at law or in equity, arising from or proximately caused by the use of any materials, goods, or equipment of any kind or nature furnished by the Contractor's /any gross negligence or willful misconduct during the provision of services of any kind or nature furnished by the Contractor under this Contract, provided that such liability is not attributable to the sole negligence of Mason. or to the failure of Mason to use the materials, goods, or equipment in the manner already and permanently described by the Contractor on the materials, goods or equipment delivered.

Contractor warrants that the Services will be performed in a good and workmanlike manner. Mason's sole and exclusive remedy with respect to this warranty will be, at the sole option of Contractor, to either (a) use its reasonable commercial efforts to reperform any Services not in substantial compliance with this warranty, or (b) refund amounts paid by Mason related to the portion of the Services not in substantial compliance; provided, in each case, Mason notifies Contractor in writing within five (5) business days after performance of the applicable Services. Mason shall be solely responsible for daily back-up and other protection of its data and software against loss, damage or corruption during the performance of Services and for any necessary reconstruction thereof.

Except as set forth herein, and subject to applicable law, Contractor makes no other, and expressly disclaims all other, representations, warranties, conditions and covenants, either express or implied (including without limitation, any express or implied warranties or conditions of fitness for a particular purpose, merchantability, durability, accuracy or non-infringement) arising out of, or related to, the purchased items or their performance or non-performance, including but not limited to any warranty relating to third party services.

Y.X. INDEPENDENT CONTRACTOR: The Contractor is not an employee of Mason, but is engaged as an independent contractor. The Contractor shall indemnify and hold harmless the Commonwealth of Virginia, Mason, and its employees and agents, with respect to all withholding, Social Security, unemployment

Commented [RF2]: CDWG's understanding of the current scope of this agreement is that it is a services contract. In the event that additional goods become required. If Mason procures software license and/or cloud services from CDWG, there may be additional forms between CDWG and Mason (Cloud Service Order), and between Mason and the third party software publisher / cloud service provider.

compensation and all other taxes or amounts of any kind relating to the Contractor's performance of this Contract. Nothing in this Contract shall be construed as authority for the Contractor to make commitments which will bind Mason or to otherwise act on behalf of Mason, except as Mason may expressly authorize in writing.

Z.Y.   INFORMATION TECHNOLOGY ACCESS ACT: Computer and network security is of paramount concern at George Mason University. The University wants to ensure that computer/network hardware and software does not compromise the security of its IT environment. Contractor agrees to use commercially reasonable measures in connection with any offering your company makes to avoid any known threat to the security of the IT environment at George Mason University.

All e-learning and information technology developed, purchased, upgraded or renewed by or for the use of George Mason University shall comply with all applicable University policies, Federal and State laws and regulations including but not limited to Section 508 of the Rehabilitation Act (29 U.S.C. 794d), the Information Technology Access Act, §§2.2-3500 through 2.2-3504 of the Code of Virginia, as amended, and all other regulations promulgated under Title II of The Americans with Disabilities Act which are applicable to all benefits, services, programs, and activities provided by or on behalf of the University. The Contractor shall also comply with the Web Content Accessibility Guidelines (WCAG) 2.0. For more information please visit http://ati.gmu.edu, under Policies and Procedures.

AA.Z.   INSURANCE: The Contractor shall maintain all insurance necessary with respect to the services provided to Mason. The Contractor further certifies that they will maintain the insurance coverage during the entire term of the Contract and that all insurance is to be placed with insurers with a current reasonable A.M. Best's rating authorized to sell insurance in the Commonwealth of Virginia by the Virginia State Corporation Commission. The Commonwealth of Virginia and Mason shall be named as an additional insured.

1.   Commercial General Liability Insurance in an amount not less than $1,000,000 per occurrence for bodily injury or property damage, personal injury and advertising injury, products and completed operations coverage;

2.   Workers Compensation Insurance in an amount not less than that prescribed by statutory limits; and, as applicable;

3.   Commercial Automobile Liability Insurance applicable to bodily injury and property damage, covering owned, non-owned, leased, and hired vehicles in an amount not less than $1,000,000 per occurrence; and

4.   An umbrella/excess policy in an amount not less than five million dollars ($5,000,000) to apply over and above Commercial General Liability, Employer's Liability, Workers' Compensation, and Commercial Automobile Liability Insurance.

BB.AA.   INTELLECTUAL PROPERTY: Contractor warrants and represents that it will not violate or infringe any intellectual property right or any other personal or proprietary right arising from Mason's use of Services and/or Work Made for Hire and shall indemnify and hold harmless Mason against any claim of infringement of intellectual property rights which may arise from Mason's use of services and/or Work Made for Hire under this Contract. , provided Mason gives the Contractor prompt written notice of the IP claim, sole control over the defense or settlement thereof, and reasonable information and assistance, at the Contractor's expense. Should the infringing items, or any part thereof, become, or in the Contractor's opinion be likely to become, the subject of an IP claim, the Contractor may, at its option and expense, either: (a) procure for Mason the right to continue using the infringing items; (b) replace or modify the infringing items so as to make them non-infringing; or (c) return a portion of the fees paid for the infringing items based on five (5) year straight line amortization. This Section specifies the entire liability of the Contractor and the sole and exclusive remedies of Mason with respect to any IP claim. Notwithstanding the foregoing, The Contractor shall have no liability or obligation to Mason to the extent any IP claim is based upon: (i) any combination of the infringing items with software, hardware or other materials not authorized by the Contractor for such combination or; (ii) any addition to, or modification of, the infringing items made after delivery to Mason by any party other than the Contractor or a third party expressly authorized by the Contractor to perform such addition or modification

1.   Unless expressly agreed to the contrary in writing, all goods, products, materials, documents, reports, writings, video images, photographs or papers of any nature including software or computer images prepared or provided by Contractor (or its subcontractors) for Mason will not be disclosed to any other

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~~person or entity without the written permission of Mason.~~

1. Work Made for Hire. Contractor warrants to Mason that Mason will own all rights, title and interest in any and all intellectual property rights first created or uniquely developed at the direction of Mason in the performance of ~~r otherwise arising from~~ the Contract and will have full ownership and beneficial use thereof, free and clear of claims of any nature by any third party including, without limitation, copyright or patent infringement claims. Contractor agrees to assign and hereby assigns all rights, title, and interest in any and all intellectual property created in the performance or otherwise arising from the Contract, and will execute any future assignments or other documents needed for Mason to document, register, or otherwise perfect such rights. Notwithstanding the foregoing, for research collaboration pursuant to subcontracts under sponsored research Contracts administered by the University's Office of Sponsored Programs, intellectual property rights will be governed by the terms of the grant or contract to Mason to the extent such grant or contract requires intellectual property terms to apply to subcontractors.

2. Deliverables. The Parties agree that Mason's rights to all Work Made for Hire shall be, upon payment in full, a non-transferable, non-exclusive, royalty-free license to use such Work Made for Hire solely for Mason's internal use. Mason obtains no ownership or other property rights thereto. Mason agrees that Contractor may incorporate intellectual property created by third parties into the Work Made for Hire and that the Mason's right to use such Work Made for Hire may be subject to the rights of, and limited by agreements with, such third parties

~~CC.~~BB. NON-DISCRIMINATION: All parties to this Contract agree to not discriminate on the basis of race, color, religion, national origin, sex, pregnancy, childbirth or related medical conditions, age (except where sex or age is a bona fide occupational qualification, marital status or disability).

~~DD.~~CC. PUBLICITY: The Contractor shall not use, in its external advertising, marketing programs or promotional efforts, any data, pictures, trademarks or other representation of Mason except on the specific written authorization in advance by Mason's designated representative.

~~EE.~~DD. REMEDIES: If the Contractor breaches this Contract, in addition to any other rights or remedies, Mason may terminate this Contract ~~without~~ upon thirty (30) days' prior notice to Contractor and providing a reasonable opportunity to cure.

~~FF.~~EE. RENEWAL OF CONTRACT: This Contract may be renewed by Mason for four (4) successive one-year renewal options under the terms and conditions of this Contract except as stated in 1. and 2. below. Price increases may be negotiated only at the time of renewal. Written notice of the University's intention to renew shall be given approximately 90 days prior to the expiration date of each contract period.

1. If the University elects to exercise the option to renew the Contract for an additional one-year period, the Contract price(s) for the additional one year shall not exceed the Contract price(s) of the original Contract increased/decreased by more than the percentage increase/decrease of the "other goods and services" category of the CPI-U section of the Consumer Price Index of the United States Bureau of Labor Statistics for the latest twelve months for which statistics are available.

2. If during any subsequent renewal periods, the University elects to exercise the option to renew the Contract, the Contract price(s) for the subsequent renewal period shall not exceed the Contract price(s) of the previous renewal period increased/decreased by more than the percentage increase/decrease of the "other goods and services" category of the CPI-U section of the Consumer Price Index of the United States bureau of Labor Statistics for the latest twelve months for which statistics are available.

~~GG.~~FF. REPORTING OF CRIMES, ACCIDENTS, FIRES AND OTHER EMERGENCIES: Any Mason Employee, including contracted service providers, who is not a staff member in Counseling and Psychological Services (CAPS) or a pastoral counselor, functioning within the scope of that recognition, is considered a "Campus Security Authority (CSA)." CSAs must promptly report all crimes and other emergencies occurring on or near property owned or controlled by Mason to the Department of Police & Public Safety or local police and fire authorities by dialing 9-1-1. At the request of a victim or survivor, identifying information may be excluded from a report (e.g., names, initials, contact information, etc.). Please visit the following website for more information and training: http://police.gmu.edu/clery-act-reporting/campus-security-authority-csa/."

~~HH.~~GG. RESPONSE TO LEGAL ORDERS, DEMANDS, OR REQUESTS FOR DATA: Except as otherwise

expressly prohibited by law, Contractor will: i) immediately notify Mason of any subpoenas, warrants, or other legal orders, demands or requests received by Contractor seeking University Data; ii) consult with Mason regarding its response; iii) cooperate with Mason's reasonable requests in connection with efforts by Mason to intervene and quash or modify the legal order, demand or request; and iv) upon Mason's request, provide Mason with a copy of its response.

If Mason receives a subpoena, warrant, or other legal order, demand (including request pursuant to the Virginia Freedom of Information Act) or request seeking University Data maintained by Contractor, Mason will promptly provide a copy to Contractor. Contractor will promptly supply Mason with copies of data required for Mason to respond, and will cooperate with Mason's reasonable requests in connection with its response.

II.HH. SEVERABILITY: Should any portion of this Contract be declared invalid or unenforceable for any reason, such portion is deemed severable from the Contract and the remainder of this Contract shall remain fully valid and enforceable.

JJ.II. SOVEREIGN IMMUNITY: Northing in this Contract shall be deemed a waiver of the sovereign immunity of the Commonwealth of Virginia and of Mason.

KK.JJ. SUBCONTRACTS: No portion of the work shall be subcontracted without prior written consent from Mason. In the event that the Contractor desires to subcontract some part of the work specified herein, the Contractor shall furnish Mason the names, qualifications and experience of their proposed subcontractors. The Contractor shall, however, remain fully liable and responsible for the work to be done by its subcontractor(s) and shall assure compliance with all requirements of this Contract. This paragraph applies to, but is not limited to, subcontractor(s) who process University Data.

LL.KK. UNIVERSITY DATA: University Data includes all Mason owned, controlled, or collected PII and any other information that is not intentionally made available by Mason on public websites, including but not limited to business, administrative and financial data, intellectual property, and patient, student and personnel data. Contractor agrees to the following regarding University Data it may collect or process as part of this Contract:

1. Contractor will use University Data only for the purpose of fulfilling its duties under the Contract and will not share such data with or disclose it to any third party without the prior written consent of Mason, except as required by the Contract or as otherwise required by law. University Data will only be processed by Contractor to the extent necessary to fulfill its responsibilities under the Contract or as otherwise directed by Mason.

2. University Data, including any back-ups, will not be accessed, stored, or transferred outside the United States without prior written consent from Mason. Contractor will provide access to University Data only to its employees and subcontractors who need to access the data to fulfill Contractor's obligations under the Contract. Contractor will ensure that employees who perform work under the Contract have read, understood, and received appropriate instruction as to how to comply with the data protection provisions of the Contract and to maintain the confidentiality of the University Data.

3. The parties agree that as between them, all rights including all intellectual property rights in and to University Data shall remain the exclusive property of Mason, and Contractor has a limited, nonexclusive license to use the University Data as provided in the Contract solely for the purpose of performing its obligations under the Contract. The Contract does not give a party any rights, implied or otherwise, to the other party's data, content, or intellectual property, except as expressly stated in the Contract.

4. Contractor will take reasonable measures, including audit trails, to protect University Data against deterioration or degradation of data quality and authenticity. Contractor shall be responsible for ensuring that University Data, per the Virginia Public Records Act, is preserved, maintained, and accessible throughout their lifecycle, including converting and migrating electronic data as often as necessary so that information is not lost due to hardware, software, or media obsolescence or deterioration.

5. Contractor shall notify Mason within three business days if it receives a request from an individual under any applicable law regarding PII about the individual, including but not limited to a request to view, access, delete, correct, or amend the information. Contractor shall not take any action regarding such a request except as directed by Mason.

6. If Contractor will have access to University Data that includes "education records" as defined under the Family Educational Rights and Privacy Act (FERPA), the Contractor acknowledges that for the purposes of the Contract it will be designated as a "school official" with "legitimate educational interests" in the University education records, as those terms have been defined under FERPA and its implementing regulations, and the Contractor agrees to abide by the limitations and requirements imposed on school officials. Contractor will use the education records only for the purpose of fulfilling its duties under the Contract for Mason's and its end user's benefit, and will not share such data with or disclose it to any third party except as provided for in the Contract, required by law, or authorized in writing by the University.

7. Mason may require that Mason and Contractor complete a Data Processing Addendum ("DPA"). If a DPA is completed, Contractor agrees that the information in the DPA is accurate. Contractor will only collect or process University Data that is identified in the DPA and will only handle that data (e.g., type of processing activities, storage, security, disclosure) as described in the DPA. If Contractor intends to do anything regarding University Data that is not reflected in the DPA, Contractor must request an amendment to the DPA and may not take the intended action until the amendment is approved and documented by Mason.

MM.LL. UNIVERSITY DATA SECURITY: Data security is of paramount concern to Mason. Contractor will utilize, store and process University Data in a secure environment ~~in accordance with commercial best practices~~, including appropriate administrative, physical, and technical safeguards, to secure such data from unauthorized access, disclosure, alteration, and use. Such measures will be no less protective than those used to secure Contractor's own data of a similar type, and in no event less than reasonable in view of the type and nature of the data involved. At a minimum, Contractor shall use industry-standard and up-to-date security tools and technologies such as anti-virus protections and intrusion detection methods to protect University Data.

1. Promptly~~Immediately~~ upon becoming aware of circumstances that could have resulted in unauthorized access to or disclosure or use of University Data, Contractor will notify Mason, fully investigate the incident, and cooperate fully with Mason's investigation of and response to and remediation of the incident. Except as otherwise required by law, Contractor will not provide notice of the incident directly to individuals who's PII was involved, regulatory agencies, or other entities, without prior written permission from Mason.

2. If Contractor provides ~~goods and~~ services that require the exchange of sensitive University Data, the Data Security Addendum attached to this Contract provides additional requirements Contractor must take to protect the University Data. Mason reserves the right to determine whether the University Data involved in this contract is sensitive, and if it so determines it will provide the Data Security Addendum to Contractor and it will be attached to and incorporated into this contract. Types of University Data that may be considered sensitive include, but is not limited to, (1) PII; (2) credit card data; (3) financial or business data which has the potential to affect the accuracy of the University's financial statements; (4) medical or health data; (5) sensitive or confidential business information; (6) trade secrets; (7) data which could create a security (including IT security) risk to Mason; and (8) confidential student or employee information.

3. ~~Mason reserves the right in its sole discretion to perform audits of Contactor, at Mason's expense, to ensure compliance with all obligations regarding University Data. Contractor shall reasonably cooperate in the performance of such audits. Contractor will make available to Mason all information necessary to demonstrate compliance with its data processing obligations. Failure to adequately protect University Data or comply with the terms of this Contract with regard to University Data may be grounds to terminate this Contract.~~

NN.MM. UNIVERSITY DATA UPON TERMINATION OR EXPIRATION: Upon termination or expiration of the Contract, Contractor will ensure that all University Data are securely returned or destroyed as directed by Mason in its sole discretion within 180 days of the request being made. Transfer to Mason or a third party designated by Mason shall occur within a reasonable period of time, and without significant interruption in service. Contractor shall ensure that such transfer/migration uses facilities and methods that are compatible with the relevant systems of Mason or its transferee, and to the extent technologically feasible, that Mason will have reasonable access to University Data during the transition. In the event that Mason requests destruction of its data, Contractor agrees to destroy all data in its possession and in the possession of any subcontractors or agents to which the Contractor might have transferred University Data. Contractor agrees to provide

documentation of data destruction to the University.

Contractor will notify the University of any impending cessation of its business and any contingency plans. This includes immediate transfer of any previously escrowed assets and University Data and providing Mason access to Contractor's facilities to remove and destroy Mason-owned assets and University Data. Contractor shall implement its exit plan and take all necessary actions to ensure a smooth transition of service with minimal disruption to Mason. Contractor will also provide a full inventory and configuration of servers, routers, other hardware, and software involved in service delivery along with supporting documentation, indicating which if any of these are owned by or dedicated to Mason. Contractor will work closely with its successor to ensure a successful transition to the new equipment, with minimal downtime and effect on Mason, all such work to be coordinated and performed in advance of the formal, final transition date.

OO.NN. UNIVERSITY REVIEW/APPROVAL: All goods, services, products, design, etc. produced by the Contractor for or on behalf of Mason are subject to Mason's review and approval.

PP.OO. WAIVER: The failure of a party to enforce any provision in this Contract shall not be deemed to be a waiver of such right.

Contractor NameCDW Government LLC   **George Mason University**

_____   _____
Signature   Signature

Name: _____   Name: _____

Title: _____   Title: _____

Date: _____   Date: _____

SAMPLE Statement of Work

The following is the SAMPLE SOW as it may be updated from time to time by Seller, taken by all Statements of Work executed under this Agreement:

STATEMENT OF WORK

This statement of work ("**SOW**") is made and entered into on _____, 20__ (the "**SOW Effective Date**") by and between the undersigned, CDW Direct, LLC ("**Seller**") and _____ ("**Customer**").

PROJECT DESCRIPTION

PROJECT SCOPE

ITEM(S) PROVIDED TO CUSTOMER

The following will be provided to Customer by the completion of this project:

Item	Description	Format

PROJECT SCHEDULING

TOTAL FEES

CUSTOMER-DESIGNATED LOCATIONS

Seller will provide Services benefiting the following locations ("**Customer-Designated Sites**"):

Location Name	Physical Address	Type(s) of Service(s)

PROJECT-SPECIFIC TERMS

SOW TERMS AND CONDITIONS

CONTACT PERSON(S)

Each Party will appoint a person to act as that Party's point of contact ("**Contact Person**") as the time for performance nears and will communicate that person's name and information to the other Party's Contact Person.

The Customer Contact Person is authorized to approve materials and Services provided by Seller, and Seller may rely on the decisions and approvals made by the Customer Contact Person (except that Seller understands that Customer may require a different person to sign any Change Orders amending this SOW). The Customer Contact Person will manage all communications with Seller, and when Services are performed at a Customer-Designated Location, the Customer Contact Person will be present or available.

The Parties' Contact Persons shall be authorized to approve changes in personnel and associated rates for Services under this SOW.

PAYMENT TERMS

Customer will pay invoices containing amounts authorized by this SOW within thirty (30) days of receipt. Any objections to an invoice must be made to the Seller Contact Person within fifteen (15) days after the invoice date.

EXPIRATION AND TERMINATION

This SOW expires and will be of no force or effect unless it is signed by Customer, transferred in its entirety to Seller so that it is received within thirty (30) days from the date written on its cover page, and then signed by Seller, except as otherwise agreed by Seller. **Either Party may terminate this SOW for cause if the other Party fails to cure a material default in the time period specified in the Agreement (defined herein).**

CHANGE ORDERS

This SOW may be modified or amended only in a writing drafted by Seller, generally in the form provided by Seller and signed by both Customer and Seller ("**Change Order**"). Each Change Order will be of no force or effect until signed by Customer, transferred in its entirety to Seller so that it is received within thirty (30) days from the date on its cover page and then signed by Seller, except as otherwise agreed by Seller.

In the event of a conflict between the terms and conditions set forth in a fully-executed Change Order and those set forth in this SOW or a prior fully-executed Change Order, the terms and conditions of the most recent fully-executed Change Order shall prevail.

MISCELLANEOUS

This SOW shall be governed by that certain Master Services Sales Agreement between CDW Direct, LLC and _____ , dated _____, 20__ (the "**Agreement**"). All of the terms and conditions of the Agreement are incorporated into and made a part of this SOW. If there is a conflict between this SOW and the Agreement, then the Agreement will control, except as expressly amended in this SOW by specific reference to the Agreement. References in the Agreement to a SOW or a Work Order apply to this SOW. This SOW and any Change Order may be signed in separate counterparts, each of which shall be deemed an original and all of which together will be deemed to be one original. Electronic signatures on this SOW or on any Change Order (or copies of signatures sent via electronic means) are the equivalent of handwritten signatures. This SOW is the proprietary and confidential information of Seller.

SIGNATURES

In acknowledgement that the parties below have read and understood this SOW and agree to be bound by it, each party has caused this SOW to be signed and transferred by its respective authorized representative.

CDW DIRECT, LLC   _____

By:_____   By:_____
Name:_____   Name:_____
Title:_____   Title:_____
Phone:_____   Phone:_____
E-mail:_____   E-mail:_____
Date:_____   Date:_____

Mailing Address: *Mailing Address:*
200 N. Milwaukee Ave.   Street:_____
Vernon Hills, IL 60061   City/ST/ZIP:_____
                                              *Billing Contact:*_____
                                              Street:_____
                                              City/ST/ZIP:_____

❑ A purchase order for payment under this SOW is attached.
❑ A purchase order is not required for payment under this SOW.
❑ The following PSM has given approval:

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Tab 2: References

No fewer than three (3), preferably from other comparable higher education institutions to which your firm is/has provided IT related support services and consulting which are similar in size and scope to that which has been described herein, that demonstrate the offeror's qualifications.

References

The following four references will attest to CDW•G's level of excellence:

Name/Title	███████████████
Address	████████
Phone	████
email	████
Description	• Implementation of Cisco Mobile Remote Access for remote and home user to have access to physical Cisco endpoints, including desk phones and softphones. • Implementation of Cisco WebEx Teams calling integration with Cisco Communications Manager. To enable calling capabilities with Cisco WebEx Teams through Cisco Communications Manager (CUCM). • Successful migration to Cisco Flex Subscription for all Unified Communications Licenses. • Currently working on Cisco Unified Contact Center Express Implementation for enrollment with Outbound IVR Campaigns.
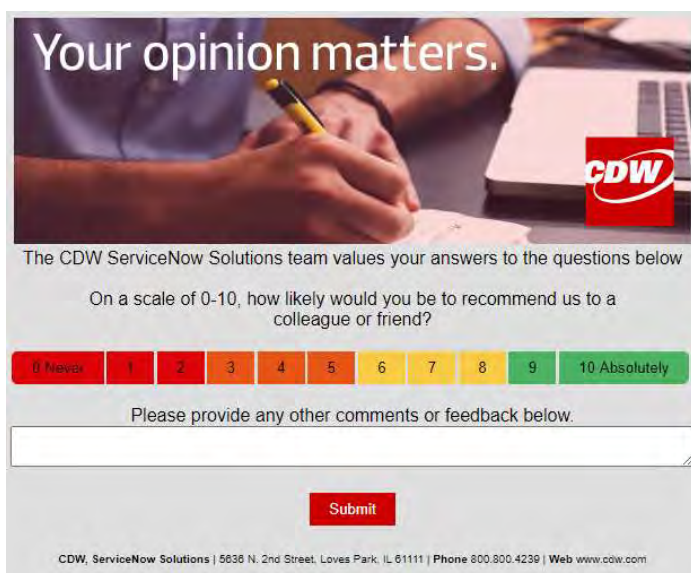
Name/Title	████████
Address	████████
Phone	████
email	████████
Description	Exchange Migration (Spring 2019) and Microsoft Teams Planning and Design Workshop (Summer 2020)

Name/Title	███████████
Address	████████
Phone	████
email	████████
Description	1) Pilot and Migration to Microsoft Teams. Plus 3 Staff Aug's for Microsoft Teams. 2) 1200 branch locations, distribution centers including networking, configuration services, wireless, paging, rack and stack, site surveys, phone systems 3) Cisco UCCE Deployments and UC Health checks 4) Penetration testing and Other Security 5) Break/fix all locations.

Name/Title	████████████████████ Vice President of Information Systems
Address	██████████████████████ ███████████████
Phone	█████████
email	████████████████
Description	Office 365 Deployment and utilizing an open Ad Hoc for AD cleanup and rebuilding their 2016 Exchange environment. All CDW Badged engineers.

CDW•G's Net Promoter Score

After each project's completion, CDW•G sends an email to all those involved in the project within the last year. You can see an example of this survey below which is asking for a score of 1-10 with a comments box to discuss potential problems or successes.

As of 12/21/2020, CDW•G nationwide has a Net Promoter Score of 65.5. (A score of 30 is considered "good" and 70 is considered "excellent").

Tab 3: Offeror's Approach

A written narrative describing the offeror's approach toward fulfilling the objectives and providing services sought by Mason. In addition, offeror shall identify the terms of any quality guarantee(s) offered. Address points outlined in section XI, Statement of Needs.

Statement of Needs

1. **On-Demand IT Consulting Services** - Work awarded in this area may still be informally competed amongst vendors that were selected from this RFP. Terms and Conditions will be conforming as provided herein. Contractor shall serve on special projects as a technology expert when requested and as needed. Reports shall be provided back to Mason summarizing options and providing recommendations. Contractor shall serve as a technology advisor to understand, communicate, and propose solutions as requested. Contractor shall serve as a resource of research, implementation, troubleshooting, and other technical tasks to support the efforts of George Mason University Information Technology Services (ITS) staff. Functional consultants shall be represented by the contractor as experts in the tasks and functions assigned.

Services Competencies and Experience

a. Provide detailed corporate competencies/experience serving one or more of the technologies and capabilities listed below:

Professional Services

We perform professional services across the country, ranging from simple client system deployments to more robust data center and network infrastructure implementations. Our professional services team—over 1,000 professionals strong—deploys out of 25 U.S. locations to deliver the personal service that helps you understand and meet your business and technology needs.

Our customers continue to tell us that having service resources located in their geographies is extremely important and is one of the main reasons they partner with CDW as an IT solutions provider. To that end, we have built a local services presence across 33 cities in the U.S. and Canada.

Services Coverage Breakdown (by services area and resource type):

- CDW Field Services Engineers and Project Managers (CDW coworkers) across 25 cities in the U.S.

- CDW Partner Services third-party network resources across 33 cities in the U.S. and Canada.

- CDW Field Services-National Team Engineers and Project Managers (CDW coworkers) across the U.S.

- CDW Configuration Center Technicians (CDW coworkers) in Chicago and Las Vegas.

- CDW Managed Services-Network Operations Center Engineers and Project Managers in Madison, WI, Minneapolis, MN and Chicago, IL.

- CDW Aggregation Services third-party hosting centers across 33 cities in the U.S. and Canada.

- Reston, VA is the Washington, DC Area Branch serving Virginia.

CDW is ranked No. 5 on CRN's 2020 Solution Provider 500 list, a ranking of the largest IT solution providers in North America by revenue. We have over 1,000 CDW-badged professionals located across the country and a large service provider network. We engage the appropriate solution architects, professional service engineers, and project managers to ensure projects are implemented successfully. Our engineers and project managers are trained on the latest technologies and many hold advanced certifications from our top manufacturers, ensuring that our team's current and relevant knowledge will directly benefit our customers' initiatives.

Service Engineers

CDW Service Engineers have extensive experience working with top manufacturers including Cisco, EMC, HP, IBM, NetApp, Microsoft, and VMware. They are extremely knowledgeable about the latest technologies and have important insight regarding the best approach to successful implementation. CDW's large team of highly trained service engineers implements complete scalable solutions nationwide.

In addition to our service engineers, CDW has a large service provider network that includes the nation's leading manufacturers, as well as local, regional, and national service providers. We involve the appropriate service partners to ensure successful deployment and project management. We have long-term relationships with these companies and conduct rigorous screenings to confirm their competencies.

Business Management Services

i.   Business Management Services to include projects such as Operational Assessments, Business Process Improvements, Benchmarking, IT Strategic Planning, and Implementation Services including Technical Change Management

CDW Consulting Services (CCS)

Whether it's housed on-premises, in the cloud or in a hybrid environment, your IT infrastructure needs to bring value to Mason. Get more from your investments by partnering with the CDW Consulting Services team to achieve greater scalability, simplified management, future-proofed infrastructure and more. Our experts provide the guidance you need to lay out a straightforward roadmap to Mason's long-term objectives.

On-Premises

- Data Center Assessment
- Consolidations
- Operation and Architecture Design
- Migration Planning
- Application Transformation
- IT Governance

Multicloud

- Workload Rationalization
- Financial Modeling (Cost Optimization)
- Software as a Service Optimization
- Migration Planning and Deployment
- DevOps, Data Analytics and Business Intelligence
- DevOps

Hybrid

- Mergers and Acquisitions Technology Integration
- IT Transformation (People, Processes and Technologies)
- Business Continuity and Disaster Recovery
- Business Impact Analysis (BIA) Planning
- RTO/RPO Analysis
- Workflow Analysis

Services Provided By:

IT continues to grow at an exponential rate. Its near- constant evolution and ever- increasing demand for speed, agility and scalability presents a host of challenges with no universal solution. Failure to develop a comprehensive IT strategy encompassing perfect alignment with business objectives and continuous process improvement is a tremendous liability.

Due to the prolific advances in mobility, the increased adoption of cloud computing and the enormous risk and catastrophic liability of lax security policies, every IT environment — whether infant or enterprise — must account for dynamic change.

What CDW Can Do For You

CDW's Consulting Services team, collaborates with organizations to define, plan, prepare and execute a comprehensive IT service vision that transforms IT operations. Our mission is to not only provide clients thought leadership to align, integrate, support and advance business initiatives but also, to ensure clients achieve quantifiable and tangible results to those initiatives.

CCS will holistically consider the IT transformation considerations and business process analysis to move IT from a cost center to a profit center. The framework and methodologies utilized are agnostic in nature, so you can be sure you are getting the solution that is right for you.

Some of the specific services the CCS team can assist Mason with include:

IT Strategy Development
- Multi-year Planning, M&A, IT Transformation and IT Governance, Workforce, DevOps

Data Center Modernization
- Cloud Services

- Consolidations, Operations, Architecture, Migration Planning, Application Mapping Analysis, Hybrid Platforms

Business Continuity & Disaster Recovery
- Business Impact Analysis (BIA), Planning, RTO/RPO Analysis, Tabletop, Workflow Analysis, Backup Recovery Strategy (BRS)

Benefits of CDW Consulting Services

Business processes and IT operations transform into repeatable, qualitative, performance-based environments with direct benefits to the business and proven aspects of:

- Fully aligned IT operations with business requirements and corporate objectives

- Effectively leveraged infrastructure, applications and resource capabilities

- Metric-based IT operations with known and measurable business outcomes

- Continuous process improvement methodology

- Agnostic, third-party expert advice

- Increased IT maturity supporting a value-based IT service model.

IT Strategy Roadmap

Most institutions have a defined business strategy that aims to provide direction and help to guide business decisions. An IT strategy works to align IT with the overarching business strategy, ensuring that investments made in IT are being used to drive the business to meet its stated objectives and goals. When there is a lack of an IT strategy that aligns with the business strategy, organizations begin to see higher levels of frustration with IT services being provided back to the business. This can lead to internal departments creating their own "shadow" IT groups, often resulting in unsupported and unintegrated solutions that drive costs higher.

Formulating an IT strategy with an actionable roadmap strives to ensure:

- IT delivers the appropriate capabilities to support the business strategy

- Institutions have the correct structure and governance in place to deliver the solutions needed

- Effective investments are made to deliver on the business strategy

Challenge
Before Mason can introduce and incorporate new technology into an environment, the architecture of proposed changes should be reviewed in conjunction with the anticipated growth and changes in the business. Changes in technology need to support the long-term strategic plans of the organization, which necessitates an actionable plan to introduce change prior to the demands of the business. The decisions surrounding such long-term transformation rely heavily on executive-level sponsorship and ongoing support.

Operational and Business Benefits

The IT landscape can be daunting, and CDW's Consulting Services team knows that, above all else, selecting the right option is critical to Mason. The success of any assessment necessitates a thorough understanding of the current business state and the desired business outcomes. By following CDW's prescriptive approach, whether it's an incremental change or a transformation of the entire business, the IT Strategy Roadmap Development process provides a clear, validated picture of how to achieve the desired IT business outcomes.

Solution

CDW's IT Strategy Roadmap Development services are designed to help guide an organization's journey to transform its business, providing greater business agility, flexibility, mobility and collaboration, while meeting or exceeding the service- and/or operational-level commitments of the organization. These solutions take into consideration the following key components, so you can make educated decisions on how to move Mason forward:

- Long-term business and growth strategy

- Potential dependencies which can based on the integration of existing and new technologies in addition to the high-level requirements when new architectures are introduced

- Solutions that could augment or enhance the existing infrastructure and/or supporting IT processes

- Workload and infrastructure interaction

- User experience

- Agility and scalability

- Tools and support to add or enhance IT governance capabilities

- Security and tools alignment

- Service- and operational-level support agreements

- Alignment with client business, industry and regulatory requirements

Feasibility Studies

For many organizations, changing, adapting, and incorporating new ideas into the business can be difficult, especially with all the uncertainties they face. Since technology has yet to bring us the ability to travel into the future, we need some way to predict the success or failure of these ideas before investing too many resources. In that case, the tool leveraged to be our crystal ball is a feasibility study. A feasibility study tests the viability of an idea, a project, or even a new business. Through comprehensive analysis, CDW will discover the strengths, weaknesses, opportunities, and threats of proposed endeavors to ensure they are beneficial and in-line with the organization's strategy. Ultimately, the result of a feasibility study will tell us whether a project is worth the investment.

CDW's Feasibility Study services are designed to help organizations discover and analyze initiatives surrounding environment, resource requirements, and ultimately, the prospects of success. CDW will analyze the big picture in a top-down fashion covering all critical areas to make a sound decision on whether to move forward with a business plan.

This is typically based on assessing:

- Technical feasibility   • Operational feasibility

- Economic feasibility
- Schedule feasibility
- Legal feasibility

As a result, CDW will provide a comprehensive report depicting where and how the business will operate, as well as potential obstacles, competition, and the estimated funding needed to get the initiative up and running.

CDW's Feasibility Study services will determine the risk/reward benefit, opportunity costs, and overall return an initiative might have. The results include identifying the optimal timing for an initiative to alleviate undue stress on business resources, projections on cash flow to ensure proper funding, supply/value chain management review to measure impact across the entire organization, as well as addressing the skill sets and structure needed to ensure success.

Data Center Optimization

Understanding the intricacies of an organization is the foundation for introducing transformational changes to the business. Once that level of understanding is satisfied, it sets the stage for delivering meaningful results that lead to: driving cost out of the IT infrastructure, streamlining business resources while increasing operational efficiencies and helping clients maximize their return on investment. This first step in understanding the impact of change will assist in the development of future roadmaps, whether that be replacing and/ or upgrading existing data center (DC) infrastructure, introducing new business processes and applications or migrating workloads to a public, private or hybrid Cloud.

Mason can achieve the following by employing a CDW Consulting Services solution:

- Fully-aligned IT operations with business requirements and corporate objectives
- Effectively-leveraged infrastructure, applications and resource capabilities
- Metric-based IT operations with known and measurable business outcomes
- Continuous process improvement methodology
- Increased IT maturity supporting a value-based IT service model

Service Offerings

Core services inside CDW's Consulting Services Practice include:

Consulting Services Data Center Operational Assessment: This customized engagement will provide the information necessary to make educated decisions for the future direction and alignment of your data center with the strategic needs of Mason. While every institution and every environment are unique, the methodology used follows a well-established, standardized approach.

CDW's Data Center Operational Assessment provides a review to assist with:

- Validation of the current state
- Network and server infrastructure design
- Server and application delivery
- Authentication
- End-user computing
- Failover and business continuity

- Backup and recovery
- Administrative and help desk
- Policy, process and procedure
- Skillset alignment
- Platform evaluation
- Partner/Vendor Consideration

Business Continuity & Disaster Recovery

Today, organizations depend on technology more than ever before. Unplanned interruptions of service can have devastating consequences. The implementation of a comprehensive business continuity (BC) and disaster recovery (DR) strategy is essential to ensuring the continued success of Mason.

Assessment

CDW's BC & DR summary assessment offering is designed to help guide an organization in understanding and coming to consensus on the key business goals, constraints, risks, critical success factors, resource and technology required to align a BC & DR strategy with the business objectives. The 1-week summary assessment is designed to achieve the following objectives:

- An understanding of the organization's existing strategy for BC & DR.

- Creation of a Table-top crisis scenario narrative to discuss, the procedures, coordination, methods, and resource assignments associated with the execution of a BC & DR strategy.

- Discussion of potential gaps in the existing strategy and subsequent steps towards remediation.

Tabletop Exercise

Practice makes perfect - an organization's ability to recover quickly from a disaster is associated with the quality of preparedness performed prior to an actual event occurring. Tabletop exercises present well defined and relevant scenarios allowing for multiple departments or business units of an organization to collaborate to demonstrate the viability of the BC & DR plans and highlight inconsistencies and areas for improvement.

Strategy Review	Scenario Creation	Gap Discussion
- Executive expectations - Business Operations - Communication Planning - Crisis Management Plan - Risk and Cost Assessment - Facilities Management - Technology	- Define the Disaster - Define the immediate impact to the business - Outline the Business Continuity Plan - during the outage and prior to failover completion - Outline the failover process and - impact to operations - Assess business operations during the outage - Outline remediation operations	- Detection - Communications and Notifications - Standard Operating Procedures - Recovery - Compliance

<u>**Enterprise Application Services**</u>

ii. Enterprise Application Services to include Programming, Business Analysis, Software Solutions Architecture, Enterprise Resource Planning (ERP) Analysis and Development, Salesforce Development, Database Administration, and Website Development

Data Center Solutions

Brick by brick, byte by byte, your data storage needs expand every day — and your available space continues to shrink. Years of patchwork remodeling have left data centers with redundant and incompatible systems. Aging infrastructure also struggles under the weight of new cloud, mobility, security, big data and storage solutions.

CDW's solution architects can rebuild your data center on a rock-solid foundation. After assessing your needs, we'll draw on CDW's vendor partnerships and your existing resources to bring your data center optimization blueprint to life.

Custom data center solutions include everything from smart data storage and backup to hyperconverged infrastructure and efficient power and cooling, creating a scalable network built with the future in mind.

Software-Defined Data Center
With daily demands pushing the limits of most infrastructures, a software-defined data center (SDDC) can pool all your resources into one scalable, powerful environment that can keep Mason one step ahead.

Server Virtualization
Our solution architects can draw up a virtualization plan tailored to Mason. In addition to maximizing the efficiency of your physical resources, they'll keep your data center standing through the challenges that lie ahead.

Converged/Hyperconverged Infrastructure
CDW can help you leave the inefficiencies of your old data center behind by connecting you with all the necessary hardware and software to build a truly converged data center environment. We'll also help you create the solid strategy you'll need to ensure a well-integrated solution.

Compute
CDW can design and implement a computing solution to optimize your data center infrastructure, resulting in IT resources being freed up to focus on strategic projects.

Power and Cooling
CDW offers modular, scalable power and cooling solutions that will keep your data center energy consumption and costs low as well as prevent downtime due to overheating. We can handle your project from the planning stages, through the implementation process and beyond.

Backup
In case of disaster, you need to be able to recover data quickly to keep operations running smoothly. CDW can help you build a customized plan that better supports Mason by streamlining backups and data management.

Storage
Data continues to grow at an unprecedented rate, prompting the need for a cohesive and efficient storage solution. CDW can help deliver a smart storage strategy that accounts for Mason's needs today — and down the road.

Data Migration

We will assess the scope of your data migration project and then make sure the transfer takes place without a hitch — whether it be an EMC to NetApp migration, physical to virtual machines migration or a migration to the cloud.

Networking

Your network is more important than ever. Your IT staff is stretched thinner than ever. That's why a professionally designed and implemented network from CDW is what you need for years of hassle-free operation and growth.

Operating Systems, Applications and Services

Whether we are helping you upgrade from your Microsoft 2003 server environment or providing a detailed assessment of your Active Directory Domain Services, you can count on CDW's trained and certified experts to deliver the ideal data center technologies to Mason.

IoT/Digital Transformation

The Internet of Things (IoT) is already delivering positive economic impact in every industry. The value and successful business outcomes from digitization will continue to expand for years to come. The risks, to every institution, of not implementing a digital transformation strategy are too great to ignore. As a leading provider of IoT and digitalization solutions, CDW has a proven, prescriptive approach to help our clients be successful.

Software-Defined Data Center

A software-defined data center combines and simultaneously manages traditionally siloed server, storage and network virtualization, making IT's job a lot simpler. In addition, with SDDC, you can deliver and provision resources automatically within a framework of defined roles, policies and SLAs. More flexibility and efficiency can transform the way you deliver IT.

Solution Benefits

Mason can achieve the following by employing a CDW Software-Defined Data Center solution:

- Provision computing, storage and networking resources quickly from a central interface, eliminating the need to work with siloed storage network device interfaces and hardware.

- Allocate your resources from a single point of control with a centralized monitoring and management center.

- Eliminate having to work with multiple vendor-specific configuration interfaces.

- With all network hardware responsive to a central authority, pooled network resources can be automatically applied to relieve bottlenecks and ensure application responsiveness.

- The streamlined, centralized network management of SDDC helps clear pileups quickly and effectively — even as you face increased network traffic.

- Guarantee compliance with security policies with policy-based management.

- Eliminate errors that come with repetitive manual processes.

- Monitor resources more efficiently with a unified system that eliminates the piecemeal monitoring of resources across operative silos and vendor products.

- SDDC makes transitioning to the cloud simpler by extending your infrastructure and applications to the right technology.

Vendors Supported

- VMware
- Cisco
- Dell EMC
- Microsoft
- Nutanix
- Hewlett Packard Enterprise
- NetApp

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Software-Defined Data Center solution area include:

Professional Services

- **Data Center Assessment:** CDW will assess your overall infrastructure and report back its detailed findings and recommendations.

- **Virtualization Infrastructure Health Check:** We will provide analysis and recommendations based on the performance and efficiency of your enterprise's existing VMware vSphere environment.

- **Virtualization Assessments:** CDW offers assessments that are not just template reports with generic data. We provide you with customized, detailed reports featuring specific virtualization recommendations based on your unique environment.

- **Virtualization Planning and Design Workshops:** Our experts will learn what Mason is trying to achieve and then design the appropriate infrastructure.

- **Virtualization Implementation Services:** CDW's Jumpstart engagements are designed to quickly get your environment up and running. A typical engagement, performed at your site, includes implementation services for solution components. A key benefit with a Jumpstart is the knowledge transfer of best practices from CDW's experts to your IT team. Our implementation offerings are available for vSphere, vRealize Automation, vRealize Operations/Log Insight, VMware Site Recovery Manager and NSX.

- **Cisco ACI Planning and Design Workshop:** The workshop is held in advance of deployment of Cisco's Application Centric Infrastructure to validate a customer's design.

- **Cisco ACI Jumpstart:** This engagement deploys ACI, getting it up and running in your environment along with moving some applications to the new platform.

- **VMware NSX Design and Planning Workshop:** VMware NSX is the gold standard for Software Defined Networking (SDN) within VMware vSphere environments. Its key features include Network Virtualization (L2/L3 routing and forwarding within the Hypervisor), Micro-Segmentation (firewalls between servers) and Network Function Virtualization (virtualized firewalls, routers, load-balancers and VPN running on NSX edge). This design and planning sessions is led by a CDW NSX implementation engineer to determine Mason's NSX requirements, use cases and design strategy. We will work with you on NSX feature and design decisions while developing a high-level design document.

- **NSX Proof of Concept with Micro-Segmentation:** This engagement is suited for customers who want to test functionality of VMware NSX micro-segmentation features in a pre-production environment. The service includes a design session to determine use cases, deployment in a pre-production environment, implementation of use cases and knowledge transfer.

- **NSX Network Virtualization Accelerator Service:** This service is suited for institutions that want to deploy a pre-production environment designed to meet their specific requirements. This jumpstart-style engagement will consist of a design session(s), deployment and two days of knowledge transfer.

- **Converged/Hyperconverged Infrastructure Planning and Design Services:** CDW will recommend prevalidated reference architectures that utilize converged appliances such as NetApp FlexPod, NetApp HCI, Dell EMC Vblock, Cisco HyperFlex, Dell EMC VxRail, Nutanix and Cisco/Pure Storage FlashStack.

- **Converged/Hyperconverged Infrastructure Deployment Services:** When it comes time to implement technologies like NetApp FlexPod, NetApp HCI, Dell EMC Vblock, Cisco HyperFlex, Dell EMC VxRail, Nutanix and Cisco/Pure Storage FlashStack, CDW's engineers can help you get them up and running in your environment and assist with data migration. Our engineers will also teach your IT professionals how to get the most out of the new technology.

- **Cisco UCS Health Check:** A low-cost way to quickly evaluate the state of your current Cisco Unified Computing System (UCS) environment and plan for an upgrade. You will be provided with an in-depth document providing details of the assessment along with recommended changes.

- **UCS QuickStart:** The UCS QuickStart is a hands-on engagement, optimized for custom interaction and knowledge transfer. If Mason needs to gain experience operating UCS, CDW will get your enterprise up and running. This service includes professional configuration of the UCS platform, plus hands-on training.

- **UCS Central Deployment:** Cisco's centralized management platform is capable of managing multiple UCS domains. CDW can plan and implement its deployment, allowing you to manage nearly your entire UCS environment from a single pane of glass.

  UCS Director Jumpstart: CDW's three-week Jumpstart engagement is designed to quickly get your environment up and running. It involves meeting with you, confirming your use cases, helping to lay down a deployment schedule, working toward agreed upon targets and culminates in a supported launch. During this process you can work alongside our orchestration engineers to familiarize yourself with the product.

- **VMware vRealize Automation 7 Accelerator:** This engagement expands the power of virtualization, moving IT services away from existing infrastructure delivery methods to where virtual machine infrastructure is delivered as a service. This service provides rapid deployment of standard, non-customized virtual machine infrastructure services for use in pre-production environments. You will receive an introduction on how to reduce costs of managing IT by optimizing the provisioning process through a self-service portal to provide infrastructure services.

- **VMware vRealize Automation 7 Enterprise:** This engagement delivers everything involved in the Accelerator service in a highly available design. It includes production-ready enterprise architecture; additional knowledge transfer on advanced topics of lifecycle management, application deployment (license dependent), approval processes and custom properties; and installation of vRealize Business Standard (license dependent).

Server Virtualization

Virtualization is considered a foundational technology for cloud computing. The more virtualized the infrastructure, the higher the resource utilization within the shared pool.

Growth in virtualization continues to reshape the data center landscape by consolidating servers, boosting utilization and improving manageability. Virtualization can be a solution to issues such as low server utilization, complex server/storage migration, inefficient server deployment and high power and cooling costs.

Solution Benefits

Mason can achieve the following by employing a CDW Server Virtualization solution:

- Increase efficiency, lower costs, simplify app provisioning and provide exceptional uptime with simple administration and management with software-defined data center (SDDC) architectures.

- Set the foundation for more simple and supported cloud deployments.

- Allow for automated provisioning of resources and better performance by eliminating siloed storage and network device interfaces and hardware with SDDC.

- Improve control over apps and centrally house data for increased security.

Vendors Supported

- VMware

- Microsoft

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Server Virtualization solution area include:

Professional Services

- **Infrastructure Health Check:** We will provide analysis and recommendations based on the performance and efficiency of your enterprise's existing VMware vSphere environment.

- **Virtualization Assessments:** CDW offers assessments that are not just template reports with generic data. We provide you with customized, detailed reports featuring specific virtualization recommendations based on your unique environment.

- **Planning and Design Workshops:** Our experts will learn what Mason is trying to achieve and then design the appropriate infrastructure.

- **Implementation Services:** CDW's Jumpstart engagements are designed to quickly get your environment up and running. A typical engagement, performed at your site, includes implementation services for solution components. A key benefit with a Jumpstart is the knowledge transfer of best practices from CDW's experts to your IT team. Our implementation offerings are available for vSphere, vRealize Automation, vRealize Operations/Log Insight, VMware Site Recovery Manager and NSX.

- **Microsoft Private or Hybrid Cloud Jumpstarts:** This engagement will assist you with the planning, design and evaluation of Windows Server, System Center and Hyper-V. CDW will create a deployment roadmap for your private or hybrid cloud solution, which also includes installation and configuration of Hyper-V, System Center Virtual Machine Manager, App Controller and Operations Manager. We will deploy virtual machines to the private or hybrid cloud either on premises or Azure. CDW will provide knowledge transfer of reporting, security roles and end-user self-service portal, and will create standard OS image for deployment with Virtual Machine Manager to Hyper-V.

Managed Services

CDW can take responsibility for the tasks associated with monitoring, upgrades, maintenance, reporting and hardware incident management for VMware and Microsoft environments. To best meet Mason's needs, you can choose from three tiers of support, all powered by our redundant 24/7 Enterprise Command Centers (ECC).

Configuration Services

Technology products don't come off the assembly line ready to work for you. They must be custom configured to meet Mason's unique needs and specifications. That's not as easy as it sounds. It takes time and expertise that your IT team might not have. CDW has a wealth of experience in satisfying customers' needs for Server and Storage Hardware Configuration, Server Rack Configuration, Server Network Operating System Installation, BIOS and Firmware Upgrades/Downgrades and Configuration, Server Imaging, Asset Management Services and Delivery and Distribution Optimization.

Converged/Hyperconverged Infrastructure

It's not hard for traditional data centers to sprawl into a disjointed hoard of equipment. On top of high-maintenance, outdated technologies, a growing hodgepodge of nonuniform systems can hinder performance and growth within Mason.

That's why no data center remodel is complete without converged infrastructure — which combines servers, data storage, networking equipment and software into a single unified computing system. Our solutions will keep Mason prepared for growth at a moment's notice.

Solution Benefits

Mason can achieve the following by employing a CDW Converged/Hyperconverged Infrastructure solution:

- Tightly integrate your servers, storage, networking and software components.

- Reduce administration costs by minimizing capital expenses and improving operational efficiencies.

- Simplify management with a single platform.

- Improve application performance and availability by improving allocation of resources.

- Streamline support models and offer scalability to meet changing demands.

Vendors Supported

- Cisco
- NetApp
- Dell EMC
- Nutanix
- VMware
- Pure Storage

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Converged/Hyperconverged Infrastructure solution area include:

Professional Services

- **Data Center Assessment:** CDW will assess your overall infrastructure and report back its detailed findings and recommendations.

- **Planning and Design Services:** CDW will recommend prevalidated reference architectures that utilize converged appliances such as NetApp FlexPod, NetApp HCI, Dell EMC Vblock, Cisco HyperFlex, Dell EMC VxRail, Nutanix and Cisco/Pure Storage FlashStack.

- Deployment Services: When it comes time to implement technologies like NetApp FlexPod, NetApp HCI, Dell EMC Vblock, Cisco HyperFlex, Dell EMC VxRail, Nutanix and Cisco/Pure Storage FlashStack, CDW's engineers can help you get them up and running in your environment and assist with data migration. Our engineers will also teach your IT professionals how to get the most out of the new technology.

Managed Services

We offer hosted private clouds that run on managed Nutanix and VMware vSAN infrastructures and are hosted in your data center, one of our own data centers or in a third-party data center. To best meet Mason's needs, you can choose from three tiers of support, all powered by our redundant 24/7 Enterprise Command Centers (ECC).

Configuration Services

Technology products don't come off the assembly line ready to work for you. They must be custom configured to meet Mason's unique needs and specifications. That's not as easy as it sounds. It takes time and expertise that your IT team might not have. CDW has a wealth of experience in satisfying customers' needs for Rack Configuration, Asset Management Services and Delivery and Distribution Optimization.

Compute

As the transformation of the data center continues, the demand for IT to move faster has never been greater. With customer expectations for immediate delivery and with data volumes rising dramatically, IT can no longer take weeks to provide the infrastructure and services customers expect. To deliver business services faster, organizations need to adopt automation at various organizational levels.

CDW can equip you with the computing solution to optimize your data center infrastructure, getting it to operate like a well-oiled machine.

Solution Benefits

Mason can achieve the following by employing a CDW Compute solution:

- Lower total cost of operations and achieve heightened IT security controls.

- IT resources freed up for strategic projects and objective-driven outcomes, resulting in better productivity.

- Reduced costs, improved business agility through more efficient use of existing capacity.

- IT services delivered faster and continuously.

Vendors Supported
- Cisco

- VMware

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Compute solution area include:

Professional Services

- **UCS Health Check:** A low-cost way to quickly evaluate the state of your current Cisco Unified Computing System (UCS) environment and plan for an upgrade. You will be provided with an in-depth document providing details of the assessment along with recommended changes.

- **UCS QuickStart:** The UCS QuickStart is a hands-on engagement, optimized for custom interaction and knowledge transfer. If Mason needs to gain experience operating UCS, CDW will get your enterprise up and running. This service includes professional configuration of the UCS platform, plus hands-on training.

- **UCS Central Deployment:** Cisco's centralized management platform is capable of managing multiple UCS domains. CDW can plan and implement its deployment, allowing you to manage nearly your entire UCS environment from a single pane of glass.

- **UCS Director Jumpstart:** CDW's three-week Jumpstart engagement is designed to quickly get your environment up and running. It involves meeting with you, confirming your use cases, helping to lay down a deployment schedule, working toward agreed upon targets and culminates in a supported launch. During this process you can work alongside our orchestration engineers to familiarize yourself with the product.

- **VMware vRealize Automation 7 Accelerator:** This engagement expands the power of virtualization, moving IT services away from existing infrastructure delivery methods to where virtual machine infrastructure is delivered as a service. This service provides rapid deployment of standard, non-customized virtual machine infrastructure services for use in pre-production environments. You will receive an introduction on how to reduce costs of managing IT by optimizing the provisioning process through a self-service portal to provide infrastructure services.

- **vRealize Automation 7 Enterprise:** This engagement delivers everything involved in the Accelerator service in a highly available design. It includes production-ready enterprise architecture; additional knowledge transfer on advanced topics of lifecycle management, application deployment (license dependent), approval processes and custom properties; and installation of vRealize Business Standard (license dependent).

Managed Services

CDW can take responsibility for the tasks associated with monitoring, upgrades, maintenance, reporting and hardware incident management for your UCS server platform. To best meet Mason's needs, you can choose from three tiers of support, all powered by our redundant 24/7 Enterprise Command Centers (ECC).

Configuration Services

Technology products don't come off the assembly line ready to work for you. They must be custom configured to meet Mason's unique needs and specifications. That's not as easy as it sounds. It takes time and expertise that your IT team might not have. CDW has a wealth of experience in satisfying customers' needs for Server and Storage Hardware Configuration, BIOS and Firmware Upgrades/Downgrades and Configuration, Server Network Operating System Installation, Software Installation, Server Rack Configuration, Asset Management Services and Delivery and Distribution Optimization.

Power and Cooling

Overheating. Power surges. Energy inefficiency. They might sound like minor problems, but they take time and funds away from your IT infrastructure. Instead, CDW can help you find power and cooling solutions that protect your equipment, maximize efficiency and save you money.

As one of the largest providers of power protection products, we offer competitive pricing, dedicated resources and rebate programs. Our experts can assist you from the initial assessment and site survey phase all the way through to installation, management and ongoing support.

Solution Benefits

Mason can achieve the following by employing a CDW Power and Cooling solution:

- Increase uptime and reduce operational costs by controlling airflow and keeping your infrastructure properly cooled and running smoothly.

- Safeguard against potential disasters by protecting your data center in the case of power failure.

- Maximize energy efficiencies and cost savings thanks to management resources that monitor energy use and identify potential problems.

Vendors Supported

- APC
- Tripp Lite
- Eaton
- Vertiv

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Power and Cooling solution area include:

Professional Services

- **Power and Cooling Assessment:** We offer an onsite assessment that serves as the foundation for your comprehensive data center optimization plan. We'll determine where energy is being wasted, gauge your usage of HVAC and provide a recommendation on how to address your current needs.

- **Power and Cooling Planning and Design:** Our solution architects can review your needs and perform an evaluation to help you develop a comprehensive solution for your project needs.

- **Data Center Installation:** We can help you manage the implementation of your power and cooling solutions by providing manufacturer-trusted local electrical/mechanical contractors to install equipment in accordance with all manufacturer and local requirements.

- **Assembly Services:** CDW can handle the physical setup of your new equipment at your site.

- **Start-up Services:** We can handle the initial configuration of your equipment at your site to get it up and running.

- **Physical Infrastructure Staff Augmentation:** Ever wear too many hats within the organization at once? CDW can arrange through our partner services to staff a person to manage any power and cooling gear at your location, augmenting your staff with someone

skilled in data center operations. This will ensure what was initially set up optimally stays that way over time.

- **Physical Move Assistance:** If you are moving locations or transferring your equipment to a co-hosted facility, we can arrange for the move of your physical equipment from point A to point B.

Configuration Services

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Backup

If hit with an emergency outage, your data center needs a backup solution that is flexible enough to sway through the quake — not crack and crumble.

But with the wide adoption of virtualization, the proliferation of mobility and BYOD, and the ever-growing avalanches of storage data, efficient backups are more challenging than ever.

CDW's solution architects will survey your data landscape and construct a custom backup solution for your data center using the latest tools.

Solution Benefits

Mason can achieve the following by employing a CDW Backup solution:

- Prepare for unanticipated data loss with offsite backups.

- Automate and streamline time-consuming backup processes with centralized data management that enables remote management of your data landscape.

- Accelerate data recovery by minimizing redundant data.

- Strengthen disaster recovery by hosting backups on multiple servers across data centers.

Vendors Supported

- Dell EMC
- NetApp
- Microsoft
- Commvault
- IBM
- Veritas NetBackup
- Rubrik
- Veeam

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Services Offerings

Core services within CDW's Backup solution area include:

Professional Services

- **Veeam Availability Services:** CDW Veeam Availability service offerings encompass solutions around the Veeam Availability Suite. The suite contains the Veeam Backup and Replication, and VeeamONE products. We have both Jumpstart and Health Check services for Veeam. The Jumpstart service provides design, installation and configuration services for Veeam Availability. The Veeam Health Check assesses an organization's current Veeam

infrastructure and provides reporting and recommendations on the status and fitness of the solution.

- **Dell EMC Avamar Design and Installation:** CDW can plan and design your entire backup solution, and then implement it. Our engineers will configure and set up the hardware and deploy the host agents. Upon completion, your backup solution will be operational and protecting the assets that are so vital to Mason.

- **Data Domain Design and Installation:** CDW can set up the Data Domain hardware at your location. If you are planning to use Avamar as the backup software, CDW can integrate the solution.

- **Rubrik Deployment Services:** CDW Services will ensure your Rubrik System is installed and configured according to Rubrik's recommended best practices. Our certified engineers will provide you with an onsite production deployment of the Rubrik System. Once the product is successfully installed and tested, CDW will provide a knowledge-transfer session that will ensure you are comfortable managing your new environment when the engagement is complete.

- **Microsoft System Center Data Protection Manager Pilot:** This engagement helps you plan, design and deploy Data Protection Manager (DPM) to best support your environment. The service includes configuring DPM to support the backup and recovery of many common workloads and applications. CDW will also assist in aligning your disaster recovery plans to match with DPM's recovery groups.

Managed Services

CDW can take responsibility for the tasks associated with monitoring, upgrades, maintenance and reporting for products from Veeam, Dell EMC, IBM, Microsoft and Commvault. To best meet Mason's needs, you can choose from three tiers of support, all powered by our redundant 24/7 Enterprise Command Centers (ECC).

Configuration Services

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Storage

A network storage array here. A backup appliance there. Yesterday's patchwork of data storage and archiving solutions has left many growing organizations with a complex mess of congested, inefficiently managed megabytes that only keeps piling higher.

Today's organizations must unify data storage management across cubicles, mobile workers, and cloud providers and be prepared to scale up at any moment.

Solution Benefits

Mason can achieve the following by employing a CDW Storage solution:

- Improve IT control and visibility with updated storage management tools.

- Better meet enterprise storage needs with fast, reliable and efficient flash storage.

- Adjust to changing needs with scalable, cost-effective cloud storage.

- Improve manageability and portability of storage resources with SAN, NAS and DAS — potentially lowering storage costs.

- Determine accurate cost-per-performance balance for your storage tiers using hierarchical storage management.

Vendors Supported

- NetApp
- Dell EMC
- Hewlett Packard Enterprise
- IBM
- Cisco

- Brocade
- Veritas NetBackup
- Veeam
- Commvault
- Pure Storage

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Storage solution area include:

Professional Services

- **Storage Solution Review:** Essentially a health check, CDW will review your existing storage environment and provide recommendations for best practices and performance improvement.

- **Data Migration Assessment:** CDW will perform an assessment of the existing data you desire to be migrated. We will determine the best methods to migrate that data from one array to another with the least amount of impact to Mason.

- **Planning and Design Sessions:** Before creating a blueprint for your storage plan, CDW will conduct planning and design sessions to determine Mason's needs and goals.

- **Deployment Services:** To help you roll out your new storage solution, we offer hardware implementation, software installation and data migration assistance for a variety of products, including the following: NetApp FAS and AFF, NetApp ONTAP Cloud, NetApp E-Series, SolidFire, Dell EMC VNX/VNXe, Dell EMC Unity, Dell EMC SC SAN, VMware vSAN and Pure Storage FlashArray.

Managed Services

CDW can take responsibility for the tasks associated with monitoring, upgrades, maintenance, reporting, and hardware and software incident management for our Dell EMC, NetApp, IBM, Cisco and Brocade partner storage and storage networking offerings. To best meet Mason's needs, you can choose from three tiers of support, all powered by our redundant 24/7 Enterprise Command Centers (ECC).

Configuration Services

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Data Migration

Data migration is complicated, no matter the size of your enterprise or the scope of the project. If not planned carefully, your transfer of data between storage types, formats or computer systems could be at risk. What if a server crashes during the process? Or your data center encounters an issue such as an array failure during the transfer? These are more than minor inconveniences. They are incidents that can threaten your data migration.

You can achieve peace of mind by working with CDW to plan, design and implement a custom data migration for Mason. By working with our solution architects and engineers, you will have access to experts who have successfully moved data for thousands of satisfied clients.

Solution Benefits

Mason can achieve the following by employing a CDW Data Migration solution:

- Access to CDW's knowledge of the process and industry, which is passed on to members of your IT team.

- With the extensive experience CDW has gained by orchestrating successful data migrations, we can customize migration solutions that result in minimized risk and reduced outage time.

- The ability to leverage our relationships with best-in-class vendors.

Services Offerings

Core services within CDW's Data Migration solution area include:

Professional Services

- **Assessment Services:** CDW will perform a physical and logical inventory of your current storage environment and supporting network hardware. We will also gather information related to the data type, size and environment.

- **Planning and Design Services:** CDW will create a data migration strategy based on your specific needs.

- **Preparation Services:** CDW will ensure that all relevant equipment is onsite at the appropriate location and ready to begin the process of moving your data.

- **Migration Services:** CDW will handle the actual transfer of data from one area to the next — whether it be related to hardware, Applications, Physical-to-Virtual, Database or your entire Data Center — following the exclusive implementation plan designed for your enterprise.

- **Validation Services:** To complete the data migration process, CDW will ensure the migration was successful. We will make sure all data scheduled for migration was moved to its proper new location.

Configuration Services

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Networking

High-bandwidth deployments like virtualization and cloud computing support Mason, but can put massive strains on your network. To properly manage the changing traffic patterns of your data and applications, you need a highly optimized network.

CDW's experts can help you improve the performance of your network so it can help keep your entire data center humming.

Solution Benefits

Mason can achieve the following by employing a CDW Networking solution:

- The ability to support increased application demands.

- Give employees consistent, reliable access to the tools they need to do their jobs by delivering applications faster and more securely.

- Avoid costly downtime and lost productivity by improving network performance, availability and continuity of operations.

- Prepare for future needs by increasing network flexibility and scalability.

Vendors Supported

- Cisco
- NetScaler
- HP
- VMware
- F5

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Networking solution area include:

Professional Services

- **Network Health Checks and Assessments:** CDW will assess your overall network infrastructure and report back detailed findings and recommendations, including a Network Inventory Report, L2/L3 topology map, and configuration details such as QoS and Multicast.

- **Cisco ACI Planning and Design Workshop:** The workshop is held in advance of deployment of Cisco's Application Centric Infrastructure to validate a customer's design.

- **Cisco ACI Jumpstart:** This engagement deploys ACI, getting it up and running in your environment along with moving some applications to the new platform.

- NSX Design and Planning Workshop: VMware NSX is the gold standard for Software Defined Networking (SDN) within VMware vSphere environments. Its key features include Network Virtualization (L2/L3 routing and forwarding within the Hypervisor), Micro-Segmentation (firewalls between servers) and Network Function Virtualization (virtualized firewalls, routers, load-balancers and VPN running on NSX edge). This design and planning sessions is led by a CDW NSX implementation engineer to determine Mason's NSX requirements, use cases and design strategy. We will work with you on NSX feature and design decisions while developing a high-level design document.

- **NSX Proof of Concept with Micro-Segmentation:** This engagement is suited for customers who want to test functionality of VMware NSX micro-segmentation features in a pre-production environment. The service includes a design session to determine use cases,

deployment in a pre-production environment, implementation of use cases and knowledge transfer.

- **VMware NSX Network Virtualization Accelerator Service:** This service is suited for institutions that want to deploy a pre-production environment designed to meet their specific requirements. This jumpstart-style engagement will consist of a design session(s), deployment and two days of knowledge transfer.

- **Multi Data Center Planning and Design:** Customers with data centers in multiple locations frequently encounter networking challenges when attempting to get multiple sites to operate well with each other. CDW can help build a solution to get the most out of your multiple data center locations.

- **Data Center Network Deployment:** CDW's engineers can install Nexus switches to provide connectivity to devices within your environment, in addition to implementing the logical design the customer desires, resulting in network connectivity across your racks of servers and storage.

- **Load-Balancer Services:** We can provide assessment, design and implementation services for F5 and NetScaler application delivery controllers.

Managed Services

CDW can take responsibility for the tasks associated with monitoring, upgrades, maintenance, reporting and hardware and circuit incident management for products from Cisco, Cradlepoint, Riverbed, Meraki, F5 and LiveAction. To best meet Mason's needs, you can choose from three tiers of support, all powered by our redundant 24/7 Enterprise Command Centers (ECC).

Configuration Services

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Operating Systems, Applications and Servers

Once the infrastructure of your data center is installed and optimized, you can focus on the installation of applications and services that allow you to run Mason.

Whether we are helping you upgrade from your Microsoft Windows Server 2008 environment or providing a detailed assessment of your current Active Directory Domain Services, you can count on CDW's trained and certified experts to deliver the ideal data center technologies to Mason.

Vendors Supported

- Microsoft
- Oracle
- Novell/Micro Focus International
- IBM
- Red Hat

CDW can deliver additional Data Center solutions by utilizing its vast network of third-party partner services providers.

Services Offerings

Core services within CDW's Operating Systems, Applications and Services solution area include:

Professional Services

- **Active Directory Domain Services Planning and Design:** CDW will provide you with an Active Directory architecture design and an administrative model design. We can also handle consolidation and migration.

- **Active Directory Domain Services Health Check:** CDW will investigate your domain controllers, check logs, check networking, look for gaps in security and best practices deployment, and provide detailed remediation recommendations.

- **Active Directory Federation Services:** CDW offers a variety of AD Federation Services, including Mini Design (an abbreviated design session for deployments in the simplest scenarios), Planning and Design (a complete discussion and design session covering all AD FS topics), Build (deploy two internal AD FS servers and two AD FS proxy servers, either on-premises or in Azure), and Configuration of trusts and claims transformation rules.

- **Microsoft Identity Manager (MIM) Design and Pilot:** This engagement provides you with a comprehensive review of MIM requirements to synchronize identity information between your Active Directory and other identity stores. Mason will receive an architecture and workflow design for a MIM deployment, and a pilot production deployment of MIM based on that design. CDW can assist with configuring additional identity workloads as needed and will work with you to determine the full scope of the engagement.

- **Public Key Infrastructure (PKI) Services:** The Microsoft PKI Services include modules to assist in the design and deployment of Certificate Services to resolve a number of issues, representing work ranging from design to deployment, enabling a number of key technologies.

- **Public Key Infrastructure (PKI) Health Check:** This engagement is a systemic and rigorous evaluation of an existing PKI implementation. Auxiliary environments that have a dependency on the health of the PKI are also examined for functionality and configuration. The Health Check will include an architecture review and system and gap analysis. A Findings and Recommendation Report will be presented to you upon completion of the project.

- **Microsoft SQL Server Services:** CDW can bring expertise to ensure your SQL environment is operating at peak efficiency. The different types of SQL engagements include Health Checks, Performance Turning, Always On Pilot, DTS Migration Assessment, Consolidation Planning and High Availability.

- **Microsoft SQL Server 2008 End-of-Support Migration:** As Microsoft has been warning, SQL Server 2008 and 2008 R2 will reach end-of-support phase on July 9, 2019. Organizations that are running SQL 2008 will need to assess the impact, in terms of both the risks and benefits. The risks are numerous. End of support means that Microsoft will no longer develop or release security patches or fixes. Additionally, you will no longer be able to call Microsoft and get technical support. Should you have a Microsoft SQL Server 2008 server misbehaving, you will be on your own. The risks fall into two broad categories — regulatory and downtime. Your unsupported Microsoft SQL 2008 servers might not meet PCI, HIPPA, SOX or other regulatory audit requirements. This can create significant costs or problems for Mason. Even if regulatory audits are not a concern, the downtime risks are. Now that Microsoft will no longer provide support, Mason could incur significant costs in the event of downtime.

- **SQL Migration to Azure Workshop:** Over the years, organizations have deployed on-premises SQL Server for a wide variety of needs. Many of these deployments become

increasingly complex over time, often are business critical, and are typically resource intensive. Organizations are looking for options for their next-generation data requirements. Microsoft has created additional options for those data requirements by utilizing Microsoft Azure. You now have the option of using traditional Microsoft SQL servers in Azure Infrastructure as a Service (IaaS), Azure SQL Database in Azure Platform as a Service (PaaS), or Microsoft's new Azure SQL Database Managed Instance. During the SQL Migration to Azure Workshop, CDW will assist you reviewing your current on-premises SQL infrastructure and plan a logical migration strategy to a next-generation SQL infrastructure.

- **Windows Server DirectAccess:** This engagement will provide you with a clear vision and high-level conceptual DirectAccess architecture. CDW can assist with either a pilot or production deployment of the architecture determined during the design portion of the project.

- **Microsoft Windows Server 2008 End-of-Support Services:** As Microsoft has been warning, Windows Server 2008 and 2008 R2 will reach end-of-support phase on January 14, 2020. Organizations that are running Windows Server 2008 will need to assess the impact, in terms of both the risks and benefits. Microsoft has announced that for Windows Server 2008 servers that are migrated to Microsoft Azure, they will provide extended support for an additional three years. The Windows Server 2008 End-of-Support engagement helps you gain a clear understanding of how to manage application incompatibilities that could arise from an upgrade from Windows Server 2008 or 2008 R2 and provides a roadmap for remediation of application compatibility issues in preparation for migration to Windows Server 2012/2016 or to Microsoft Azure. CDW can then assist Mason in the testing, remediation, validation and migration of applications to Windows Server 2012/2016 or to Microsoft Azure.

- **Microsoft System Center Operations Manager Health Check:** This engagement will review the health of your Operations Manager environment by performing a thorough examination of both the design and administration. This assessment will identify problem areas and any gaps where Operations Manager can be improved or fixed. Mason will receive guidance and recommendations on how to maximize your investment in Operations Manager.

- **Microsoft System** Center **Operations Manager Pilot:** This engagement will assist customers with the planning, designing and piloting of Operations Manager. The offering has different lengths depending on the topics and features that are configured. It can be a full production-ready environment or a Proof of Concept deployment depending on the length of the engagement. This service will assist in providing best practices and knowledge transfer so Mason is maximizing the benefits of an Operations Manager deployment.

- **Microsoft System Center Orchestration Pilot:** This engagement will assist Mason with the planning, designing and piloting of Orchestrator, which is a workflow management solution for the data centers. The offering has different lengths depending on the topics and features that are configured. It can be a full production-ready environment or a Proof of Concept deployment depending on the length of the engagement. This service will assist in providing best practices and knowledge transfer so Mason is maximizing the benefits of an Orchestrator deployment.

- **Microsoft System Center Service Manager Pilot:** This engagement will assist Mason with the planning, designing and piloting of Service Manager. The offering has different lengths depending on the topics and features that are configured. It can be a full production-ready environment or a Proof of Concept deployment depending on the length of the engagement.

This service will assist in providing best practices and knowledge transfer so Mason is maximizing the benefits of an Orchestrator deployment.

Managed Services

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Configuration Services

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IoT/Digital Transformation

The Internet of Things (IoT) is one of the biggest technology innovations in recent history. From wearables and smart-home devices to connected infrastructure, it's starting to change the way business gets done. However, IoT has multiple elements that come in many varieties – and without the right pieces, you can't collect data and apply it to meaningful outcomes. CDW can help ensure you are ready for the data challenges that IoT can bring, including making sure you have a storage solution that fits for today and the future.

CDW has the technology specialists, services and leading partners to help you orchestrate an IoT solution that meets the specific needs of Mason, regardless of the industry in which you operate.

Solution Benefits

Early adoption of IoT solutions enables institutions to boost bottom lines by being positioned to take advantage of the latest technologies. Among the tangible benefits Mason can achieve with a CDW IoT/Digital Transformation solution are:

- Reduce operational cost.

- Drive process and quality improvement.

- Boost revenue through differentiation and improved customer service.

- Increase safety and security.

- Lower response times.

- Enhance visibility for better decision-making.

- Cut energy costs.

Services Offerings

Core services within CDW's IoT/Digital Transformation solution area include:

- **IoT Envisioning Workshop:** The first step in building an IoT solution specifically designed for Mason is the IoT Envisioning Workshop. A CDW business architect, who specializes in digital transformation and has experience in your specific industry, will work with members of Mason to assess your current situation, learn your desired outcomes and build a roadmap for moving forward. Since detailed collaboration between your team and the CDW business architect is central to the success of the workshop, we kindly request the uninterrupted

participation of Mason's key stakeholders during the Workshop. This complimentary, half- to one-day engagement will result in the delivery of a presentation for members of Mason to review and validate. As part of this service, CDW will:

- o   Review your existing technology infrastructure

- o   Discuss goals and challenges

- o   Work through technology solutions that others in your industry are deploying with desirable results

- o   Brainstorm potential initiatives that could provide further differentiation and value

- o   Establish a desired transformed environment that meets the established goals

- o   Break down technology challenges and solutions into specific projects

- o   Sequence projects in order of transformation prerequisites and priorities to deliver maximum value

Consultative Advisory Services

Understanding the intricacies of an organization is the foundation for introducing transformational changes to Mason. Once that level of understanding is satisfied, it sets the stage for delivering meaningful results that lead to: driving cost out of the IT infrastructure, streamlining business resources while increasing operational efficiencies and helping clients maximize their return on investment. This first step in understanding the impact of change will assist in the development of future roadmaps, whether that be replacing and/or upgrading existing data center infrastructure, introducing new business processes and applications or migrating workloads to a public, private or hybrid cloud.

CDW's Consultative Advisory Services team provides leadership in aligning organizational objectives with IT strategy, helping clients achieve the results needed to support essential business initiatives.

Solution Benefits
Mason can achieve the following by employing a CDW Consultative Advisory Services solution:

- Fully aligned IT operations with business requirements and corporate objectives.

- Effectively leveraged infrastructure, applications and resource capabilities.

- Metric-based IT operations with known and measurable business outcomes.

- Continuous process improvement methodology.

- Increased IT maturity supporting a value-based IT service model.

Operational and Business Benefits
Before Mason can incorporate new technology, the architecture should be reviewed in conjunction with changes in the business. Overall, our Data Center offerings performed by the Consultative Advisory Services team can provide Mason the opportunity to develop the ability to evaluate your environment, make judgements about its current state and ultimately improve upon it.

Services Offerings
Core services within CDW's Consultative Advisory Services division include:

Professional Services

- Data Center Assessment: This customized engagement will provide the information necessary to make educated decisions as to the future direction and alignment of your data center with its business needs. While every business and every environment is unique, the methodology used will still follow a well-established, standardized approach. CDW's Data Center Assessment provides a review to assist with:

o Validation of the current state	o Lifecycle management
o Network and server infrastructure design	o Regulatory requirements
o Server and application delivery	o Failover and business continuity
o Authentication	o Backup and recovery
o Mobility	o Administrative and help desk
o End-user computing	

- **Data Center Migrations and Consolidations Service:** CDW understands the risks involved with data center transformations and the variety of challenges posed when planning for and migrating data centers. Data center consolidations or migrations are major events that require specialized knowledge to achieve desired benefits and minimize operational risk and impact. CDW's Data Center Migration services support planning and execution of moves for applications, data, IT equipment and data center infrastructure. CDW will provide the knowledge and expertise needed to ensure a successful migration plan that anticipates and avoids unplanned outages that can have a negative impact both financially and strategically. The methodology deployed is typically a multi-phased approach:

o Discovery and assessment	o Pilot migration
o Planning and design	o Migration cutovers
o Pre-migration	o Support

- **Application Rationalization Service:** This engagement helps organizations develop a strategy that ensures applications utilized are aligned to the business objectives and enhances an organization's ability to meet them. CDW will deploy a comprehensive and objective framework to properly assess application viability and what the best course of action should be keeping risk, cost and value in mind. CDW's Application Rationalization services seek to find ways for organizations to:

  - Reduce and/or avoid infrastructure and operational costs
  - Increase innovation by funding strategic efforts
  - Help control application sprawl
  - Free development resources from supporting so many applications, enabling them to deliver new business applications
  - Better align strategic and financial IT planning with business objectives

- **Asset Lifecycle Management Service:** Asset Lifecycle Management (ALM) is a process that manages the stages an organization's assets go through. Multiple hardware platforms, different operating system versions and frequent replacement cycles place an enormous management burden on IT. This engagement will guide organizations in building a sustainable Asset Lifecycle Management system to meet current and future state

requirements. The strategy and framework provided helps to develop the foundation and creates the basis for other initiatives like: cloud adoption, metric programs and mergers/acquisitions.

- **Business Impact Analysis for Business Continuity Service:** CDW can help organizations determine the critical business functions required to keep them operational in the event of a disruption. The Business Impact Analysis (BIA) engagement tends to be the first step in developing a comprehensive Business Continuity (BC) strategy that looks beyond traditional Disaster Recovery (DR) and its implementation of technology components. We will analyze at a deeper level:
    - Key systems and business functions
    - Appropriate Recovery Point Objective (RPO) and Recovery Time Objective (RTO) criteria
    - Resources required to continue business operations
    - Quantify the impact a disruption will have

- **Feasibility Study Service:** This engagement is designed to help organizations discover and analyze initiatives surrounding environment, resource requirements and ultimately the prospects of success. CDW will analyze the big picture in a top-down fashion covering all critical areas in order to make a sound decision on whether to move forward with a business plan. CDW will provide a comprehensive report depicting where and how the business will operate, potential obstacles, competition and the funding needed to get the initiative up and running. This is typically based on assessing:
    - Technical feasibility
    - Economic feasibility
    - Legal feasibility
    - Operational feasibility

- **IT Strategy Roadmap Development Service:** This engagement is designed to help guide an organization's journey to transform its business, providing greater business agility, flexibility, mobility and collaboration, while meeting or exceeding the service and/or operational level commitments of the organization. So you can make educated decisions on how to move your business forward, these solutions take into consideration key components including:
    - Long-term business and growth strategy
    - Potential dependencies which can be caused by the integration of existing and new technologies in addition to the high-level requirements when new architectures are introduced
    - Solutions that could augment or enhance the existing infrastructure and/or supporting IT processes
    - Workload and infrastructure interaction
    - User experience
    - Agility and scalability
    - Tools and support to add or enhance IT governance capabilities
    - Security and tools alignment
    - Service and operational level support agreements

- Alignment with client business, industry and regulatory requirements

- **Policy and Process Design Service:** This engagement is designed to help guide institutions in building a viable and sustainable framework that meets the business requirements and helps drive better performance. The results are an understanding of the business vision, values and goals paired with the appropriate policies, processes and procedures to help organizations get to the next level. Maintaining high quality is an on-going effort, as policies and procedures need to be reviewed and updated at least annually to make improvements and keep them current. The processes enacted are designed to assist organizations with:

  - Ensuring standardization and consistency
  - Measuring performance
  - Training
  - Continuous improvement efforts
  - Schedule feasibility

CDW Partnership with Citrix

As Citrix's largest partner in North America, CDW can orchestrate a total mobility and networking solution that allows for seamless workflow throughout your entire company. As part of the Solution Provider Program, our experts offer a Citrix elite-trained sales team, which includes expertise and best practice training in virtualization, mobility management, data center networking, and networking for apps and mobile security.

CDW is a Platinum CSA Partner (with Specializations in Virtualization and Networking for Apps) and Citrix's Partner of the Year winner in 2012, 2013, 2015, 2016, 2017, and 2019. This certification authorizes us to sell the full suite of Citrix's virtualization products that includes Citrix Virtual Apps (application virtualization, formerly XenApp), Citrix Desktops (client virtualization, formerly XenDesktop) and XenServer (server virtualization), WorkSpace Suite and NetScaler. This includes on premises solutions and Citrix cloud.

Our National partner status allows us to resell all products, without holding certifications or having remote offices in each state. We currently hold the same certifications as a Gold or Platinum partner. CDW has a Citrix Specialist team made up of partner specialists, business development specialists, inside solution architects, and a renewal specialist. This team functions as a presales resource to CDW account managers and customers. It also acts as a liaison between CDW's sales team/internal resources and Citrix's sales team/internal resources.

Over the years, CDW has acquired numerous Citrix accreditations, including:

- Citrix Certified Professional – Networking
- Citrix Certified Expert – Virtualization
- Citrix NetScaler SD-WAN Certified
- Citrix Certified Associate – Virtualization
- Citrix Certified Professional – Virtualization

- Citrix Certified Associate – Virtualization
- Citrix Networking for Data Center Specialist Practicum
- Citrix Certified Associate – Networking
- Citrix Networking for Apps & Mobile Security Specialist Practicum
- Citrix Virtualization Specialist Practicum

Having participated in many Citrix-based virtualization engagements, Mason can be sure that CDW•G has the necessary knowledge and experience to successfully manage a project of this size and scope.

US Awards and Certifications

2019
- National Partner of the Year

2017
- National Partner of the Year
- New Logo Partner of the Year (for New Customer Acquisition)
- Area Partner of the Year – US Public Sector

2018
- Commercial Partner of the Year
- US Public Sector Partner of the Year

2016
- Commercial Partner of the Year
- New Customer Acquisition

Services Offerings

Our catalog of Citrix Service offerings includes:

- VA/VD Jumpstart
- VA/VD Health Check
- Citrix Endpoint Management Jumpstart

- Citrix ADC Jumpstart
- Citrix ADC Health Check
- Citrix on Azure

CDW Managed Services in all core competencies: Collaboration, Data Center, Client Virtualization (Citrix Virtual Apps/Citrix Desktops), Cloud (e.g., Citrix on Azure), End-User Support, Networking (Citrix ADC, formerly NetScaler ADC).

CDW Partnership with NetApp

CDW has partnered with NetApp to provide Mason with the most comprehensive Data Storage Management solution that the industry has to offer. NetApp is a world leader in unified storage solutions with more than 20 years of innovative storage and network experience.

CDW is a NetApp Star Partner, the highest partner designation NetApp offers to its channel partners. CDW is NetApp's Largest Partner globally; CDW brings in more "Net New" customers than all other National Partners combined. CDW was selected Partner of the Year in 2015, SLED Partner of the Year in 2016, and most recently Top Partner of the Year at their 2017 Inaugural Channel Connect Conference.

More than 60 CDW Storage Engineers and Storage Specialists have earned ASAP and NASP accreditations from NetApp; in fact, one of CDW's engineers is ranked in the top 15 of NetApp's technically certified engineers, internationally. In addition to being a Star Partner, CDW is also a FlexPod Premium Partner. Only 10% of NetApp's partners have the skillset and expertise to obtain this certification.

As a NetApp Corporate Reseller, CDW has full access to NetApp's:

- Executive Briefing Centers
- Field Engineer Teams
- Field Sales Teams
- Professional Service Installation Teams

Managed Services Overview

As part of the CDW Amplified™ Services portfolio, CDW's Managed Services will provide Mason with peace of mind knowing that your IT systems are being expertly monitored, patched, and/or fully managed.

CDW's day-to-day operational management of your infrastructure enables your staff to focus on core business projects rather than system maintenance, helping control costs and reduce staff overload. We offer three separate levels of managed services so you can select the one that will best support your individual business goals and current capabilities. Whether it's robust monitoring, alerting and incident escalation, patch management, full lifecycle management with guaranteed uptime – or any mix and match combinations – our Managed Services will meet your business and technical requirements.

Our service is designed to detect incidents and problems before you do…and for sure before your end users do. We proactively fix issues before they become a problem. Our services conform to SLA

metrics; you can be confident that you are getting the best management of your collaboration applications, network, security infrastructure, servers, SAN, operating system, databases, and backup to meet your exact business and technical requirements.

In addition to Colocation and Connectivity Services, CDW has mastery-level expertise of and support for the technologies listed below.

Hybrid Datacenter

Hypervisors
VMware ESX
Microsoft Hyper-V
Nutanix Acropolis

Storage
NetApp
EMC
IBM

Wireless
Cisco
Meraki
CradlePoint

Backup
Avamar
Data Domain
CommVault
IBM TSM
Microsoft DPM
Veeam

Networking
Cisco
Meraki
F5
Riverbed

Databases
MySQL
Microsoft SQL
Oracle

Public Cloud
Microsoft Azure
AWS
Google Cloud Platform
Partner Public Cloud

Operating Systems
Microsoft Windows
Red Hat/SUSE/CentOS
IBM AIX
IBM iSeries

Private Cloud
CDW Managed Private Cloud
Partner Private Cloud

WorkSpace

Collaboration & Contact Center & Mobility
Cisco UC, UCCX, UCCE
Cisco TelePresence
Citrix
Microsoft Exchange, SharePoint & Skype

Converged Infrastructure
Cisco UCS

Security

Security
Cisco
Meraki
Palo Alto
SIEM as a Service

Support

Service/Help Desk Services
CDW Help Desk Services
CDW Tech Support (CTS)

ServiceNow Solutions Overview

CDW has been providing IT Service Management since 2003 and ServiceNow since 2013. With over 430 ServiceNow certifications and authorized ServiceNow trainers, we have performed over 800+ ServiceNow Application Deployments. CDW acquired Aptris in October 2019. Aptris worked on CDW's internal ServiceNow solution which we were so happy with that it turned into a flourishing partnership. CDW's acquisition of Aptris ensures Mason will receive incredible depth of ITSM expertise as Aptris had more than 18 years of experience and served over 1,00 customers with ServiceNow solutions.

CDW ServiceNow Solution Team's goal is to efficiently deliver the desired outcomes for this assignment by aligning the best resources and welcome Mason's participation in ensuring success and satisfaction.

Industry Leading ServiceNow Customer Satisfaction: With over 430 certifications and 1,000 application deployments, we are a ServiceNow Elite Partner, representing the top 5% of North American Partners. We are most proud of our **CSAT score of 9.6** achieved from a culture to ensure our customers had the proper resources and proper approach for the goal they were trying to achieve. Our knowledgeable and experienced team coupled with continued customer success help improve our recommendations and implementations for each customer.

Driven by a Culture of Excellence: We are honored by co-worker's hard work and cohesive values and culture, but this also is a huge benefit to our customers. Your team is backed by industry-leading certified solution team that will align your ServiceNow solution to your needs.

Strategic Methodology

The CDW ITSM & ServiceNow Maturity Roadmap is one of our most common Advisory Services offerings. It can take place *before* a ServiceNow implementation, or *after*.

If done before, it helps create business alignment, process definition and formalizes prioritization for the project ahead. If done after, it can assess current state, create alignment and identify gaps. In either case, the roadmap and recommendations will guide the maturity journey.

This is an Advisory Services led engagement that infuses a best-practice view of the future, incorporates a business-led approach, and then designs a custom plan for overall ITSM and toolset maturity. This delivers a multi-year, multi-phase view in identifying opportunities, benefits, and investment levels and subsequently designs a recommended approach for the maturity and adoption of the ServiceNow platform. Incorporating an organizational view of process maturity, toolset implementation, and enterprise or cultural readiness, this service:

- Analyses risk
- Identifies and examines specific opportunities for cost-savings and maturity.
- Delivers a recommended roadmap that is aligned with identified business objectives.

Agenda: ITSM Centric Approach
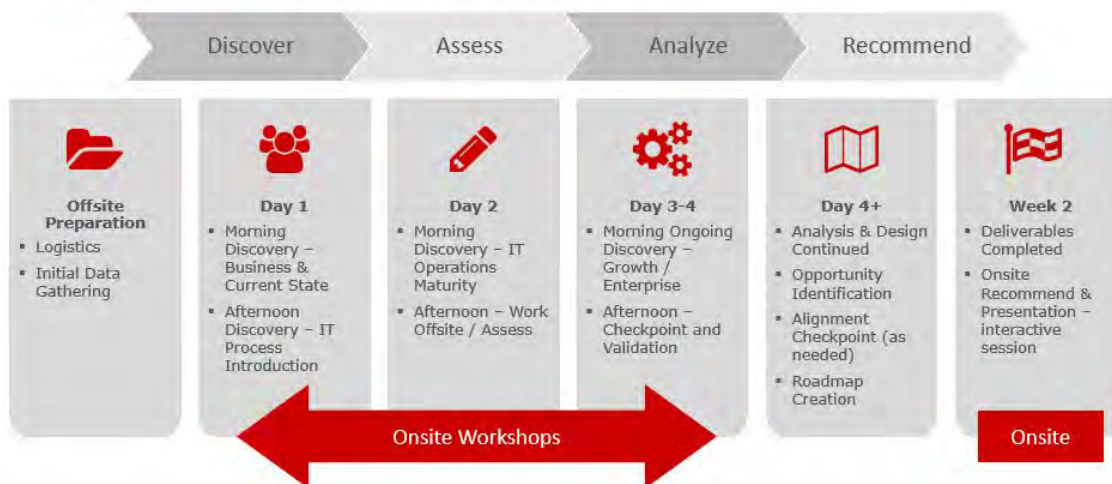
The IT Service Management Maturity Assessment and Roadmap will enable us to:

- Create alignment internally by agreeing on prioritization for implementing key process areas
- Create an implementation roadmap outlining a recommended path for service management maturity that aligns with overall business goals and objectives
- Conduct an opportunity analysis identifying both short-term wins and longer-term areas for improvement
- Include a holistic approach with recommendations for service desk maturity and, as applicable, take into consideration the following aspects:
  - o Organizational readiness and cultural adoption

- - Process maturity and disciplines

    - Toolset adoption, maturity, and enhancements

- Conduct a high-level process review and include recommendations for infusing ITIL and industry "best practices" as aligned with business goals and organizational benefit

- Maintain a "best practice" view for project effort and design to minimize customization and keep costs contained

- Utilize this workshop-based approach to create a framework for interactive and iterative design

- Create a phase 1 action plan that includes:

    - Identification of assumptions and dependencies

    - Definition of short-term opportunities, including their business benefit, estimated timeline, scope, and cost

    - Clearly identify immediate go-live areas of focus

This will help ensure readiness for effective design and requirements gathering for initial implementation and Continuous Improvement activities.

Implementation Methodology

ServiceNow Adaptive Implementation Framework (SAIF)

CDW utilizes ServiceNow's best practice implementation methodology, so you know you can trust the process.

ServiceNow customers and partners want their deployments to be successful. This means they must meet their internal demands, stay on time and budget, and ensure that they reduce risk. To meet these challenges, they must leverage a framework that is adaptive, enables repeatability, and utilizes a single global technology platform.

ServiceNow Adaptive Implementation Framework (SAIF) is ServiceNow's best practice delivery approach. By utilizing a framework approach with core components, ServiceNow and our services implementation partners can deliver outstanding services to customers that are standardized, repeatable, and scalable to meet the global demands of the largest and most complex customers. SAIF ensures consistent deployment success for every customer globally.

Through this approach, our customers can achieve the business outcomes outlined early in the sales conversation, thus accelerating delivery and time to value at lightspeed.

Project Methodology & Timeline

Our standard implementation methodology includes five stages:

Initiate	**Scope**: • Mobilize ServiceNow Solutions (SNS) Project team • Mobilize Customer Project team • Introduction and preparation communications • NOTE: ServiceNow project control template documents will be used to manage the implementation with minimal alterations based on Customer methodology requirements • Plan and conduct Project kick-off **Deliverables:** • Workshop Agenda • Status Report(s)
Examine	**Scope:** • Review Customer processes • Collect requirements for ServiceNow product modules being delivered in the sprints • SNS and Customer jointly document requirements and acceptance criteria as Agile Stories **Deliverables:** • Customer specific requirements documented as Stories in ServiceNow • Status Report(s) *Note: These stories will be focused on functionality that is NOT out of the box (OOTB) with ServiceNow. OOTB configurations will not be documented, as they are displayed and evident in the base system and the ServiceNow wiki. As a time and materials project, it is understood that documented stories may require more time than allocated in this SOW and will be prioritized and be configured based on available time approved for the project.*

Plan	**Scope:** • Initial Project, Release, and Sprint Planning **Deliverables:** • Status Report(s) • Scheduled Meetings (Weekly Status, Scrum, Sprint Planning, Sprint Review, etc.) • Budget Checkpoint
Create	**Scope:** • Complete configuration of user stories as prioritized during the sprints **Deliverables:** • Customer's ServiceNow instance configured according to the prioritized and accepted user stories • Status Report(s)
Transition	**Scope:** • Execute system testing • Assist with User Acceptance Testing (UAT) • Conduct Go Live Checklist/Review • Cut over newly implemented Software to Customer's production instance • Critical Care Support period • Transition support for the Software to Customer **Deliverables:** • Status Report(s) • Review of testing results • Customer's system running in production
Closure	**Scope:** • Post Implementation Review **Deliverables:** • Final Status Report

ITSM Best Practices Overview Course

ServiceNow This is the one-day version of our fully accredited ITIL® Foundations training course. Our courses are taught by expert instructors, who also bring their real-world and relevant experience that you can use immediately. Upon completing this course, you will have a firm understanding of the objectives around the most important lifecycles within IT Service Management: Service Strategy, Service Design, Service Transition, Service Operation, and Continual Service Improvement.

Program Highlights

• Key concepts of ITSM

• Practical guidance for applying ITSM to everyday IT situations

• How to align with business, control costs, and improve IT service quality

• Important principles for improving IT operations

• Strategies to balance IT resources

• Understand how ITSM can facilitate Business-IT Alignment.

• Practical examples of real-world use of ITIL® processes inside ServiceNow

• The role of technology and how to maximize its value

ServiceNow Administrator Knowledge Transfer Workshops

CDW will conduct a series of workshops to educate the Customer's staff in the general usage of the ServiceNow platform and in the specific configurations employed by CDW for the Customer during this implementation. The goal of these workshops will be to give the Customer a firm understanding of the configurations implemented by the CDW team as well as further the Customer's ability to extend and utilize the ServiceNow platform.

Digital Velocity Solutions and IGNW

IGNW, now part of CDW Digital Velocity Solutions (DVS), is a full-stack consulting organization focused on contemporary architectures and application modernization. DVS is built to address the widening gap between the promised business value of digitization and results delivered by most technical initiatives.

DVS takes a modern DevOps based approach to all customer engagements. Its Practices operate as a blended organization delivering best in class digital solutions and talent while maintaining individual skill-sets and practice management. This rigor and approach ensures DVS consistently delivers on customer outcomes and business transformation. As part of this methodology, Practices are equipped to handle all facets of this journey both cultural and technical; including people, processes, and tools. Our practice areas include:

- **Modern Clouds** – Consulting and delivery services for modern hybrid-cloud, multi-cloud and data center architecture delivering value across networking, servers, virtualization, container and public cloud platforms. Modern Clouds are rooted in modern PaaS principals and take advantage of the flexibility of microservices, hyperscale and serverless technologies.

- **Automated Infrastructure** – Consulting and delivery services in modern concepts for systems automation, Infrastructure as Code(IaC) & configuration management from the physical network, servers, and cloud, with a modern secure orientation.

- **Hyperscaling Application Development and Modernization** – Consulting and delivery services in modern software enterprise architecture, development and delivery, web development, mobile development, distributed systems, microservices, serverless and application modernization.

- **Practical DevOps** – Consulting and delivery services in DevOps, cultural assessments, organizational redesign, CI/CD, tools rationalization, software and operations best practices and modern software delivery

- **DataOps** – Providing our customers the strategy, architecture and migration paths required for everything from complex database/data warehouse designs, data exploration and visualization, and data governance, to advanced analytics and machine learning —whether starting with introductory concepts or building and deploying production models.

- **Connected Teams** – Consulting and delivery services in cloud-based Communication and Customer Contact technologies, with unique skills in dependent system integration, software development, business analytics and AI driven approaches.

CDW recently acquired IGNW, partnered since 2018, IGNW and CDW are well-aligned with shared values and a reputation for exceeding customer expectations.

CDW•G Explains Why IGNW

IGNW is uniquely suited to help Mason with all areas of cloud adoption. With over 100 happy clients from Fortune 50 to mid-market SMB, typical customers are hyperscale technology companies, or established enterprises, looking to set up their technology strategy for the next stage of growth. We have already completed a number of workshops and POVs to drive adoption. Sample projects include:

- **Cloud Center of Excellence** – IGNW team supporting Fortune 50 customers with definition and execution of construction of a business and technical strategy to migrate over 400 applications.

- **DevOps Cloud Platform Assessment** – Collaborative team workshop including ~20 customer team members and 4 IGNW SMEs. Our customers hyperscale IoT platform was 3 years old and feeling static/brittle. IGNW helped past customers drive to a new Cloud Native platform design to reduce complexity and cost by leveraging Cloud Native services and PaaS offerings.

- **Proof of Value (POV)** – IGNW team engaged to help a client move from traditional VM deployments to containerized applications on Docker/K8S. The team built IaC pipelines for delivering and scaling the K8S platform and CI/CD pipelines for delivering the applications from code check-in through production deployment.

Enterprise Infrastructure Services

iii. Enterprise Infrastructure Services to include Cisco Network and Connectivity Technologies, Microsoft Enterprise Support Services, Virtualization, Cloud Architecture and Engineering, Systems Administration, and Voice and Video Collaboration

CDW Partnership with Cisco

CDW is a Cisco Gold Certified Partner. No other Cisco Gold Partner in the world offers CDW's combination of expertise and experience. We have attained the broadest range of expertise across multiple technologies. CDW is also one of Cisco's Largest U.S. National Direct Integrator Partner.

Master Partner
Collaboration*, Security*, Master Data Center and Hybrid Cloud Specialization*, Enterprise Networking, Cloud and Managed Services Masters

*First worldwide partner to achieve this status.

Master Collaboration Specialized Partners
Master Collaboration partners have demonstrated the ability to deliver sophisticated, value-added collaboration solutions to help customers communicate effectively and improve customer service while saving time and money.

Master Security Specialized Partners

The Cisco Master Security Specialization is an elite group of partners with in-depth technology skills for selling and deploying Cisco security solutions.

Master Data Center and Hybrid Cloud Specialization

Master Data Center and Hybrid Cloud Specialization partners have proven capabilities to build and deploy cloud-ready, integrated infrastructures. Infrastructures are based on Cisco technologies and solutions, as well as ecosystem partner cloud offerings across storage, virtualization, cloud management, and the virtual desktop.

Cloud and Managed Service Masters (CMSP)

Partners participating in Cisco's CMSP must meet various Cisco requirements to prove the ability to develop, deliver, manage, and support Cisco-based cloud and managed service solutions. CMSP partners have demonstrated IT Infrastructure Library (ITIL) Foundation processes, practices, and tools to support Cisco technologies at all lifecycle phases." CMSP partners must complete an extensive third-party audit process to ensure they can deliver managed services with consistent operational discipline and excellence – from the cloud or on premises.

Cisco TelePresence Video Master Authorized Technology Provider

The Cisco TelePresence Video Master Authorized Technology Provider (ATP) Program is an invitation-only program. The program identifies, qualifies, trains, and enables a select set of Cisco channel partners to provide solution services for the Cisco TelePresence Video products. TelePresence Video Master ATP program goal is to help partners offer the entire Cisco TelePresence experience through: Infrastructure solutions, Architecture capabilities, Managed services, and Intercompany integrations.

CDW Cisco Certifications, Specializations, and Awards

Cisco Certifications

- More than 250 Cisco Certified Network/Data/Voice Professionals (CCNPs/DPs/VPs)

- CDW has earned 100 Cisco Certified Internetwork Expert (CCIE) certifications – one of the highest technical certifications offered by Cisco

- Many specialists and solution architect teams dedicated to supporting our account managers on Cisco enterprise networking, security, collaboration, data center, cloud offerings and SMARTnet services

- More than 100 CDW employees who solely work on Cisco technologies

CDW Experience

- The first Cisco channel partner in the Americas to hold all five Master Specializations that Cisco offers

- Over 20+ years of delivering Cisco solutions to Enterprise, Commercial and Public Sector customers, making Cisco our largest partner

Specializations

- Advanced Collaboration Architecture Specialization

- EA Security choice

- Refresh Accredited Circular Economy

- Advanced Customer Experience Specialization
- Advanced Data Center Architecture Specialization
- Advanced Enterprise Networks Architecture
- Specialization
- Advanced Security Architecture Specialization
- Express Specialization
- Master Collaboration Specialization
- Master Data Center and Hybrid Cloud
- Master Networking Specialization
- Master Security Specialization
- Authorizations
- Buying Models Commerce Certification
- Cisco Hyperflex Authorization
- Cisco IoT Authorization
- Cisco TelePresence Video Master Authorization
- Cisco WebEx Calling Partner
- Cisco WebEx Contact Center Authorization
- CiscoVision
- Collaboration SaaS Authorization
- Connected Stadium Wi-Fi
- EA Cisco DNA–Switching Wireless Routing
- EA Collab - Cust Collab
- EA Collab - UC TP PC
- EA Collab-Flex Plan
- EA Collab-Flex Plan Hosted Calling
- EA Collab-Flex Plan On-Prem Calling
- EA Collab-Flex Plan On-Prem Meetings

- Unified Contact Center Enterprise Authorization
- US Federal Authorization
- Cloud & Managed Service Provider
- Cloud and Managed Services Master
- Contact Center as a Service Based on HCS
- Managed Business Communications
- Managed Security
- Managed Unified Contact Center
- UC as a Service Based on HCS
- Partner Designations
- GPN Partner Agent
- GPN Subsidiary Agent
- Integrator
- Integrator for Cisco ONE ECS
- Lifecycle Advisor
- Lifecycle Advisor for Cisco Collaboration
- Lifecycle Advisor for Cisco Digital Network Architecture
- Lifecycle Advisor for Cisco Security
- Lifecycle Advisor For Cisco WebEx Cisco Spark
- Lifecycle Advisor for Enterprise Agreements
- Lifecycle Advisor for Enterprise Networking
- Preferred Solution Partner
- Other
- Cisco Certified Refurbished Equipment
- Cisco Partner Ecosystem
- Regular Try and Buy
- Security Enterprise Licensing Agreement

- EA Data Center ACI and HyperFlex
- EA Data Center Cloud
- EA Meraki
- UCS Capacity Assurance-Try and Buy

CDW Capabilities

- High-performance enterprise configuration center with an average of 3,000 custom configurations per day; 24 national and local sales offices, including two distribution and configuration centers, five data centers and two Midwest network operations centers
- Ability to stage Cisco equipment in both of our enterprise configuration areas, providing a combined 50,000 square feet of service area that enables easy customer installation
- Available custom warranty support services, including hosted and managed services, maintenance agreements, co-termination agreements, local installations and more

CDW received the following awards at the 2020 Cisco Partner Summit:

- CDW was a **Global Award Winner for Software Partner of the Year**. CDW also won:
    - Americas US Partner of the Year
    - Americas Marketing Partner of the Year
    - US Central Enterprise Partner of the Year
    - US South Commercial Partner of the Year
    - Canada Sales Acceleration Partner of the Year
    - EMEAR Technology Excellence Partner of the Year: Data Center
    - UK and Ireland Partner of the Year

CDW subsidiary IGNW also won several awards including US West Outstanding Solutions Partner of the Year and US South DSI Solution Partner of the Year.

CDW received the following awards at the 2019 Cisco Partner Summit:

- Commercial Partner of the Year Award (Global)
- IoT/Industry Partner of the Year (Americas)
- Architectural Excellence Partner of the Year: Enterprise Networks (Canada)
- Cisco Capital Partner of the Year (U.S. Central)
- Area Partner of the Year (U.S. East)
- SLED Education Partner of the Year (U.S. Public Sector)
- Commercial Partner of the Year (U.S. South)
- Commercial Partner of the Year (U.S. West)
- Software Partner of the Year (U.S. West)
- Commercial Partner of the Year (U.K. & Ireland)

CDW's robust services and lifecycle management practice and customer-first focus was recognized at Cisco's Partner Summit in Las Vegas as CDW was named the winner of the Cisco Partner Innovation Challenge in 2019.

The Cisco Partner Innovation Challenge is designed to drive awareness and adoption of Cisco application program interfaces (APIs) across Cisco's global partner community. Cisco challenged its partners to develop creative solutions to unique business challenges using Cisco open APIs. More than 150 partners submitted solutions to this year's challenge. From among 14 finalists, CDW was awarded the first place prize – a $200,000 bonus to the company and recognition on the Cisco Partner Summit main stage.

A team of engineers and architects across the CDW Integrated Technology Solutions practice won for their office building management solution, which is based on Cisco APIs and Cisco products such as Meraki and WebEx Teams and leverages other technologies such as mobile devices and chatbots. The suite orchestrates visitor management, energy management, physical security and more. It is designed to produce significant cost and resource savings.

CDW Cisco Differentiators

CDW's long-standing partnership with Cisco has led to some unique differentiators for us which yield great benefits for our customers. Cisco is widely known for creating and developing innovative, industry-leading technologies. Cisco from CDW takes that innovation one step further. We build customizable, end-to-end solutions using Cisco products, pushing the limits of the technology and integrating the products into our customers' IT environments to solve their unique business challenges. Our partnership with Cisco is unmatched. We help drive Cisco's product roadmap by providing in-field feedback — including hands-on Early Field Trials — of Cisco's next-generation products to make them customer ready, build the best business cases to share with our customers and complement the offerings with services that take full advantage of the emerging technology. CDW has the Cisco-certified engineers and architects to know or find an answer for just about any engagement or environment imaginable, and our customers have the confidence and peace of mind that we don't stop until they get the solution that is right for them. CDW brings Cisco along with our full portfolio of technologies and ecosystem partners to deliver the infrastructure and capabilities across our customers' technology lifecycles that deliver business results.

Early Field Trials

CDW is actively participating in and working with Cisco in the Cisco Early Field Trial (EFT) program. This program allows our top engineers to receive and test the latest and greatest code prior to the general release of the product. It also lets CDW as an organization shape the products prior to shipping the first release level. There are only four partners in the world and a handful of customers that in participate in the Cisco Early Field Trials and this really differentiates us from our competition. Generally, Cisco only invites 2 partners to each EFT opportunity. Most partners are only doing 3-4 EFT's at most. CDW participates in more than 20+ EFT's a year across Data Center, Engineering, Collaboration, and Security.

For example:

- CDW was one of two partners worldwide that was allowed to participate in the Early Field Trial (EFT) of Cisco's early UC rollout. We were developing the software nine months prior to public release. When it was released to the public, all CDW engineers were already trained to deploy the solution and were familiar with known differences from prior versions.

- CDW receives pre-release software in advance of Cisco's release to other partners and works with Cisco to validate and test features and functionality. During this period, CDW

trains the implementation engineers, operational support staff and solution architects, and implements the software for use amongst this team.

- As part of the CDW new product adoption process, sales organizations are trained and customers are educated on new content. Production pilots are aligned with sample customer sets prior to being rolled out as a full production solution. Our partnership with Cisco allows us to be the experts you need, delivering solutions that bring value to Mason.

Product Adoption Process

The CDW organization has developed a standard solution adoption process to ensure that when we recommend a product or solution, we know that it will work, perform and meet the business demands in the field for our customers. It starts with the Cisco Early Field Trial program but extends to our Cisco delivery teams where our 320+ voice engineers communicate and collaborate around field tested best practices.

Tools Set

CDW has developed tools that are able to take data from a high level (such as a user spreadsheet) and build a set of import files. These tools are designed to help our customers create an easy repeatable process, reduce errors and speed the deployment process, thereby increasing efficiency when implementing and managing the system. These tools can be invaluable in large deployments.

Best Practices

When you combine thousands of implementations, the Cisco Early field Trials program and a proven product adoption process you generate a lot of knowhow which turns into the CDW field-tested and approved best practices. CDW shares this knowhow internally among our entire engineer staff through our internal WIKIs and internal email list. Our customers benefit from this information sharing by having a more stable environment that produces higher end user satisfaction levels without the on-going expense of maintaining the system.

Extensive Expert Cisco Resources and their Certifications

CDW has the necessary resources to assist with the development and implementation of any Cisco solution you may require. We have a large team of LAN/WAN, Security, Collaboration Design and Server Storage Specialists on hand who hold Cisco certifications from CCNA and CCDA all the way to the highest honor, CCIE. These highly qualified individuals are fully certified in all the latest technologies and remain ahead of the curve in designing and implementing efficient, cost-effective solutions that allow our customers to receive the maximum amount of reward from their technology investments. From planning to discovery to installation, testing, training and transition to support, CDW can cover the complete lifecycle of any Cisco project

CDW Cisco Solutions

Cisco Networking Solutions

CDW combines the world's best unified communications and networking products from Cisco with the brightest minds to create converged network solutions that combine both data and voice giving customers the best possible return on their investment. CDW has expertise in virtually every aspect of Cisco's networking business, including planning, design, management, high-availability and support. CDW holds the Routing and Switching Specialization and employs 63 + Certified Internetwork Experts (CCIE), the highest level of Cisco networking certification. Several CDW network architects have published white papers and books on IP routing and other topics. CDW has

deployed networks ranging from a single switch to those having more than 30,000 switch ports. We design and maintain global WANs carrying voice, video, and data traffic across hundreds of sites.

CDW's VoIP and IPT Solutions

In 1998, CDW realized the potential of unified communications through Voice over IP (VoIP) services and IP telephony solutions. We understood that the convergence of voice, video, and data on a single multi-service network meant reduced communications costs and higher productivity. Today we run our business offices and Enterprise Command Center (ECC) on Cisco's integrated Unified Communications architecture. We draw upon this first-hand, mission-critical operational experience when designing and implementing our customers' converged network solutions.

Collaboration

CDW has developed expertise in every aspect of Cisco's Collaboration business, including planning, network design, implementation, network management, and post-sales support. Our commitment to Collaboration solutions has enabled us to become the first Cisco partner worldwide to earn a Master Specialization in this field. We are also the first in Cisco's U.S. Central Area to obtain an Advanced Specialization in this technology as well. Cisco's Master Specializations are reserved for those partners with the highest levels of technical expertise and a proven track record of selling, deploying, and supporting Cisco solutions. We have completed over 2,500 Cisco Collaboration projects to date involving **250,000+ phones**.

Unified Contact Center Solutions

CDW has deep expertise in providing high quality Cisco's Unified Contact Center (UCC) solutions. We are a Cisco Advanced Technology Partner for UCC Enterprise and one of the few Cisco Partners that can sell and service the entire Cisco Contact Center portfolio. Products span the spectrum from pure IP solutions such as the Unified Contact Center Express to IP and TDM integrations with the Intelligent Contact Manager (ICM) which provide the advantages of a virtual agent pool while leveraging existing investments. Most importantly, our contact center analysts know the business of contact centers as well as the technology.

CDW Customers benefit from our team of engineers that are highly trained in implementing Cisco Contact Center solutions. About half are focused on Unified Contact Center Enterprise (UCCE) and half are focused on Unified Contact Center Express (UCCX). Our team has a great deal of experience implementing screen pops, developing self-service applications, implementing outbound dialing campaigns, implementing Quality Management and Workforce Management solutions, and developing custom reports. CDW has implemented over 500 Cisco contact centers with over 10,000 agents. CDW Customers can be confident we have the experience to manage your UCC needs from beginning to end.

Routing & Switching Solutions

CDW Customers can rely on CDW to manage all of your Cisco routing and switching requirements and needs. No other Cisco partner in the world offers our combination knowledge and firsthand experience. We currently hold the Routing and Switching Specialization and employ 63 + CCIEs, the highest level of Cisco networking certification. Our highly trained networking specialist team has deployed client networks ranging from a single switch to those having more than 30,000 switch ports. We have designed and maintain global WANs carrying voice, video, and data traffic across hundreds of sites.

Wireless Solutions

In addition to being a Cisco-certified Wireless Partner, Our seasoned team of wireless engineers has been providing superior site survey and deployment services for more than 15 years. During this time, they have implemented wireless networks in nearly every type of environment imaginable:

retail spaces, manufacturing plants, warehouses, large outdoor campuses, steel foundries, sub-zero refrigeration areas, and much more. In total, they have deployed over 150,000 access points for more than 4,500 customer environments. CDW Customers can rest assured that CDW has the knowledge, resources and capabilities to manage every aspect of your wireless requirements and needs.

Security Solutions

CDW's expert security team has extensive backgrounds in operating systems, networking, programming and system administration. We can assist Mason with any security concern.

CDW's ability to tailor customized end-to-end security solutions to meet our customers' specific needs is second to none. We currently hold the Cisco Master Security Partner Specialization as well as an Advanced Technology Provider Authorization for Enterprise and Express Security solutions. Furthermore, CDW is Global Security Essentials Certified (GSEC), Global Information Assurance Certified (GIAC), SAS-70 Type II Certified, and much more.

Our Expert Security Team is highly proficient in the deployment of the complete Self-Defending Network, including ASA security appliances, MARS information management, Network Intrusion Prevention, Distributed Threat Mitigation, Network Admission Control, Security Manager, and Security Agent intrusion prevention software. Having performed over 500 professional security assessments, our Security Team leads the industry in our technical depth and the quality of our assessment deliverables. Whether our customers need to assess their applications, Internet, internal, wireless, or partner network, remediate vulnerabilities, or implement an enterprise-wide security solution, CDW can help.

Vulnerability Assessment	We can help pinpoint your security weaknesses quickly and cost-effectively. We provide a confidential report that details the assessment findings and offers recommendations for securing your network.
Firewall Integration	We can help strengthen the perimeter defense of your corporate network. CDW Cisco Certified Internetwork Experts (CCIE) and Security Engineers specialize in installing, configuring, customizing and maintaining firewalls.
Network Intrusion Prevention Systems (NIDS)	NIDS are appliances that reside on the network to help recognize dangerous traffic entering the network. CDW engineers are experts in the installation and administration of IPS solutions such as Cisco's IPS.
Virtual Private Network (VPN)	A VPN is an encrypted extension of your internal corporate network. A properly implemented VPN allows remote users to connect securely to your internal network over the public Internet. CDW experts can design and implement secure, seamless access to your internal network for remote users.
Wireless	We can help increase employee mobility and flexibility by implementing a wireless network. CDW provides authentication, design and implementation consulting that ensures proper security has been deployed for your wireless network and that only authorized employees are allowed access.
Patch Management	CDW offers tool evaluation, selection, design and implementation, eliminating the risks associated with selecting a patch management tool.
Virus	CDW's Hosted Anti-Spam & Anti-Virus solution is a highly redundant and expertly configured system that prevents viruses from entering your email system.

Spam	CDW can design and implement a highly effective reputation based anti-spam and email encryption solution to protect your email environment and sensitive data.
Hardening Servers	This process includes a configuration review and action items to mitigate found risks. CDW offers Microsoft Solution Design Workshops for designing comprehensive security solutions for Microsoft Directory Services, Exchange and other platforms from the ground up. CDW's workshops ensure that the security considerations necessary for a given server role(s) are known to systems administrators and have appropriate accounting processes.
Application Security	In-house development of custom applications is a critical business endeavor. However, security flaws are inevitable. CDW's Application Security Assessments identify base technologies, identify application components, review code, test possible exploits and provide recommendations for improvement.
Authentication, Authorization and Auditing (AAA)	Robust authentication mechanisms can be leveraged in all aspects of an environment. Designing a strategy for achieving user authentication, authorization and auditing policies and technologies relevant to Mason's needs is a complex task and is vital for determining which users, processes and applications have access to sensitive information. CDW offers several options for AAA including Cisco's Access Control Server (ACS) and Identity Services Engine, Microsoft Active Directory® Design, RSA/Secure ID Design and Implementation, SmartCard Design and Implementation and Microsoft Network Policy Server.
Security Management	CDW can assist with a broad range of activities including monitoring, assessing, operating and maintaining Mason's security policy and security infrastructure. CDW offers a Security Policy Assessment and Cisco Security Manager (CSM) for centrally provisioning device configuration and security policies. Combined, these offerings ensure that organizational policies are solid and your infrastructure aligns with industry best practices.

CDW Partnership with Microsoft

Microsoft Gold Certified Partner

CDW is a Microsoft Gold Certified Partner and a highly ranked Licensing Solution Provider (LSP) and ESA (Enterprise Software Advisor). CDW is also a Microsoft Software Asset Management (SAM) Partner and an Authorized Direct Reseller (ADR) for Open Value licensing programs in all 50 states and Canada. We are the worldwide leader in Microsoft Enterprise Agreements as well as Server and Cloud Enrollments.

In addition, CDW has earned the following honors:

- M365 Customer Adds Partner of the Year

- WW/US Surface Partner of the Year

- US Surface Hub Partner of the Year

CDW is also an Azure Expert MSP.

CDW is an authorized Microsoft National Systems Integrator Partner offering award-winning services around all of Microsoft's key solution areas. CDW is one of only a handful of Cloud Solution Providers to work with Microsoft. As a testament to our expertise and differentiation, we have approximately 300 Microsoft-focused engineers, technical specialists, presales consultants, and project managers dedicated exclusively to our customers' Microsoft engagements. Our team has completed more than 6,000 Microsoft services engagements and 750 joint Microsoft-CDW engagements to date.

CDW participates in the majority of Microsoft Rapid Deployment Programs (RDPs) and Technology Adoption Programs (TAPs). This early exposure to Microsoft solutions enables us to bring solutions to our customers in a timely fashion and ensures successful implementations.

Microsoft Solution Competency

CDW is an authorized Microsoft National Systems Integrator Partner offering award-winning services around all of Microsoft's key solution areas. We have approximately 300 Microsoft-focused Engineers, Technical Specialists, Pre-Sales Consultants, and Project Managers, who are dedicated exclusively to customers' Microsoft engagements. Our team has completed more than 6,000 Microsoft services engagements and 750 joint Microsoft-CDW engagements to date.

Our advisory services include proof-of-concept, deployment planning and pilot services to ensure the solution is optimally designed to meet your requirements and aligned with your strategic direction. Our deployment services include implementation and migration services to ensure you achieve the full power of your Microsoft investment.

We have approximately 300 Microsoft-focused Engineers, Technical Specialists, Pre-Sales Consultants, and Project Managers who are dedicated exclusively to our customers' Microsoft engagements. These include:

- 167 Microsoft Certified Systems Engineer (MCSE) Certifications
- 98 Microsoft Certified Systems Administrator (MCSA) Certifications
- 14 Project Management Professional (PMP) Certifications
- 4 Microsoft Certified Data Base Administrator (MCDBA)
- 3 Microsoft Certified Application Developer (MCAD)

CDW participates in the majority of Microsoft Rapid Deployment Programs (RDPs) and Technology Adoption Programs (TAPs). This early exposure to Microsoft solutions enables us to bring solutions to our customers in a timely fashion and ensures successful implementations.

CDW•G Partnership with VMware

VMware Capabilities at CDW•G

- No-cost VMware assessments offered to CDW customers (VSAN, vSphere, Hybrid Cloud)
- Two seats on VMware's partner technical board for data center and end-user computing
- CDW has the highest VMware-certified VCDX-DCV engineers onsite as well as 3,000+ certifications in our sales org (VSP, VCP, VCAP, VTSP, VCDX-DCV, VCIX-NV)
- Technical experience center at CDW offered to all CDW customers to live demo VMware's offerings
- CDW is an Authorized Reseller with VMware and can sell the entire VMware stack

- CDW was one of the very first VMware partners in the world to achieve all VMware technical competencies

Services Offered - VMware

- PCTs offered – Partner Credit Transfer program
- vSphere Optimization Assessment (vRealize)
- Virtual Network Assessment (NSX)
- EUC Assessment (Workspace ONE)
- Networking Virtualization Planning Workshop

- vRealize Workshop
- SDDC Advisory Workshop
- Software Asset Management
- Lifecycle Services
- Customer Success Managers for ELAs

Implementation Services - VMware

- VMware environment health checks
- Windows as a Service for Horizon Deployments
- Disaster Recovery Design & Deploy
- Virtualization Design & Deploy

- Horizon/Workspace One Design & Deploy
- VMware vSphere Upgrades
- Managed Services

Master Service Competencies - VMware

- Data Center Virtualization (DCV)
- Network Virtualization (NV)

- Desktop & Mobility (DTM)
- VMware Cloud on AWS

VMware Portfolio

- HCI: vSAN, VxRail
- Networking: NSX, VeloCloud, Avi Networks
- Cloud & Tools: VMC on AWS, Cloud Health, Tanzu Mission Control
- Automation & Orchestration: vRealize, Cloud Foundation

- Compute: vSphere
- Desktop & Mobility (EUC): Horizon, Workspace ONE
- DevOps: PKS, Pivotal, Heptio, Bitnami
- Security: App Defense, Carbon Black

CDW Badged Onsite Resources - VMware

- 11 Technical Pre-Sales Specialists
- 6 Business Development Managers
- 3 VMware SDDC Architects
- 2 Customer Success Managers

- 1500 + VMware Certified Pre-Sales Experts
- 150+ VMware Certified Managed Services Experts

VMware Badged Resources

- 7 Inside Sales Reps (ISR's)

- 6 Partner Business Managers

- 3 Dedicated Solution Consultants

VMware Awards

- 2018 EUC Global Partner of the Year

- 2018 HCI Regional Partner of the
  Year

CDW & Cloud: An Overview

A Strategic Shift

CDW, with partnerships with the three leading public cloud providers, AWS, Microsoft Azure and Google's GCP (Google Cloud Platform), are perfectly positioned to provide our customers with exactly the cloud solutions that best fit their unique requirements. The shift towards Cloud and Multi-cloud Solutions has become the perfect antidote for these challenges and objectives. There are complexities and challenges associated with this migration, however, CDW and its experienced Professional and Managed Services teams not only GetIT, they can also DoIT.
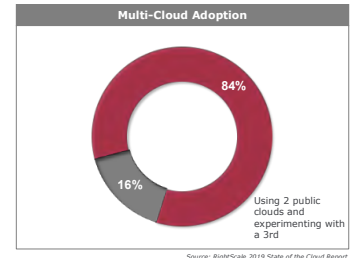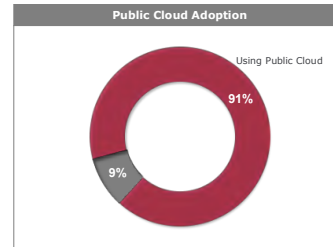
Understanding Cloud

While Cloud may seem somewhat elusive at first, it is important to understand that 'cloud' is simply a different way of procuring the same functionality that organizations have been managing for years. Cloud is not a product; it is a flexible, dynamic, secure service which provides access to a shared pool of computing resources including applications, infrastructure and platforms in world-class data centers built, managed, secured and maintained by some of the largest entities on the planet.

Cloud Computing Models

SaaS: Software as a Service	IaaS: Infrastructure as a Service	PaaS: Platform as a Service

Delivery Models

Public Cloud	Private Cloud	Hybrid Cloud

Important advantages of Cloud solutions include the ability to:

- Scale resources upward to meet rising demand quickly and back down again as need subsides

- Operationalize infrastructure and maintenance costs

- Increase mobility and collaboration capabilities

- Respond quickly to market demands and increase competitiveness

- Improve data security

- Provide the ability to cost-effectively create a robust disaster recovery plan

- Provide companies the ability to quickly test new applications is the cloud, allowing them to either succeed or fail quickly, greatly speeding the advance of new and exciting capabilities

- Automate infrastructure maintenance and management tasks freeing up time to focus on core business strategies.

A Trusted Advisor

With thousands of partner certified coworkers, CDW is on the forefront of Cloud migration and has been throughout its evolution. Having built a strong foundation in virtualization, remote managed services, and other related technologies, we enjoy a leadership role in helping organizations design and implement Cloud Solutions, regardless of preferred vendor. In addition to all of the capabilities and qualifications for cloud, no one knows premise-based technology better than CDW. Armed with both the best and brightest cloud engineering talent and premise-based talent, CDW can design the best hybrid solution for Mason. CDW's many qualifications include:

- Certified engineering talent with AWS, Azure and GCP

- Analysis - CDW possesses the most comprehensive and powerful analytical tools, enabling us to understand your current environment and help you decide which workloads should move to the cloud and which should stay on-premises

- Expertise and experience – we understand the complexities of applicable technologies

- Quality – we do things right

- Knowledge and insight – we understand the risks and regulatory issues

- Longevity – we have been a leader in a rapidly changing market for 30 years

- Stability – we have the staying power to ensure ongoing support for our customers

Total Solutions

CDW understands that customers have many technology provider choices. When working with CDW, you get the best total solution the industry offers without the limitations inherent when dealing with either a manufacturer or specific partner. CDW works with customers to develop coordinated and cost-effective cloud solutions through the following range of services.

- ***Discovery and Assessment:*** Understanding of environment, usage, challenges, and requirements

- ***Planning and Design:*** Evaluation of providers; recommendations, and proof of concept

- ***Migration Services:*** Smooth deployment of the solution

- ***Integration Services:*** Full integration with existing applications

- ***Application Modernization:*** Turning monolithic legacy apps into cloud micro-services

- ***Aggregation Services:*** Streamlined administration and aggregated billing

- *Managed Services:* CDW hosted and remote managed services or partner managed services

- *Fulfillment Services:* Onboarding, reporting, billing, partner reconcilement, and renewals

As a leading provider of Cloud Solutions, we can help Mason assess its priorities and determine which applications and processes should and shouldn't be moved to the Cloud. We can also help you design the best delivery model, whether public, private, or a hybrid model that provides the greatest flexibility to customize your solution.

Unified Communications Overview: Cisco and Microsoft

CDW is a comprehensive provider of Collaboration & Unified Communications solutions with extensive implementation experience and strong vendor relationships necessary to help you connect, communicate, and collaborate. Collaboration & Unified Communications is the convergence of enterprise voice, video and data services and software applications to achieve greater collaboration among individuals or groups and improve business processes. The result is reduced costs, increased productivity and improved decision-making.

Our team has the ability to take your communications and collaboration strategy to the next level through the delivery of smart, focused information worker solutions, including Microsoft SharePoint Collaboration, Business Intelligence, Business Process Automation, Social and Enterprise Search.

CDW earned the Cisco Master Collaboration Partner and is a Microsoft Gold Certified and Voice Specialized Partner with a Unified Communications Competency. We are uniquely qualified to deliver Cisco and Microsoft assessment, planning, design, implementation and managed services in each of the following UC solution areas:

- Telephony & VoIP
- Conferencing & Collaboration

- Messaging & Presence
- Contact Center

From building a business case and conducting ROI analysis through full deployment to hosted and managed services provided by our world-class data centers, CDW's award-winning teams help our customers realize cost savings and improved productivity with Unified Communications.

Please see Cisco & Microsoft Section for More Detail

In addition to Cisco and Microsoft, CDWG offers Unified Communications Solutions and Services for other Industry UC Partners through our Partner Ecosystem.

Project, Program and Portfolio Management

iv. Project, Program, and Portfolio Management Services to include Resource Capacity Planning, Resource Sourcing and Management, Time Management, Demand Management, Reporting Services, and Integration

Project Management Services Overview

Project Management

CDW applies our Project Management Institute (PMI) based methodology to all of its service engagements. Our services management approach represents a mature application of project management skills, methodologies and tools integrated with an effective application of superior customer service and consistent communication. This management is based on the Project Management Institute's best practices and years of experience deploying advanced technologies.

The project manager will be a leader and team builder, consistently marshalling resources to ensure project value is delivered, Mason's expectations are exceeded, and timelines and budgets are met. The project manager will use their knowledge and strategic thinking ability to fully understand your goals for the project, and your goals will become their goals. The project manager will look ahead and develop accurate and successful business strategies, apply sound personnel management skills, develop and execute plans, identify and prioritize process improvement opportunities, establish policies and procedures, and leverage people and resources to maximize the business value of your project.

CDW•G Structured Deployment Methodology

A successful project is one that maximizes the business value intended, meets project objectives, is delivered on time, within budget, and with high customer satisfaction. Implementing successful IT consulting services requires careful attention to the management of the scope, people, and process of each project.

Through our experience with complex projects, CDW•G has refined an implementation methodology that uses project management best practices combined with real-world lessons learned. Our methodology has resulted in a standard for how we choose the people we hire, the way we structure our project teams, and the project milestones we set for customer acceptance. We believe effective project management requires careful attention to the following plan elements and an appropriate level of communication between project participants. Our project plan includes the following components:

- Scope of Work
- Project Schedule
- Communication Plan

- Issue Management Process
- Assumptions
- Deliverable Management

- Statement of Work
- Risk Management Process
- Change Management Process
- Customer Responsibilities
- Partner Management
- Project Acceptance
- Contract

Our typical plans will include weekly project status meetings, communication of project activities, and provisions for immediate contact between the customer and CDW•G. Changes to the project timeline, project scope, or revision of requirements are addressed through a defined change management process. CDW•G will work with Mason to create a detailed project plan and milestones upon contract award.

Project Control

The PM will review the Statement of Work (SOW) and work with the project engineer team and customer team to create an overview of the requirements pertaining to the project. This overview provides a basic understanding of what is expected from this SOW prior to defining all requirements in detail. The overview will include the contract purpose as well as the engineering purpose, and the underlying business purpose and expected value.

Client Kickoff Meeting

The Client Kickoff Meeting promotes a thorough understanding of project objectives, project success criteria, key project roles and responsibilities, target schedule, key project risks – an understanding which carries value over the entire project lifecycle. The outcome of this session will be to:

- Review current requirements and preliminary proposal
- Understand the goals for the project, and ensure that the entire project team is in agreement
- Identify and define the roles and responsibilities of the project core team
- Define and clearly articulate project objectives, success criteria, priorities, technologies being deployed and key deliverables
- Identify the work required to achieve the project goals
- Establish a high-level schedule for the project
- Identify and develop strategies for coping with major project risks
- List major project deliverables, including their definitions and completion criteria
- Create a high-level project schedule based on the major project deliverables
- List key project risks, as well as the risk management plan for the critical ones
- List key project issues and assumptions
- Evaluate scheduling constraints (launch freezes, exercises, facility modifications)
- Identify other business constraints (work hours, outage sensitivity)
- Identify third party requirements/involvement (power, racks, etc.), if known
- Assess risks involved with implementation

- Review approach to knowledge transfer

- Identify additional resources required

- Identify processes required to implement (for example, integration checklists)

- Review the parameters for customer acceptance

- List "next steps" for the project team

Engagement Lifecycle and Project Management Methodology

CDW's Engagement Lifecycle is core to our development and management of IT projects. It is built upon fundamentals of sound planning and clear and frequent communication.
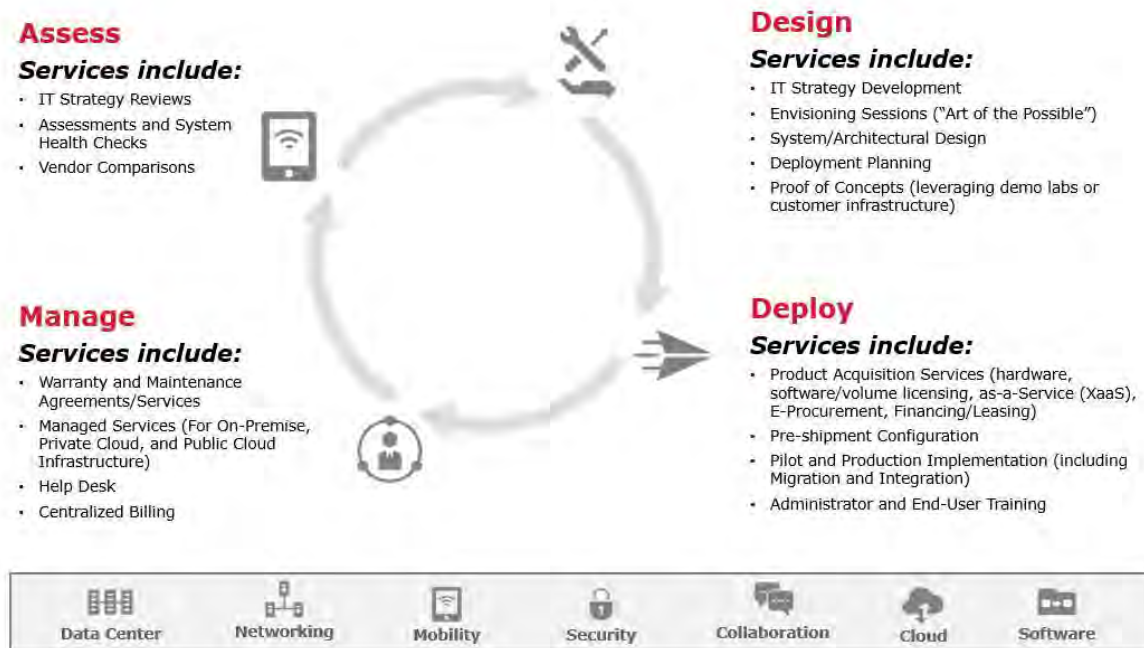
The CDW Engagement Lifecycle provides a framework for working with our customers. The lifecycle is based on the eight principles:

- *Communication - Consistent, concise and frequent*

- *Assessment - Complete and detailed*

- *Estimation - Accurate and realistic*

- *Statement of Work - Meticulously prepared*

- *Project Management - Continuously visualizing success*

- *Risk Management - Attentive and constant*

- *Change Management - Persistent and conscientious*

- *Shared Learning - Borrow from the best and continuously improve*

CDW believes that a well-defined project structure is important and key to the success of an engagement. It is also important that the project management methodology not get in the way of getting the work done. It should enable, but not hinder. It should allow the project manager to maximize the project's value to our customers. It should provide a cohesive framework and goals around which everyone works towards a common objective, not hamper team members with tedious paperwork and administrative tasks that do not enable the overall engagement goals.

Our approach represents the best practices within CDW's organization. It offers flexibility and judgment, yet provides a clear path for virtually all engagements to follow. By understanding the hand-off from account management to services, and how project closure leads into sustained operational management, we can create a higher quality service for the customer throughout the Engagement Lifecycle. Our internal operations will also be more efficient wherever we can follow consistent patterns.

The Engagement Lifecycle provides a roadmap to the processes, roles, and checkpoints that govern work with our customers from proposal development through service delivery through solution management. It identifies templates, tools and job aides for each phase, enabling us to support each customer interaction "the CDW way." The Methodology also identifies the "red flags" to avoid.

The Deliver Phase of the Lifecycle follows the CDW Project Management Methodology that is based on generally accepted project management functions and activities that support the development and execution of a well-managed project. There are many methodologies, from the highly rigorous, detailed and documented, to the 'seat of your pants' approach. Ours reflects a balance of rigor and pragmatism, incorporating the essence of the Project Management Institute (PMI), PRINCE2, and Microsoft Solutions Frameworks (MSF). We have adapted the processes from the PMI, PRINCE2, and MSF into our Methodology to best serve the business needs of our clients, and to maximize the value the project provides to our clients.
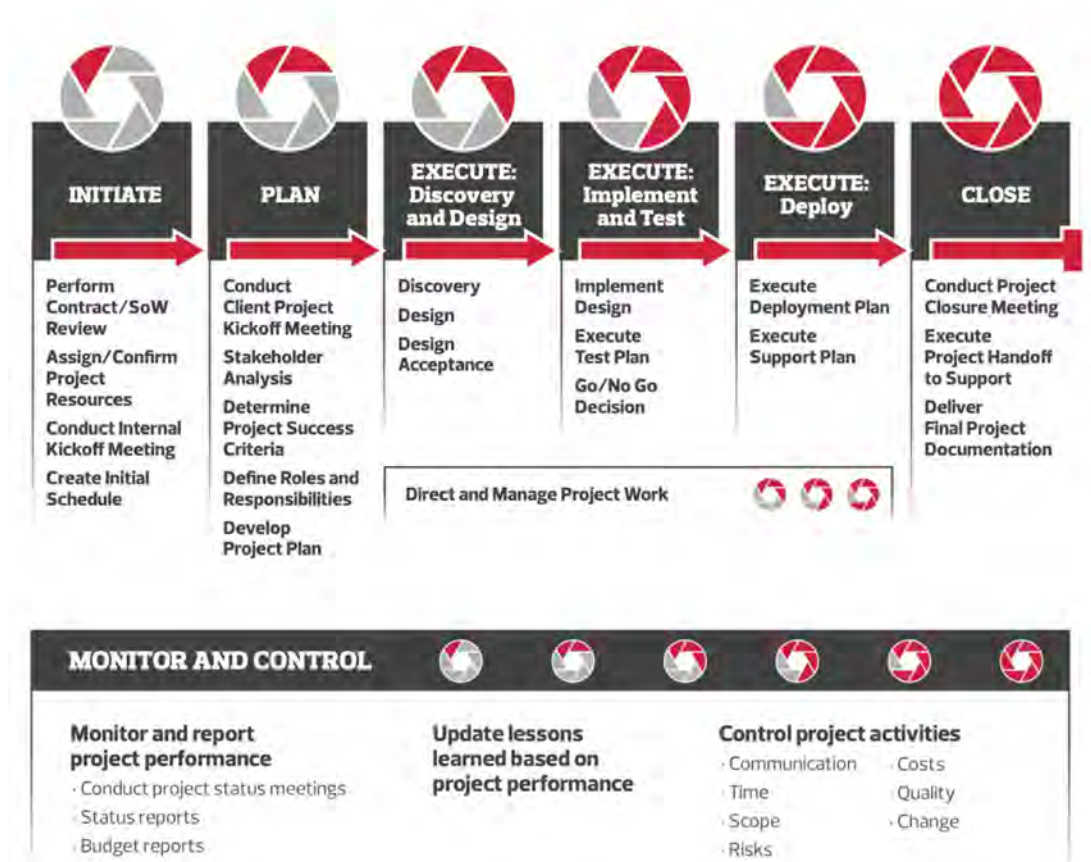
Essentially, our techniques recognize that delivering excellent technical solutions requires attention not only to technical matters, but careful leadership of people, processes, and technology. Our emphasis on people, processes, and technology appears not only in our approaches to Project Management but in the way we structure our project teams, the kinds of people we hire, the milestones we set for projects, and the types of documents we define as crucial to project success.

Once the project is initiated, the project manager becomes the project owner and is responsible to lead the project team and ensure the project runs smoothly, and that it delivers the business outcomes expected. The project manager will build relationships with the project stakeholders and demonstrate a shared commitment to project success. The project manager will ensure that the every member of the project team understands and supports the vision for the project. Your goals will become our goals.

Project Management Responsibilities

The project manager is responsible for leading the following processes, events, and deliverables involved in our projects. The project manager will participate in the activities and processes that are most appropriate to Mason's IT Consulting Services contract.

Weekly Sponsor Meetings

These are required to keep the sponsors informed on progress, accomplishments, planned activities, and issues. The sponsors can also be called upon to help resolve issues, remove roadblocks, approve scope changes, or any other details.

Status Reports

These are required and can be used as the discussion mechanism with the sponsors.

Issue Management

The project manager should review and update issues on an ongoing basis throughout the project, preferably at the weekly team meeting. Critical issues are escalated in a timely manner.

Risk Management

Risks will be actively identified, tracked, and managed throughout the life of the project. Risks that exceed the customer's risk tolerance will be escalated and addressed through prevention, avoidance, or acceptance.

Weekly Team Meetings

These meetings are held to review task assignments, obtain status on work, identify and resolve issues, as well as any other project details.

Scope Changes

The project manager will manage scope changes throughout the project. They will use the scope change alert form for addressing scope changes with the sponsors and obtaining approval for these. The project manager will also ensure that the impact on time/budget are communicated and understood.

Time Management

On a weekly basis, the project manager will review the project team "time to task" and ensure these are on track with budget.

Cost Management

On a monthly basis, or more frequently for smaller projects, the project manager should report a budget and work completion to the sponsors. Flags should be raised early and often if the project might exceed budget.

Communications Management

The project manager will execute the communications plan at each phase/key deliverable date for the project.

Quality Management

The project manager or quality assurance coordinator will monitor the quality plan and ensure the project is on target.

Meeting Facilitation

The project manager will facilitate meetings with agendas and recap with meeting minutes, ensuring the meetings are focused and accomplish their objectives. Project managers should be careful not to schedule too many meetings, as team members need solid blocks of time to accomplish tasks with efficiency.

Security Services

v.   **Security Services including Threat Management, Perimeter Security, Internal Network Security, Endpoint Security, Application Security, and Data Security.**

Security Solutions – Cybersecurity

We know that security goes deeper than software and applications. It touches every layer of Mason's network infrastructure and requires a holistic defense strategy that aligns people, processes and policies. Far from a single firewall or IPsec VPN that you can build and forget, true cybersecurity needs to be fortified with continuous testing, monitoring and review. With almost 20 years of experience, our experts can objectively assess Mason's cybersecurity practices and develop a plan and policies that both proactively mitigate risk and react to events such as data breaches and disasters.

Cybersecurity Is More Than an IT Concern, it's a business concern. Cybersecurity is a persistent effort and culture that needs to align people, processes and technology. It also needs to include regular cybersecurity assessments, testing, monitoring and a strategy for risk containment, remediation and response using the latest antivirus and firewall solutions.

CDW has more than 20 years of experience designing and implementing security solutions and defense in depth strategies for a range of organizations spanning commercial, government, education and healthcare industries.

Our Knowledge Goes Deep

CDW is a #1 partner for the industry's top security vendors.

We hold elite and master certifications from our vendors.

Our outstanding team works with businesses across the country.

We approach data security, mobile security and cloud security with unmatched depth.

Meet Our Security Experts

Our highly specialized teams can consult with you about weak spots in your network and will work with you to design a custom security solution to fit the needs of Mason.

Security Assessment Team

Dedicated solely to security engineering, this elite team of white-hat hackers performs assessments and penetration tests for vulnerabilities within your network. They use their findings to give vendor- and product-neutral advice to help you make informed decisions on risk management.

Security Delivery Engineers

These top-talent specialists will come and implement the right security strategy for Mason. They're equipped with the specific technical knowledge to make sure everything works together and will help you understand the full functionality of a security solution through training.

This team performs complimentary malware assessments, providing you with the insights you need today to face tomorrow's security threats with confidence.

Data Loss Prevention Solution Architects

Our consultants work with you to understand the flow of Mason's sensitive data through your network infrastructure before helping you build a long-term data loss prevention security strategy.

Security Solution Architects

Our highly trained and technical solution architects will work with you to identify your unique challenges with network and data security, mobile security and cloud security. Then they'll recommend the right strategy that fits Mason's needs.

Certifications

We hold an array of industry- and partner-specific certifications that ensure the highest level of expertise.

Certified Information Systems
Security Professional
(CISSP)

GIAC Security Essentials
(GSEC)

GIAC Certified Incident Handler
(GCIH)

Certified Ethical Hacker
(CEH)

Expert Partner –
Symantec Data Security
Competency

Certified in Risk and
Information Systems Control
(CRISC)

Cisco Security Master

Cisco Certified Internetworking
Expert – Security
(CCIE Security)

What CDW Offers

Assessment & Risk Management

- Penetration Testing
- CDW Threat Check
- Incident response
- Configuration review
- Road map consulting

Continuing Care Facilities

- Next Generation Firewalls and Unified Threat Management
- IDS/IPS systems
- Security Information and Event Management
- Email and Web Security
- Advanced Malware Protection
- Network Access Control and Authentication

Data Security

- Endpoint protection
- Encryption

Mobile Security

- Network Access Control
- Authentication
- VPN Architecture
- Mobile Device Management
- Endpoint Protection
- Encryption
- Data Loss Prevention

Cloud Security

- Protection for Private, Public & Hybrid Cloud

- Assessment and Risk Management

- Security as a Service

Methodology

b. **Describe approach and methodology to providing IT service delivery to George Mason University. Include how your firm would manage the scope of projects and how your firm aligns with current best practices.**

CDW•G Structured Deployment Methodology

A successful project is one that maximizes the business value intended, meets project objectives, is delivered on time, within budget, and with high customer satisfaction. Implementing successful IT consulting services requires careful attention to the management of the scope, people, and process of each project.

Through our experience with complex projects, CDW•G has refined an implementation methodology that uses project management best practices combined with real-world lessons learned. Our methodology has resulted in a standard for how we choose the people we hire, the way we structure our project teams, and the project milestones we set for customer acceptance. We believe effective project management requires careful attention to the following plan elements and an appropriate level of communication between project participants. Our project plan includes the following components:

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- Change Management Process

- Issue Management Process
- Assumptions
- Deliverable Management
- Customer Responsibilities
- Partner Management
- Project Acceptance
- Contract
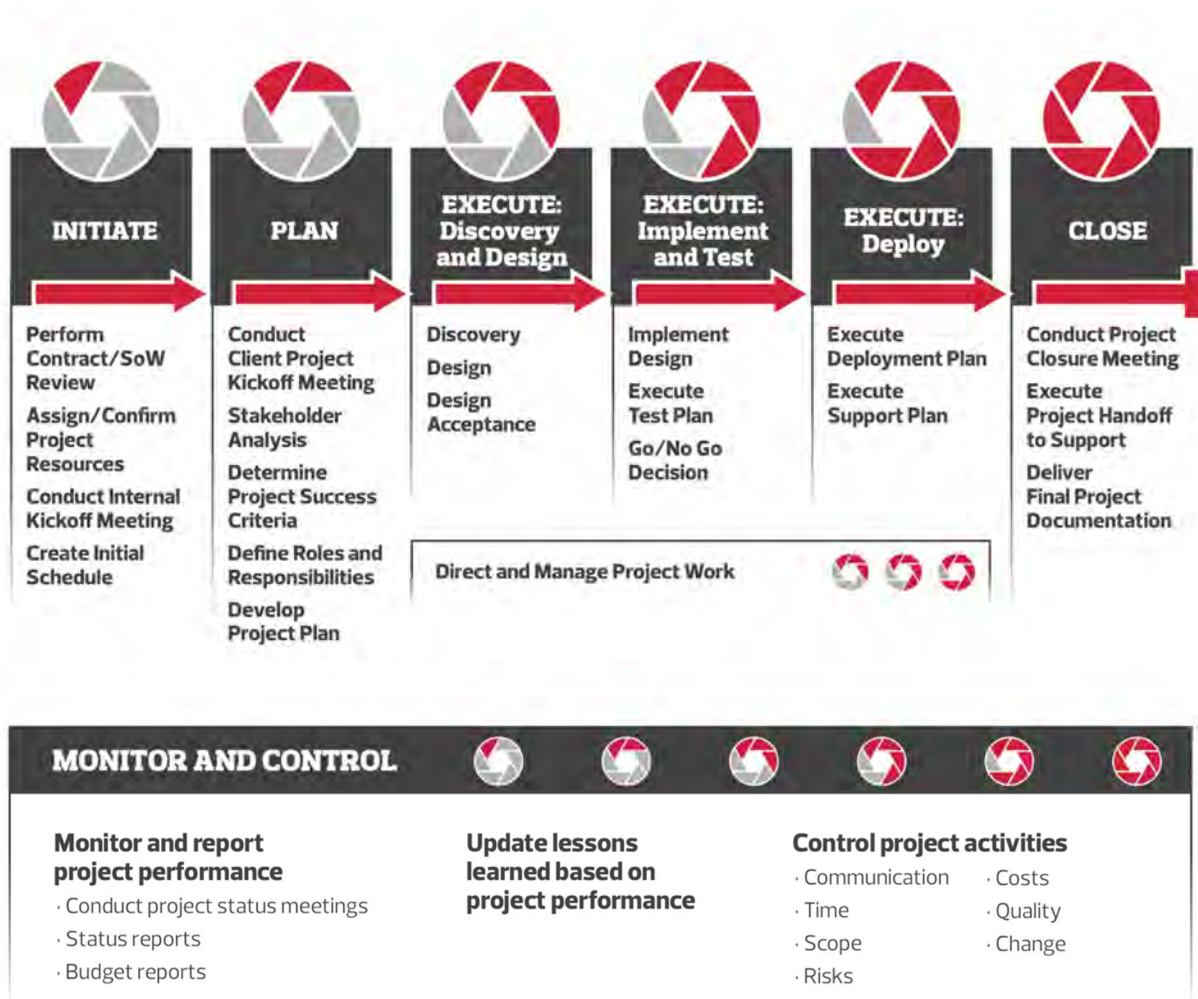
Please see Tab 6 for On-Demand IT Consulting Services "Project, Program and Portfolio Management Services"), for additional Detail on Project Management.

Personnel

c. **Provide examples of the names, qualifications, and experience in personnel to be assigned to George Mason University. Designate who would be assigned as the primary relationship manager for this account. The University reserves the right to accept or reject any proposed or assigned consultant, without cause, at any time during the duration of the contract.**

Please see attached resumes located in Tab 8: Supplemental Materials.

- Appendix A: Sales Team Resumes

- Appendix B: Field Solution Architect Resumes

- Appendix C: Delivery Resumes

Mason benefits from an account team dedicated to ensuring you receive the comprehensive and personalized support you require and deserve.

Erica Kordes, Advanced Technology Account Executive

(Primary Point of Contact)

Erica Kordes, Advanced Technology Account Executive, is an expert in CDW's advanced technology services having led teams designing and deploying complex IT solutions for many CDW customers. She will serve as Mason's primary point of contact for this services contract. She works jointly with your account team to provide comprehensive solutions and outstanding support. She is based out of Ashburn, VA and is available for onsite business meetings as needed to provide project development, technical expertise, road mapping, and business reviews. Erica will coordinate all pre-sales engagements, the Statement of Work process and manage the relationship including hand off to delivery teams. Erica participates in all kickoff calls and most status calls. Erica has been serving higher education customers for 14 years.

Erica Kordes
Advanced Technology Account Executive
Office: 703.262.8044
Mobile: 703.943.0247
erica.kordes@cdw.com
Ashburn, VA

Mitch Huffington, Executive Account Manager

(Backup Contact)

Your Executive Account Manager, Mitch Huffington, is highly trained to address your questions and concerns and is the overall "quarterback" of the sales team supporting Mason. Mitch has completed intensive training programs that focus on sales consulting, product training, operational systems, and customer service. Additionally, Mitch attends ongoing trainings to ensure they stay up-to-date on the latest technologies in the industry. Mitch has been serving higher education customers for 17 years.

Mitch Huffington
Executive Account Manager
mitchh@cdwg.com
Office: 866.723.1550
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Dana Restaino, Client Engagement Manager

Dana Restaino, Client Engagement Manager (CEM), is a business, sales, and solutions thought leader at CDW. Dana provides leadership and support for sales, solution architects and services teams within their territory. She is accountable for effective and efficient day-to-day services operations, client relationship management, and for driving alignment with the sales team within their territory. She demonstrates a laser-like focus in managing all services engagements to achieve financial, operations, client, and coworker success. To realize these targets the CEM must balance a strong financial and operational results focus with a strong coworker and client emphasis. Dana lives in Virginia will serve as the escalation point of contact for IT consulting services.

Dana Restaino
Client Engagement Manager
Mobile: 703.853.4501
danares@cdw.com
Reston, VA

Please see pre-sales resumes for full sales team. Additional escalation contacts will be provided.

Consultant Continuity

d. **Describe the ability to provide continuity of consultants throughout the duration of a project. Provide examples of both on-site and remote teams that would work with George Mason University.**

CDW•G will assign a Program Manager, Project Manager and/or Program Coordinator to each project. CDW•G will also assign one to multiple engineers, depending on the technology scope and skill sets required. It is CDW•G's intention that the same team is involved from start to finish on our customer projects. These resources will either be 100% assigned to Mason for the duration of the project, or may work on a few other projects throughout the timeframe. This is typically dependent on the customer timeline and the time the customer has to allocate to the project. Sometimes customers only want to work on a project 20 hours a week.

Depending on Scope and Technology, CDW•G may perform services 100% remotely, 100% on-site or blended on-site remote. This is typically discussed during scoping, and then again during project staffing and kick-off. Sometimes short-timelines, we are able to staff quicker if the engineer can work remotely.

Services

e. **Describe services available from your firm and/or partners and associated costs. Examples of services that could be included are:**

Please see CDW•G's responses in Section XI - Statement of Needs, 1.a (i.-v.) for services offered as well as the "Services Catalog" in the Appendix. CDW•G follows a lifecyle approach to supporting our customers for services. The cycle typically begins with assessment and/or discovery. Projects then move into design and deployment planning. Deployment may include proof of concepts, pilots, development, implementation and configuration. CDW•G offers cut-over support that may range from one day post cut over to two weeks depending on the scope of the project. CDW•G offers ongoing management through managed services for many technologies and platforms.

Assess
Services include:
- IT Strategy Reviews
- Assessments and System Health Checks
- Vendor Comparisons

Design
Services include:
- IT Strategy Development
- Envisioning Sessions ("Art of the Possible")
- System/Architectural Design
- Deployment Planning
- Proof of Concepts (leveraging demo labs or customer infrastructure)

Manage
Services include:
- Warranty and Maintenance Agreements/Services
- Managed Services (For On-Premise, Private Cloud, and Public Cloud Infrastructure)
- Help Desk
- Centralized Billing

Deploy
Services include:
- Product Acquisition Services (hardware, software/volume licensing, as-a-Service (XaaS), E-Procurement, Financing/Leasing)
- Pre-shipment Configuration
- Pilot and Production Implementation (including Migration and Integration)
- Administrator and End-User Training

Data Center	Networking	Mobility	Security	Collaboration	Cloud	Software

i.   **Implementation**

CDW•G offers implementation services for all services described in X1.1a.i-v.

ii.   **Development**

CDW•G offers some Development services as described in the section on IGNW.

iii.   **Project Management**

CDW•G offers project management for all services described in X1.1a.i-v.

iv.   **Architecture and Design**

CDW•G offers architecture and design for all services described in X1.1a.i-v.

v.   **Capacity Planning**

CDW•G offers capacity planning for all services described in X1.1a.i-v.

vi.   **Installation and Configuration**

CDW•G offers installation and configuration for all services described in X1.1a.i-v.

vii.   **Performance and Scalability**

CDW•G offers performance and scalability all services described in X1.1a.i-v.

viii.   **Conversion**

CDW•G offers conversion for all services described in X1.1a.i-v.

ix.   **Monitoring, administration and upgrades**

CDW•G offers remote managed services, ongoing administration and upgrades for most core technologies through our hosted and managed services organization. These are priced out per

solution and components managed. Billing is performed monthly. Please see the Managed Services section starting on p. 60.

x.   **Operations metrics**

CDW•G offers Operations Metrics for all Services described in X1.1a.i-v.

Please see CDW•G's responses in Section XI Statement of Needs, 1.a (i.-v.) for services offered as well as Appendix D – CDW Amplified Services Catalog.

Development, Training & Documentation

f.   **Describe the ability to assist in the development and offering of training and documentation.**

CDW•G will work with Mason during the scoping phase of any project, to determine the training needed for the Mason staff to take over the technology when the project is complete. The Statement of Work will include descriptions of any knowledge transfer, training and documentation that will be created or provided during the project. Training may include an administrator overview, knowledge transfer or train-the-trainer depending on technology or scope. CDW•G will also direct Mason to manufacturer certified training as appropriate. CDW•G partners with Global Knowledge to offer packaged training.

For knowledge transfer and administration training, CDW•G will provide basic administration training for a defined number of Staff members remotely or in a classroom setting. The knowledge transfer or training will be defined in the Statement of Work.

For Train-the-Trainer classes, CDW•G will training the designated staff covering standard user feature and functionality that covers the largest group of end users. This will be performed remotely or in person, and will be defined in the Statement of Work for the Project.

CDW•G training and knowledge transfer is typically performed by members of the delivery team, so rates in the SOW will apply. This will be addressed in the Statement of Work.

CDW•G Recommends Global Knowledge for training if not offered directly by the manufacturer. Global Knowledge's Course Catalog can be found at: https://gtc.globalknowledge.com/en-us/home/about

Recent Projects

g.   **Provide examples of recent projects at representative agencies comparable to George Mason University. Describe the project, time frame, end result, etc. Prior higher education experience is preferred but not required.**

University of Maryland, College Park, Athletics story was the cover of the 2017 Fall Magazine

CDW•G Account Team and Cisco worked together to design a new fan experience at the UMD Xfinity Center and Tyser Tower. Xfinity Center and Tyser Tower received new WIFI and Network dedicated to the fan experience. CDW•G deployed new digital signage in the Xfinity Center, including video in the concourse, marketing and branding, as well as new menu boards for the concession areas. CDW•G Services coordinated CDW•G engineers (WIFI, Network & Cisco Vision), as well as Cisco Advanced Services for Cisco Vision content, and cabling partner to deploy new cabling for access points, network and digital signage, as well has hanging the new displays.

Article link: https://edtechmagazine.com/higher/magazine/issue/2017/8/fall-2017-1

Videos: https://edtechmagazine.com/higher/article/2017/08/college-sports-fans-cheer-wi-fi-upgrades https://edtechmagazine.com/higher/media/video/university-maryland-brings-fan-experience-life-new-tech

Why Ottawa University Built a State-of-the-Art Esports Arena

The stadium is set up with a state-of-the art video production system and broadcasting capabilities, in addition to stocking it with computers built by CDW•G and CDW•G partner, Horizon AVL. Video link below.

https://edtechmagazine.com/higher/media/video/why-ottawa-university-built-state-art-esports-arena

CDW Managed Services Build Business Value for Engine Maker Briggs & Stratton
https://www.cdw.com/content/cdw/en/articles/managedservices/2018/06/21/cdw-managed-services-build-business-value-for-engine-maker-briggs-stratton.html

CDW's Professional Services team helps Proliance Surgeons successfully deploy a new software-defined networking solution to gain better visibility, control and application performance
https://www.cdw.com/content/cdw/en/articles/networking/2019/09/16/a-prescription-for-network-management.html

Finding Peace of Mind Through Cybersecurity Assessments
https://www.cdw.com/content/cdw/en/articles/security/2018/09/07/finding-peace-of-mind-through-cybersecurity-assessments.html

University of Maryland Baltimore County (UMBC) – Unified Communications Projects
Implementation of Cisco Mobile Remote Access for remote and home user to have access to physical Cisco endpoints, including desk phones and softphones.

Implementation of Cisco WebEx Teams calling integration with Cisco Communications Manager. To enable calling capabilities with Cisco WebEx Teams through Cisco Communications Manager (CUCM).

Successful migration to Cisco Flex Subscription for all Unified Communications Licenses.

Currently working on Cisco Unified Contact Center Express Implementation for enrollment with Outbound IVR Campaigns.

Client Success Stories

Organization: Global Cruise Line

Employees: 100,000+ employeees

CHALLENGE
A major global cruise line wanted consistent customer experience and agility with its onboard ship loyalty applications ... but there is no cloud in the middle of the ocean. Building and managing data centers on ships is hard enough already. Network connectivity is non-existent much of the time, and each floating data center becomes a snowflake at sea due to configuration drift, both literally and figuratively. This was resulting in lots of additional effort to update infrastructure or applications, and an inability to meet business needs for Time to Market, application uptime, security or governance. More importantly, it was not possible to ensure a consistent experience for all passengers, negatively impacting the customer experience.

SOLUTION
IGNW designed and implemented a Kubernetes architecture to manage and distribute applications with portability and security. On-ship data centers were converted to cloud-native endpoints and

Infrastructure as Code (IaC) processes were implemented to automate management of Cisco Hyperflex hyperconverged infrastructure on each ship. Google Cloud was leveraged

as the orchestration and agile development environment for application developers to build and test workloads, and manage the deployment and configurations of each ship.

RESULT
Deployment tasks and net-new implementations shifted from weeks to minutes. Applications were refactored for scale and portability through Kubernetes, optimizing the infrastructure footprint required on each ship while centralizing management in the cloud. This unified the entire management of the fleet's infrastructure, reducing risk, increasing application performance and ensuring a consistent consumer experience on the latest applications available.

Organization: Meat Processing Company

CHALLENGE
Customer could deploy a new workload to their data center in less than 20 minutes, but getting a firewall rule took a three-week manual process, and required application developers to open a support request with IT and security operations teams. As this customer responded to global market shifts due to COVID-19, it greatly impacted their ability to make changes to supply-chain and digital-marketing applications.

SOLUTION
We found that 85% of all requests passed a standardized review. By taking the standard policy review rules and automating the testing, 85% of workloads could be automatically deployed and a compliance document created. Additionally, this configuration change could be tested and confirmed automatically with the application development team, allowing them to automate their end-to-end process without manual support requests and weeks of delay.

RESULT
85% of workloads can be deployed within minutes with automated firewall provisioning after successfully passing an automated security policy check. For the deployments that don't pass the automated policy test, the exceptions can be worked in days now as the workload has decreased, increasing the throughput across the board.

Transfer of Knowledge

h.   **Describe the ability to provide for a thorough transfer of knowledge to Mason IT on any given project.**

CDW•G will work with Mason during the scoping phase of any project, to determine the training needed for the Mason staff to take over the technology when the project is complete. The Statement of Work will include descriptions of any knowledge transfer, training and documentation that will be created or provided during the project. Training may include an administrator overview, knowledge transfer or train-the-trainer depending on technology or scope. CDW•G will also direct Mason to manufacturer certified training as appropriate. CDW•G partners with Global Knowledge to offer packaged training.

For knowledge transfer and administration training, CDW•G will provide basic administration training for a defined number of Staff members remotely or in a classroom setting. The knowledge transfer or training will be defined in the Statement of Work.

Staffing Plan

i.   **Describe how your firm would propose a functional staffing plan indicating the number, characteristics, and schedule for the consultants.**

During the scoping of projects, the account team, customer engagement manager, and solution architects, will identify the skill sets needed to complete a project. These needs will be relayed to the delivery staffing teams with customer timelines. After a SOW is signed, a formal team is assigned through our Delivery Staffing Project. CDW•G looks to pair the best skilled resource with the customer's needs and timeline. In some cases, resources may be local to Virginia, or may be from another part of the United States. For "onsite" projects, best efforts are made to limit the need for travel. However, as technology evolves, the best matched engineer may not be from Virginia or the Washington, D.C. area. One or multiple engineers will be assigned, depending on skill sets required, most CDW•G engineers are specialists that focus on one technology (i.e. Cisco Wireless vs Cisco Core Networking). CDW•G will also team senior, mid-level and junior engineers to complete a project in a timely fashion, or to keep costs within budget. Example, a senior engineer may perform discovery and design a project, with a mid-level doing the programming.

Depending on the scope of the project, a program manager, project manager or project administrator will be assigned. CDW•G's PMO office is also well versed in project management teaming for complex projects with multiple moving parts. Most project managers are facilitating a few projects at any given time.

It is CDW•G's intention to keep the same project management and engineering team engaged for the entire Statement of Work. Some technologies and scopes of work call for the team to be 100% dedicated to a customer, others are better suited for 30-50% of the work week being dedicated to one project, as customers are only able to focus 30-50% of the work week, or require CDW•G to do work, then the customer to complete work. CDW•G will discuss with Mason the timelines, level of effort and expectations prior to staffing.

Subcontractor

j.   **Describe any functions to be subcontracted and the expertise and credentials required from the subcontractor.**

The services described in our proposal are all "CDW•G" badged services, and part of CDW•G's Services. If a partner is needed to offer a complete solution, address a newer technology, or services only offered by a manufacturer, the CDW•G account team will notify Mason.

CDW•G has an extensive third party partner services program. Partners are expected to follow CDW•G's methodology and are led by a CDW•G project manager.

Common Examples of Partners: Cabling, Physical Install of Displays, Access Points, Rack & Stack; Emerging Data Center Technology, Emerging Cloud Technologies, Cisco Contact Center Ecosystem.

Tab 4: Offeror's Experience and Qualifications

A written narrative describing the offeror's experience and qualifications in providing IT related support services and consulting as outlined in section XI, Statement of Needs. In addition, offeror shall include brief biographical and experience information on the management team and any staff that will be responsible for servicing this contract (include an organizational chart).

Mason's CDW•G Dedicated Account Team
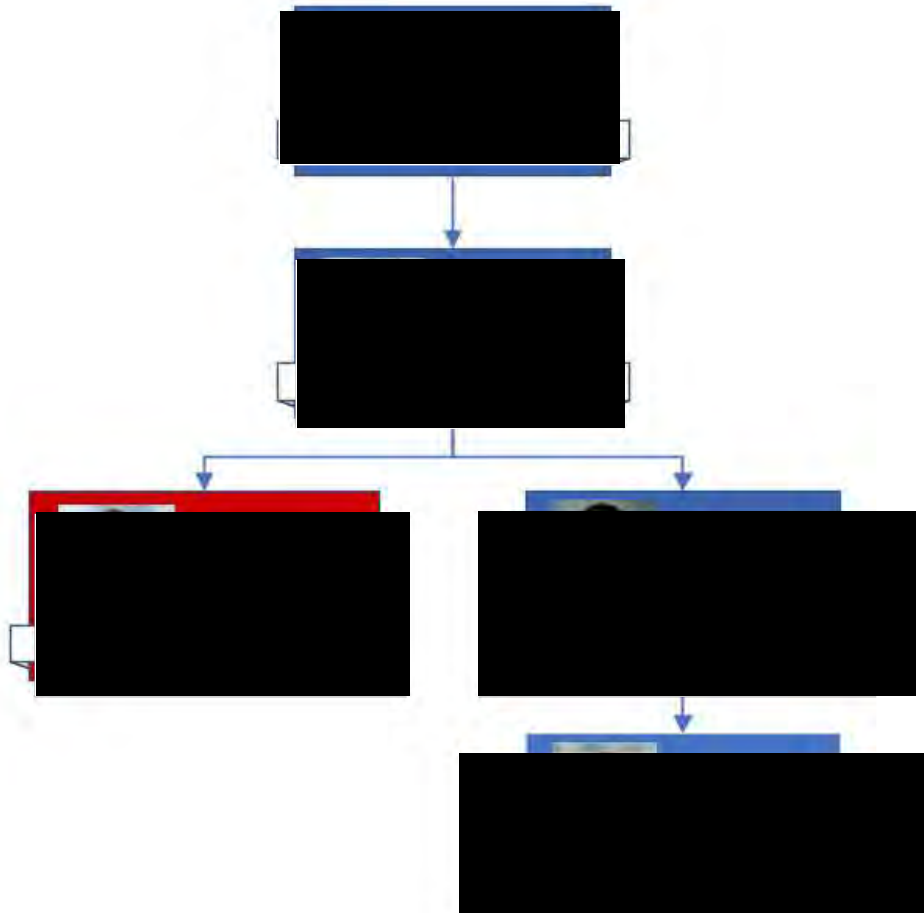
Strategic Services Sales
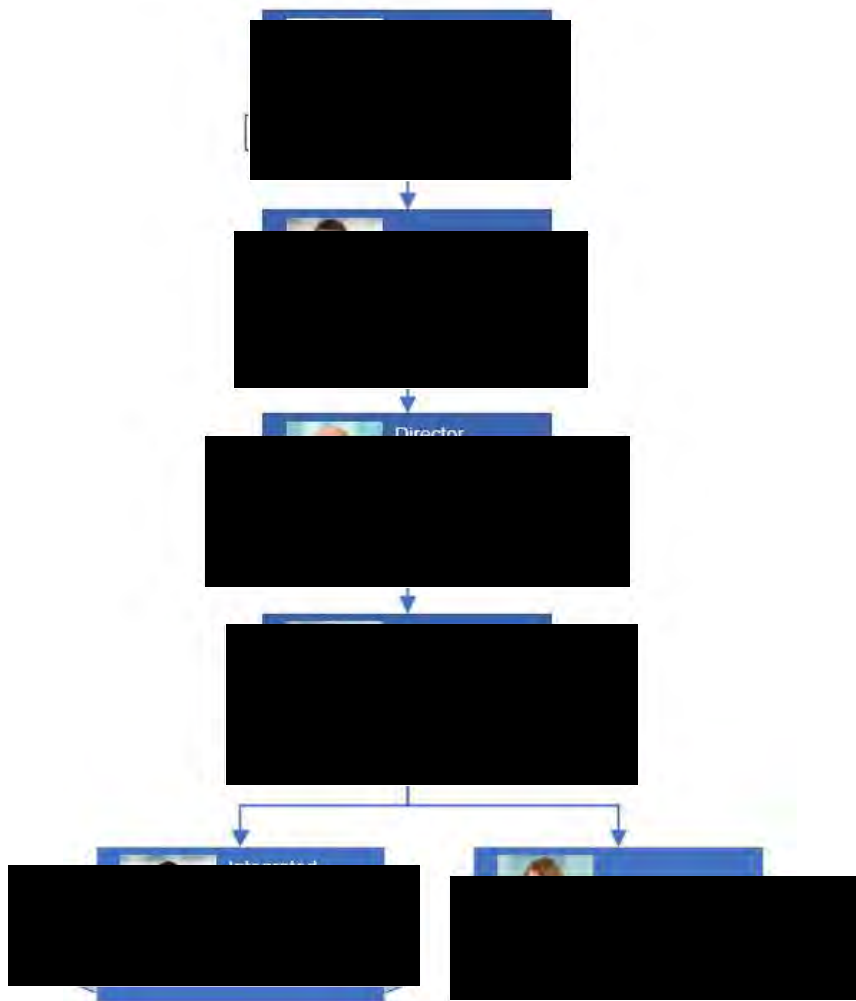
Networking, Collaboration, and Security Solutions

CDW Software Solutions
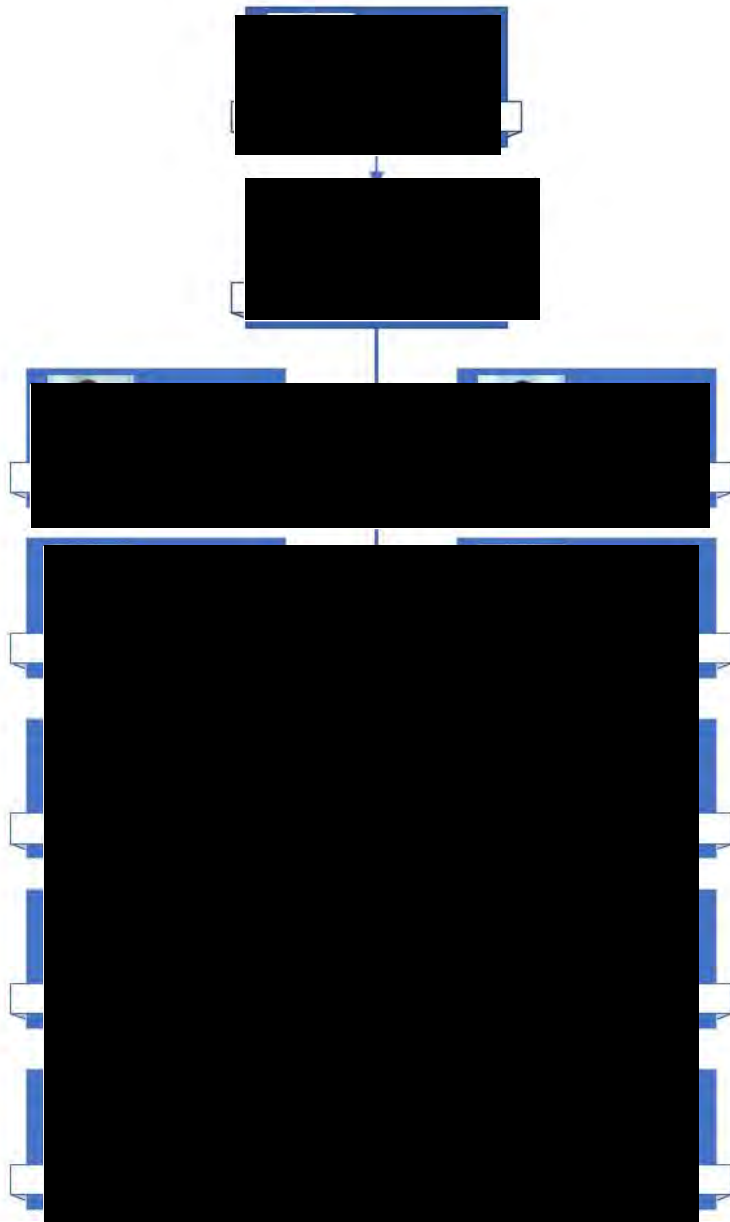
Data Center, Cloud Solutions, & Physical Security Solutions
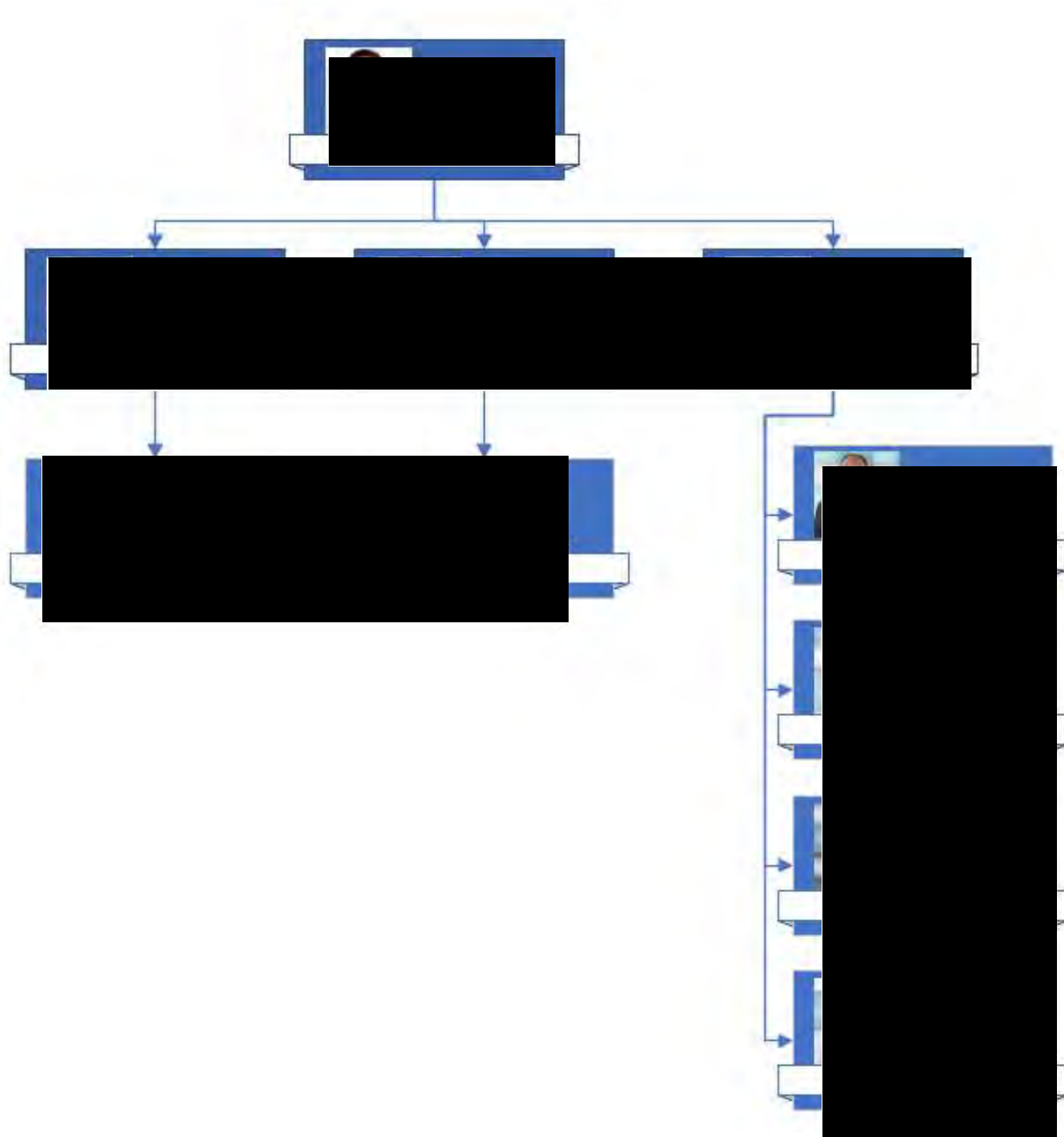
Tab 5: Implementation Plan

Provide a specific plan for implementation and transition of services from date of award forward.

CDW•G has provided two sample implementation plans following this page. CDW•G will work with Mason to create a mutually acceptable implementation plan upon award.

Contract Launch and Growth

While many organizations spend all their energy on winning a contract, we understand that implementation and delivery are the most critical components of a successful relationship. With this in mind, the Contracts and Sales team will shepherd the launch within CDW•G to support Mason and the VASCUPP Members.

With experience managing thousands of contracts in the public space, CDW•G has a robust contract lifecycle process, known as Contract Launch, to execute the IT Services contract and ensure a seamless experience for eligible members. **The six pillars of Contract Launch—Pre-Award, Intake, Setup & Compliance, Education, Performance Tracking, and Growth—ensure awarded contracts are thoughtfully and responsibly shepherded through the full contract lifecycle by a cohesive, multidisciplinary team.**

CDW•G will hold overview meetings with Mason, and will offer WebEx overviews to VASCUPP Members as desired. This not only helps to ensure effective and optimal contract adoption, but also provides a stronger better customer experience in utilizing this agreement and will learn more about the specific purchasing requirements, IT needs and preferences of each member organization.

Sample Unified Communications Project Plan

WBS	Task Name	Duration	Start	Finish	Resource Names	Predecessors
1	**Unified Communications**	69 days	Wed 2/26/20	Mon 6/1/20		
1.1	**Initiating**	2 days	Wed 2/26/20	Thu 2/27/20		
1.1.1	Signed Scope of Work	0 days	Wed 2/26/20	Wed 2/26/20	Customer,CDW	
1.1.2	Create Project Workbook	0.25 days	Wed 2/26/20	Wed 2/26/20	CDW PM	3
1.1.3	Setup ChangePoint	0.25 days	Wed 2/26/20	Wed 2/26/20	CDW PM	4
1.1.4	**Internal Kickoff Meeting**	0.5 days	Wed 2/26/20	Wed 2/26/20		
1.1.4.1	Follow Kickoff Agenda (also Confirm HW has been Ordered)	0.5 days	Wed 2/26/20	Wed 2/26/20	Customer,CDW	5
1.1.5	**External Kickoff Meeting**	1 day	Thu 2/27/20	Thu 2/27/20	Customer,CDW	
1.1.5.1	Identify Customer Project Resources	0.5 days	Thu 2/27/20	Thu 2/27/20	Customer,CDW	7
1.1.5.2	Schedule initial Discovery Meetings	0.5 days	Thu 2/27/20	Thu 2/27/20	CDW,Customer	9
1.1.5.3	Schedule Weekly Status Meetings	0.5 days	Thu 2/27/20	Thu 2/27/20	CDW,Customer	9
1.1.5.4	Provide VPN/Remote Access for CDW Engineers	0.5 days	Thu 2/27/20	Thu 2/27/20	Customer	9
1.1.5.5	Confirm HW has been received	0.5 days	Thu 2/27/20	Thu 2/27/20	Customer	9
1.1.5.6	Confirm Client has all licensing for all upgrade components	0.5 days	Thu 2/27/20	Thu 2/27/20	Customer,CDW	9
1.1.6	Initiating Complete	0 days	Thu 2/27/20	Thu 2/27/20		14
1.2	**Planning**	12 days	Fri 2/28/20	Mon 3/16/20		
1.2.1	**Discovery Workshop**	3 days	Fri 2/28/20	Tue 3/3/20		
1.2.1.1	**Host Discovery workshops**	3 days	Fri 2/28/20	Tue 3/3/20	CDW	
1.2.1.1.1	Discovery Workshop	3 days	Fri 2/28/20	Tue 3/3/20	CDW,Customer	10
1.2.1.1.2	Include Review of Kari's Law and Ray Baum Act Requirements	0 days	Tue 3/3/20	Tue 3/3/20	CDW,Customer	19
1.2.1.1.3	Also Identify Phone # Porting Requirements	0 days	Tue 3/3/20	Tue 3/3/20	CDW,Customer	19
1.2.2	**UC Technical Design (TDD) (Check Deliverables Section of SOW)**	9 days	Wed 3/4/20	Mon 3/16/20		
1.2.2.1	Draft UC Workbook	3 days	Wed 3/4/20	Fri 3/6/20	CDW	18
1.2.2.2	Create UC (TDD)	5 days	Mon 3/9/20	Fri 3/13/20	CDW	23
1.2.2.3	Technical Design Review	1 day	Fri 3/13/20	Mon 3/16/20	CDW,Customer	24
1.2.2.4	**UC TDD Design Acceptance**	0 days	Mon 3/16/20	Mon 3/16/20	Customer	25
1.2.3	**UC Functional Design (FDD) (Check Deliverables Section of SOW)**	6 days	Wed 3/4/20	Wed 3/11/20		
1.2.3.1	Create UC functional design	5 days	Wed 3/4/20	Tue 3/10/20	CDW	18
1.2.3.2	Functional Design Review	1 day	Wed 3/11/20	Wed 3/11/20	CDW,Customer	28
1.2.3.3	**UC FDD Acceptance**	0 days	Wed 3/11/20	Wed 3/11/20	Customer	29
1.2.4	Planning Complete	0 days	Wed 3/11/20	Wed 3/11/20		30
1.3	**Executing**	64 days	Wed 2/26/20	Mon 5/25/20		
1.3.1	**Implement, Test & Training**	61.5 days	Wed 2/26/20	Thu 5/21/20		
1.3.1.1	**UC Stage and Build**	56.5 days	Wed 2/26/20	Thu 5/14/20		
1.3.1.1.1	Infrastructure	38.5 days	Wed 2/26/20	Mon 4/20/20		
1.3.1.1.1.1	Server/Network Infrastructure	12.5 days	Fri 2/28/20	Tue 3/17/20		

Sample Unified Communications Project Plan

1.3.1.1.1.1.1	Rack & Stack Server Hardware as needed	1 day	Fri 2/28/20	Fri 2/28/20	Customer	13
1.3.1.1.1.1.2	Rack & Stack Voice Gateways (CUBES, analog, etc.)	1 day	Mon 3/2/20	Mon 3/2/20	Customer	37
1.3.1.1.1.1.3	Cable and switch configuration	1 day	Tue 3/3/20	Tue 3/3/20	Customer	38
1.3.1.1.1.1.4	Install ESXi (as needed)	2 days	Wed 3/4/20	Thu 3/5/20	Customer	39
1.3.1.1.1.1.5	Create Virtual Servers	2 days	Fri 3/6/20	Mon 3/9/20	Customer	40
1.3.1.1.1.1.6	Create DNS Entries	2 days	Tue 3/10/20	Wed 3/11/20	Customer	41
1.3.1.1.1.1.7	Create New Networks per the Design	2 days	Thu 3/12/20	Fri 3/13/20	Customer	42
1.3.1.1.1.1.8	Set up/Confirm/Test SFTP Server	0.5 days	Mon 3/16/20	Mon 3/16/20	Customer	43
1.3.1.1.1.1.9	Update Phone DHCP Scope with Option 150	1 day	Mon 3/16/20	Tue 3/17/20	Customer	44
1.3.1.1.1.2	**UC Application Installs**	**38.5 days**	**Wed 2/26/20**	**Mon 4/20/20**		
1.3.1.1.1.2.1	Stage Download ISOs	1 day	Wed 2/26/20	Wed 2/26/20	CDW	
1.3.1.1.1.2.2	Cisco Call Manager (CUCM) Publisher	0.25 days	Tue 3/10/20	Tue 3/10/20	CDW	41
1.3.1.1.1.2.3	CUCM Subscriber 1 & 2	0.25 days	Tue 3/10/20	Tue 3/10/20	CDW	48
1.3.1.1.1.2.4	Unified Contact Center Express (UCCX) Publisher & Subscriber	0.25 days	Tue 3/10/20	Tue 3/10/20	CDW	49
1.3.1.1.1.2.5	Cisco Unity Connection (CUXX) Primary & Secondary	0.25 days	Tue 3/10/20	Tue 3/10/20	CDW	50
1.3.1.1.1.2.6	Cisco Emergency Responder (CER) Primary & Secondary	0.25 days	Wed 3/11/20	Wed 3/11/20	CDW	51
1.3.1.1.1.2.7	IM/Presence Primary & Secondary	0.25 days	Wed 3/11/20	Wed 3/11/20	CDW	52
1.3.1.1.1.2.8	Expressway Core Primary & Secondary	0.25 days	Wed 3/11/20	Wed 3/11/20	CDW	53
1.3.1.1.1.2.9	Expressway Edge Primary & Secondary	0.25 days	Wed 3/11/20	Wed 3/11/20	CDW	54
1.3.1.1.1.2.10	**Data Gathering (Customer)**	**10 days**	**Thu 3/12/20**	**Wed 3/25/20**		
1.3.1.1.1.2.10.1	Fill Out Station Review Template	2 wks	Thu 3/12/20	Wed 3/25/20	Customer	30
1.3.1.1.1.2.10.2	Fill Out CER Spreadsheet	2 wks	Thu 3/12/20	Wed 3/25/20	Customer	30
1.3.1.1.1.2.11	**UC Configuration**	**27.5 days**	**Thu 3/12/20**	**Mon 4/20/20**		
1.3.1.1.1.2.11.1	**CUCM**	**4.5 days**	**Thu 3/12/20**	**Wed 3/18/20**		
1.3.1.1.1.2.11.1.1	Base Configuration (AXL Tools)	1 day	Thu 3/12/20	Thu 3/12/20	CDW	55
1.3.1.1.1.2.11.1.2	Generate-Sign CSRs/Uploads Certs	1 day	Fri 3/13/20	Fri 3/13/20	CDW,Customer	61
1.3.1.1.1.2.11.1.3	Initial System Testing	1 day	Mon 3/16/20	Mon 3/16/20	CDW	62
1.3.1.1.1.2.11.1.4	Import Station Review(s)	1 day	Tue 3/17/20	Tue 3/17/20	CDW	63
1.3.1.1.1.2.11.1.5	Configure & Test Backups via SFTP Server	0.5 days	Wed 3/18/20	Wed 3/18/20	CDW	64
1.3.1.1.1.2.11.2	**CUXN**	**5.5 days**	**Wed 3/18/20**	**Wed 3/25/20**		
1.3.1.1.1.2.11.2.1	Base Configuration (AXL Tools)	1 day	Wed 3/18/20	Thu 3/19/20	CDW	65
1.3.1.1.1.2.11.2.2	Generate-Sign CSRs/Upload Certs	1 day	Thu 3/19/20	Fri 3/20/20	CDW,Customer	67
1.3.1.1.1.2.11.2.3	Provide Authentication Accounts for Single Inbox	0.5 days	Fri 3/20/20	Fri 3/20/20	Customer	68
1.3.1.1.1.2.11.2.4	Initial System Testing	1 day	Mon 3/23/20	Mon 3/23/20	CDW	69
1.3.1.1.1.2.11.2.5	Import Station Review(s)	1 day	Tue 3/24/20	Tue 3/24/20	CDW	70
1.3.1.1.1.2.11.2.6	Single Inbox Configuration	0.5 days	Wed 3/25/20	Wed 3/25/20	CDW	71
1.3.1.1.1.2.11.2.7	Configure & Test Backups via SFTP Server	0.5 days	Wed 3/25/20	Wed 3/25/20	CDW	72
1.3.1.1.1.2.11.3	**UCCX**	**4.5 days**	**Thu 3/26/20**	**Wed 4/1/20**		
1.3.1.1.1.2.11.3.1	Base Configuration	1 day	Thu 3/26/20	Thu 3/26/20	CDW	73

Sample Unified Communications Project Plan

ID	Task	Duration	Start	Finish	Resource	Pred
1.3.1.1.1.2.11.3.2	Generate-Sign CSRs/Upload Certs	1 day	Fri 3/27/20	Fri 3/27/20	CDW,Customer	75
1.3.1.1.1.2.11.3.3	Queue Builds	1 day	Fri 3/27/20	Fri 3/27/20	CDW	75
1.3.1.1.1.2.11.3.4	Skills Build	1 day	Fri 3/27/20	Fri 3/27/20	CDW	75
1.3.1.1.1.2.11.3.5	Team Builds	1 day	Fri 3/27/20	Fri 3/27/20	CDW	75
1.3.1.1.1.2.11.3.6	Configure Agents	1 day	Fri 3/27/20	Fri 3/27/20	CDW	75
1.3.1.1.1.2.11.3.7	Create Scripts	1 day	Mon 3/30/20	Mon 3/30/20	CDW	80
1.3.1.1.1.2.11.3.8	Initial System Testing	1 day	Tue 3/31/20	Tue 3/31/20	CDW	81
1.3.1.1.1.2.11.3.9	Configure & Test Backups via SFTP Server	0.5 days	Wed 4/1/20	Wed 4/1/20	CDW	82
1.3.1.1.1.2.11.4	**CER - Cisco Emergency Responder**	5 days	Wed 4/1/20	Wed 4/8/20		
1.3.1.1.1.2.11.4.1	Configuration (Include Kari's Law and Ray Baum Act Requirements)	1 day	Wed 4/1/20	Thu 4/2/20	CDW	83
1.3.1.1.1.2.11.4.2	Generate-Sign CSRs/Upload Certs	1 day	Thu 4/2/20	Fri 4/3/20	CDW,Customer	85
1.3.1.1.1.2.11.4.3	Import CER Workbook	0.5 days	Fri 4/3/20	Fri 4/3/20	CDW	86
1.3.1.1.1.2.11.4.4	Configure ERLs and ELINS	1 day	Mon 4/6/20	Mon 4/6/20	CDW	87
1.3.1.1.1.2.11.4.5	Define Switch Ports in CER	1 day	Mon 4/6/20	Mon 4/6/20	CDW	87
1.3.1.1.1.2.11.4.6	Integrate with E911 Service if Applicable	1 day	Tue 4/7/20	Tue 4/7/20	CDW	89
1.3.1.1.1.2.11.4.7	Configure & Test Backups via SFTP Server	0.5 days	Wed 4/8/20	Wed 4/8/20	CDW	90
1.3.1.1.1.2.11.5	Deploy Cisco Unified IM and Presence (IM&P) v11.5 (Jabber)	1 wk	Wed 4/8/20	Wed 4/15/20	CDW	91
1.3.1.1.1.2.11.6	ETAPS (If Applicable)	1 day	Wed 4/15/20	Thu 4/16/20	CDW	92
1.3.1.1.1.2.11.7	Cisco Expressway CORE and EDGE	3 days	Wed 4/15/20	Mon 4/20/20	CDW	92
1.3.1.1.1.2.12	**UC Server Deployment Complete**	0 days	Wed 2/26/20	Wed 2/26/20		
1.3.1.1.2	UC Stage and Build Complete	0 days	Thu 5/14/20	Thu 5/14/20		110
1.3.1.2	**Testing**	42.5 days	Fri 3/13/20	Tue 5/12/20		
1.3.1.2.1	**Testing Preparation**	39.5 days	Fri 3/13/20	Thu 5/7/20		
1.3.1.2.1.1	Designate test area	5 days	Fri 3/13/20	Thu 3/19/20	Customer	61
1.3.1.2.1.2	Set up test phones	1 day	Mon 4/20/20	Tue 4/21/20	Customer,CDW	94
1.3.1.2.1.3	Set up test numbers (current DIDs)	1 day	Tue 4/21/20	Wed 4/22/20	Customer,CDW	100
1.3.1.2.1.4	CDW reviews System & QA Test Plan	5 days	Wed 4/22/20	Wed 4/29/20	CDW	101
1.3.1.2.1.5	Client Develops UAT Test Plan	5 days	Wed 4/29/20	Wed 5/6/20	Customer	102
1.3.1.2.1.6	Determine 911 testing number	1 day	Wed 5/6/20	Thu 5/7/20	Customer,CDW	103
1.3.1.2.2	UAT	3 days	Thu 5/7/20	Tue 5/12/20	Customer	104
1.3.1.2.3	**Testing Complete**	0 days	Tue 5/12/20	Tue 5/12/20		105
1.3.1.3	**Phone Infrastructure**	54.5 days	Fri 2/28/20	Thu 5/14/20		
1.3.1.3.1	Complete Phone Inventory	5 days	Fri 2/28/20	Thu 3/5/20	Customer	13
1.3.1.3.2	Place Cisco IP Phones on Desks & Connect to Stations	2 days	Tue 5/12/20	Thu 5/14/20	Customer,CDW	105
1.3.1.3.3	Jabber Deployment	2 days	Tue 5/12/20	Thu 5/14/20	Customer,CDW	105
1.3.1.4	**Training and Knowledge Transfer**	7 days	Tue 5/12/20	Thu 5/21/20		
1.3.1.4.1	Training preparation (needs and documentation)	1 day	Tue 5/12/20	Wed 5/13/20	Customer,CDW	105
1.3.1.4.2	Admin training	1 day	Wed 5/13/20	Thu 5/14/20	Customer,CDW	112

Sample Unified Communications Project Plan

1.3.1.4.3	Train-the-trainer agent/supervisor training (UCCX)	3 days	Thu 5/14/20	Tue 5/19/20	Customer,CDW	113
1.3.1.4.4	End User Phone Training	2 days	Tue 5/19/20	Thu 5/21/20	Customer,CDW	114
1.3.1.4.5	End User Agent/Supervisor Training	2 days	Tue 5/19/20	Thu 5/21/20	Customer,CDW	114
1.3.1.4.6	**Training & Knowledge Transfer Complete**	0 days	Thu 5/21/20	Thu 5/21/20		116
1.3.1.5	**Implement, Test & Training Complete**	0 days	Thu 5/21/20	Thu 5/21/20		117
1.3.2	Deployment	2.5 days	**Thu 5/21/20**	**Mon 5/25/20**		
1.3.2.1	Go-Live	1.5 days	**Thu 5/21/20**	**Fri 5/22/20**		
1.3.2.1.1	Execute the cutover	0.5 days	Thu 5/21/20	Thu 5/21/20	Customer,CDW	118
1.3.2.1.2	Port Phone Numbers (if required)	1 hr	Thu 5/21/20	Thu 5/21/20	Customer,CDW	118
1.3.2.1.3	Client performs UAT / Call Flows	2 hrs	Thu 5/21/20	Thu 5/21/20	Customer,CDW	122
1.3.2.1.4	Confirm all testing is successful	1 hr	Thu 5/21/20	Thu 5/21/20	Customer,CDW	123
1.3.2.1.5	Day 1 Support	1 day	Fri 5/22/20	Fri 5/22/20	CDW	124
1.3.2.2	**Deployment Complete**	1 day	Mon 5/25/20	Mon 5/25/20		125
1.4	Closing	5 days	**Tue 5/26/20**	**Mon 6/1/20**		
1.4.1	Confirm all documentation is provided	1 day	Tue 5/26/20	Tue 5/26/20	CDW	126
1.4.2	Host Lessons Learned Call	1 day	Wed 5/27/20	Wed 5/27/20	CDW	128
1.4.3	Receive Sign off of Project Closure Report	1 day	Thu 5/28/20	Thu 5/28/20	CDW	129
1.4.4	Ensure All Project Billing Has Occurred	1 day	Fri 5/29/20	Fri 5/29/20	CDW	130
1.4.5	Close Project in ChangePoint	1 day	Mon 6/1/20	Mon 6/1/20	CDW PM	131
1.4.6	Project Closing Complete	0 days	Mon 6/1/20	Mon 6/1/20		132

Sample Office 365 Project Plan

WBS	Task Name	Duration	Start	Finish	Resource Names	Team	Notes
	O365 Migration and InTune Project						
1.00	Design Workshop	4 days					
1.1.0	Complete the design workshop				CDW		
1.2.0	Complete project plan				CDW		
1.3.0	Complete the design document				CDW		
1.4.0	Approve the design document				Customer		
2.00	Sign-up for Office 365	1 day					
2.1.0	Create Office 365 tenant				Customer		
2.2.0	Sign-In or Sign-Up to assign license				Customer		
2.3.0	Verify the correct licenses are in the Portal with the correct quanties				Customer		
2.4.0	Add & Verify SMTP domain name ownership for Office 365				Customer		
3.00	Hybrid Server Requirements (Physical or Virtual)	5 days					
3.1.0	Create change Control for Exchange 2013 CU18 Schema extentions (if required)				Customer		
3.2.0	Windows 2012 R2, OS 100Gb, 250Gb Ram, 8 CPU cores (1 socket) (Minimum Requirements)				Customer		
3.3.0	Install all Service Packs and updates				Customer		
3.4.0	Power on servers and test				Customer		
4.00	Run Office 365 Readiness Tool	5 days					
4.1.0	Run Office 365 Readiness Instructions				Customer		
4.1.1	Fix issues identified by the Office Readiness Tool				Customer		
4.2.0	Run FastTrack network test				Customer		
5.00	DNS Records / Network requirements	4 days					
5.1.0	IP Addresses Required						
5.2.0	1 - AAD Connect				Customer		
5.2.1	Create Auto Discover DNS record				Customer		
5.2.2	Creat hybrid DNS record				Customer		Create after migrations are completed.
5.2.3	Create certificate for hybrid name space				Customer		Create after migrations are completed.
5.3.0	Create firewall rule, open from Office 365 CIDR block directly to Hybrid						
5.3.1	Port 25 SMTP Firewall Rule directly to XXX>XXX.Customer.com				Customer		
5.3.2	Port 80 SMTP Firewall Rule directly to XXX.XXX.Customer.com (HTTP Redirect)				Customer		
5.3.3	Port 443 HTTPS Firewall rule to XXX.XXX.Customer.com				Customer		
6.00	Build AAD Connect server and requirements	5 days					
6.1.0	AAD Connect				Customer		
6.1.1	(1) Virtual Machine / 2 Cores, 4Gb of ram, 100Gb OS Drive / Windows 2012 R2 or 2016				Customer		
6.1.2	Must be on the Private LAN, domain joined but not on a DC				Customer		
6.1.3	Install all Service Packs and updates				Customer		
6.1.4	Install .Net 3.51 and .Net 4.5x				Customer		
7.00	Configure Infrastructure	4 days					
7.1.0	AAD Connect Installation				Customer		
7.1.1	Install prerequites				Customer		
7.1.1.1	Download latest version from Microsoft				Customer		
7.1.1.2	Install Azure Sign-On Assistant				Customer		
7.1.1.3	Install Office 365 PowerShell Module				Customer		
7.1.1.4	Install latest updates.				Customer		
7.1.1.5	install the Azure Active Directory Connect				Customer		
7.1.1.6	Do NOT complete Full Sync				Customer		
7.1.1.7	Configure MiisClient to exclude OU's like disabled Users				Customer		
7.1.1.8	Enable Schedule via PowerShell				Customer		
7.1.1.9	Perform initial Full synchronization				Customer		
7.1.1.10	Review AD Connect configuration				CDW		
8.00	Active Directory	4 days					
8.1.0	Cleanup extraneous mailboxes				Customer		
8.1.2	Identify Shared/Group mailboxes				Customer		
8.1.3	Identify Exchange Delegate Access via PowerShell				CDW		Did they receive the script?

8.1.4	Identify Resources/Conference Rooms			Customer	
8.1.5	Run idFix and remediate			Customer	
8.1.6	Remove any Unused SMTP ProxyAddresses that will not be added to Office 365			CDW	
9.00	**Outlook Requirements**	14 days			
9.1.1	Validate all computers are running supported versions			Customer	
9.1.2	Outlook 2010 SP3 with the latest patches			Customer	
9.1.3	Outlook 2013 SP1 with the latest patches			Customer	
9.1.4	Windows 7/8/10 with the latest patches			Customer	
10.00	**Develop a communication plan to notify End Users**	14 days			Duration may be shorter if IT Dept. has a standard communication they use for migrations/IT changes
10.1.1	Create a PDF document for FAQ			CDW	Create at same time do a migration test for test user.
10.1.2	Post updates on Corporate web site			Customer	
11.00	**Identify Production Groups of Users**	14 days			May require multiple internal meetings to determine pilot users; group members; etc.
11.1.0	Identify IT Pilot Users			Customer	A test mailbox was created.
11.2.0	Start identifying production users to move			Customer	
11.3.0	Keep Delegates (Admin's and Exec's) together			Customer	
11.4.0	Resource Room delegates with Resource Rooms			Customer	
	NOTE: Split Delegation does NOT work. Users/Resources and Delegates should to be together.				
12.00	**Office 365 Exchange Online Configuration**	3 days			
12.1.0	Configure Domains for Authoritive or Relay			CDW	
12.2.0	Configure Inbound/Outlbound Connectors			CDW	
12.2.1	Configure Symantec Cloud			Customer	
12.3.0	Configure Retention Policies (Personal)			CDW	
12.4.0	Configure Mailbox Policies (optional)			CDW	
12.5.0	Set up Journaling mailbox and rule			CDW/Customer	
12.6.0	Configure Office 365 Disclaimers (optional)			CDW	
12.7.0	Set ActiveSync password policy (optional)			CDW	
12.8.0	Setup third-party journaling of all email in O365 (Optional)			CDW/Customer	
12.9.0	Configure Symantec to Office 365 connectors			CDW/Customer	
13.00	**Test and validate email migration and coexistence**	2 days			
13.1.0	Create Test accounts On Prem			CDW/Customer	One test mailbox created.
13.1.1	Populate test accounts with a sample of email, Calendar, and Contacts (and Archive if used)			CDW/Customer	
13.1.2	Force DirSync and verify replication			CDW/Customer	
13.1.3	Setup and test OWA, Mobile device, and Outlook on a typical computer			CDW/Customer	
13.1.4	Conduct a Remote Mailbox Move to Office 365			CDW	
13.1.5	License user with Exchange Online			CDW	
13.1.6	Verify Outlook redirected			CDW	
13.1.7	Verify Mobile Device redirection			CDW	
13.1.8	Verify OWA Office 365 Redirect			CDW	
13.1.9	Send test message from On Prem to Office 365 account			CDW	
13.1.9.1	Check Message Header			CDW	
13.1.10	Send test message from Office 365 account to On Prem			CDW	
13.1.10.1	Check Message Header			CDW	
13.1.11	Send test message from Internet to Office 365 account			CDW	
13.1.11.1	Check Message Header			CDW	
13.1.12	Send test message from Office 365 account to Internet			CDW	
13.1.12.1	Check Message Header			CDW	
13.1.13	Schedule Meeting from On Prem with Office 365 account (Verify Free Busy)			CDW	
13.1.13.1	Schedule Meeting from Office 365 with On Prem account (Verify Free Busy)			CDW	
13.1.14	Create Public Folder Proxy account and configure PF redirection			CDW	
13.1.14.1	From Office 365 migrated account, test Public Folder access.			CDW	
14.00	**Intune Phase 1**	1 day			
14.1.0	Intune basic configuration			CDW/Customer	
15.00	**Create the IT Pilot #1 Group (Approx 5-10 people)**	3 days			

15.1.0	End User communication sent out			Customer		
15.2.0	Notify Help Desk			Customer		
15.3.0	Complete a Remote Mailbox Move Request to Office 365			CDW		
15.4.0	License users			CDW		
15.5.0	Verify OWA			CDW/Customer		
15.6.0	Verify Outlook redirects and logs in			CDW/Customer		
15.7.0	Verify Mobile Device redirection			CDW/Customer		
15.8.0	Assign Office 365 licenses to pilot users			CDW/Customer		
15.9.0	Test Free Busy			CDW/Customer		
15.10.0	Test Mail flow On Prem <-> O365			CDW/Customer		
15.11.0	Test Mail flow O365 <-> On Prem			CDW/Customer		
15.12.0	Test Mail flow O365 <-> Internet			CDW/Customer		
15.13.0	Test Mail flow Internet <-> O365			CDW/Customer		
15.14.0	Test Public Folder access			CDW/Customer		
15.15.0	Enable Archives (optional)			CDW		
15.16.0	Remediate migration issues			CDW		
16.00	**Create the IT Pilot #2 Group (Approx 10-15 people)**	3 days				
16.1.0	End User communication sent out					
16.2.0	Notify Help Desk					
16.3.0	Complete a Remote Mailbox Move Request to Office 365					
16.4.0	License users					
16.5.0	Verify OWA					
16.6.0	Verify Outlook redirects and logs in					
16.7.0	Verify Mobile Device redirection					
16.8.0	Assign Office 365 licenses to pilot users					
16.9.0	Test Free Busy					
16.10.0	Test Mail flow On Prem <-> O365					
16.11.0	Test Mail flow O365 <-> On Prem					
16.12.0	Test Mail flow O365 <-> Internet					
16.13.0	Test Mail flow Internet <-> O365					
16.14.0	Test Public Folder access					
16.15.0	Enable Archives (optional)					
16.16.0	Remediate migration issues			CDW		
17.00	**Post IT Pilot Evaluation**	1 day				
17.1.0	Review results and update processes			CDW/Customer		
17.2.0	Document known issues			CDW/Customer		
17.3.0	Update communication plan / Update FAQ			CDW/Customer		
17.4.0	Validate Migration procedures including communication and Mobile device changes			CDW/Customer		
18.00	**Intune Phase 2**	4 days				
18.1.0	Full Intune configuration & testing			CDW/Customer		
18.1.1	Go/No Go Decision			Customer		Proceed with O365 Exchange Online and Intune production migration?
19.00	**Production Migrations (Approx 10 - 15 people)**	6 days				
19.1.0	Send communications to Production Group 1 regarding migration			Customer		
19.1.1	Send Move notification to Production Group 1			Customer		
19.2.0	Conduct a Remote Mailbox Move to Office 365			Customer		Migration to occur after business hours.
19.3.0	License Users			Customer		
19.4.0	Migrate Resources and Delegates together.			Customer		
19.5.0	Configure MDM for mobile devices			CDW/Customer		
19.6.0	Remediate migration issues			CDW/Customer		
19.7.0	Update communication plan / Update FAQ, if needed			Customer		
20.00	**Production Migration - Group 2 (Approx 100 people)**	6 days				Size of group will be determined based on what we find during
20.1.0	Send communications to Production Group 1 regarding migration			Customer		This process is repeated for the number of groups that will be
20.2.0	Send Move notification to Production Group 2			Customer		
20.3.0	Conduct a Remote Mailbox Move to Office 365			Customer		Migration to occur after business hours.
20.4.0	License Users			Customer		

20.5.0	Migrate Resources and Delegates together.				Customer		
20.6.0	Configure MDM for mobile devices				CDW/Customer		
20.7.0	Remediate migration issues				CDW/Customer		
20.8.0	Update communication plan / Update , if needed				Customer		
21.00	**Exchange 2016 Hybrid server**	2 days					To be done after migration of users
21.1.0	Install CU18				CDW		
21.2.0	Run Windows Updates				CDW		
21.3.0	Set Virtual Directory URL's on Hybrid to hybrid.emp.Customer.com				CDW		
21.4.0	Run Remote Connectivity Analyzer and test hybrid.emp.Customer.com				CDW		https://testconnectivity.microsoft.com/
21.5.0	**Test Exchange services**				CDW		
21.5.1	Autodiscover for Outlook				CDW		
21.5.2	Autodiscover for Active Sync				CDW		
21.5.3	Exchange Active Sync				CDW		
21.5.4	Webservices – Sync, Availability				CDW		
21.5.6	Single Sign-On test				CDW		
21.5.7	Outlook Anywhere				CDW		
21.6.0	Update/validate OWA/EWS URL's with new OWA namespace				CDW		
21.7.0	Run the Hybrid Configuration Wizard and establish a federated trust and organization relationship with Office 365				CDW		
21.8.0	Remediate any issues establishing federated trust with Office 365				CDW		
22.00	**Post Mailbox Migration Completition**	1 day					
22.1.0	Document how to upload End User PST files to mailbox / archive						
22.00	**Migrate Public Folders**	2 days					
23.1.0	Identify which Public Folders will migrate to Office 365				CDW		
23.2.0	Run PowerShell script to dump Public Folder statistics				CDW		
23.3.0	Create new Accepted Domain On Prem for Public Folder mail routing				CDW		
23.4.0	Based on the Public Folder db size, decide how many Office 365 PF mailboxes you need. MS Recommends 1 per 15Gb				CDW		
23.5.0	Create Office 365 Public Folder mailboxes				CDW		
23.5.1	Start Public Folder migration request process (this could takes hours or days depending on PF db size, typically 2-3Gb/hr).				CDW		
23.5.2	When Public Folder migration request has completed (Friday or Saturday night / Public Folders will not be available)				CDW		
23.6.0	Lockdown Legacy Public Folders from being modified.				CDW		
23.7.0	Resume Public Folder migration request to update deltas.				CDW		
23.8.0	Once Public Folder migration request has completed				CDW		
23.8.1	Use a test user and set them for the new Office Public Folder				CDW		
23.8.2	Log into Outlook and verify you can see the Public Folders and have access				CDW		
23.8.3	Try and Create and Delete Public Folders (Admin / Owner Permissions)				CDW		
23.8.4	Log into OWA and verify you can see the Public Folders and have access				CDW		
23.8.5	In OWA you must add the Public Folders to your Favorites one at a time				CDW		
23.8.6	If testing is successful run Set-OrganizationConfig PowerShell on Legacy server to complete Public Folder Migration				CDW		
	NOTE: After the Set-OrganizationConfig is run it could take a couple of hour for the Public Folders to showup in the ECP				CDW		
23.9.0	From the PowerShell script dump Public Folder statistics				CDW		
23.10.0	Decommissions Legacy Exchange servers / Leave Hybrid				CDW		
23.11.0	Turn on SMTP logging and verify there are no more SMTP connections to the server				CDW		
23.12.0	If possible turn off legacy exchange for 2 weeks to verify all needed services removed				CDW		
23.13.0	Decommission legacy Exchange server cleanly through Programs and Features				CDW		
	Note: Microsoft recommends leaving the Hybrid server / If not possible decommission it cleanly				CDW		
24.00	**Phase III**	3 days					
24.1.0	**Office Pro Plus Packaging**						
24.1.1	Download Office Pro Plus software from portal				Customer	Software	

24.1.2	Create Click-To-Run package (.xml) / Office unistall Scruber				Customer	Software	
24.1.3	Test package on multiple machines and multiple Windows OS versions				Customer	Software	
24.1.4	Deploy package to test computers				Customer	Software	
24.1.5	Identify Applications to test with Office 2016				Customer	Software	
24.1.5.1	Start Application testing				Customer	Software	
24.1.6	Plan Office Pro Plus roll out				Customer	Software	Will be done as those users are migrated
25.00	**Plan for Internal SMTP Relay**	1 day					
25.1.0	Configure Receive Connector for internal SMTP relay on Hybrid server				CDW		Done at very end of project
25.2.0	Add relay IP address to Office 365 Inbound connector				CDW		Done at very end of project
26.00	**Project Complete**	1 day					

Tab 6: Sample Reports

Offeror shall include the following sample reports in their proposal:

▪ **Sample quarterly sales report.**

Please see CDW•G's sample quarterly sales report below.

Customer Number	Customer Name	Invoice Date	Order Number	Order Date	[OrderSourceDescription]	Project Description	Amount Invoiced	Invoice Month	Invoice Quarter	Invoice Year
XXXXXXXXX	XXXXXXXXXXXX	2020-11-30	ENG2007910	2020-11-30	Services	XXXXXXXXXXXXX-2020.10-MagLab Camera Deployment	$1,558.00	11	Q4	2020
XXXXXXXXX	XXXXXXXXXXXX	2020-11-30	ENG2008059	2020-11-30	Services	XXXXXXXXXXXXXXXXXXX-2020.11-UCCX Implementation	$1,758.00	11	Q4	2020

Tab 7: Financial Proposal

Provide proposed financial offer/considerations, including service pricing for information technology consulting services.

Please provide hourly pricing for any and all rates associated with consulting, planning, install, implementation, development project management, etc. Specifically address the following in your proposal:

CDW•G responds with the attached current pricing rates. CDW•G annually reviews and may update the rates within the first quarter of each new calendar year.

Rates for All Professional Services (excluding Digital Velocity and ServiceNow)	
Role	**Bill Rates ($)**
Associate Consulting Engineer	$150
Consulting Engineer	$200
Senior Consulting Engineer	$215
Technical Lead / Principal Consulting Engineer	$235
Enterprise Consulting Architect	$255
Business Consulting Analyst	$245
Project Administrator	$155
Project Manager	$200
Senior Project Manager	$210
Enterprise Project Manager, PMO Lead	$220
Program Manager	$230
Technical Architect	$350

Rates for ServiceNow Services*	
Role	**Bill Rates ($)**
SNS Engagement Manager	$240
SNS Program Manager	$260
Advisory Services/Bus Process Cons	$275
Principal Consultant	$325
Organizational Change Management Consultant	$325
Integration Expert	$265
Quality Assurance Expert	$200
Solution Architect	$265
SNS Technical Consultant	$210
SNS Developer	$195
Trainer	$200
Marketing Expert	$275
*ServiceNow services are performed by CDW's ServiceNow Solutions	

Rates for Digital Velocity Services*	
Role	**Bill Rates ($)**
Head of E&O	$300
O-CTO - Principal Consultant	$275
Hybrid Cloud Architect	$250
Hybrid Cloud Engineer	$215
DevOps Architect	$250
DevOps Engineer	$215
Enterprise Architect	$250
Sr SW Engineer	$215
Solutions Architect	$250
Solutions Engineer	$215
Technical Program Consultant	$225
Technical Project Manager	$195
*Digital Velocity services are performed by IGNW (CDW)	

CDW Managed Services

CDW Managed Services are priced by solution components. Each solution is custom depending on the hardware, software, and services components.

Global Knowledge Training	
Role	**Each**
Global Knowledge Training	$99

a.   Confirm that travel expenses will be reimbursed at cost with no markup and may not exceed Commonwealth of Virginia expense guidelines and per diem rates which are available here: https://fiscal.gmu.edu/travel/learn-about-meals-per-diem-rates/

CDW•G does not mark-up travel expenses. CDW•G will follow the Commonwealth of Virginia expense guidelines.

b.   If different than hourly pricing, describe training options and associated costs. Include a catalog of training offerings and differentiation between technical staff and end-user training.

As part of CDW•G's Statement of Work (SOW), for some technologies, CDW•G can offer training for administrators, as well as "train-the-trainer" for End-users. CDW•G generally recommends manufacturer certified instructor-led training. CDW•G partners with Global Knowledge to offer packaged training.

For knowledge transfer and administration training, CDW•G will provide basic administration training for a defined number of staff members remotely or in a classroom setting. The knowledge transfer or training will be defined in the Statement of Work.

For train-the-trainer classes, CDW•G will train the designated staff covering standard user feature and functionality that covers the largest group of end users. This will be performed remotely or in person and will be defined in the Statement of Work for the project.

CDW•G training and knowledge transfer is typically performed by members of the Delivery Team, so rates in the SOW will apply. The rates for Sr. Engineer, etc will apply. This will be addressed in the Statement of Work.

CDW•G recommends Global Knowledge for training if not offered directly by the manufacturer. Global Knowledge's course catalog can be found at: https://gtc.globalknowledge.com/en-us/home/about

c.   For your last ten most recent projects (Determined by date of final payment by the customer) that exceeded $50k and were billed on an hourly basis, list the following:

1.   The type of consulting

2.   The original estimated hours

3.   The final hours billed

4.   The original project cost estimated

5.   The final price(all charges) paid by the customer

Recent Projects

Notes:

- All recent projects "closed out" in October 2020 (invoicing would be November 2020)

- Recent projects are from all CDW customer segments in the U.S.

Recent Project No. 1

Type of Consulting	Windows 10 Pilot
Original Estimated Hours	423 hours
Final Hours Billed	393 hours
Original Project Cost Estimated	$82,400
Final Price (all charges) paid by customer	$77,576

Recent Project No. 2

Type of Consulting	Nagios Monitoring
Original Estimated Hours	255 hours
Final Hours Billed	255 hours
Original Project Cost Estimated	$62,640
Final Price (all charges) paid by customer	$62,640

Recent Project No. 3

Type of Consulting	GCC High
Original Estimated Hours	368 hours
Final Hours Billed	244 hours
Original Project Cost Estimated	$74,830
Final Price (all charges) paid by customer	$58,838

Recent Project No. 4

Type of Consulting	Microsoft Security EM+S
Original Estimated Hours	241 hours
Final Hours Billed	104.5 hours
Original Project Cost Estimated	$52,420
Final Price (all charges) paid by customer	$22,540

Recent Project No. 5

Type of Consulting	ServiceNow CMDB
Original Estimated Hours	1,237 hours
Final Hours Billed	1,237 hours
Original Project Cost Estimated	$270,100
Final Price (all charges) paid by customer	$270,100

Recent Project No. 6

Type of Consulting	Creston Audio Visual Implementation
Original Estimated Hours	686 hours
Final Hours Billed	686 hours
Original Project Cost Estimated	$136,154
Final Price (all charges) paid by customer	$136,154

Recent Project No. 7

Type of Consulting	Cisco UC Upgrade
Original Estimated Hours	250 hours
Final Hours Billed	225 hours
Original Project Cost Estimated	$54,910
Final Price (all charges) paid by customer	$49,928

Recent Project No. 8

Type of Consulting	Active Directory Upgrade and Exchange Migration
Original Estimated Hours	685 hours
Final Hours Billed	685 hours
Original Project Cost Estimated	$137,300
Final Price (all charges) paid by customer	$137,300

Recent Project No. 9

Type of Consulting	ServiceNow ITSM
Original Estimated Hours	279 hours
Final Hours Billed	279 hours
Original Project Cost Estimated	$73,673
Final Price (all charges) paid by customer	$73,673

Recent Project No. 10

Type of Consulting	ACI Deployment
Original Estimated Hours	849 hours
Final Hours Billed	849 hours
Original Project Cost Estimated	$195,000
Final Price (all charges) paid by customer	$195,000

Tab 8: Supplemental Materials

- CDW Government Overview
- Appendix A – Sales Team Resumes
- Appendix B – Field Solution Architect Resumes
- Appendix C – Delivery Resumes
- Appendix D – CDW Amplified Services Catalog – Winter 2021

  (See PDF in emailed response or the following link: CDW Amplified™ Services Catalog)

CDW Government Overview

CDW is a leading multi-brand technology solutions provider to business, government, education and healthcare organizations in the United States, the United Kingdom and Canada. A Fortune 500 company with multi-national capabilities, CDW was founded in 1984 and employs more than 10,000 coworkers. We have an expansive network of offices near major cities and a large team of field coworkers across the United States.

Our broad array of offerings range from discrete hardware and software products to integrated IT solutions such as mobility, security, data center optimization, cloud computing, virtualization and collaboration. We are technology "agnostic," with a product portfolio that includes more than 100,000 products from more than 1,000 brands. We provide our products and solutions through our sales and service delivery teams, consisting of nearly 6,000 customer-facing coworkers, including more than 2,000 field sellers, highly skilled technology specialists and advanced service delivery engineers.

CDW QUICK FACTS

- **Headquarters:** Vernon Hills, IL
- **2019 Annual Net Sales:** $18.0B
- **# of Coworkers:** ~10,100
- **# of U.S. Sales Offices:** 26
- **# of Customers:** 250,000+
- **Fortune 500 Rank (2020):** 178

CDW debuted on the Fortune 500 in 2001, at No. 435. CDW's rise in the rankings highlights its sustainable, profitable growth over the years, from $4 billion in sales in 2001 to over $18 billion in 2019. CDW now ranks at number 178 on the FORTUNE 500 list for 2020. CDW ranks at No. 5 on CRN's 2020 Solution Provider 500 list.

CDW Government LLC is the wholly-owned subsidiary of CDW LLC. Our customer base is quite diverse, ranging from state and local government, federal, healthcare, K-12 and higher education.

Total Solutions

CDW offers a full range of products and services that enable Mason to develop the best total solution to meet your specific needs while attaining the most value for your institution. CDW provides expert consulting, design, configuration, installation, and lifecycle management services. Our offerings are extremely comprehensive as follows:

CDW OFFERINGS	
PRODUCTS & PARTNERSHIPS	**100,000+ products** from more than 1,000 vendors including Acer, Adobe, Cisco, Dell, EMC, HP, IBM, Lenovo, Microsoft, NetApp, and VMware
TECHNOLOGY SERVICES	• e-Procurement integration • Leasing services • Managed services • Pre-shipment configuration • Professional services • Warranty and maintenance
TOTAL SOLUTIONS	• Cloud • Collaboration • Data center and networking • Managed Print Services • Point of Sale • Security • Software management • Total Mobility Management

Customer-Focused Philosophy

CDW continues to maintain the strong customer focus that has been the key to our success. We adhere to a core philosophy known as the CDW Circle of Service, which means that everything we do revolves around you – the customer. It drives us to provide outstanding customer service and the best value. Our objective is to have Mason view us as a valuable extension of your IT staff. We seek to achieve this goal by providing superior customer service through our large and experienced sales and service delivery teams. Our Market Research Team works with a third-party research firm to measure customer loyalty and satisfaction through customer surveys.

CDW Circle of Service

CDW's Supplier Diversity Program

At the heart of every diverse business program is the drive to foster inclusivity for diverse communities and drive local economic growth. It's a government's commitment to strengthen civic

engagement and level the playing field. CDW supports this effort, too. We launched our Supplier Diversity program in 2007 and have continued to increase our positive impact on diverse businesses since the program's inception.

Billion Dollar Roundtable

In 2019, CDW became a member of the Billion Dollar Roundtable (BDR), joining an exclusive group of 29 U.S.-based companies that have procured more than $1 billion annually from minority- and women-owned businesses on a first-tier basis. CDW will work to entertain/partnership for local entities that we can work with onboarding as part of the State's E-Rate program, we work towards growing partnerships with local MWBE vendors.

Minority Business News (MBN) Diversity recently presented CDW with its award for **2020 Supplier Diversity Program of the Decade.** In November 2020, CDW was also honored by the National Veteran-Owned Business Association receiving its **Best Corporation for Veteran's Business Enterprise Program** award.

CDW not being a diverse prime has the privilege, opportunity and responsibility to partner with diverse suppliers and bring them with us to every opportunity. Just like our customers, their procurement practices, and technology in general, our Supplier Diversity program is adaptive in order to accommodate the unique and changing needs of our customers. CDW endeavors to work with our supplier diversity team and local partners to explore ways to grow our MWBE network in Tennessee and support the State's diverse supplier goals for the E-Rate opportunities.

Another important aspect of the CDW Supplier Diversity program is our support and participation in various organizations and events focused on developing relationships and business opportunities within diverse communities.

CDW is a National Corporate Member of the National Minority Supplier Development Council, Inc. and The Women's Business Enterprise National Council. CDW supports other organizations, as well, which include:

- Chicago Minority Business Development Council, Inc.

- Women's Business Development Center of Chicago

- Minority Business Development Agency of Chicago

- National Veteran Owned Business Association

- National Gay & Lesbian Chamber of Commerce

Not only does CDW contribute financially to these organizations, we also engage on advisory councils, attend and host events, and provide resources to support the organizations' focus on continued growth and success.

Appendix A: Sales Team Resumes

CDW Crystal Award Winner
Maryland, Virginia and Washington, DC

I am an experienced Information Technology Sales Professional with over 20 years of industry experience. My passion is working with customers to solve problems and achieve business initiatives. I am part of the Education Team dedicated to Higher Education Institutions in Maryland, Virginia, and Washington, DC.

In 2006, I joined CDW to cover a Northern Virginia Territory, teaming up with Account Managers in Chicago supporting the Commercial Mid-Market & Enterprise Clients. In January 2015, I transitioned to CDWG's Higher Education Team to help develop and expand CDWG relationships with Higher Education Customers. Between January 2018 and December 2020, I supported Higher Education and K12 Customers in the DC-Baltimore Metro Area. In 2021, I will be working with Higher Education in Maryland, Washington, DC and Virginia. My focus has been on educating customers on the resources available to them through CDWG, establishing and maintaining customer contracts, as well as supporting my customers strategic projects.

Experience: **Advanced Technology Account Executive (Field), Higher Education** (1/2021-Present)
CDWG Government, Education, MidAtlantic, Reston , VA (CDW 11/2006-Present)
- Supporting CDW-G Higher Education Customers in Maryland, Virginia, and Washington, DC
- Client support provided through teaming with CDW-G Account Managers
- Coordinate presales technical support across all CDW-G Technologies
- Secure support and pricing from CDWG Software, XaSS, Security and Hardware Partners
- Solutions Include:
  - Microsoft licensing with CDWG Professional Services for deployment, upgrades, and migrations: O365, Azure, SharePoint including BI, Windows 7, Systems Center Suite, Windows Server, Active Directory, Hyper V, SQL, CRM, Azure & Surface
  - Fortinet Firewall Deployment.
  - Cisco Solutions with CDW-G Professional Services – Unified Communications & Contact Center, Firepower, UCS, Route-Switch, Connected Stadium, Connected Campus, Connected Learning
  - Data Center Redesigns – Compute/Servers, Storage and Networking – Premise, Hybrid and Cloud
  - Chromebook Deployments.
  - Classroom Technologies including conversion to interactive touch screen displays.
  - ServiceNow Solutions
  - Digital Velocity Solutions: Digital Transformation, Automated Infrastructure, Modern Clouds, Devops, Hyperscale Applications & Architecture

Account Executive (Field), CDW-Government, Mid-Atlantic (HIED & K12), Reston, VA (1/18-12/20)

Account Executive (Field), CDW-Government, Mid-Atlantic (HIED), Reston VA (1/15-1/17)

Advanced Technology Account Executive CDW Direct, Mid-Atlantic, Herndon, VA (10/12-12/14)

Account Executive II (Field), CDW Direct, Commercial, Mid-Atlantic, Herndon, VA (11/06-10/12)
CDWG Crystal Award Winner & Presidents Club 2011

Account Manager, EMC Corporation, Commercial, Mid-Atlantic, McLean, VA (11/05-11/06)

Account Manager, Sprint Business Services, Reston, VA (10/03-10/05)
Sprint Presidents Club Winner, 2004

Account Executive, AT&T Business Services, Oakton, VA (6/00-10/03)
AT&T Leaders Council Winner, 2003

Education: The George Washington University, Washington, D.C.
School of Business and Public Management
Bachelors in Business Administration, Marketing and International Business, May 2000
University Honors Program Scholar
Cum Laude

Executive Account Manager

Relevant Experience

CDW Government LLC

Executive Account Manager – Higher Education   January 2014 – Present
Lincolnshire, IL

Primary responsibility is to find and develop advanced technology solutions including networking, server, storage, virtualization, wireless, unified communications, and classroom technologies within higher education accounts that are part of the Atlantic Region. Additional responsibilities include building relationships within departments and coordinating resources across field sales, solution architects, service partners and vendor partners to provide customers the best in-market solutions to meet their business goals.

Senior Account Manager – Higher Education   July 2007 – January 2014
Vernon Hills, IL

Primary responsibility is to find and develop advanced technology solutions including networking, server, storage, virtualization, wireless, unified communications, and classroom technologies within higher education accounts that are part of the Atlantic Region. Additional responsibilities include building relationships within departments and coordinating resources across field sales, solution architects, service partners and vendor partners to provide customers the best in-market solutions to meet their business goals.

- Sales Expansion: Routinely build consultative relationships with educational institutions leading to reoccurring sales. Produce consistent account growth in focus accounts.
- Leadership: Mentor new hires on best practices for successful career. Manage 3 student interns. Knowledge and Certifications: Develop and maintain extensive product knowledge across mobility, wireless, storage, power, security, virtualization, LAN/WAN and Cloud offerings. Maintain key industry sales certifications for NetApp, Cisco, Microsoft, Adobe, VMware, Symantec, EMC and HP.

Account Manager – Higher Education   January 2004 – July 2007
Vernon Hills, IL

Managed and grew account base by developing account plans that were jointly carried out by inside and outside sales teams for higher education customers. Plans developed aligned internal sales and technical resources as well as manufacturer partners to grow hardware, software and services opportunities.

- Account Development: Worked at all levels of organizations from department managers through C-Level for consistent account growth
- Sales Execution: Directed all customer service matters and conducted yearly in-market visits with key customers

Volunteer Experience

Helping Hannah's Heart

Volunteer Director   May 2011 – Present

Responsible for all volunteer efforts revolving around the two charity car shows that benefit the organization and its goals. Each show draws 800+ vintage vehicles and 7000+ spectators. Profits from shows are donated to families in need that have children with congenital heart defects.

- Responsibilities: Recruiting of qualified volunteers and support staff. Management of 160 volunteers and their daily tasks over a 3-day period for all positions revolving around each show.

Event Coordinator   May 2011 – Present

In addition to my Volunteer Director role I was asked to aid in the planning and organization of the events. This included event layout, entertainment and logistics. Since 2012 I have made a huge impact in changes that have streamlined the show improving the spectator experience and benefiting the goals of the organization.

FIELD ACCOUNT EXECUTIVE – EDUCATION SOUTHERN VIRGINIA

Field Account Executive offering extensive leadership experience, leveraging an extensive record of building and delivering high-quality technology services and products for new, referral, and recurring customers. True value is the ability to evaluate the technology environment, recommend strategies to significant enhance IT performance, and implement technology solutions to advance the organization towards its strategic operational goals. Excel in B2B/B2C sales and in managing the entire transaction cycle through lead generation, product presentations, pricing proposals, negotiations, and account management. Continuously reaches and outperforms objectives as well as capitalizes on product and solution knowledge to develop add-on and return business.

AREAS OF EXPERTISE

- Sales Cycle Management
- Customer Service
- Client Acquisition/Retention
- Contract Management/Closings

- Territory Development
- Negotiations/Presentations
- Client Relationships
- Lead Generation

- Account Management
- New Product Launches
- Key Stakeholder Relationships
- Business Acumen/Analysis

CERTIFICATIONS

CISCO FBO Selling Business Outcome | EMC Expert Sales | VMWare

EXPERIENCE

CDW-G
selling professional services and technology solutions to customers.
Field Account Executive (2018-present)

- Drive profitability and grow revenue for target accounts in partnership with inside sales team
- Provide in-depth customer technology roadmap and collaboratively work with inside Account Manager to uncover new sales opportunities
- Develop partnerships with Vendor Field Sales Representatives and optimize the joint selling opportunities within the territory
- Build market awareness of CDW through participation in local/regional industry events, organizations and affiliations

ABS TECHNOLGOY, Roanoke, VA   2011-2018

Provider of managed IT services and consulting within a variety of client environments.

REGIONAL SALES MANGER (2015 to Present)

Advanced to this role to direct entire SW Virginia sales organization. Oversee 13 account executives in growing the customer base and expanding territories. Personally cultivate rapport with key customers.

- Delivered quota of $3.2M gross margin for 2015, and $3.7M for 2016, largely by instituting accountability into young sales team and providing coaching and mentoring to enhance level of sales professionalism.
- Merited expanded scope of responsibility, based on sales leadership performance, to direct expanded territory encompassing Roanoke, Richmond, and Huntingdon, VA offices.

EXECUTIVE SALES MANGER (2011 to 2015)
Recruited to develop top-tier state and local higher education accounts, conduct sales, deliver services, and conduct key account management.

- Achieved quota attainment year after year, ranging from $700K in gross margin to $1.2M in gross margin.
- Captured 100% of state colleges and universities in designated territory, primarily through leveraging prior experience as Director of IT in the higher education sector.
- Sold wireless technology solution to Blacksburg Transit Authority, that collected 286 data points from busses as they passed through traffic signals.

BRADFORD NETWORKS, Concord, NH 2008-2010

Startup provider of NAC (network access control), also known as adaptive network security.

REGIONAL CHANNEL MANAGER/ CHANNEL SALES ENGINEER MANAGER

Recruited by Bradford to drive and expand sales in the southeast region of the United States. Established reseller relationships and developed strategic channel sales partnerships. Developed strategic solutions for client problems unresolved by industry-leading organizations including Tipping Point and Cisco.

- Exceeded sales revenue quotas for 4 consecutive quarters, developed successful sales channels and aided partners in closing of NAC contracts.
- Devised a solution for the Medical University of South Carolina which did not require data or network upgrades before implementation. Project valued at $638K, the largest medical education installation in the company's history.
- Negotiated a $430K contract with to Sarasota Medical Hospital to lock down their network leveraging their existing infrastructure.
- Managed and delivered $380K PCI compliance for the Home Shopping Network which had failed a PCI audit just prior to the company's peak shopping season.
- Closed Bradford Network's largest single customer, Lexis Nexis, which had suffered a data breach and failed a federal audit; displayed how current technology assets could be leveraged to enhance security.

HOLLINS UNIVERSITY, Roanoke, VA 2003-2008

Private university with approximately 1,000 students.

DIRECTOR, INFORMATION TECHNOLOGY & SUPPORT SERVICES

Enlisted to lead the turnaround of the IT Department which had developed dismal reputation with the faculty and staff due to poor customer service. Managed a staff of 7 full time employees and 25 work-study students. Reviewed and maintained inventory and budget information for capital expenditures.

- Designed and developed a $150K automated campus emergency alert and notification system which leveraged network, voice telephony and an audio interface in response to on-campus violence in the school's vicinity.
- Conceived and organized the largest eWaste collection in Virginia's history, accumulated over 300 tons of old computers and phones, recycled previous metals and properly disposed of toxic waste over a 4-day period.
- Chosen as a fellow for Network Access Control (NAC) at EDUCAUSE 2007, the largest higher education group in the world, with 2 annual conferences; published an NAC article in The Chronicle of Higher Education.

EASE TECHNOLOGIES, INC., Columbia, MD 2001-2003

Software development and IT consulting firm that provides customers with innovative and creative computing solutions, and which specializes in deploying Apple technologies in K-12 and higher education environments.

SYSTEMS CONSULTANT/PROJECT MANAGER

Developed and expanded business in Virginia, Maryland and North Carolina. Managed Apple professional services in Virginia, conducted weekly visits to clients and performed bandwidth/security analysis and wireless, laptop and desktop installations. Managed an 8-month, $25M Apple project to install 25K laptops in Henrico County Schools.

VIRGINIA TECH INFORMATION SYSTEMS, Blacksburg, VA 1987-2001

Comprehensive, innovative research university with the largest full-time student population in Virginia.

ELECTRONIC TECHNICIAN SUPERVISOR (1994-2001)

Managed the performance of the staff, conducted computer repairs and software installations, and tested hardware and software prior to campus-wide installations. Negotiated with vendors to determine cost savings for university purchases. Selected to spearhead client/server initiatives and received extensive training on Apple technologies. Was offered the highest merit compensation increase in the university's history.

INSTALLATION REPAIR TECHNICIAN (1987-1994)

Worked with Apple and Dell computers, established authorized service contracts for Information Systems, performed/oversaw warranty repairs and completed service exams.

EDUCATION

BS, BUSINESS ADMINISTRATION, VIRGINIA POLYTECHNIC INSTITUTE AND STATE University, Blacksburg, Virginia
AAS, BUSINESS MANAGEMENT, NEW RIVER COMMUNITY COLLEGE, Dublin, Virginia

PUBLICATIONS

"E-Waste: The Perils of Hardware: Hollins University Is Holding An "E-Waste" Drive To Recycle Old Electronics"
SIP Trunking News, 2007

"250,000 Pounds Of E-Waste"
Richmond Times-Dispatch, 2007

Regional Sales Manager
CDW•G

SUMMARY

I am an experienced Information Technology Sales Professional with over 15 years of industry experience. I lead a team of 20 Sales Professionals providing comprehensive solutions and outstanding sales support. I am able to visit your site(s) for business planning and discussions of future projects, as needed. I will have the ability to expedite certain orders and remedy problems that your Account Managers are unable to resolve.

TEAM SUMMARY

20 Inside Account Managers that are your primary points of contact and are highly trained to address most of your questions and concerns. CDW•G Account Managers complete an intensive training program that focuses on sales consulting, product training, operational systems and customer service. All of our Account Managers also attend ongoing training programs to ensure that they stay up-to-date on the latest technologies and changes in the industry. The average tenure of these Account Managers is 6 years.

PRIOR EXPERIENCE

In 2006, I joined CDW concentrating on Small to Medium Business clients. A few of my strategic projects were built on Microsoft System Center, Microsoft Windows and SQL platforms, Cisco Unified Communications, and HP Storage Systems. I then transitioned into CDW's Learning and Development Department, where I was able to develop several key processes assisting in the development of Account Managers.

After moving into an Operations role, I was able to further develop system expertise and rapid resolution of customer issues. I supported the onboarding of a CDW Partner in order to meet very specific customer needs. I managed one of the largest school districts in the US, and became very familiar with the customer needs arising from having a decentralized budget.

CDW is a leading provider of orchestrated information technology solutions in the U.S., Canada, and the UK. We help our 250,000 small, medium and large business, government, education and healthcare customers by delivering critical solutions to their increasingly complex IT needs. A Fortune 200 company, CDW was founded in 1984 and employs more than 10,000 coworkers. In 2015, the company generated net sales of more than $12.9 billion.

EDUCATION

BLUFFTON COLLEGE, Bluffton, Ohio
Bachelor of Arts, May 2003
Majors: Biology and Chemistry

AWARDS
Coworker of the Month
May 2015

President's Club Winner
2016, 2019

████████████

Relevant Experience

CDW

Sales Director Higher Education East (2019—Present)

Manages and oversees all Higher Education customers in the East

Responsible for all Higher Education focused strategy

Direct Reports: 3 Sales Managers and 1 Field Manager, responsible for 50 Inside and Field sellers

Senior Field Sales Manager Education East (2018—2019)

Manages and oversees all Select Education customers in the East

Direct Reports: 3 Field Managers responsible for 26 Field Sellers

Regional Sales Manager K12 Education Mid-Atlantic (2013-2018)

Manages and oversees all K12 Education customers in the Mid-Atlantic Region

Responsible for 21 Inside Sellers

Education

BA, Marketing, Quinnipiac University

Awards & Certifications

CDW President's Achievement 2016

Cisco CSE Certified

Certification Title 3

CLIENT ENGAGEMENT MANAGER

20+ Years of Impactful, Cross-Industry Leadership Experience

Influential, growth-minded leader with extensive experience planning, executing and directing enterprise-wide technology projects within Fortune 500 environments. Strategic change agent skilled in identifying and overhauling systemic deficiencies to boost productivity and capture cost savings. Powerful negotiator proven in striking profitable partnerships with vendors, ensuring quality products and elite service. Engaging mentor, trainer and director of multidisciplinary teams against aggressive cost, time and quality requirements.

AREAS OF EXPERTISE

- Program Management
- Project Life Cycle
- Project Management
- Quality Assurance

- Team Training & Leadership
- Constructive Coaching
- Agile & Lean Methodologies
- Continuous Improvement

- Budget Oversight
- Vendor Negotiations
- Cross-Team Collaboration
- Communications

PROFESSIONAL EXPERIENCE

CLIENT ENGAGEMENT MANAGER   April 2019 – Present
CDW   McLean, Va
Professional services Mid-Atlantic leader, leading engineers, project managers, partner consultants and architects that deliver advanced technology projects for customers in Maryland, Washington D.C., Virginia and West Virginia. Key responsibilities include:
• Setting strategic direction
• Financial performance for the region
• An escalation point for the region
• Quality of professional services delivery and client satisfaction
• Coworker retention and development

ENTERPRISE PROJECT MANAGER, Information Technology Project Management   April 2017 - April 2019
CDW   McLean, VA
Tactical, strategic Senior Project Manager concurrently managing 25+ infrastructure projects including O365/Exchange Online/Exchange On Premise, Cisco ISE, wireless surveys (both on-site and predictive), and Unified Communications, among others. Utilizes company's project management framework based on PMI standard project management framework to manage all projects.
Key Achievements & Engagements
- Managing a portfolio of projects for a large health company that will migrate all of their hospitals, doctor offices and labs to the current version of Cisco Unified Communications and Contact Center (PCCE).
- Managing a project for a small engine and mower manufacturer to implement Cisco intelligent WAN (iWAN).
- Managing a portfolio of projects for a bathroom fixture manufacturing company to install cable, routers, switches, access points, etc. in their facilities across the United States.

CONSULTANT, SR. PROJECT MANAGER, Information Technology Project Management   Dec. 2016 - Feb. 2017
BalancePoint Corporation/DTI Management   Alexandria, VA
Tactical, strategic Senior Project Manager responsible for managing the Corporation IT Architecture Program. The program includes planning and implementing enterprise-wide tools and COTS solutions; planning corporate infrastructure, network, and security; and managing the Enterprise Data Warehouse project.

CONSULTANT, SR. PROJECT MANAGER, Information Technology Project Management   July 2015 - Dec. 2016
TEKSystems/CDW   McLean, VA
Tactical, strategic Senior Project Manager concurrently managing 25+ infrastructure projects including O365/Exchange Online/Exchange On Premise, Cisco ISE, wireless surveys (both on-site and predictive), and Unified Communications, among others. Utilizes company's project management framework based on PMI standard project management framework to manage all projects.
Key Achievements & Engagements
- Managing a portfolio of projects for a global manufacturing company that will implement green field wireless infrastructure in their offices and manufacturing facilities located in the Americas and Europe.
- Managing a project for a global sportswear manufacturer to implement Cisco intelligent WAN (iWAN).
- Managed a project to design a business intelligence solution focusing on the data needs of the organization's Budget and Finance group as well as the Institutional Research group. The results of the project lead to additional business intelligence projects being awarded.

CONSULTANT, SR. PROJECT MANAGER, Information Technology Project Management   Jan. 2015 – May 2015
Celerity   McLean, VA
Helped new PMO establish project management lifecycle and mentored junior project managers. Utilized project management framework to manage a complex project that provides enhanced capability in operational planning and execution processes for catering units. Managed a virtual team located in both Europe and United States. Closely coordinated IT project efforts with client's internal business.

PROGRAM MANAGER, Information Technology Project Management   Sept. 2009 – Aug. 2014
Navy Federal Credit Union   Vienna, VA
Tactical, strategic Program Manager managing the daily operations of a top strategic program for Information Services and was a key person in planning and initiating a strategic program for Branch Operations. Mentored, trained and directed virtual teams of up to 20 members in line with all project management methodologies and objectives. Devised and deployed sophisticated approaches to impact program effectiveness.
Key Achievements & Engagements
- Authority over 5-year, $40M Member Experience Data Program comprised of business intelligence, infrastructure and data governance initiatives. Instituted best practices within the organization following the Data Management Book of Knowledge. Developed business case in conjunction with Program Sponsor. Determined project priority within the program and scheduling. Managed program budget and program resources. Involved in the hiring of data analysts, data modelers, ETL developers and project managers. Reported directly to Program Sponsor and the program's governance committees.
- Co-founded and launched innovative Navy Federal's Program Management Life Cycle
- Co-created and chaired Navy Federal's PM Professionals Forum, a monthly forum for active project managers and for people interested in the project management field
- Spearheaded launch of HP's Project & Portfolio Management Center
- Created Lunch-n-Learn sessions to educated and standardize on project management methodology.
- Sponsored Agile training for the project management group.

ASSISTANT DIRECTOR, Information Technology Project Management   Aug. 2007 – Jan. 2009
Ernst & Young   Washington, DC
Oversaw and coordinated complex project portfolio consisting of four business projects, a hardware infrastructure project and a CRM project. Authority over geographically dispersed teams of up to 13 members, including developers, engineers and quality staff.
Key Achievements & Engagements
- Directed $20 million electronic knowledge management project portfolio consisting of four projects in which Documentum software was heavily modified to provide monitoring of stored documents, reporting to various tax business partners, and specific email notifications based on monitoring component.

- Researched various methods to allow scanning from firm's multi-functional devices (combination of Ricoh and Xerox); wrote project charter and managed project through all phases, from initiation through controlling

▪ Seamlessly guided enterprise-wide replacement of aging Cisco servers with new Cisco servers for mission-critical tax software

PROJECT MANAGER CONSULTANT   Feb. 2007 – May 2007
InPhonic, PROLink   Reston, VA
Gathered, assessed and translated client requirements into customized project management solutions. Utilized PMI standard project management framework to manage all projects.
Key Achievements & Engagements
▪ Led cross-matrixed team to establish electronic storefront on Best Buy site
▪ Directed implementation and training of Microsoft Project Enterprise

PROJECT MANAGER   March 2004 – Feb. 2007
FINETRE / EBIXExchange   Herndon, VA
Concurrently led 15+ projects aimed at customizing and integrating brokerage and annuity insurance clients onto proprietary platform. Served high-visibility clients, including Fidelity Insurance Services, Wachovia Insurance Services, R.W. Baird, Hartford Life Insurance Company plus smaller brokerage and life insurance clients. Oversaw small project teams of one to three developers.
Key Achievements & Engagements
▪ Enhanced efficiency and regulatory compliance for Fidelity and other clients by championing migration from paper-based systems to proprietary AnnuityNet software platform

EARLY CAREER

PROJECT MANAGER, Texel Corporation   Reston, VA
Simultaneously managed 10+ large and small cable infrastructure and network hardware projects.

PROJECT MANAGER, Star Chef Alliance / Fiveleaf.com   Alexandria, VA
Developed product branding, negotiated vendor contracts and secured new business development opportunities.

PROJECT MANAGER, INSURANCE SERVICES, NOLHGA   Herndon, VA
Managed multiple multi-million dollar projects with risk to the organization ranging from $10M to $400M+.

TECHNICAL EXPERTISE

Microsoft (Project, Project Server, SharePoint, Office, PowerPoint, Visio, Access), Data Warehousing, J2EE, SDLC, Agile, Scrum, RUP, Waterfall, Visual Source Safe, Web Browsers, Windows

EDUCATION

MBA Coursework, Management, Strayer University
BA, Radio, Television and Film, University of Maryland, College Park, MD

CERTIFICATIONS

Certified Project Management Professional (PMP), Project Management Institute (PMI)
Certified Scrum Master (CSM), Scrum Alliance

Appendix B: Field Solution Architect Resumes

MEET YOUR CDW SECURITY SOLUTION ARCHITECT

Security is not a single solution that can be implemented nor a simple problem that can be solved. Instead, it is a mindset and a way of life that pushes companies to continually re-evaluate their security posture and practice in order to keep up with the changing threat landscape.

Meeting with your security solution architect can help you with the daunting task of evaluating the most appropriate security solutions for your business, including:

Security Assessments, Strategy and Consultation

Security Architecture and Implementation

CDW Threat Check

Getting started is easy — just contact your CDW account manager.

Our comprehensive approach includes:

Discovery
During you're initial consultation, a security consultant will work with you to understand the problem you are trying to solve, gain insights into your business needs, and enable security awareness.

Pre-Planning & Proposal
Whether your in need of security assessments or security architecture and implementation, we are here as your trusted security advisor to partner with you and provide the most relevant proposal for your unique business that will take into consideration an architectural review, your company's compliance and security standards, and comprehensive knowledge of vetted security frameworks like NIST.

Custom Execution
The due diligence done at the pre-planning stage will allow us to develop a custom statement of work that will align to mutually agreed upon objectives and expectations that we will see through to implementation.

Final Consultation and Knowledge Transfer
No matter what type of security project we are working on with you, we will end with a consultation of our findings and make sure you walk away understanding how to best leverage the work that has been executed.

Online Resources
CDW has the resources to increase your understanding of our security expertise and offerings. Prior to working with your security solution architect, we encourage you to invest some time reviewing a few resources, which can be accessed by visiting CDW.com/security

800.800.4239 | CDW.com

Senior Solution Architect — Security

Background:
█████████ is a Field Security Solution Architect covering Virginia, Washington DC, Maryland and West Virginia. His specialties involve the design, deployment, and support of enterprise network security solutions to include products and technologies such as: Firewalls, Intrusion Detection and Intrusion Prevention Systems, Virtual Private Networks, Web Content Filtering, Email Security, Network Admissions Control and Malware Protection.

Experience:
█████ has over 13 years of network design, implementation and troubleshooting experience. Prior to becoming a Solution Architect, Aundre worked as a post sales implementation engineer for CDW. In this capacity, he completed over 100 implementation and migration projects around network security. █████ also worked for L3 Communications as a Senior Network engineer and was an Active Duty Marine assigned to a unit tasked with securing and deploying military networks for forward deployed Marine units.
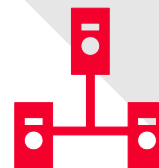
Certifications:
Cisco Certified Internetwork Expert **(CCIE)** Security
Cisco Certified Internetwork Expert **(CCIE)** Datacenter

Education:
BS Information Systems, Bellevue University
MS Management Information Systems, Bowie State University

CDW PEOPLE WHO GET IT®

MEET WITH YOUR NETWORK SOLUTION ARCHITECT

CDW understands how to fully optimize a network — wireless, LAN or WAN.

We have the expertise to help you optimize and improve the performance, security, operation and resiliency of your network so your workforce stays productive.

You may have one or several of these objectives in mind as you search for solutions. But which one should you tackle first, and what do you need to start and finish the project? Solution starters to discuss with your solution architect.

- Enterprise Wireless Networking
- Wireless Optimization and Efficiencies
- Wireless Implementation and Managed Services

Getting started is easy — just contact your CDW account manager.

Our comprehensive approach includes:

- An initial "discovery call" to understand your objectives, requirements and budget
- Workflow analysis
- Solution design
- Vendor evaluation and recommendations
- Detailed price proposals
- Proofs of concept/product evaluations
- Solution implementation, training and ongoing support

Online Resources

CDW has resources to increase your understanding of the network solutions that your company can implement to protect valuable data and save energy. Prior to working with your network solution architect, we encourage you to invest some time reviewing a few resources, which can be accessed by visiting CDW.com/solutions

Enterprise Wireless Solution Architect

Charles has been with CDW for 8 years and his taken on many complex wireless implementation project in emerging wireless technologies. By having a diverse wireless background, Charles is able to discuss best practice around complicated wireless technologies and solutions that are relevant to customer's specific use case in order to set the right expectation meet customer's goals and future proof Wireless LAN. Charles' main areas of focus include: Cisco Wireless on premise, Cisco Meraki cloud wireless, Aruba Wireless, and Aerohive.

Experience: Charles has been a CDW wireless delivery engineer and recently transition into Enterprise Wireless Solution Architect role. As a delivery engineer, Charles has gain a tremendous amount of experience designing, implementing, optimizing and troubleshooting emerging Wireless Technology. He was lead engineer on several large implementation involving bleeding edge technologies and solutions such as Cisco Converge Access, Cisco CMX, accurate location services and Stadium WLAN deployment. In his new role, Charles has the ability develop full Wireless LAN lifecycles that allows his customer's to deal with demand placed on the Wireless LAN due to the proliferation of mobile devices.

Certifications:

- CWNE—Certified Wireless Network Expert # 212 (exp 2022)
- ACMP – Aruba Certified Mobility Professional (exp. 2018)
- ACDP – Aruba Certified Mobility Professional (exp. 2022)
- CWNA - Certified Wireless Network Administer (exp. 2022)
- CWDP– Certified Wireless Design Professional (exp. 2022)
- CWAP– Certified Wireless Analysis Professional (exp. 2022)
- CWSP—Certified Wireless Security Professional (exp. 2022)
- CCNP — Cisco Certified Network Professional Routing and Switching (exp. 2022)
- CCNP Wireless — Cisco Certified Wireless Network Professional (exp. 2022)
- CMNA — Certified Meraki Networking Associate

PEOPLE WHO GET IT

MEET YOUR CDW DATA CENTER SOLUTION ARCHITECT

Organizations of all sizes store vital data on a daily basis. As businesses adapt to high–bandwidth applications, data storage requirements increase, along with green project initiatives. Meeting with your storage solution architect can help you with the daunting task of addressing projects, including:

▪ Archival, backup and restore of file servers and database servers

▪ Consolidation of data centers through virtualization and blade technology

▪ Data center efficiency

▪ Disaster recovery and business continuity — testing, planning and implementing solutions that meet required SLAs

▪ Email management and file server management

▪ Multiprotocol storage solutions (Fibre, iSCSI, CIFS/NFS) from a range of Tier 1 vendors

You may have one or several of these objectives in mind as you search for solutions. But which one should you tackle first, and what do you need to start and finish the project?

Getting started is easy — just contact your CDW account manager.

Our comprehensive approach includes:

▪ An initial "discovery call" to understand your objectives, requirements and budget

▪ Workflow analysis

▪ Solution design

▪ Vendor evaluation and recommendations

▪ Detailed price proposals

▪ Proofs of concept/product evaluations

▪ Solution implementation, training and ongoing support

Online Resources

CDW has resources to increase your understanding of the storage solutions that your company can implement to protect valuable data and save energy. Prior to working with your storage solution architect, we encourage you to invest some time reviewing a few resources, which can be accessed by visiting **CDW.com/solutions**

Data Center Architect (server/storage/virtualization)

Background: ██████ has been with CDW for four years, focused on Enterprise Accounts for server, storage and virtualization technologies. By visiting hundreds of data centers, Kenneth is able to discuss best practices around technologies that are relevant to specific projects in order to meet goals and future needs. Including strategic initiatives around virtualization, Long Distance Replication, converged infrastructure, Big Data and analytics including cloud computing. Areas of focus include: HPC, Sequencers, Deep Learning Tools, EMC, VCE, Hadoop, No SQL data bases, Scale out NAS, Object storage, Open Stack and much more.

Experience: For the last nine years, K████h has been an Advisory Systems Engineer for EMC working within the Enterprise Division for Performance Engineering and Business Continuity discussing and white boarding infrastructure designs to meet organizational projects. █████h has a vast background in deploying technologies in Asia which proved to be a valuable asset. Prior to EMC, ██████ was the Professional Services Manager for Sun Microsystems covering the East Coast.

Certifications:

- NVIDIA Compute Sales Curriculum (2020)
- NVIDIA Compute Technical Curriculum (2020)
- NVIDIA Visualization Sales Curriculum (2020)
- NVIDIA Visualization Technical Curriculum (2020)
- NVIDIA Quadro Technical Curriculum
- NVIDIA Data Science Curriculum
- NVIDIA Tesla Technical Curriculum
- NVIDIA Tesla Sales Curriculum
- NVIDIA vGPU Sales Curriculum
- CDW LEAN SIX SIGMA WHITE BELT
- MIT Sloan Executive Education
    - Artificial Intelligence: Implications for Business Strategy
- Cisco UCS Accelerated Accreditation Training (UCSAAT)
- VMware Certified Professional
- VMware Technical Sales Professional 4 (infrastructure virtualization, Enterprise Desktop, Management and Automation)
- EMC Proven Professional Storage Networking
- EMC Proven Professional Engineer -- VMAX and Business Continuity
- EMC Automated Network Storage Certification
- IBM ESCON – FICON Implementation Certification
- Nortel Optical Fibre - 5200 Certification
- Nominated as a finalist for the NH 2001 Business Award Congressional Committee Campaign
- Served as President of the Netware Users International Group, NH and as a member of the Novell Consultants Alliance Group
- from 1992 to 1995.

PEOPLE WHO GET IT

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Security Architecture and Implementation

CDW Threat Check

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Discovery
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Pre-Planning & Proposal
Whether your in need of security assessments or security architecture and implementation, we are here as your trusted security advisor to partner with you and provide the most relevant proposal for your unique business that will take into consideration an architectural review, your company's compliance and security standards, and comprehensive knowledge of vetted security frameworks like NIST.
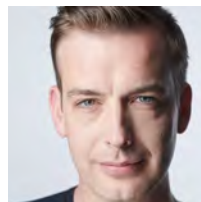
Custom Execution
The due diligence done at the pre-planning stage will allow us to develop a custom statement of work that will align to mutually agreed upon objectives and expectations that we will see through to implementation.

Final Consultation and Knowledge Transfer
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Field Solutions Architect — Information Security Team

Background:
██████ is a veteran of the national security community with 13 years of experience in a variety analytical and investigative roles. In 2018, ██████ I joined CDW's Information Security team as a Field Solutions Architect.

Experience:
For five years, ██████ served in the U.S. Army as a counterintelligence agent and analyst. Afterwards, Gabriel was employed as a cleared defense contractor, filling roles as a HUMINT instructor, counterintelligence program manager, intelligence analyst, and internally as an Insider Threat Senior Official. In the commercial sector, Gabriel conducted enterprise security assessments with a focus on insider threat and physical security. In 2016 Gabriel was one of several recipients of the National Counterintelligence and Security Center's Supply Chain Protection award.

Certifications:
Certified Information Systems Security Professional (CISSP)
CERT Insider Threat Program Manager (ITPM)

Education:
MA Forensic Psychology, Argosy University

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CDW PEOPLE WHO GET IT

INTEGRATED SERVICES ENGAGEMENT SPECIALIST | ███████████████████████

CDW is one of the largest direct agencies/brokers of telecommunications and cloud services in the world. The Integrated Services Engagement Team represents 85 telecom carriers, more than 1,200 data center locations and 80 cloud providers specializing in the "as a service" marketplace. We're ready to be your resource for solutions and services procurement. In addition, to the solution we will work with you to determine what financial and support model works best for you: OpEx vs CapEx, Managed vs Self Managed.

Client challenges our ISE team is solving:

- WAN transformation to support the on adoption of SaaS applications and the remote workforce
- Struggling to enable remote users with effective communication and collaboration tools
- Bandwidth/Connectivity needs increasing
- IT teams required to do more with less
- Remote user sprawl — VPN and security
- Increasing requirements for compliance and governance

Approach:

- An initial discovery call to understand your current challenges, desired outcome and requirements.
- Solution design based on client's needs
- Project evaluation and recommendations
- Lifecycle support

Background : Covering the DC, Maryland and Virginia area for over 15 years, T██y brings tremendous experience across telecom, cloud and managed services. Prior to joining CDW 8 years ago ████ worked for Level 3 (now Lumen).

Experience: As a trusted advisor ████ has helped hundreds of companies across various industries achieve business outcomes by leveraging solutions and services. Engagement is client specific; however, some examples include: RFP administration for WAN/SD-WAN, site connectivity, Cloud UC and Contact Center efficiencies and Managed services.

Client Solution Example:

A large Global Manufacturing company with 300 sites had challenges with standardizing and supporting Global ISPs. In addition needed a single Cloud based UC platform. CDW partnered with client to help them through the assessment, evaluation and selection process.

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CDW PEOPLE WHO GET IT®

MEET YOUR CDW Data Center SOLUTION ARCHITECT

Security is not a single solution that can be implemented nor a simple problem that can be solved. Instead, it is a mindset and a way of life that pushes companies to continually re-evaluate their security posture and practice in order to keep up with the changing threat landscape.

Meeting with your security solution architect can help you with the daunting task of evaluating the most appropriate security solutions for your business, including:

- **Data Center Assessments, Strategy and Consultation**

- **Data Center Architecture and Implementation**

- **CDW Health Check**

Getting started is easy — just contact

your CDW account manager.

You may have one or several of these objectives in mind as you search for solutions. But which one should you tackle first, and what do you need to start and finish the project? Solution starters to discuss with your solution architect.

- Enterprise or Data Center Compute Solutions
- Data Center Converged
- Compute, Network and
- Storage Solutions
- Enterprise Data Center Modernization
- Implementation and Managed Services

Getting started is easy — just contact your CDW account manager.
Our comprehensive approach includes:

- An initial "discovery call" to understand your objectives, requirements and budget
- Workflow analysis
- Solution design
- Vendor evaluation and recommendations
- Detailed price proposals
- Proofs of concept/product evaluations
- Solution implementation, training and ongoing support

Online Resources

CDW has resources to increase your understanding of the solutions that your company can implement to protect valuable data and save energy. Prior to working with your solution architect, we encourage you to invest some time reviewing a few resources, which can be accessed by visiting CDW.com/solutions

800.800.4239 | CDW.com

FSA — Data Center

Background:
J███ has been working on virtualizing Data Centers for more than a decade and has taken on many roles spanning engineering, data center and now a focus on Disaster Recovery leveraging visualization technologies, storage technologies and highly available applications. By having a vast background, ███ is able to discuss best practices around technologies that are relevant to specific projects in order to meet the goals and future needs of the customers he interacts with. This includes strategic initiatives around converged infrastructure technologies. Areas of focus include: Cisco UCS, Cisco Nexus, NetApp, and VMware

Experience:
Prior to CDW, J██ has consulted in the Partner community for the previous 10 years and quickly became the sought after consultant for DataCenter consolidation and modernization projects and most recently was the Systems Engineer at NetApp supporting State, Local and Higher Education supporting Virginia, Washington DC and Maryland.

Certifications:

- CCNA –

- NCIE - SAN

- NCIE – DataProtection

- AWS - Cloud Practitioner

CDW PEOPLE WHO GET IT

MEET YOUR AWS SOLUTIONS ARCHITECT

Businesses and organizations of all sizes are making public-cloud technologies and solutions part of their business strategy. With an eye toward increased agility and decreased time to go-live, improved stability, scalability on demand and operational efficiency, companies of all types have begun to trust cloud computing to help them deliver.

Cloud solutions, such auto scaling to meet current demand, cross-region replication for data protection and business continuity, and ever-improving functionality have delivered capabilities that would be cost-prohibitive for most IT groups. However, these capabilities have also created the need for guidance and support around key topics, including:

- Which public cloud is right for my organization?
- Which of our applications are candidates for the cloud?
- What workloads make sense to stay on premises?
- What workloads should be rearchitected?
- How can we effectively manage multiple clouds?
- Can we be as secure in the cloud as we are today?
- How can we manage and reduce the cost of IT?
- How will we access our data and apps if we move them?
- What AWS training and expertise will we need?

Starting is easy - just contact your CDW Account Manager.

Our comprehensive approach includes:

- An initial discovery call to understand your objectives, requirements and budget
- Discussion of the components of a well-architected AWS Solution
- Workload assessment and Solution design
- Project evaluation and recommendations
- Proofs of concept / product evaluations
- Professional Services solution implementation
- Managed Services for ongoing support

AWS Sr Solutions Architect
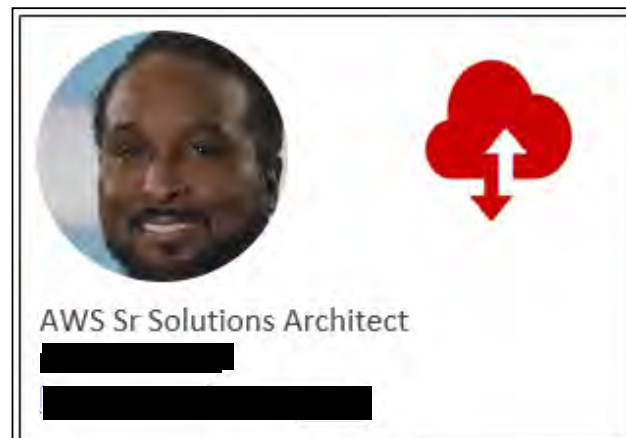
Background and Experience

█ joined the AWS FSA team in July 2019. Prior to joining, █ demonstrated his eagerness to develop an AWS specific career path by achieving an AWS Solution Architect in March 2018 in addition to holding two NetApp certifications. █ also brought with him a wealth of customer-facing experience from his previous role as a Level-3

One thing that people note about █ is his "passion" for technology. He is a true technologist and is eager to keep up to date on the latest technology. I have heard many say that, "K█ enthusiasm for technology is infectious." █ has been studying for the Solution Architect Professional certification one of the industry's most challenging and is prepared to take the exam in early 2020. In a recent discussion, █ said he is also setting a goal to earn the AWS Security – Specialty in 2020 as well.

█ further "empowers" others by his willingness to step in and support his coworkers and customers. Ken has leveraged his strong storage background to help his teammates create SOWs and to directly support customers.

█ is well qualified to educate and inform our clients on technologies and trends, and AWS developments and improvements, helping them to identify solutions that are the right fit.

CDW PEOPLE WHO GET IT

WE GET Networking Complexity— To keep pace with growth and complexity of connected devices and prepare for the impact of emerging technologies on your network, you need IT Orchestration by CDW™

At CDW, we can help you manage your most complex infrastructure and applications with holistic, secure solutions. We can tailor our services to your goals and identify the service level that meets your needs and budget. And with our experts focused on orchestration, your IT staff will have time to pursue initiatives that can give your organization an edge.

CDW Network Solution Architects offer networking services designed to position your organization for success. These include:

- Network health checks and assessments

- SD-WAN Advisory Workshops and assessments

- Wireless site surveys

- Wireless LAN (WLAN) design

- Product recommendations and network design

- Configuration and installation

- Managed networks

Get Started on the Path to Networking Success. To simplify the complex and extend the efficacy of your network across the enterprise, contact your CDW account manager or visit **CDW.com/networking**

CDW, LLC – During thirteen years with CDW, I have focused on designing and implementing various Cisco route switch solutions in both data center and campus networks. Successfully completed numerous projects including designing/deploying network infrastructure for 1.5 million square ft warehouse for a local customer.

Verizon Business – Principal Network Engineer Lead responsible managing, configuring, and troubleshooting data center infrastructures in US, Europe and Asia.

During the seven years at Verizon, led team of 20 engineers in escalation, mentoring and training in high pressure SLA environment.

Obtained CCIE#16904 in security.

800.800.4239 | **CDW.com**

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Principle Solution Architect — Security Assessments

Background:
████████ joined CDW in 2015 as a Field Solution Architect for security assessments and is now covering the South. Mikela works directly with sales and clients as an information security subject matter expert for incident response, application security, penetration testing, and compliance and governance; including HIPAA, PCI, NIST, ISO, and SOC 2/3.

Experience:
██████ has dedicated 20 years to the IT field, As a former LVN she has been very beneficial in helping with HIPAA and NIST issues related to healthcare. Mikela has had significant experience working with application security as well. M████ has architected solutions around Data Governance and protection for the last 10 years. She has worked with over 1000 institutions nationwide.

800.800.4239 | CDW.com

CDW PEOPLE WHO GET IT®

MEET YOUR CDW COLLABORATION SOLUTION ARCHITECT

The right collaboration tools can increase sales, reduce project cycles and minimize lost business opportunities by keeping employees connected across multiple devices and platforms.

Meeting with your collaboration solution architect can help you with the daunting task of addressing projects, including:

Voice

Video

Messaging & Conferencing

Getting started is easy — just contact your CDW account manager.

Our comprehensive approach includes:

Preplanning Discussion

During your initial consultation, a collaboration consultant will learn more about your organization's needs and goals and answer any initial questions.

Custom Proposal

Based on the goals and business objectives, the collaboration consultant will provide a custom solution proposal to fit your needs.

Execute Proposal

Your collaboration consultant will work with you to develop a statement of understanding and work to align to the discussion and mutually agreed upon objectives and business outcomes.

Review Results and Next Steps

You'll receive a detailed presentation and explanation of the findings and custom recommendations from the collaboration consultant.

Online Resources

CDW has resources to increase your understanding of the collaboration solutions that your company can implement to improve business communications, from email and messaging to video and telephony. Prior to working with your collaboration solution architect, we encourage you to invest some time reviewing a few resources, which can be accessed by visiting CDW.com/solutions

Senior Solution Architect
Collaboration
(
om

Background:

r joined CDW in 2004 as a Voice and Network Engineer and later transitioned to a UC Field Solution Architect (FSA) in 2008 and is now covering the DC Metro area. As a FSA he works with a broad range of clients from Small Business, Medium, Large, State & Local Government, Education, and Healthcare. has experience, training and education in voice and video technologies with emphasis on Cisco Communications Manager, Contact Center Express and TelePresence.

Experience:

is a UC Field Solution Architect with more than Twelve years of combined implementation, consulting and pre–sales experience with a primary focus on design and implementation of Cisco voice, video, and data integrated networks.

Certifications:

CCNA, CCNP Collaboration, CCDA, CCDP

Education:

Bachelor of Science in Management Information Systems – George Mason University

COLLABORATION and **CDW** PEOPLE WHO GET IT

NETWORKING SOLUTION ARCHITECT | ▮▮▮▮▮▮▮▮▮▮▮▮▮▮

WE GET Networking Complexity— To keep pace with growth and complexity of connected devices and prepare for the impact of emerging technologies on your network, you need IT Orchestration by CDW™

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- Managed networks

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CDW, LLC – T▮▮ has been with CDW for 15 years. He started with the company as a Cisco network and wireless implementation engineer, then transitioned into a pre-sales solution architect. By having a vast background in the network realm, T▮▮ is able to discuss best practices around technologies that are relevant to specific projects in order to meet the goals and future needs of the customers he interacts with. This includes strategic initiatives around converged infrastructure technologies. Areas of focus include: Cisco, Cisco Meraki, HPE Aruba, F5, and Riverbed

Certifications:

- CCNP—Cisco Certified Network Professional

- CMNA — Certified Meraki Networking Associate

- ACDP - Aruba Certified Design Professional

800.800.4239 | CDW.com

███████ | **Sr. Field Solution Architect, Microsoft Productivity**

Primary Focus: Microsoft Productivity and Collaboration Services
Experience: Over 20 years of experience in architecture, design, and implementation of complex collaboration services projects utilizing Microsoft technologies. Provides pre-sales guidance and solution proposals surrounding Microsoft SharePoint Online, Teams Collaboration, and business process automation technologies. Prior to joining CDW in 2010, R███ worked as a Senior Business Analysis with Siemens Communications for 5 years.

| Sr. Field Solution Architect, Microsoft UC

Primary Focus: Microsoft Collaboration
Experience: Over 18 years of experience in architecture, design, and implementation of complex VOIP and Unified Communications projects utilizing Microsoft technologies. Provides pre-sales guidance and solution proposals surrounding Microsoft Skype for Business, Teams Voice, and Exchange technologies. Prior to joining CDW in 2014, ███t worked as a Senior UC Consultant with Polycom (now Poly) for 8 years.

████████ is a Microsoft certified Azure Data Engineer and Data Analyst with over 10 years of experience with modern data and analytics solutions. As a Principal Field Solution Architect at CDW, Dave is focused on driving business benefits and outcomes through adoption and utilization of modern data and analytics solutions.

SPEAKER BIO

███████ is an entrepreneur, veteran software engineer, and technology leader. He is currently Chief Technology Officer at IGNW where he oversees professional services organization focused on Next Generation Software Engineering, Cloud, DevOps and Advance Infrastructure (private cloud).

He is passionate about helping customers create digital transformation strategies that drive better ROI and reduce time to market (TTM) on infrastructure and/or software delivery.

██ is a software developer by trade with over 20 years of experience building software in Financial, HealthCare, Retail and Manufacturing verticals.

Before joining IGNW he was Co-Founder & CTO at Brightwork.io (TechStars Chicago 2016), a server-less platform for developers similar to GCP Cloud Functions or AWS Lambda.

███████ - Senior Cloud Consultant

████████████████████████████████████

Work Experience

- Senior Cloud Consultant / Tech Lead - IGNW
- Principal Cloud Consultant - Presidio
- Senior Cloud Consultant - Sequoia
- Senior Systems Administrator - SRWMD
- Network Administrator - ESP of FL

Over 15 years of experience in IT as an engineer, architect, and technical consultant and involved in everything from greenfield infrastructure automation of on-premises and cloud environments to modernizing and migrating legacy applications.

Proficient with most configuration management tools such as Desired State Configuration, Chef, and Puppet with extensive Windows automation experience using PowerShell. Comfortable with most of the Hashi stack including Terraform and Vault. Collaboration on large projects with many moving parts seems to be my specialty and I do not hesitate to put myself directly in the middle of the action as a day 1 contributor.

I hold multiple Microsoft Azure certifications including MCSA, MCSD and MCSE as well as GCP Professional Data Engineer and Professional Cloud Architect; I am also a certified SCRUM Master and agile practitioner. I have more Microsoft Azure experience than any other public cloud provider but GCP is my favorite platform. I am proficient enough with AWS to have delivered on several projects, although I would not consider myself having deep knowledge there.

Appendix C: Delivery Resumes

Expertise in network solutions, including troubleshooting, design, and implementation, with an emphasis in Aruba Networks wireless infrastructure. Engineer's work ethic and attention to detail contributes to his ability to consistently deliver quality results.

Representative Accomplishments

- **Corp Wireless Deployment & Support.** Designed, optimized, configured, and implemented both Aruba and Cisco controller-based networks at 23,000 AP Fortune 50 corporation. Worked with IT staff both onsite from NYC to Tokyo and remote from South Africa to Colombia to help proactively identify sites requiring optimization, upgrade, or full redesign by leveraging Aruba's advanced controller and Airwave features. Accomplishments included:

  - Trained IT on AirMagnet RF surveying and spectrum analysis based on industry/CDW best practices.
  - Surveyed, analyzed, and presented to business leadership to help illustrate the importance of a stable, resilient WLAN resulting in a new global optimization project.
  - Created project calculators, methods of procedure, configuration templates, and survey standards for various projects.
  - Lead global RF optimization project and designed new RF standards for all future Aruba deployments.
  - Deployed Cisco WLAN remotely in Bogota, Colombia leveraging Project Managers in Mexico and local IT administrators.
  - Troubleshot multi-site issues on both Aruba and Cisco WLANs.

- **Large Scale Education Wireless Deployment.** Designed, staged, configured, and cut over an Aruba Campus and Instant AP based network for 52 sites in a large Kansas school district. Worked with IT, Security, and Data Center teams to create a new wireless infrastructure design to accommodate high resiliency, tight security requirements, and guest access. Previously customer had been using a legacy Cisco network with sparsely placed access points. Project included the following considerations.

  - 2,300 Access Points across 4 High Schools, 5 Jr. High Schools, and 41 Elementary Schools
  - Redundant campus controllers were configured in Master-Local mode in the high schools while Virtual Controllers were used across the rest of the schools.
  - Aruba ClearPass was installed to provide security for PEAP WLANs and tied in to existing AD environment. Per customer request, ClearPass also supplied guest services via captive portal.

— Aruba Airwave was installed for deploying, monitoring and management including maps for each floor.

— Leveraged Airwave management mode to quickly deploy entire schools in minutes by creating an automated process.

— All schools were successfully cut over during the summer and new WLAN was available for all students and faculty across the campus in time for the new school year.

- **Large Scale Wireless survey and validation.** Progressed through each designated role within the project, sometimes switching between roles to fill staffing needs. Role and accomplishment specifics as follows.

  — In the beginning of the project surveyed long hours to help meet deadlines.

  — Quickly moving to a Principle Wireless Engineer role, designed wireless layout and worked with wireless engineer to achieve accurate documentation. During the course of the project, personally surveyed over 1 Million square feet of Location grade network design. Additional Voice and Data grade networks were designed in certain locations.

  — Assumed role of backup site lead, leading the various teams of engineers at different sites along with mentoring of engineers within the first two months after joining ATS as an Associate Engineer.

  — Completed validation surveys and as site lead helped tune the customer's network where appropriate.

Professional Skills

- Aruba and Cisco Wireless (Controller configuration, troubleshooting, and deployment).

- Radius authentication with Aruba ClearPass, Microsoft NPS.

- Wireless surveys using Airmagnet and Ekahau. Location, voice, and data grade surveys in environments such as healthcare, offices, education, and warehouse.

- Public speaking, mentoring, and presentation building for various audience types – from engineers to executives.

- Excellent Visio, PowerPoint, and Excel skills.

- Additional applications including AutoCAD, VMWare, Wireshark.

Certifications and Education

- Aruba Certified ClearPass Professional

- Aruba Certified Design Expert

- Aruba Certified Mobility Professional

- Aruba Certified Mobility Associate

- Aruba Certified Switching Associate

- Cisco Certified Network Associate

- Cisco Certified Network Professional

- Certified Wireless Network Administrator

- CompTIA Network+

- CompTIA RFID+

- CompTIA A+

- Microsoft Certified Professional (MCP), Windows XP

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Summary

Arun is multi-disciplined and has expertise in designing and implementing data centers from the ground up, including configuration of all network objects (routers, firewalls, switches, servers, and storage). More recently he has been involved with creating a DR/BCP environment, as well as migrating production data center services to AWS.

His work ethic and insatiable appetite for knowledge contributes to his success rate.

Experience

Arun is a Senior Data Center and Cloud Consultant providing solution design and integration. Arun has been with CDW for two years, with 20 years of experience in designing, deploying and managing all aspects of data center services and cloud services.

For the past ten years his primary focus has been migrations from on-premise data centers to Amazon Web Services. Designing, configuring, and testing migrations for compute, storage, and networking has resulted in experience with the plethora of software, services, and hardware ranging from Microsoft to Linux to NAS and SAN technologies and a variety of hardware and software switch and firewall services.

Education

- Bachelor of Science, St. Thomas Aquinas College

Senior Consulting Engineer – Data Center/Cloud Services

Certifications

- AWS Certified Cloud Practitioner
- AWS Certified Solutions Architect – Associate
- VMware Certified Professional - Data Center Virtualization
- Cisco Certified Network Associate

Engagement Highlights

- Disaster Recovery/Business Continuity. Redesigned and architected new production environment to be replicated real-time to a DR site creating a close to zero RPO and 2-hour RTO.

- Designed and configured Hub and Spoke HPE SimpliVity environments using VMWare vCenter for major retailer and 162 stores nationwide to create replication of store environments to main data center locations to create RPO and RTO metrics to agree with business needs and requirements.

- Designed and configured forward and reverse Linux proxy services for Credit Card Data Environment allowing ingress and egress data securely to conform to compliance requirements.

- Migration of physical servers to virtualized servers, which was eventually migrated to AWS for PaaS and IaaS for redundancy, security, and cost benefits.

- Migration and upgrades of Active Directory Domain Services from legacy versions to up-to-date, more secure, and supported versions with zero downtime.

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Summary

Proven track record of IT design, deployment and configuration. Consultative, business savvy technologist with the ability to understand complex technical problems and deliver simple solutions. Recognized expertise in the design, planning, and delivery of mission critical software solutions.

Experience

Zach has close to 10 years of experience in the IT Field primarily as a consultant. He started off his career delivering Microsoft Infrastructure as well Microsoft Active Directory and Exchange.

For the past 5 years his primary focus has been Microsoft cloud platform Azure. Designing, Analyzing and Implementing multiple Solutions including CI\CD pipeline, Infrastructure as code, large scale identity optimization, Governance, Infrastructure at scale, and Automation. He has also delivered on Active directory on premise and in the cloud.

He has led several projects in the past including large Migrations deployments, Active Directory migrations, and Azure Governance.

Education

- DeVry University
- ACE, CDW internal training program

Azure Consulting Engineer

Certifications

- Microsoft 70-410
- Microsoft 70-341
- Microsoft 70-346
- Microsoft 70-347

Engagement Highlights

- Helped design and implemented Azure cloud solutions for Client, including building new server workloads, migrating existing infrastructure, & refactoring IAAS workload into PAAS solutions
- Helped architect the new customer portal and integrations in CRM, leveraging Power BI, Azure AD B2c and Azure SSO and delivered on time with new customer experience and lowered operational cost by optimizing workloads for Azure
- Created identity pipelines to accelerate user onboarding, enriched onboarding experience for new hires, & lower administration cost & risk by automating user onboarding.
- Design & Implemented Azure governance model. This led to a tight focus on five core concepts Identity, resource consistency , cost management, deployment acceleration, & security. Through this process we were able to be a secured scalable environment with a tight focus on self-service. Utilizing technology practices such as CI/CD & Infrastructure as Code, we accelerate time to market and were able to more accurately monitor workloads to manage cost.

Business Consulting Analyst

Summary

A quality focused, detail oriented CDW Business Consulting Analyst leveraging 25 years of IT experience, Abigail combines technical proficiency with business acumen and operational understanding to assist clients with aligning their IT activities with corporate goals. Her experience extends across industries including medical, manufacturing, retail, and government.

Education

- Master of Engineering (ME), Case Western Reserve University, 1999
- Bachelor of Science (BS), University of Pittsburgh, 1993

Certifications

- Certified Business Continuity Professional, DRII, 2020
- ServiceNow Certified Implementation Specialist- IT Service Management, 2019
- Six Sigma Black Belt, Aveta Business Institute, 2016
- ITIL Foundation Certification in IT Service Management, Axelos, 2015
- Project Management Professional (PMP), Project Management Institute, 2013

Engagement Highlights

- Process Improvements: Examine existing business processes and meet with stakeholders, end users, and impacted personnel to understand business operations to identify opportunities for improving business processes through information systems. Facilitate design sessions with business team to define solution. Assemble, analyze, and develop process flows representing business requirements. Deliver elements of systems design, including data migration rules, business rules, and wireframes. Monitor functional and user acceptance testing.

  Key Results: Savings of $3.71 million

- Business Continuity / Disaster Recovery: Perform Business Impact Analysis identifying critical areas and processes. Develop and revise business continuity and disaster recovery plan documentation. Manage, participate, and evaluate recovery exercises ensuring appropriate preparedness levels. Develop and facilitate tabletop exercises. Conduct after-action review and prepare report and improvement plan.

  Key Results: Savings of $25,000 to $271.3 million per disaster

- Business Information Officer: Build and maintain strong relationships with business and key stakeholders maximizing IT opportunities to support improving business efficiency and effectiveness. Assist with cultural and operational transformations from current state to future state. Analyze and assess current and proposed information technology plans ensuring the achievement of strategic requirements and needs. Evaluate contracts for technology software and services.

  Key Results: Savings of $100,00 annually

- Mergers / Acquisitions / Divestitures: Define and document acquired entity's IT business functions and processes. Consult with management and personnel to identify, define, and document business requirements and objectives, current operational procedures, issues, input and output requirements, and levels of systems access. Act as a liaison between acquired entity and parent organization's management, end users, technical analysts, and consultants in the analysis, design, configuration, testing, and maintenance of interim solutions. Develop requirements for interim technology solutions and processes ensuring the design satisfies the business requirements. Track and document modifications for functional and business specifications.

- Data Center Migrations: Co-manage the application and data migration component of data center divestitures and data center migrations for several international manufacturing organizations. Collaborate with subject matter experts, business analysts, system analysts, engineers, developers, architects, and team leads to assemble and analyze requirements. Identify attributes including interfaces, batch jobs, and existing processes impacted by the divestiture and migration. Author detailed migration plans, contingency plans, communication plans, and risk management plans. Monitor the execution of all migration plans.

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Summary

Ryan has a passion for collaborating with customers to solve their complex business problems and develop impactful technology solutions. Ryan's specialization in enterprise & data center networking consists of in-depth knowledge related to troubleshooting, design, and implementation of multi-campus networks. His work ethic and attention to detail drives him to consistently provide quality results.

Experience

Ryan began his career at CDW progressing through the Associate Consulting Engineer program and now has several years' experience as a Consulting Engineer across a variety of technological domains and complex solutions. He has performed design and implementation work for customers ranging from small corporations to large multi-national enterprises.

In addition to customer work Ryan has also worked closely with CDW's R&D division to develop new practice initiatives to provide all customers with the best possible variety of service products.

Ryan's technology focus areas include traditional Cisco routing & switching technologies, multi-vendor SD-WAN solutions, Data Center networking technologies, network automation and network infrastructure design.

Education

- ĀM.S. Information & Communication Science, Ball State University

Cisco Consulting Engineer

Certifications

- ĀCisco Certified Network Professional – Enterprise
- ĀCisco Certified Specialist – Design
- ĀCisco Certified Specialist – Advanced Implementation
- ĀCisco Certified DevNet Associate
- ĀCNSS 4011
- ĀSilver Peak SD-WAN Expert
- ĀMeraki – ECMS2

Engagement Highlights

- Ā**Data Center Migrations** – Ryan collaborated with a nationally-recognized healthcare provider to integrate multiple Data Center environments into a newly-designed core infrastructure.

- Ā**Cisco Campus Redesigns** – Ryan frequently works with customers to redesign and deploy new campus networks based on Cisco technologies. These engagements regularly incorporate complex LAN routing and switching as well as WAN routing.

- Ā**SD-WAN Design & Implementation** – Ryan has worked to develop CDW's SD-WAN practice and regularly works with customers to design and deploy complex SD-WAN fabrics spanning the globe.

- Ā**Vendor Agnostic Advisory Services** – Currently Ryan is one of two engineers qualified to provide Vendor Agnostic Advisory Services to customers on a variety of SD-WAN platforms to assist in making the most informed decision with positive business impact.

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Summary

Chris was promoted to Technical Lead – Cisco Networking the beginning of 2020. He has been with CDW since early 2019 when he joined as a Senior Consulting Engineer.

He has been responsible for delivering Cisco solutions for small, medium and enterprise customers in both lead roles as well as working with teams of consultants.

Experience

Chris has 20 years of experience working on multivendor networks and another 7 years of experience in military communications as an active duty soldier.

He has worked in various technical and leadership roles including NOC Engineer, Network Analyst, Implementation Engineer, Pre-Sales Engineer, NOC Supervisor, PMO Manager, Operations Manager, Senior Consulting Engineer, and Technical Lead.

He has led many infrastructure projects in the past including greenfield data center installations, many technical refreshes, core backbone upgrades, product rollout, implementing network management tools, and was responsible for various ITIL processes (incident, change, problem, and release)

Education

- ▪ĀInformation Systems Management Bachelor's Degree, University of Maryland, University College

Team Lead – Cisco Networking

Certifications

- ▪ĀAruba Certified Switch Associate - 2019
- ▪ĀCCNA - 2006
- ▪ĀCCNP - 2008

Engagement Highlights

- ▪ĀChris designed and implemented a production datacenter, a disaster recovery center and a large work site for 1000+ users for a NYC agency. The design highlights included multiple VDCs, VPC, voice, NSX, BGP, OSPF and ISE 802.1X integration.

- ▪ĀHe designed and implemented a greenfield datacenter in NYC for a major public relations firm. The design included servers, wireless, voice and end user data.

- ▪ĀHe planned a technical refresh and migrated multiple WAN edge switches for two different locations running multiple VRFs, OTV, EIGRP, OSPF and BGP.

- ▪ĀHe was augmented to a medical manufacturing and monitoring company that was greatly impacted by Ransomware. He helped to restore the network while locking down and increasing the security posture of their firewalls. He has also been assisting with several redesign and technical refresh projects to bring their environment to the next-gen.

- ▪ĀHe has worked across many different business verticals from military, municipal agencies, health care, public relations firm, financial and banking, education and retail.

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Senior Consulting Engineer

Senior Consulting Engineer with over twenty years of combined implementation and design experience. His specialty involves the design and implementation of Wireless WLANs using Cisco and other vendor's technologies. The engineer's excellent problem-solving, communications and management skills enable him to complete projects with the successful results that our customers demand. He also demonstrates the ability to understand complex technical environments to develop customer-based solutions as well as manage teams of technical personals delivering effective results.

Significant Accomplishments

- **CDW Cisco Connected Stadium.** Participate in the design of Wi-Fi solutions for a variety of NFL stadiums, NHL arena and other large venues.
- **Health Care Wireless.** Designed, staged and configured Cisco Lightweight Wireless Access Points and Wireless LAN Controllers for a leading Children's Hospital and Clinics. Worked in conjunction with management and IT Staff to collect information on configuration, procedures, processes and recoverability. Conduct multi location site surveys' and spectrum analysis. As well as end to end installation and management.
- **Wireless on-site Support.** Preformed support for wireless and LAN infrastructure for many Hospitals and Clinics. This included validating RF coverage, voice quality and asset tracking capabilities of the WLAN. Created documentation for configuration, upgrading and installation of future wireless devices. Maintain Cisco WCS with devices and MAPs as well as develop management reports.
- **Retail Wireless.** Designed, staged, and configured Cisco Lightweight Wireless Access Points and Cisco controllers for a clothing retailer. Upgraded hundreds of Cisco autonomous access points to lightweight. Installed the controller in the data centers as well as configured guest access. Configured WPA2/AES with PEAP MSChapV2 for the internal wireless user. Helped train the IT staff on how to troubleshoot, test, configure and add new lightweight access points.
- **Manufacturing Wireless.** Conduct complex wireless site surveys in heavy manufacturing facilities. Designed, staged, and configured Cisco access points and WLC controller.
- **Educational Wireless.** Assist district IT staff on developing a wireless strategy for the school district. Conduct pre installation site surveys at each school in the district. Work with cabling vendors to ensure that APs are installed in the correct locations as well as properly cabled and terminated

Professional Skills

- Cisco Wireless (Autonomous, Wireless LAN Controller)
- Advanced Wireless Site Survey design.
- Cisco LAN/WAN
- Cisco Meraki design and installation
- WLAN site survey, design and implementation
- Wireless design and analysis software, including LANPlanner, SitePlanner, Ekahau and AirMagnet Survey software.
- Packet capture tools, including Wireshark, Kismet, etc.
- Spectrum analysis tools, including Cisco Spectrum Expert, WiSpy, etc.
- Network configuration with API and Phyton scripting.

Education and Certifications

- Ekahau ECSD Design
- Cisco Certified Network Associate (CCNA)
- Cisco Certified Network Associate Wireless (CCNAW)
- Cisco Certified Network Professional (CCNP)
- Certified Meraki Networking Associate (CMNA)
- Certified Wireless Network Administrator CWNA®
- AeroScout RFID Level 1 certified
- AirMagnet AM-30: AirMagnet Survey Certified Professional
- Trapeze Networks SNS-ET-402 WLAN Introduction to Smart Mobile
- Nortel Certified Network Architect (NCA)
- Nortel Certified Design Specialist (NCDS) Ethernet Switching Solutions and VoIP BCM

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Summary

Tim is a passionate technology leader with years of systems administration and consulting experience focusing on cloud adoption with AWS and Azure in both commercial and government spaces.

Experience

- Ā 2019 – Present, Senior Consulting Engineer, CDW
- Ā 2016 – 2019, Senior Infrastructure Engineer, LMI
- Ā 2013 – 2016, Senior Consulting Engineer, CDW

Cloud Sr. Consulting Engineer

Certifications

- ĀAWS Certified – Solution Architect Associate

Engagement Highlights

- ĀMigrated multiple applications to AWS commercial and Government platforms leveraging cloud native features and CI/CD toolsets.
- ĀBuilt highly secure environments in compliance with NIST and FedRAMP standards.
- ĀDeveloped a variety of scripts and serverless solutions to aid clients in meeting a high level of governance, automation, and monitoring.
- ĀAutomated a number of client deployments to AWS leveraging infrastructure as code tools like CloudFormation and Terraform to create repeatable and documented environments.
- ĀDesigned and implemented a large production ready Kubernetes cluster with Amazon EKS integrated into Bitbucket pipelines for end to end automation

Senior Consulting Engineer – Contact Center

Mike has 21 years of technical experience in a range of industries including military, manufacturing, telecommunications, healthcare and financial. The last 15 years of Mike's career have been focused solely on Cisco Enterprise Contact Center. With his diverse background, Mike is always ready to hit the ground running and deliver excellent project results in any environment.

Significant Accomplishments

- **Fortune 500 Industrial Supply Company.** Successfully completed a tech refresh upgrade of a complex contact center environment with multiple peripherals and third party integrations. Careful planning was required to execute the upgrade over a series of short maintenance windows to minimize risk and maintain interoperability between various components. Upgraded UCCE and CVP from 10.5 to 11.6(2).

- **National Furniture Chain.** Successfully planned and executed a tech refresh upgrade for an enterprise contact center with outbound option.

- **Large Hospital.** Designed and implemented a UCCE/CVP/SIP call center. Successfully migrated multiple 24x7 business units from Nortel with minimal downtime.

- **Large Sales and Services Organization.** Implemented a UCCE/CVP/SIP environment. Designed and configured call flows and migrated users from Avaya.

- **Large Financial Institution.** Planned and successfully implemented an upgrade of (15) Unified Contact Center Enterprise servers from version 7.2 to 7.5, (8) CVP servers from version 4.x to 7.x and associated gatekeeper/voice/VXML gateway IOS upgrades. Upgrade was split into three consecutive weekends and was completed without incident.

- **National Home Furnishings Retailer.** Designed and implemented a remote contact center office and integrated to the Corporate UCCE instance. Deployed Cisco UCS C servers and associated virtual machines for local peripheral gateways. Provided training in a train the trainer format for local staff new to the Cisco applications.

- **Large Pharmacy Benefits Management Company.** Designed and implemented expansion of existing UCCE and CVP deployment including 10 CVP servers, 10 VXML gateways and additional VRU PG's. Converted SIP proxy from CUPS to CUSP as part of this engagement. Servers were virtualized on Cisco UCS B Series servers.

- **National Home Flooring Retailer.** Led the upgrade of a multisite UCCE and IPIVR deployment from version 7.x to 9.x. Effort included move from physical to virtual servers on Cisco UCS C series.

- **Large Financial Institution.** Responsible for day to day operation of this multi-site contact center. Instrumental in the planning and successful move of redundant equipment to a new data center location and eventually a complete server refresh. Participated in the design and configuration which lead to utilization of the WAN to achieve a virtual contact center environment.

- **International Manufacturing Company.** Lead contact center engineer responsible for day to day operation. Migrated multiple remote sites from legacy PBX to the Cisco platform. This effort included the configuration of H323 gateways, CUCM configuration and Unity configuration.

- **Large Telecommunications Company.** Provided technical support for medium and large business VoIP customers.

Professional Skills

- Cisco Contact Center Enterprise
- Cisco Voice Portal
- Cisco Unified Communications Manager

Education and Certification

- UCCE Design Specialist, 2011
- UCCE Implementation Specialist, 2011
- UCCE Support Specialist, 2011
- Cisco Certified Voice Professional (CCVP), 2007
- Cisco Certified Network Professional (CCNP), 2002
- Cisco Certified Network Associate (CCNA), 2002
- Associates in Arts, College of Dupage, 2003

Work Experience

- 2010 - present, Principal Consulting Engineer – Contact Center, CDW
- 2007-2010, Systems Software Engineer Sr, CNA Insurance
- 2006-2007, Technical Specialist III, USG
- 2004-2006, VoIP Technical Support Engineer, AT&T
- 1999-2003, Telecommunications Technician III, MCI
- 1995-1999, Senior Engineering Technician, MCL Inc.
- 1992-1995, Communications Specialist, United States Air Force

CDW SECURITY

CDW is an end-to-end cybersecurity firm. With our proven Customer Lifecycle Methodology, we lead our clients along their security journey.

SECURIT**Y**
We guide customers in **managing risk** and **protecting the information** of their ENTERPRISE and WORKFORCE, no matter where it resides.

Advisory
Assessment
Implementation

Our mission is to help our customers reduce their business risk by protecting their brand, reputation, and data security.

Technical Lead – InfoSec Consulting

"Providing balanced, realistic security consulting and advice for the real world."

Certifications

- CISSP
- GCIH Gold

Summary

is a widely experienced and versatile IT security professional who has been working in IT since 1993 and in Security since 2003. With a knack for seeing things from other perspectives, he communicates effectively with any audience, from non-technical end users to IT experts, CIOs and executive management. He has demonstrated abilities as both a technical, hands-on security expert and a well-rounded policy and architecture resource.
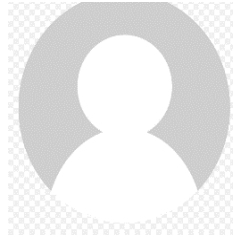
Speaking/Publications

- "The First Step in Incident Response: Prepare" talk at BSides Detroit 2012
- "Insidious Implicit Windows Trust Relationships" talk at BSides Detroit 2013
- "Are There Novel Ways to Mitigate Credential Theft Attacks in Windows?" GCIH Gold Certification paper, July 25, 2014

Experience

Since joining CDW in 2011, has provided customers across industries with a variety of security assessment services. These services have included technical assessment and penetration testing, web application assessments, embedded device and industrial controls assessments, incident response, Information Security training, and gap/risk assessments against various control frameworks such as NIST SP 800-52, NIST CSF and PCI DSS. As a technical lead, is also responsible for curriculum and development for CDW's associate program in InfoSec, including mentoring associates through the program.

In previous security roles, was responsible for IT security incident response and threat/vulnerability risk evaluation in a large international manufacturing environment, as well as for day-to-day operation of a large enterprise's e-mail security technology. Prior to focusing solely on Security, worked his way up the IT support ladder, from cabling and user support to having responsibility for division-wide IT infrastructure and projects.

Engagement Highlights

- Performed multi-year security controls gap assessments and industrial controls security testing and consulting for customers in the oil and gas, wastewater and manufacturing industries.

- Served as third-party quality assurance security testing checkpoint for a customer's embedded devices during development and before release to consumers.

- Led large projects and performed small projects for technical security assessment and penetration testing across CDW's customer base.

- Assisted a CDW customer with design of a simple information security management system and tool to track security control performance.
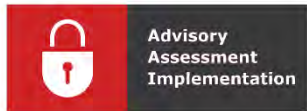
Education

- Bachelor of Science in Computer Science, Lawrence Technological University

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Technical Lead

Summary

████ has over 25 years of IT experience with emphasis on IT security for the past 15 years. His IT experiences spans many industries including consulting, service provider, insurance, transportation, manufacturing, and software companies. In the area of incident response, he has led numerous incident response engagements including containment, eradication, and remediation efforts. These engagements have been across many incident types including malware, ransomware, unauthorized access, and business email compromise. He has also led information security consulting engagements including remediation and gap analysis projects.

Experience

- 2011 – Present: Technical Lead, CDW Security Services
- 2010 – 2011: Senior Security Consultant & Training Instructor, Nexum
- 2007 – 2010: Senior Consulting Engineer and Team Lead, Heartland Business Systems
- 2006 – 2007: Managing Consultant, IBM Global Services - Security and Privacy Practice
- 2004 – 2006: Senior Information Security Analyst, WS Packaging Group
- 2000 – 2003: Principal Infrastructure Architect, deNovis

Education

- Master of Science – Information Assurance, Norwich University (Emphasis in Digital Investigations)
- Bachelor of Science – Computer Information Systems, Excelsior College

Certifications

- GCIH – GIAC-Certified Incident Handler
- GCFA – GIAC-Certified Forensic Analyst
- GNFA – GIAC-Network Forensic Analyst
- CISSP® – ISC²-Certified Information System Security Professional

Engagement Highlights

- Incident response: Led numerous incident response engagements including containment and remediation/recovery efforts for the following incident types:
  - Malware / Ransomware
  - Business email compromise
  - Unauthorized access
  - Inappropriate usage
  - Forensic analysis

- Information security consulting: Led numerous security consulting engagements in the following domains:
  - Incident response program development and tabletop exercises
  - Security hygiene assessments: patching, secure configuration, and vulnerability management
  - Security and vulnerability remediation
  - Network segmentation including OT/ICS

- Network security services design and implementation: Designed and led the implementation of numerous large and complex security services solutions including the following:
  - Next generation firewall, VPN, and IPS services
  - Advanced endpoint security solutions

Security is not a single solution that can be implemented nor a simple problem that can be solved. Instead, it is a mindset and a way of life that pushes companies to continually re-evaluate their security posture and practice in order to keep up with the changing threat landscape.

Meeting with your security solution architect can help you with the daunting task of evaluating the most appropriate security solutions for your business, including:

Security Assessments, Strategy and Consultation

Security Architecture and Implementation

CDW Threat Check

Getting started is easy — just contact your CDW account manager.

Our comprehensive approach includes:

Discovery
During you're initial consultation, a security consultant will work with you to understand the problem you are trying to solve, gain insights into your business needs, and enable security awareness.

Pre-Planning & Proposal
Whether your in need of security assessments or security architecture and implementation, we are here as your trusted security advisor to partner with you and provide the most relevant proposal for your unique business that will take into consideration an architectural review, your company's compliance and security standards, and comprehensive knowledge of vetted security frameworks like NIST.

Custom Execution
The due diligence done at the pre-planning stage will allow us to develop a custom statement of work that will align to mutually agreed upon objectives and expectations that we will see through to implementation.

Final Consultation and Knowledge Transfer
No matter what type of security project we are working on with you, we will end with a consultation of our findings and make sure you walk away understanding how to best leverage the work that has been executed.

Online Resources
CDW has the resources to increase your understanding of our security expertise and offerings. Prior to working with your security solution architect, we encourage you to invest some time reviewing a few resources, which can be accessed by visiting CDW.com/security

Principle Solution Architect — Security Assessments

Background:
_____ joined CDW in 2015 as a Field Solution Architect for security assessments and is now covering the South. Mikela works directly with sales and clients as an information security subject matter expert for incident response, application security, penetration testing, and compliance and governance; including HIPAA, PCI, NIST, ISO, and SOC 2/3.

Experience:
_____ dedicated 20 years to the IT field, As a former LVN she has been very beneficial in helping with HIPAA and NIST issues related to healthcare. Mikela has had significant experience working with application security as well. _____ has architected solutions around Data Governance and protection for the last 10 years. She has worked with over 1000 institutions nationwide.

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Principal Consulting Engineer - Wireless

Skills

- Wireless Practice steering committee and leadership role.
- Stadium and arena wireless networking surveying, planning, design, configuring and installation
- Hospital wireless networking surveying, planning, design, configuring and installation
- Manufacturing wireless networking surveying, planning, design, configuring and installation
- Office and high density wireless networking surveying, planning, design, configuring and installation
- University/High Schools wireless networking surveying, planning, design, configuring and installation
- Refinery wireless networking surveying, planning, design, configuring and installation
- Outdoor Mesh wireless networking surveying, planning, design, configuring and installation
- Cisco, Aruba and Meraki wireless networking surveying, planning, design, configuration and installation
- Cisco, Aruba and Meraki wireless access point and bridge planning, design, configuration and installation
- Tools; Ekahau Pro, NetScout Wi-Fi Solutions- AirMagnet Surveyor Pro, Planner and Spectrum XT

Accomplishments

Principal Consulting Engineer Wireless - 2018 – Present
As a Wireless Principal Consulting Engineer for CDW; I am part of a technical steering committee where the highest few Sr. or Principal Wireless engineers take part in driving wireless best practice policies for the company.

- Created Instructional videos showing and describing how to perform Voice, Data and LBS Wireless Site Surveys so that these videos can be given to other CDW Wireless Engineers or 3rd party partners
- Surveyed and designed an outdoor mesh network for the Andeavor Refinery located in Martinez CA. This consisted of designing over 35 million sq. feet of outdoor refinery area from the ground level under the piping to the mid-level decks all the way to the smokes stacks above.
- Featured in the Key Services Customer Spotlight article in the 2018 CDW Spring News Letter for the work performed at the Andeavor Refinery.

Sr. Consulting Engineer Wireless - 2013 - 2018

As a Sr. Wireless Engineer for CDW; surveyed, designed, installed, and supported hundreds of different environments including Hospitals, Universities, Stadiums, Manufacturing plants, Office Buildings and Outdoor metropolitan areas.

- Lead Engineer for PGA Tour Wireless Initiative- Created and executed extensive testing of multiple wireless vendors throughout many PGA Tour events across the country. Some include TPC Sawgrass, Byron Nelson Championship, FedEx St. Jude Classic, and Barracuda Championship.
- Stadium Team- Survey, design, configure and support stadiums. Some include 2015 Super Bowl and Pro bowl, 2017 Fiesta Bowl, 2017 NCAA Final Four and Championship Game, AZ Cardinals Football Stadium, Minnesota Wild Hockey arena, Nebraska Corn Husker Football stadium, Rupp Arena - Kentucky Wildcats Basketball and The University of Maryland Football stadium.
- Surveyed, designed, implemented and supported many fortune 500 companies' wireless networks. Some include Andeavor Refinery, United Health Group, Target, Liberty Mutual, General Dynamics, Kimberly Clark, eBay Inc., Genuine Parts Company, Thermo Fisher Scientific, Weyerhaeuser Company, BorgWarner Inc., Domtar Corporation, Bemis Company Inc., Briggs & Stratton, BOLT and Jack Links Beef Jerky.
- CDW Subject Matter Expert (SME) Outdoor Mesh- Survey, install and support all large outdoor wireless projects for CDW. Some include, PGA Tour, AZ Cardinal Football Stadium, Nebraska Corn Husker Football Stadium, Kansas University, Southern Illinois University, Marinette Marine Outdoor Manufacturing, City of Kenosha, The City of Merrill, Oshkosh Corp and Miron Construction.

Network Engineer Wireless - 2007 - 2012

As a Network Engineer for CDW; installed hundreds of environments with every model of Cisco's WLAN Controllers and APs, Meraki and Aruba Wireless throughout hundreds of companies worldwide. Performed hundreds of surveys and hundreds of installs, including voice, high density, outdoor mesh and wireless, hyper location and RFID.

- Implemented, designed, and created redundant Cisco and Meraki wireless network designs for hundreds of customers
- Surveyed hundreds of facilities which include hospitals, warehouse's, stadiums, inside office buildings and outdoor mesh areas
- Site Lead for VA wireless surveys (over 200 hospitals nationwide) which includes overseeing every team onsite making sure all teams are consistently surveying correctly and properly documenting data following the VA standards

- Installed and configured Cisco and other Spectralink VOIP phones for LWAPP/CAMWAPP environments
- Installed and designed security for data and voice for WLC controllers including 802.1X, WPA +WP2, LEAP, EAP-FAST, PEAP, EAP TLS, authentication with TKIP and EAS Encryption
- Installed and configured ACS Certificate servers to authenticate via AD
- Installed and configured NPS Certificate servers to authenticate via AD
- Created VLANs, VLAN interfaces and DHCP Scopes for Wireless networks
- Installed WCS, NCS, Prime Infrastructure and Mobility Service Engines for wireless environments
- Created guest access on controllers with proper security and splash pages
- Created guest anchors in the DMZ with PIX and ASA firewalls
- Staged and configured thousands of LWAPP/CAPWAP APs for company's worldwide
- Conducted hundreds of wireless surveys for Voice, Data, RFID tracking, Outdoor and High Density
- Upgraded hundreds of IOS AP's to LWAPP

Experience

2018 - present - Principal Consulting Engineer – Wireless - CDW
2015 - present - Stadium Team - Wireless - CDW
2014 - present - SME Outdoor Mesh - CDW
2013 - 2018 - Sr. Consulting Engineer - Wireless - CDW
2007 - 2013 - Network Engineer - Wireless - CDW
2004 - 2007 - Network Technologist - Stora Enso.

Certifications

Meraki CMNA Certification 2013 - present
CCNP Wireless Certification 2010 - present
CCNA Wireless Certification - 2009 - present
CCNP BCMSN Certification 2009 - present
CCNA Route/Switch Certification - 2007 - present
CCDA Route/Switch Certification - 2007 - present
CAWLFE Certification - 2007

Education

Bachelor of Science degree in Business Administration, University of Wisconsin Stevens Point

Microsoft
Senior Consultant

Deliberately focused on creating simplicity from complexity.

Certifications:

- Azure Solutions Architect Expert

- Microsoft Certificed Soltuions Expert: Productivity (MCSE Productivity)

- Microsoft Certificed Soltuions Expert: Messaging (MCSE Messaging)

- Microsoft Certificed Soltuions Expert: Communication (MCSE Communication)

- Certified Information Systems Security Professional (CISSP)

Notable Recent Engagements:

- Azure Governance for several large healthcare organizations

- Designed and implemented multi-forest Office 365 migration for Exchange & Skype for Business for global automotive industry customer

- Developed SSO and provisioning solution for numerous cloud applications integrated into Azure AD and Active Directory

Think of ▮▮▮▮ for:

- Azure, Office 365, and Enterprise Mobility + Security

- Azure Governance and Strategy

- Exchange & Skype for Business

- PowerShell, provisioning, and automation

- Integrating Azure AD with 3rd party applications (ServiceNow, Salesforce, etc)

About ▮▮▮▮

D▮▮▮▮ has been with CDW since 2013. Prior to CDW, he consulted for the DOD for several years where he collaborated with the Defense Information Security Agency on best practices for Exchange Server 2010 and Active Directory.

His goal is to use his broad background in systems, networking, and security to provide robust solutions for customers that achieve reliable and maintainable solutions.

CDW **PEOPLE WHO GET IT**

CDW is an end-to-end cybersecurity firm. With our proven Customer Lifecycle Methodology, we lead our clients along their security journey.

Principal Network Security Engineer

SECURITY
We guide customers in **managing risk** and **protecting the information** of their ENTERPRISE and WORKFORCE, no matter where it resides.

Advisory
Assessment
Implementation

Our mission is to help our customers reduce their business risk by protecting their brand, reputation, and data security.

Certifications

- CCIE Emeritus in Routing and Switching (CCIE # ████)

- Cisco Designated VIP for the Network Access Control Cisco community forums (2019 and 2020)

Summary

████ is a principal network security engineer in CDW who enjoys partnering with customers to create a team that successfully implements IT network solutions. He is very passionate about technology and enjoys sharing his experience and helping others achieving their goals.
In the past, he has held various roles such as network support, network/security engineer, and pre-sales and post-sales of various networking technologies.

He has been working for CDW for the last 14 years with the last three years as part of the network security team. His current primary focus is network access control and is CDW's subject matter expert on Cisco Identity Service Engine (ISE).

Engagement Highlights

- Successfully leading some of the world's largest Cisco Identity Service Engine implementations in healthcare and manufacturing.

- Implementing Cisco Identity Service Engine in most verticals such as technology, banking, manufacturing, energy, education, healthcare, retail, etc.

- Over 100 ISE installs since ISE 1.0.

- Implementing ISE features such as profiling, posture, MDM integrations, Threat Centric NAC, MFA, TACACS and pxGrid.

- Implementing and providing custom REST API integrations with Cisco Identity Service Engine.

Experience

████ has worked in the IT network infrastructure field for over 25 years. During this time, he has accumulated experience in a variety of networking technologies such as wireless, routing and switching, active directory services and security in the areas of design and implementation.

For the last few years his main role has been as network security engineer focusing in the implementation of Cisco security solutions.

Education

- Computer Science – University of Wisconsin, Stevens Point

CDW PEOPLE WHO GET IT

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Summary

███ is a network security technical lead in CDW who enjoys partnering with customers and creating a team that successfully implements IT Network Solutions. She is passionate about technology and enjoys sharing her experience to help others achieve their goals.

She has been working for CDW for the last three years as a part of the network security team, focusing on Palo Alto networks and Cisco Security technologies.

Experience

███ has worked in the network security field for ten years. During that time, she has had the opportunity to serve in a variety positions including pre-sales, product development and consulting. She specializes in deploying security technologies and tuning them to fit customer's needs.

Her work includes a broad range of network environments including healthcare, government, education, manufacturing, corporate, retail and IOT.

Education

- Bachelors of Science – Southwestern Assemblies of God University

Technical Lead

Certifications

- Palo Alto-Certified Network Security Consultant
- Cisco-Certified Network Professional – Route/Switch
- Cisco-Certified Network Associate – Security
- Carbon Black Defender

Engagement Highlights

- Designed and deployed a dual-edge solution for a large hospital network. The deployment included a migration from multi-context ASAs to multi-VSYS Palo Altos, Panorama, and Cisco Sourcefire.

- Designed and deployed a cross-vendor solution for a government customer. Technologies included Palo Alto Networks firewalls, Cisco Identity Services Engine, Cisco Firepower Threat Defense and Cisco Stealthwatch.

- Designed and deployed Cisco Identity Services Engine for Wireless Networks including Guest Access, 802.1X and MAB.

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Summary

███ is a consulting engineer on the CDW Network Security team who works with customers to design and deploy various next generation firewall platforms. ███ expertise is in network security solutions, including troubleshooting, design, and implementation, with an emphasis in Next-Generation Firewalls (NGFW) and security process best practices. He prides himself on his dedication to teach customers about their new solution rather than just installing it. His work ethic and attention to detail contributes to his ability to consistently deliver quality results.

Experience

███ has worked in the network and security infrastructure field since graduating college in 2015. He has worked as the lead engineer for a managed service provider and as a consultant for CDW security services. During this time, ███ has become highly experienced in securing datacenter/enterprise level networks, both at the edge and from an overall posture perspective.

During the last few years, ███ focus has been to assist customers with implementing and adopting their new Palo Alto and Cisco security solutions.

Education

- Bachelor's in Aerospace Engineering, University of Central Florida

Senior Network Security
Consulting Engineer

Certifications

- CCNP R&S
- PCNSC
- Security+

Engagement Highlights

- Successfully leads and designs large-scale Palo Alto and Firepower Threat Defense implementation and migration projects.

- Performs security posture assessments along with guidance around how to further adopt existing security products and develop mature security practices within network infrastructure.

- Leads and designs large scale site-to-site and remote access VPN configurations.

CDW PEOPLE WHO GET IT

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Principal Consulting Engineer

Certifications

- CCNA
- CCDA
- CCNA Wireless & Security
- CCNP R/S

Summary

▪ is a passionate engineer with over 12 years of experience in the information technology sector. Over the past seven years he has focused primary on network security with an emphasis on planning, designing, and deploy Cisco Identity Services Engine (ISE) as well as designing and implementing internet and data center security segmentation and NGFW features utilizing Cisco and Palo Alto firewalls.

Experience

- May 2019 – Present, Principal Consulting Engineer, CDW
- August 2018 – May 2019, Technical Lead, KNZ Solutions
- 2016 – August 2018, Principal Consulting Engineer, CDW
- 2015 – 2016, Technical Lead, CDW
- 2013 – 2015, Senior Consulting Engineer, CDW

Education

- Bachelor of Science Degree – Psychology, University of Wisconsin, Stevens Point

Engagement Highlights

- Cisco Identity Services Engine (ISE): Has completed the design, configuration, and deployments of ISE for environments ranging from small to enterprise.
- NSX and Palo Alto Integration: Designed a security solution that allowed the customer to perform NGFW inspection within their virtual environment. Worked with the customer to design and configure security tags within the NSX environment, which were used within the customers.
- Security Policies: Worked with the customer to identify and steer specific traffic to the Palo Alto for higher level inspection versus traffic that the NSX distributed firewall would inspect.
- Datacenter Internal Firewall Design, Configuration, and Implementation: Designed a firewall solution to control EAST=>WEST traffic within a local hospital's data center. The design consisted of configuring multiple ASA's at two datacenters utilizing firewall clustering for increased bandwidth and resiliency, multiple security contexts to separate and isolate high-risk networks and policies from one another, as well as running transparent mode on all contexts to avoid having to redesign the existing routing solution.
- Edge Firewall Design, Configuration, and Implementation: Has completed numerous internet edge firewall engagements utilizing both Cisco and Palo Alto firewalls. Engagements included the configuration and tuning of NGFW such as AV/AS inspection, DNS Sink-Holing, and URL filtering.

CDW's Professional Services Engineers are experts at helping our clients with Data Center & Infrastructure Solutions.

Design → Orchestrate → On-Premises → On-Journey → Cloud-Based

It takes precise planning and execution to build a standards-based infrastructure that meets business needs. CDW Amplified™ services provide expertise, tools and resources to scale and future-proof your environments. We help customers upgrade their existing architecture and prepare for what's to come, whether they're on-premises, migrating to the cloud or already there.

Summary

███ has been with CDW for 6 years and has over 17 years of networking experience across various types of infrastructures and customer environments.

He has worked in large hospital organizations and has spent over 17 years in the U.S. Air Force.

Experience

███ is a solutions-oriented, technically sophisticated information technology professional with 17 years of extensive hands-on experience in network and system management, engineering, installation, maintenance, administration, security, troubleshooting, training and technical support. He has in-depth knowledge of network technologies, architectures and platforms, with the ability to apply them to the strategic benefit of organizations. He has proven ability to successfully streamline, optimize and maintain network performance, and recoverability in mission-critical environments.

Education

- Master of Science, Information Systems, Strayer University
- Bachelor of Science, Internetworking Technology, Strayer University
- Bachelor of Science, Computer Networking, Strayer University
- Associates of Science Electronic Systems, Community College of the Air Force

Principal Network Engineer

Certifications

- CCDP / CCDA
- CCNP Data Center / Security
- CCNP
- CCNA Cloud / Data Center / Security
- CCNA
- VCP6-DCV

Engagement Highlights

- Engineered and configured multi-million Cisco multilayer switch network upgrade for major military command headquarters to ensure vital projection of decisive air and space power against all enemy forces for the 27-nation area of responsibility covering Central and Southwest Asia and the Horn of Africa.

- Designed and implemented Disaster Recovery/Business Continuity Data Center project, beginning with the execution of a new ACI Fabric in a Network Centric model using 9K Spines and multiple 9K Leaves. The ACI Fabric was integrated into the Nexus 7K routed core and UCS infrastructure. This project also enabled the hospital to utilize the Data Center across the 10Gig OTV Layer 2 network and added a redundant ISP circuit for failover and additional bandwidth.

- Architected million-dollar Cisco Unified Computing System (UCS) virtualization project, beginning the migration of over 3,000 physical servers to the virtual VMware ESXi environment, enabling the efficient use of hardware, space and environmental resources. This project also replaced the standard vSwitch with the Nexus 1000v, allowing a more effective assessment and control of the VMware environment.

Principal Consulting Engineer

Corey's expertise is in RingCentral and Cisco Collaboration. He has over 10 years' experience in the collaboration space. This includes troubleshooting, design, implementation, and adoption services. His work ethic and attention to detail contributes to his ability to consistently deliver quality results.

Significant Accomplishments

- **RingCentral Office Deployment – Financial Company.** Redesigned and implemented a new RingCentral Office deployment for multi-site financial company to reduce hardware expenses and move them to a cloud based, highly redundant collaboration solution.

  — Configured IVRs for over 10 locations
  — Implemented call queueing
  — Implemented 250 RingCentral Office users
  — Assisted with network and QoS best practices for the collaboration solution
  — Performed in-depth quality assurance testing before porting numbers to the new system
  — Assisted with the porting process from their multiple carriers to RingCentral
  — Used expertise in Cisco Unified Communications and custom CDW tools to help migrate from the Cisco platform to RingCentral

- **RingCentral Office Deployment – Healthcare Institution.** Redesigned and implemented a new RingCentral Office deployment for a multi-site healthcare institution to streamline communications for their patients and providers. Customer migrated from a Mitel solution.

  — Configured IVRs for 3 locations
  — Implemented call queueing to streamline patient calls
  — Implemented around 100 RingCentral Office users
  — Assisted with network and QoS best practices for the collaboration solution
  — Performed in-depth quality assurance testing before porting numbers to the new system
  — Assisted with the porting process from their multiple carriers to RingCentral
  — Trained their contact center supervisors on how to utilize RingCentral Live Reports and analytics to make sure business KPIs were achieved

- **RingCentral Office Deployment – Manufacturing Company.** Redesigned and implemented a new RingCentral Office deployment and Contact Center solution for a large manufacturing company to enable their employees to work from home efficiently.

  — Worked in tandem with the RingCentral Professional Services team to co-deliver a RingCentral Office and Contact Center deployment
  — Implemented around 150 RingCentral Office users
  — Assisted with configuration of around 50 contact center users
  — Assisted with migrating current configuration from Cisco Unified Communications Manager and Contact Center Express into the RingCentral Office product
  — Trained End Users on how to communicate working remotely utilizing the RingCentral application and RingCentral Video

- **Cisco Collaboration Deployment – Large Healthcare Institution.** Redesigned and implemented a new Cisco Collaboration deployment and Contact Center solution for a large healthcare institution. Helped the customer migrate from an aging Nortel platform.

  — Deployed Cisco Unified Communications manager, IM & Presence, Unity Connection, Contact Center Express and Expressways

  — Implemented around 400 knowledge workers

  — Implemented around 300 analog endpoints

  — Implemented around 800 common area endpoints

  — Consulted with the lines of business and implemented a deployment for around 30 contact center users

Professional Skills

- RingCentral Office configuration and troubleshooting

- Cisco UC configuration, implementation, and troubleshooting

- Cisco Video configuration, implementation, and troubleshooting

- Microsoft applications including Office, Visio and Project

Certifications and Education

- Cisco Meraki Certified Network Administrator

- Cisco Certified Network Associate - Collaboration

- Cisco Certified Network Associate

- RingCentral Certified Communications Professional

- RingCentral Certified Communications Expert

Program Manager

Versatile program manager with over twenty years of extensive experience and knowledge of many telecommunications environments. Accomplished professional who quickly learns new areas of interest, analyzes issues and needs, and creates and implements innovative solutions. With expertise in the creating, structuring and implementation of complex business systems, is skilled at leading technical work groups. Excellent communication, motivational and decision-making skills, strong analytical and problem-solving ability; and enthusiastic resourcefulness in combining a telecommunications systems background with the skills of a trainer, facilitator and mentor, have enabled them to deliver outstanding project results to many satisfied clients.

Significant Accomplishments

- **Enterprise Network Refresh.** Managed the installation of the replacement of all network hardware and UC systems for large hospital. The project was completed on schedule and under budget, with minimal down time at all four hospital locations, as well as 30 remote locations.

- **TelePresence Installation**. Implemented the company's first engagement with TelePresence for a large insurance company. Installing four CTS3000s and five CTS 1000s for the client, including managing the build out of conference rooms and end-to-end network refresh throughout all the locations in the US.

- **Cisco CVP Installation.** Managed the installation of the Cisco CVP platform for a large insurance company in Michigan. This installation included coordination with a third-party vendor for voice recognition platform. Migrated 300 toll free numbers to the system, which allows their customers the ability to interact with the account verbally and without talking to an actual agent if not necessary.

- **Cisco CallManager and IPCC Installation.** Managed the installation of CallManager deployment, as well as 12 call centers. The project lasted one year and included the replacement of all network technology at 50 sites throughout the United Stated and Canada. The deployment included over 1,000 phones and 150 call center agents, allowing the client to have one phone system for the first time and a converged network that cut costs.

- **Project Tracking System**. Managed the creation of a project tracking system, enabling the team to share information and eliminate duplicate work while improving communications with the customers regarding their project status. This enhanced the team's efficiency and morale, while saving the company $55,000 annually by utilizing staffing more effectively.

- **Network Upgrade and Phone System Installation**. Managed the installation of a 900 phone and eight-site network installation for one of the largest law firms in Michigan. The installation included replacing the existing wide area network, replacing all network components and replacing eight stand-alone ROLM switches with Cisco Call Manager.

- **Automotive Network Exchange.** Implemented the installation and certification of ANX (Automotive Network Exchange), the mechanism through which all companies doing business with the auto manufacturers would transmit information electronically. The effort produced an immediate increase in sales volume of $650,000.

- **Headquarters Consolidation.** Awarded the General Motors' President's Award for effort on a project organizing the relocation of more than 5,000 staff from multiple buildings to one central facility. Assignment included ensuring that all voice and data infrastructure were installed and operational prior to employee movement. All the project's deadlines were met during an implementation lasting thirteen months.
- **Toll-free Service Migration** Consolidated all toll-free networks from incumbent communications providers into a single provider. Documented call flows and worked with the customer to create testing plans. Working on an aggressive schedule, completed the project on time and under budget. Project completed on time with the Resulting with the savings to the company of $400,000 annually.
- **Employee Review Process Redesign.** Improved communications between employees and supervisors by rewriting (as member of Quality Steering Committee) the employee review process. This led to improved morale among staff and a healthier work environment.

Professional Skills

- Project management, change management, control, estimating, leadership, management tools, planning, scheduling, quality assurance, resource management, risk management
- Microsoft applications, including Office, Visio, Project Server 2003, Virtual PC 2004

Education and Certifications

- Project Management Institute — Project Management Professional Certification (PMP®)
- Certificated of Applied Science in Electronics, National Institute of Technology
- ITIL V3 Certification
- Microsoft Certified Systems Engineer (MCSE) for Windows Server 2000
- CompTIA Security+
- Novell Certified Network Engineer
- Project Management methodology training
- Certified Telepresence Project Manager

Work Experience

- Program Manager
- Project Manager
- Consultant
- Sales Engineer
- Sr. Customer Support Manager
- Service Manager
- Electronics Technician

Program Manager

██ brings a great mix of project management and business technology skills to the table. He quickly understands individual client goals, evaluates the current situation and manages plans that address current challenges, as well as gets the client to achieve their goals. His strength is managing highly complex technical solutions thru the development and deployment processes. His ability to defuse difficult situations, combined with his ability to quickly analyze and isolate challenges, as well as skillfully communicate the steps to stay or get back on track, are keys to his success. His patience keeps his project visions clear and he is a gifted strategist who keeps his teams motivated to achieve the best possible outcome.

Significant Accomplishments

- **Product Development.** Created a mobility program that originated a patentable process for configuring Apple devices and distributing applications for iOS 5.x devices, which required having the offsite capacity to configure large quantities of devices quickly for mass rollout at a major national retail chain.

  — This led to being recommended by MobileIron and Apple as the technical subject matter expert to design a solution to provision, deploy and manage 1,200 mobile devices within a four-hour window, saving two weeks of work and travel to remote sites.

- **Program Strategy.** Developed a Bring Your Own Device (BYOD) initiative for a large insurance company.

  — Resolved many initiative-stopping issues, including identifying a bug in iTunes, and collaborated with Apple technical teams to test and resolve the issue, allowing other dependent initiatives to move forward successfully.

- **Program Management.** Managed the program for infrastructure integration of two international airline companies into one.

  — Spearheaded the team that created the first Microsoft GeoCluster used in a production environment for an Exchange upgrade and infrastructure refresh project spanning several datacenters and Active Directory forests.

- **Risk Mitigation.** Rescued a company's largest account in Minnesota from a failing program and master service agreement by restructuring the support agreements to be more manageable, agile, and customer-focused while not sacrificing revenue.

  — Served as client staff business analyst to bring cutting edge technologies to production where other consultants had failed.

- **Technology Roadmap Planning.** Developed a technology roadmap with a project portfolio for a large healthcare organization, leveraging the latest technologies to streamline workflow processes and enable new ways to deliver IT.

  — Reduced incident processing time through process enhancement by 200%. Realized cost savings of over $1,000 per seat from savings on equipment lease schedule extensions.

Professional Skills

- Microsoft product and service delivery
- Apple product and service delivery
- Mobility, MDM and BYOD consulting, presales and service delivery
- Technical pre-sales
- Client and vendor relations
- Team management (technical team, project team, and executive stakeholders)
- IT lifecycle and asset management consulting
- Microsoft Business Solutions consulting
- Technical training design and service delivery

Education

Bachelor of Science degree in Anthropology, Sociology, University of Wisconsin, 1996

ITIL Certified V.3 Foundations for IT Service Management

Project Management Institute Member, PMP, PgMP course of training

Microsoft certification MCITP Windows Server 2008 R2, Virtualization Administrator

Microsoft certification MCTS multiple technologies

Microsoft certification MCITP Enterprise Administrator

Microsoft certification MCSE: Messaging on Windows Server 2003

Microsoft certification Microsoft Office SharePoint Server 2007

Microsoft certification Office Communications Server 2007, Configuration

Microsoft certification Windows Server 2008 Active Directory, Network, Applications Infrastructure

Microsoft certification Windows Server Virtualization, Configuration

Apple Certified Technology Coordinator

MobileIron sales boot camp

MobileIron technical boot camp

CompTIA Certified A+

CompTIA Certified Network +

Work Experience

2013–present, Program Manager, CDW

2006–2013, Practice Manager/Solutions Specialist, PDS

1999–2006, Private Consultant

Microsoft
C E R T I F I E D
Technology
Specialist

System Center Virtual Machine Manager 2008, Configuration
Windows Server Virtualization, Configuration
Windows Server 2008 Applications Infrastructure, Configuration
Microsoft Office SharePoint Server 2007, Configuration
Microsoft Desktop Optimization Pack, Configuring
Business Desktop Deployment Solution Accelerator 2.0

Microsoft
C E R T I F I E D
Systems Engineer
MESSAGING

Certified Associate
Mac Integration 10.8

Certified
Support Professional 10.8

![CDW]

Program Manager

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- **Employee Review Process Redesign.** Improved communications between employees and supervisors by rewriting (as member of Quality Steering Committee) the employee review process. This led to improved morale among staff and a healthier work environment.

Professional Skills

- Project management, change management, control, estimating, leadership, management tools, planning, scheduling, quality assurance, resource management, risk management
- Microsoft applications, including Office, Visio, Project Server 2003, Virtual PC 2004

Education and Certifications

- Certificated of Applied Science in Electronics, National Institute of Technology, 1982
- ITIL V3 Certification, 2009
- Microsoft Certified Systems Engineer (MCSE) for Windows Server 2000
- CompTIA Security+, 1998
- Novell Certified Network Engineer, 1995
- Project Management methodology training
- Certified Telepresence Project Manager

Work Experience

- 2006–present, Program Manager, CDW
- 2004–2006, Project Manager, Netarx
- 2002–2004, Consultant, G&G Communications
- 2001–2002, Sales Engineer, NetVmg
- 1999–2001, Sr. Customer Support Manager, Covad Communications
- 1997–1999, Project Manager, Ameritech
- 1985–1997, Project Manager, Electronic Data Systems
- 1984–1985, Service Manager, SimTEC Computers
- 1982–1984, Electronics Technician, Texas Instruments

Senior Project Manager

███ is a results-oriented technical project manager with wide-ranging expertise in systems and business analysis, enterprise resource planning, data management, web/applications development, vendor management, six sigma, as well as financial analysis/reporting. Drew directs small to large project teams consisting of subject matter experts, analysts, designers, IT architects, developers and QA testers while overseeing development activities to ensure tasks are completed with quality, in a timely manner and within the budget.

Representative Accomplishments

- **Cisco Infrastructure and UCS Upgrades.** Project managed the redesign and implementation of new core and access layer switches for at least 36 small to global-sized companies to create a foundation for current and future growth.

- **Cisco Network Assessments.** Project managed the network assessment to evaluate the state of the customer technical environment for at least 43 small to global-sized companies.

- **Cisco ISE and Posture Assessments.** Project managed the Implementation of new LAN access switches for at least seven small to global-sized companies to support production growth.

- **Cisco ASA, Nexus, and PRIME Assessments.** Project managed the Implementation of new LAN access switches for at least 14 small to global-sized companies to support production growth.

- **Cisco International Projects.** Project managed the Implementation of new LAN access switches for at least 17 small to global-sized companies to support production growth.

- **Cisco, Aruba, and Meraki Wireless Surveys and Upgrades.** Project managed the Implementation of 100 access points for at least 229 small to global-sized companies, including staging and testing, to improve center's event participants' mobile experience.

- **Cisco Unified Communications (UC) & UCON and Avaya Upgrades.** Project managed the Implementation of new LAN access switches for at least 41 small to global-sized companies to support production growth.

- **Cisco Unified Communications Contact Center Express (UCCx) Upgrades.** Project managed the Implementation of new LAN access switches for at least 37 small to global-sized companies to support production growth.

- **Cisco Prime Collaboration, CER, Mobility, MRA, Jabber, InformaCast and Video Upgrades.** Project managed the Implementation of new LAN access switches for at least 46 small to global-sized companies to support production growth.

- **Microsoft Exchange and 365 Upgrades.** Project managed the Implementation of new LAN access switches for at least 17 small to global-sized companies to support production growth.

- **Microsoft Active Directory, F5 and PKI Upgrades.** Project managed the Implementation of new LAN access switches for at least 11 small to global-sized companies to support production growth.

- **Microsoft SharePoint and ADS Upgrades.** Project managed the Implementation of new LAN access switches for at least 13 small to global-sized companies to support production growth.

Professional Skills

- Over 18 years of project management and business analyst experience
- Completion of over 500 projects utilizing the CDW project management methodology
- Project and program management of the Implementation of LAN/WAN configuration and troubleshooting
- Project management of network management through use of terminal applications: Telnet, TFTP, FTP and SSH
- Project management of Cisco ISE implementations, Cisco ASA, Nexus and PRIME implementations, Cisco and Aruba wireless surveys and WLAN upgrades, Cisco Unified Communications (UC) and UCON and Avaya implementations and upgrades, Cisco Unified Communications Contact Center Express (UCCx) implementations and upgrades, Cisco mobility, MRA, Jabber, and video implementations and upgrades
- Project management of Microsoft applications, including Office, Project, Exchange, 365, Active Directory and SharePoint

Certifications and Education

- Certified Project Management Professional (PMP) — Project Management Inst., 2006
- Certified Scrum Master (CSM) — Scrum Alliance, 2010
- Six Sigma Green Belt, DMAIC, 2007
- Microsoft Certified Systems Engineer (MCSE), 2005
- CompTIA Security+, Network+ and A+ 2005
- BS, Economics, The Ohio State University, 1994

Senior Project Manager

███ is a certified project management professional with over 20 years of project management experience. He has served as the project manager of complex hardware, software and infrastructure projects. Paul's excellent problem solving, communications and management skills enable him to complete projects with the successful results that customers demand.

Representative Accomplishments

- **IP Unified Communications Design and Implementation.** Managed multiple projects for various enterprise clients to design and implement IP telephony and unified communications. Largest project consisted of delivering IP telephony and voicemail for 2,400 corporate users.

- **IP Unified Communications.** Contact center implementations — managed multiple projects for various enterprise and express-level clients to design and implement IP contact centers for over 300 agents.

- **Wireless Implementations.** Managed multiple projects for various clients to design and implement Cisco wireless solutions. Worked with client and CDW engineers to define requirements, complete design, training, cutover, and implementation of the new wireless solution.

- **Network Implementations.** Managed multiple projects for various clients to design and implement Cisco network infrastructure solutions. Worked with client and CDW engineers to define requirements, complete design, training, cutover and implementation of the new network solution. Largest project to-date was a new 450 bed hospital involved over 250 switches and $1 million in total hardware.

- **Exchange Server 2 Planning and Enterprise Design.** Managed project to plan, design, and document an enterprise migration to Exchange Server 2010 for a major west coast bank. Worked with client and CDW engineers to identify business and technical requirements, determine appropriate end-state design, and develop project plan required for successful implementation.

- **Exchange Server 2010 Enterprise Design with Deployment Planning and Pilot Services.** Managed project to plan, design, document and pilot an enterprise migration to Exchange Server 2010 for a major Midwest utility. Worked with client and CDW engineers to define requirements, install and configure hardware and implement a successful pilot. Developed project plan and strategy required for enterprise-wide implementation.

- **Office 365 Enterprise Design with Deployment Planning and Pilot Services.** Managed project to plan, design, document and pilot an enterprise migration to Office 365 for a major corporation located in Indiana. Worked with client and CDW engineers to define requirements, install and configure hardware, and implement a successful pilot. Developed project plan and strategy required for enterprise-wide implementation involving over 5,000 resources.

- **Manager, Project Management Office.** Created and managed the Project Management Office within the IT organization. Guided a team of project managers located in the US and India responsible for planning, executing, controlling and closing projects against scheduled scope and quality plans.

- **Custom Banking Software.** Managed projects to design, build and install custom loan origination and client relationship management systems for banks larger than $30 billion in national and international markets. Average cost of projects exceeded $1 million, and 12 months in duration. Managed cross-functional project teams through all phases of the project lifecycle. Interfaced with customers and third-party vendors to ensure successful implementations and gain system acceptance. Provided regular communication to all project stakeholders.

Professional Skills

- Changepoint

- Microsoft applications including Office, Project Client, Project Server, Visio

- SAP

- Softrax Financial Reporting System

Certifications and Education

- Project Management Professional (PMP) (2004)

- Indiana Central University (1982)

- Indiana Tech (2008)

- Project Management Professional Training (Ongoing)

CAREER OBJECTIVE

- Senior Project Manager with +12 years of experience delivering top-notch professional services on technology projects for medium and large businesses, state, local, federal government, K-12 and Higher education and healthcare industries.
- Polished communicator with excellent presentation skills and natural ability to foster collaborative relationships with internal teams, customers, vendors and partners.
- Strong leader and strategic planner skilled at guiding cross-functional teams to achieve company objectives and identifying and implementing solutions to improve company process.
- Well versed in project management methodologies, process and detailed oriented while balancing the needs of internal and external customers with business needs and requirements.
- Project Management Institute member participating in continuing education.

CORE COMPETENCIES

- Project Management
- Team Leadership
- Strong Communication Skills
- Strategic Planning
- Vendor Management

- Budget Management
- Mentoring Colleagues
- Problem Solving
- Client Relations

PROFESSIONAL EXPERIENCE

Senior Project Manager
Management of customer and service improvement projects, interpreting technical, business and resource concerns and relaying impact and solutions to business stakeholders and colleagues.

Responsibilities include:

- Project Management
- Client interaction - project reviews, budget analysis and report, problem resolution, escalations, negotiations, business reviews
- Team building and leadership
- Mentored and trained colleagues on a variety of matters and systems
- Conduct project performance analysis
- Prompt identification, prioritization, assignment/escalation and resolution of project challenges.
- Process analysis and performance improvement
- Read, analyze, create and distribute: contracts/agreements/statements of work, requests for information/proposals and responses project plans, reports
- Conduct research, compile data, and prepare papers for consideration and presentation to managers and executives.
- Manage revenue forecasting and budget management for marketing and projects.
- Maintain discretion when dealing with sensitive topics
- Problem solver, delivering innovative solutions to challenges while reducing risk and increasing performance
- Event management coordination and planning
- Business Manager for the Northern Virginia office

Legal Secretary
Provided legal administrative support for team of attorneys focused mainly within the lobbying and federal communications law practices. Managed paralegal and accounting activities.
Responsibilities included:

- Maintained required lobbying certification and disclosures submissions for the firm
- Prepare and maintain records and documentation for submission to the Federal Communications Commission.
- Complete research on various matters for attorney's and clients.
- Drafted various court documents, invoices and enclosures at attorney's request

Legal Assistant
Administrative support for team of attorneys within the Securities law practice.

- Prepare and maintain records and documentation for submission to the Security and Exchange Commission.
- Research of relevant regulations and case law.
- Assisted in office management

EDUCATION

UNIVERISTY OF MARYLAND, College Park, MD
Bachelor of Science in Information Management Systems and Paralegal Studies

GEORGE WASHINGTON UNIVERSITY, ROSSLYN, VA
Masters Certificate, Project Management

ADDITIONAL SKILLS

Proficient in Microsoft Office (Word, Excel, PowerPoint, Project, Visio, Outlook, SharePoint) Changepoint & Peoplesoft, ServiceNow and Adobe

Senior Project Manager

Highly skilled Service Delivery/Project Management Professional with expertise in orchestrating the delivery of critical IT Solutions and Services for Fortune 500 companies. Significant track record of delivering bottom-line results with high customer satisfaction for multi-million dollar programs. Big-picture thinker with extensive hands-on experience developing action plans that produce results. Industry experience includes: Medical/Pharmaceutical, Manufacturing, Telecommunications, Consumer Products, Electrical Distribution and IT Solutions and Services.

Education and Professional Certifications

- MBA, DePaul University
- BS, Finance, Eastern Illinois University
- PMP, Project Management Professional
- Masters Certification in Project Management, George Washington University
- Motorola Six Sigma Yellow Belt
- CMMi (Capability Maturity Model Integration)
- ITIL (Information Technology Infrastructure Library)

Competencies

- **Project and Portfolio Management:** Proven experience in building and leading project teams utilizing PMI best practices or methodologies
- **Account Relationship Management:** Skilled at developing and maintaining relationships with customer community, acting as business liaison, P&L accountability, solving business issues
- **Risk Assessment:** Leading assessment of IT Operations, including staffing, process, and systems and provided recommendations and action plans for risk mitigation
- **IT Service Delivery (End to End):** Talented in managing complex IT services outsourcing engagements: Application Development, IT Infrastructure, Call Center, Desktop Services, IT Asset Management, and Procurement, e-Business, Networking, Application Development, Data Center
- **Organizational Leadership:** Experienced in strategy, planning, budgeting, personnel management, conflict resolution, staffing and change management
- **Quality Management:** Experienced in applying Deming, Philip Crosby, and Six Sigma principals to improve operational efficiency
- **Solution Architecture:** Designing custom solutions to bridge gaps between legacy systems and new applications
- **Business System & Process Consulting:** Leading evaluations of current state processes and systems, and offering recommendations to leverage technology to solve business issues
- **Marketing and Finance:** Experience with new product development teams in consumer products industry. Experienced with activity-based cost modeling, tax software, standard cost development, asset management, controlling, procurement, purchasing, month-end closing process, pricing and auditing

Global Leadership Experience: Brazil, Canada, China, France, Germany, India, Malaysia, South Africa, United Kingdom and USA.

Technology

Experienced leading teams in a variety of technologies and disciplines: Microsoft, Desktop Support, Cisco, Asset Management, Supply Chain, Portfolio Management, Call Center, Field Services, Data Center, Point of Sales, Mergers and Acquisition, Divestiture and Separation
Application knowledge: MS Project, ChangePoint, SharePoint, A/S 400, MS Access, MS Office, Remedy, Visio, HP Project and Portfolio Management Center, Cognos, Crystal Reports, CRM Tools

Professional Experience

Senior Project Manager
Responsibilities include the Project and Program Leadership for North American Field Services.

- **Management of key account projects related to Cisco Unified Communications, Network, Cloud, Data Center, Service Delivery and various Advanced Technologies Services**
- **Leadership member of the PM CoE charged with advancing project management practices for CDW**
- **Presales and promotion of Project Management Services to new clients and account management**

Manager, Project & Portfolio Management
Responsibilities include the development and leadership of Project Management Services in North America.

- **Advancement of project management practices (PMO, Portfolio, Training and Staffing)**
- **Oversight of project portfolio valued at more than $300M annually in hardware, software and services**
- **Coaching and mentoring of staff to instill quality principals and proactive approach to effective project leadership and client care**
- **Member of the CDW PM CoE Leadership Team setting direction for Strategic Solutions and Services PMO framework, methodology and tools.**
- **Achieved 500% increase in billable services year over year**
- **Clients acknowledged improvement in customer satisfaction within first 6 months**
- **Presales and promotion of Project Management Services to new clients and account management**

Project and Portfolio Manager, IT Investment
Led several key initiatives to transform, simplify and optimize operational efficiency leading to cost reduction, process streamlining and system consolidation

- Established portfolio and project governance for Strategic Solutions and Services, which resulted in improved cycle time from project approvals and funding
- Trained and coached project management staff in PMI best practices leading to improved project performance and customer satisfaction
- Managed approval process for a $28 million annual IT budget to support Motorola Solutions business operations worldwide
- Successfully led projects for key CIO initiatives related to the divestiture of Motorola Networks to Nokia Siemens
- Selected by CIO's office to lead Motorola Solutions and Mobility business separation projects

Senior Project Manager

Provided leadership for a variety of IT projects to support business operations with cross functional teams as large as 100+ members.

- Managed all aspects of the $4 Million Supply Chain Analytics Program. Scope included real-time forecasting, and replenishment
- Led the $8 Million, 100 staff member SRT (Service and Repair Transformation) program
- Responsible for the initial roll out of the $3 Million implementation of ALM (Application Life Cycle Management) program
- Introduced Scrum Project Management, eliminating backlog of customer required enhancements for NPI Dashboard (New Product Introduction), leading to increased customer satisfaction

Director, Business Systems Management

Initiated and led enterprise wide projects to establish process and system controls. Achieved transparency of cost associated with service delivery, increased operational efficiency, improved understanding of customer project profitability, Sarbanes Oxley compliance, and improved reporting/metrics.

- Selected by CFO and Controller to get SAP Global Template implementation of PS and CATS back on track for on-time delivery. Efforts led to cost avoidance of $400,000 in project delays. *Received President's Performance Award for Excellence in Teamwork*
- Built and led a cross-functional team of 10 members (Sales, Solution Design, Operations, Finance and Legal) to develop standard costs, processes, pricing methodology, and allocation of resource costs to departments and projects. Introduced and implemented product standards associated with the Desktop and Computing Services Divisions.

Director, Service Operations

Responsible for building, organizing and governing large teams of technical and non-technical staff to support customer outsourcing engagements. Customers included: Abbott Labs., AGFA, Freightliner, GenRe, PharMerica and USG.

- *Received President's Performance Award for Excellence in New Client Transition*
- Adopted, applied and managed technology to meet customer requirements
- Participated in and oversaw support system upgrades
- Designed and led development of key metrics and reporting tool to measure performance against SLAs
- Achieved 98% employee retention rate
- Increased customer satisfaction ratings from 80 to 90%

Account Manager, Desktop and Asset Management Outsourcing Engagement (Client: Abbott Laboratories, Abbott Park, IL), 2000- 2001
Responsible for the leadership of T-Systems N.A.'s largest IT Outsourcing operations

- *Received President's Performance Award for Outstanding Service Management*
- Brought change to a failing Desktop and Asset Management outsourcing engagement which led to the highest customer satisfaction ratings experienced by T-Systems N.A
- Increased profitability from negative 20% to a positive 20% margin and received a contract extension

CDW's Professional Services Engineers are experts at helping our clients with Data Center & Infrastructure Solutions.

Design → Orchestrate → On-Premises → On-Journey → Cloud-Based

It takes precise planning and execution to build a standards-based infrastructure that meets business needs. CDW Amplified™ services provide expertise, tools and resources to scale and future-proof your environments. We help customers upgrade their existing architecture and prepare for what's to come, whether they're on-premises, migrating to the cloud or already there.

Summary

Blake is a results-driven network engineer striving for customer satisfaction through superior technical delivery. He has been recognized by internal peers and external clients as an effective communicator, problem-solver and dependable individual.

He has been responsible for delivering enterprise networking solutions in both lead roles as well as working with teams of consultants.

Experience

Blake has extensive knowledge and experience within the realms of route/switch and network security. Cisco enterprise networking is Blake's primary focus. However, his broad networking knowledge allows him to rapidly adjust to multi-vendor situations. He has been involved with clients in a wide variety of business sectors, focusing on network planning, design, implementation and tuning.

Time spent on both the customer and consulting side has provided Blake with a unique understanding of business needs.

Education

- B.A - Information Systems, Calvin University

Senior Cisco Consulting Engineer

Certifications

- CCNP - Routing and Switching
- CCNP – Security
- CCNA – Routing and Switching
- CCNA – Security
- PCNSA

Engagement Highlights

- Designed and implemented full campus network refreshes as well as greenfield deployments with Cisco's latest 9k switching at the core, distribution and access levels. Customer examples include city government, major milk products producer, major alcoholic beverage producer and multi-branch financial institution.

- Seamlessly migrated a major foods distributor's legacy, collapsed Layer 2 network to a highly available, redundant Layer 3 routed deployment.

- Performed numerous value-add network assessments for customers ranging in size from small-business to enterprise.

- Consulted for redundant customer data center designs. Examples include an active/passive BGP and EIGRP routed design for a large trailer manufacturer, as well as Multi-Area OSPF to replace static routing in an enterprise scale cloud ERP provider.

PEOPLE WHO GET IT®

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Summary

John has been in the IT industry since 2000 and has broad experience including network device implementation, desktop management/deployment, application development, Azure Migrations.

John's curiosity and creativity has produced several solutions that integrated existing data and services to solve challenging business problems with minimal technical debt.

Experience

In 2020, J██ began working for CDW for the second time. John worked as a Senior Consultant performing Systems Management and Deployment for CDW from 2006 to 2011.

In 2011, ██ began working as a Senior Consultant for Microsoft delivering Systems Management and Deployment solutions for Fortune 100 customers. In 2017, John began delivering Microsoft Azure Cloud solutions that included lift-and-shift migrations as well as providing architectural guidance on modernizing applications.

In 2020, John joined CDW as a Senior Consultant focused on delivering Cloud and Data Analytic Solutions.

Education

- BS in Software Engineering, University of Phoenix
- MS in Data Analytics, Southern New Hampshire University

Senior Consultant - Cloud Services

"Delivering solutions that don't just meet Business Requirements, but also provide Business Value."

Certifications

- ITIL Foundations
- Architecting Microsoft Azure Solutions
- Data Science – R Basics

Engagement Highlights

- Worked across many industries such as Education, Government, Financial, Healthcare and Manufacturing. John brings with him an understanding of common problems faced by specific industries and the solutions to solve them.
- Provides experience working within numerous project management (PMI and SaFE) and governance (COBIT, ITIL, Prosci, ISO 27001) frameworks.
- Developed Unsupervised Machine Learning solution for customer needing to minimize impact of platform migration. The solution took into communication patterns, department, and websites used to build migration groups.
- Migrated customer with custom web services from collocated servers to Microsoft Azure. The websites on the front-end were transitioned one at a time. The mid-tier Services were hosted on Windows Server 2008 and transitioned to Windows Server 2019 with the associated website. The databases were hosted on a single Microsoft SQL Server and were transitioned to SQL cluster increasing availability.

Senior Wireless Engineer

Senior wireless engineer that has over 15 years of experience in the wireless field. Engineer also has a technical solutions specialist background with over 20 years of information technology experience working on IBM iSeries. His specialty involves the design, implementation and support of Cisco and Meraki wireless networks. Engineer uses his excellent technical problem-solving and project management skills to complete projects that meet and exceed client expectations.

Significant Accomplishments

- **Wireless Design.** Involved with various wireless designs for the Arizona Cardinals, Cleveland Browns, Minnesota Wild, University of Nebraska and more.
  - Data, voice and location-based design used in many environments from office to warehouse and hospital design.
  - Upgraded from five access points to over 1,200 access points.
- **Wireless Implementation.** Involved with the implementation of the wireless design in football stadium and hockey arenas, where the capacity was from 20,000 to over 90,000 people.
  - Upgraded client connection from 4,000 to over 25,000 client connections.
- **Super Bowl Support.** Was responsible for the wireless communication at all the gates at the 2015 Super Bowl in Arizona.
  - Detected rogues during the game and removed from them from the facility.
  - Involved with the SuperBowl 49 SSID broadcasting and maintenance during the game.
- **System i installation.** Managed installation of System i at a bank with 105 branches.
  - Setup two System i systems with connection to an EMC SAN (boot from SAN). One System i was for production and the other was for high availability, including four LPARS total.
  - Worked with Jack Henry software, managed the setup and installation of System i and EMC SAN.
- **Creation and Implementation of Network Upgrade Plan.** Managed and designed company's roadmap upgrade path to the System i platform.
  - Designed company's network and server environment.
  - Installed Domino email solution on the System i.

Professional Skills

- Cisco wireless design and implementation
- Meraki wireless design and implementation
- Aruba wireless design — site survey
- Wireless security setup and installation
- Window 2000, 2003 and 2008 server installation
- Network design and administration
- AS/400/System i/i5 solution design, sales and implementation
- IBM eServer System i OS/400/i5 OS system administration
- IBM eServer System i Logical Partitioning (LPAR)
- Installation and implementation of Domino email solution

Education and Certifications

- CCENT
- CCNA Wireless
- Wireless Survey Certification
- IBM eServer System i Technical Solutions Design
- IBM eServer System i Technical Solution Implementation
- IBM System i Windows Integration — Technical Solutions
- Lotus Notes Domino 6 Systems Administration Certification

Work Experience

- 2005–present, Senior Wireless Engineer, CDW
- 2003–2005, Technical Support Services, Strategies and Solutions LLC (sold to CDW)
- 1998–2003, Technical Support, Information System Engineering
- 1986–1998, Hardware service specialist with AmeriComp Services, DataServ and Wiscomp Services

Technical Lead – Cisco Collaboration

███ is a technically proficient and customer-focused professional with 10+ years of experience specializing in VoIP and Collaboration technologies, experience driven expertise in design and implementation of Cisco Unified Collaboration solutions and network security across various platforms.

Representative Accomplishments

- **Unified Communications Design and Implementation.** Led the UC design and migration project for one of the largest municipal police forces in the United States with over 20,000 phones.

    - Consolidated VM and hardware infrastructure from over 10 datacenter locations to 5 while increasing system reliability

- **Unified Communications Design and Implementation.** Led the UC design and implementation project to configure communication systems for a multinational financial firm.

    - Regional clusters with EMCC and International TEHO for North American, European and Asia-Pacific PSTN breakouts
    - Geo-DNS deployment for Jabber and desk-phone MRA
    - Dial-Plan design to cover regional PSTN regulations (India's TRAI, etc.) and supporting global emergency service dialing both on cluster and while using EMCC

- **Unified Communications Upgrade.** Planned and upgraded CUCM, UCCX, and Unity Connection for a Regional Bank as well as implementation of IM and Presence.

    - Conversion from MGCP to SIP for all gateway communications
    - Migration from PRI to SIP for centralized PSTN connectivity

- **Unified Communications Upgrade.** Planned and upgraded CUCM for a Multinational Law Firm along with updates to Unity Connection and IM and Presence.

    - Conversion from CUPS to IM&P
    - Multi-Cluster phased migration
    - Collapsing overall CUCM cluster count down from 5 to 4 and UCXN clusters from 6 to 4

- **Unified Communications Design and Implementation.** Led the UC design and implementation project to configure communication systems of two separate banks and eventually merge them into single system once takeover was complete with negligible user impact and no production downtime.

- **Unified Communications Design and Implementation.** Designed and implemented a Cisco UC solution for a manufacturing company including office, distribution, and manufacturing facilities.

- **Unified Communications Design and Implementation.** Performed the UC design and implementation project for a Medical Clinic and its satellite offices to enable effective patient care and response times. Deployment included UCCX contact center for nursing, scheduling, and reception departments, InformaCast paging, and Fax integration for medical records.

Professional Skills

- Planning, design, and implementation of Cisco Unified Communications

- Installation, configuration, and support of Cisco Instant Messaging & Presence and Cisco Jabber clients

- Design and implementation of Cisco Expressway to support seamless connectivity for Cisco Jabber

- Installation, configuration, and support of UCCX and CER

- Installation, configuration, and support of Cisco Unified Border Element (CUBE), ISR/ASR Routers, and Catalyst/Nexus Switches

Certifications and Education

- Cisco Certified Network Professional – Routing and Switching

- Cisco Certified Network Professional - Collaboration

- Cisco Certified Network Associate - Security

- Cisco Certified Design Associate

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Technical Lead Infrastructure

Summary

▮ has been with CDW over 6 years and has spent over 20 years working with Cisco Data Center, Enterprise, Security solutions.

He has been responsible for delivering Cisco solutions for small, medium and enterprise customers in both lead roles as well as working with teams of consultants.

Experience

▮k has close to 25 years of experience in the IT Field 13 years as a consultant. He started off his career in Unified Communications and Cisco Infrastructure as well several Security platforms and programming.

For over the past 13 years has worked as a consultant with his primary focus has been Cisco Data Center and Enterprise Technologies. Designing, Analyzing and Implementing Cisco Solutions including Cisco ISE, DNA-Center, Firepower Management Center, Firepower Firewalls, ASA firewalls, Nexus 7K, Nexus 9K, Catalyst, OTV, VxLAN, Multicast, custom QOS, all Layer 3 routing protocols.

He has led several Data Center, Enterprise Networking, Security and collaboration infrastructure projects in the past including Cisco ISE, DNA-Center, large wireless deployments, data center migrations, firewalls and cabling. These core technologies provided him a solid foundation and expertise required to deliver solutions.

Certifications

- ĀCCNP Voice
- ĀCCNA
- ĀCCNA Security
- ĀCCDA
- ĀCisco Advanced Wireless

Engagement Highlights

- ĀDesign and implement several DNA-Center projects for large enterprise and higher education environments. Deployments consist of PNP with onboarding templates, SD-Access designs, integration of Cisco ISE pxgrid, Wireless integrations, SWIM, Easy QoS and SSO.

- ĀDesign and implement several Cisco ISE projects for large enterprise, health care and utility providers. Deployments consist of Wireless, Wireless Guest, Wired, Wired Guest, device profiling, Posturing, VPN Access with over 20,000 endpoints.

- ĀDesign and implement Data Center and Data Center migrations. Including design and implementations of VSS, vPC, SWV, VDC and OTV in large enterprise, health care providers. These environments require careful and detailed planning to ensure no to very limited allowed downtime during time of transition and implementation.

- ĀDesign and implementation of Cisco Security products including but not limited to FMC, NGFW, ASA, ASAM at Utility providers, Financial instituions, insurance providers and enterprise customers.

Education

- ĀITT Tech, Associates Applied Science EET
- ĀPurdue University, Computer Science

CDW PEOPLE WHO GET IT®

UC and Collaboration

Consulting Engineer

██████ has over six years of experience in UC and Collaboration technologies, including Cisco Unified Communications Manager, IM & P and Unity Connection, with supporting experience with Cisco Routing and Switching technologies. More recently, he has been involved in RingCentral services via formal training, and certification (RCCE). His work ethic, creativity, and attention to detail contributes to his ability to consistently deliver quality results and troubleshoot varying, complex issues.

Significant Accomplishments

- **VoIP equipment Upgrade for Major Retailer - 50 locations**

  — Alex supported and configured the store deployments for 50 locations across the USA with follow up, and any necessary troubleshooting.

  — He coordinated with several onsite technicians to support multiple deployments at once.

  — All 50 stores were completed in one month, with number porting and full testing.

- **Multiple UC Cluster Merge over seven months**

  — Parsed data and fixed misconfigurations, and created upload templates for a clean data import

  — Imported all users, phones, mailboxes. Setup call routing to allow each site to maintain 4-digit dialing across the organization

  — Performed QA testing with test DIDs at each site ahead of cutover events; and cutover sites with first day of support.

- **Unified Communications Upgrade and migration**

  — Used Prime Collaboration Deployment tool to migrate Communications Manager database over to new UC version.

  — Used Veeam migration tool to migrate subscriber servers to new location/hardware.

  — QA testing performed to validate that all changes are successful, and complete functionality is achieved.

- **Urgent UC Staff Support for rapid WFH shift during COVID-19**

  — Reduced VoIP support ticket count each day, allowing internal voice team to focus on other pressing project work.

— Assisted in deploying softphones to cover all remote users, and troubleshoot individual issues.

Professional Skills

— Cisco UC design, implementation, configuration and support

— Cisco Unified Communications Manager, Communications Manager Express, Unity Connection, Unity Connection Express, Contact Center Express, IM & Presence 7.x–12.x

— Cisco UC application Upgrades and Migrations, IOS upgrades, Backup/Restore

— Cisco ISR implementation, configuration, deployment with PSTN connectivity via SIP and PRI

— LAN/WAN configuration and troubleshooting

— Expressway C and E for MRA or hybrid services deployment

— Calabrio call recording Upgade

— vCenter/ESXi - UC application migration

— RingCentral configuration

Certifications and Education

— Cisco Certified Network Associate Collaboration (CCNA Collaboration)

— Cisco Certified Network Associate Collaboration (CCNA)

— Cisco Meraki CMNA

— RingCentral (RCCE)

Unified Communications

Consulting Engineer

████ is a dedicated consulting professional that is recognized as a customer-focused, analytical, and results-oriented team player. He has strong verbal and leadership skills to help solve our customers business IT problems and effectively contribute to business IT objectives.

Representative Accomplishments:

- **Police Department Deployment - >25,000 phones**

    - Worked to deploy phones, troubleshoot and consult with department employees for successful phone implementation

- **Multi-Site School District - >400 phones**

    - Complete installation and configuration of 600+ IP Phone environment, utilizing Jabber phone devices

    - Utilizes CUCM, UCXN, Expressway for MRA, Informacast Advanced, CER and CUBE with a redundant design on two Cisco UCS servers with two CUBEs connected to the PSTN

- **Financial Firm - >Multi Cluster/International Deployment**

    - Migration of >1000 users from current Avaya system to Cisco environment

    - Utilize CDW proprietary tools to perform imports and migration of phones

    - Involves complex phone configurations due to the nature of the customer's trading environment

- **Defense Contractor**

    - Complete installation of 400+ IP Phone environment, utilizing Jabber phone devices

    - CUCM, UCXN, Expressway for MRA, Informacast, Cisco Emergency Responder on two Cisco UCS servers for redundancy with a single CUBE for PSTN connectivity

- **Church/Real Estate Entity**

    - Full UC upgrade from 11.5.x to 12.5.x

    - Upgrade of 3 CUCM, 2 UCXN, 2 IM&P, 2 Expressway MRA pair on 3 UCS Chassis and three ISR 4000 series routers

- Implementation of CER across multiple sites including 12 story multi-tenant Manhattan tower, church grounds and remote sites.

Professional Skills

- CUCM, IM&P, Unity Connection, Expressway Series for Mobile and Remote Access, Cisco Emergency Responder, Informacast Advanced Paging configuration and troubleshooting

- Cisco Analog Gateway configuration, troubleshooting and port configuration (VG310, VG320, and VG350)

- BE6k Configuration and Installation

- CUBE and CDW Standard Voice Gateway Configurations

- Customer consultation and presentation

Certifications and Education

- Cisco Certified Network Associate – Route & Switch

- Cisco Certified Network Associate – Collaboration

- Cisco Certified Network Associate

- Cisco Certified Specialist – Collaboration Core

- Cisco Certified Specialist – Enterprise Core

- RingCentral Certified Professional

Technical Lead Engineer

████ is a task-driven creative thinking Technical Lead with over 16 years of experience in architecture, design, and deployments focusing on collaboration technologies, such as Cisco and RingCentral. As a Technical Lead, he craves opportunities to collaboration with customers business needs and finding creative solutions to solve their unique challenges. By leveraging excellent management and industry experience, Brian has led countless projects with overwhelming success.

Significant Accomplishments

- **Cisco Unified Communications Contact Center Implementation** – Lead UC engineer for a Dental company out of Minneapolis across 4 locations supporting 1000 user and agent phones, involving complete infrastructure design and installation of Cisco Unified Communications Manager, Cisco Unity Connection, Cisco Contact Center Enterprise, Cisco Emergency Responder, and Cisco Jabber.

- **Multisite Cisco Unified Communications Deployments** - Lead engineer on multiple greenfield deployments. Deployments included Cisco Unified Communications Manager (CUCM), Cisco Unity Connection, Cisco Instant Messaging and Presence, Cisco Emergency Responder (CER), and Cisco Unified Contact Center Express (UCCX). Provided design, implementation, and support for all phases of the projects. Used CDW tools to create consistent results based on Cisco/CDW best practices.

- **Cisco Unified Communications Upgrades and Migrations** - Regularly perform upgrades and migration of the entire Cisco Unified Communications portfolio. Upgrades are tailored to the unique needs of each customer to reduce and sometimes even eliminate downtime to the user community. Many upgrades include taking the opportunity to remediate any issues or implementing changes to align with current Best Practices, such as migrating from MGCP to SIP, updating dial plans to +E.164, or taking advantage of cloud-based solutions.

- **Video Roadmap Design Sessions** – Lead multiple customers through Roadmap and Design sessions on take advantage of a video enabled communications. Over the years video has evolved tremendously and navigating that field can be confusing and challenging. These sessions help customers to understand what type of user experience is available and how to best get there.

- **Video Deployments** – Lead multiple On-premise, Cloud, and Hybrid video deployments leveraging Expressway, VCS, TMS/TMS-XE, CMS, and various Webex Hybrid Connectors. In addition, spear-headed with multiple customers the idea of improving the user experience within video conference rooms by taking advantage of the In-Room Controls and Macro capabilities of Cisco video endpoints, such as Webex Boards, RoomKit/MX/SX/DX Series endpoints.

- **RingCentral Deployments** – Lead the design, configuration, and deployment of multiple RingCentral implementations. Deployments include the directing of user and

admin training, along with the coordination of number porting and final User Acceptance Testing.

Professional Skills

- Cisco Unified Communications Manager (design, implementation, and support)

- Cisco Unified Contact Center Express (design, configuration, and support)

- Cisco Unity and Cisco Unity Connection (design, configuration, and support)

- Cisco Emergency Responder (design, configuration, and support)

- Cisco IM & Presence (design, configuration, and support)

- Cisco CUBE/voice gateway (design, configuration, and support)

- Cisco TelePresence Suite (design, configuration, and support)

- RingCentral (design, configuration, and support)

Certifications and Education

- AAS, Civil Engineering, Rochester Community College – Rochester MN, 1997

- Cisco Certified Network Associate

- Cisco Certified Design Associate

- Cisco Certified DevNet Associate

- Cisco Certified Network Professional – Collaboration

- RingCentral Communications Professional

- Cisco Certified Specialist - Collaboration Applications Implementation

- Cisco Certified Specialist - Collaboration Call Control & Mobility Implementation

- Cisco Certified Specialist - Collaboration Cloud & Edge Implementation

- Cisco Certified Specialist - Collaboration Core

- Cisco TelePresence Solution Specialist