

**State of West Virginia Lottery**  
*Scalable Infrastructure Storage Solution*  
Advizex Response to CRFP 2100000001



**Bid Due Date: 7/09/2021**

**Bid Due Time: 1:30pm**

**Version: 1.18**

**Presented to:**

Linda B Harper  
Bid Clerk  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305  
304-558-0468 [office]  
linda.b.harper@wv.gov

**Submitted by:**

Mika Munoz  
Account Executive  
Advizex Technologies, LLC  
680 Andersen Drive  
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**Advizex**

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July 9, 2021

Linda B Harper  
Bid Clerk  
Department of Administration  
Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305

**RE: State of West Virginia Lottery  
Scalable Infrastructure Storage Solution  
Advizex Response to CRFP 2100000001**

Ms. Harper:

On behalf of Advizex Technologies, LLC (Advizex) I am pleased to submit our response to the State of West Virginia Lottery (WVL) for a new Scalable Infrastructure Storage Solution.

I, Mika Munoz, and your Account Executive and can always be reached at:

Mika Munoz	680 Andersen Drive
Account Executive	Foster Plaza 10, 2nd Floor
304-615-3301 [mobile]	Pittsburgh, PA 15220
mmunoz@advizex.com	412-446-8300 [office]
	412-937-0537 [fax]

Advizex is an industry-leading information technology provider that combines the technical expertise of our highly-skilled consultants and leverages solutions from the industry's top technology partners. We have done this for over forty-five (46) years. Our practices include:

- Networking
- Application Modernization
- Microservices / Microsegmentation
- Microsoft Consulting and Platforms
- ServiceNow
- Business Process Engineering
- Virtualization
- Platforms and Systems
- Storage
- Hyper-converged Systems
- Scaled Agile Framework
- Cloud Native Application Development
- Mobile Computing
- Security
- Backup & Recovery
- Business Continuity
- Managed Services
- Cloud Computing
- Database Technologies
- Oracle Applications and Platforms



Advizex takes customer satisfaction seriously and maintains a 96% client retention rate, industry leader partnerships, and frequent recognition by the industry.

We currently employ over 175 technical consultants holding over 800 certifications.

Advizex has been recognized for its capabilities and excellence by our partners, for example:

- **HPE / Aruba** - Platinum Partner (44 Consecutive Years)
- **ServiceNow**
  - Expertise with ITSM, ITOM, GRC, SecOps and ITBM
- **CRN**
  - 2021 Elite 250
  - 2020 MSP500 and Tech Elite
  - 2016 through 2019 Top 500 Solution Providers (SP500)
- **VMware**
  - 2019 North America Services Delivery Partner of the Year
  - 2018 North America Services Delivery Partner of the Year
  - 2017 Americas Empower the Digital Workspace Partner of the Year
  - 2016 Global Professional Services Partner of the Year Award
  - 2016 Americas Professional Services Partner Innovation Award
  - 2014 Global Software Defined Data Center Partner of the Year
- **Oracle** -- Platinum Partner - 9 TITAN Awards
- **Microsoft** – Gold Partner for 12+ years
- **Dell / EMC**
  - 2018 and 2019 Dell EMC Services Delivery Partner of the Year – North America
  - Titanium Partner 2016 to 2020
  - Partner Services Quality Award (9<sup>th</sup> Consecutive Year)
  - 2014 EMC Americas Services Partner of the Year
- **Cisco** – Premier Partner
- **Palo Alto** -- Platinum Partner
- **Varonis** -- Gold Partner
- **Citrix, Pivotal, Cloudera, Trend Micro, Vormetric, and Red Hat**

As you see above, we have been awarded multiple times for the exact same products we have proposed in our solution to you; including our technical resources.

I need to recognize Jason Mayhue, a Senior Architect from Advizex, as the designer of the proposed solution. He is available, at any time, to discuss any questions related to this proposal and will play a pivotal role in the shortlisted presentations with your procurement and technical teams. His contact information is 540-761-0069 or [jmayhue@advizex.com](mailto:jmayhue@advizex.com).



We have worked closely with every OEM whose products are included with this proposal and are 100% sure that this meets your expressed and future growth needs.

I Thank you for this opportunity and look forward to future reviews of this proposal with your technical teams.

Sincerely,

Mika Munoz  
Account Executive  
Advizex Technologies, LLC

## 1. LEGAL DOCUMENTS

---

### 1.1 RESPONSE REFERENCE

# REQUEST FOR PROPOSAL

## WV LOTTERY CRFP LOT2100000001

**Example:**

Proposal 1 Cost is \$1,000,000  
Proposal 2 Cost is \$1,100,000  
Points Allocated to Cost Proposal is 300

Proposal 1: Step 1 –  $\$1,000,000 / \$1,000,000 = \text{Cost Score Percentage of 1 (100\%)}$   
Step 2 –  $1 \times 300 = \text{Total Cost Score of 300}$

Proposal 2: Step 1 –  $\$1,000,000 / \$1,100,000 = \text{Cost Score Percentage of 0.909091 (90.9091\%)}$   
Step 2 –  $0.909091 \times 300 = \text{Total Cost Score of 272.7273}$

- 6.8. Availability of Information:** Proposal submissions become public and are available for review immediately after opening pursuant to West Virginia Code §5A-3-11(h). All other information associated with the RFP, including but not limited to, technical scores and reasons for disqualification, will not be available until after the contract has been awarded pursuant to West Virginia Code of State Rules §148-1-6.3.d.

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Roite Advitez Technologies, LLC

\_\_\_\_\_  
(Company)

  
\_\_\_\_\_  
(Representative Name, Title)

  
Mike Munoz, Account Executive

304-615-3301/216-801-1447

\_\_\_\_\_  
(Contact Phone/Fax Number)

5/18/21

\_\_\_\_\_  
(Date)



*1.2 SIGNED RFP FRONT PAGE*



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50139  
 Charleston, WV 25305-0139

State of West Virginia  
 Centralized Request for Proposals  
 Info Technology

<b>Pros Folder:</b> 871066 <b>Doc Description:</b> SCALABLE INFRASTRUCTURE STORAGE SOLUTION <b>Proc Type:</b> Central Master Agreement			<b>Reason for Modification:</b>
<b>Date Issued</b> 2021-04-20	<b>Solicitation Closes</b> 2021-06-18 13:30	<b>Solicitation No</b> CRFP 0706 LOT2100000001	<b>Version</b> 1

**BID RECEIVING LOCATION**

**BID CLERK**  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25306  
 US

**VENDOR**

**Vendor Customer Code:** 000000 191088  
**Vendor Name:** Rolta Actrix Technologies, LLC  
**Address:** W480  
**Street:** Rockside Woods Blvd. S Suite 100  
**City:** Independence  
**State:** OH **Country:** USA **Zip:** 44131  
**Principal Contact:** MIKE WOOD  
**Vendor Contact Phone:** 304-415-3301 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

**Vendor Signature X** *[Signature]* **FEIN#** 371504931 **DATE** 4/18/21

All offers subject to all terms and conditions contained in this solicitation



***1.3 TERMS AND CONDITIONS***



# REQUEST FOR PROPOSAL

## WV LOTTERY CRFP LOT2100000001

**Example:**

Proposal 1 Cost is \$1,000,000  
Proposal 2 Cost is \$1,100,000  
Points Allocated to Cost Proposal is 300

Proposal 1: Step 1 –  $\$1,000,000 / \$1,000,000 =$  Cost Score Percentage of 1 (100%)  
Step 2 –  $1 \times 300 =$  Total Cost Score of 300

Proposal 2: Step 1 –  $\$1,000,000 / \$1,100,000 =$  Cost Score Percentage of 0.909091 (90.9091%)  
Step 2 –  $0.909091 \times 300 =$  Total Cost Score of 270.27273

- 6.8. Availability of Information:** Proposal submissions become public and are available for review immediately after opening pursuant to West Virginia Code §5A-3-11(b). All other information associated with the RFP, including but not limited to, technical scores and reasons for disqualification, will not be available until after the contract has been awarded pursuant to West Virginia Code of State Rules §148-1-6.3.d.

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Roite Advitez Technologies, LLC

\_\_\_\_\_  
(Company)

  
\_\_\_\_\_  
(Representative Name, Title)

Mika Munoz, Account Executive



304-615-3301/216-901-1447

\_\_\_\_\_  
(Contact Phone/Fax Number)

5/18/21

\_\_\_\_\_  
(Date)



**1.4 DESIGNATED CONTACT**

**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

*Aaron Tomlinson*

(Name, Title)

Aaron Tomlinson, IT Director

(Printed Name and Title)

6480 Rockside Woods Blvd. South, Suite 190, Independence, OH 44131

(Address)

216-901-1818 / 216-901-1447

(Phone Number) / (Fax Number)

atomlinson@advizex.com

(email address)

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

*Advizex Technologies, LLC*

(Company)

*[Signature]*

(Authorized Signature) (Representative Name, Title)

*M GARITO*

(Printed Name and Title of Authorized Representative)

*5/12/2021*

(Date)

*216 901 1818*

(Phone Number) (Fax Number)

**DESIGNATED CONTACT:** Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

*Aaron Tomlinson*

(Name, Title)

Aaron Tomlinson, IT Director

(Printed Name and Title)

6480 Rockside Woods Blvd. South, Suite 190, Independence, OH 44131

(Address)

216-901-1818 / 216-901-1447

(Phone Number) / (Fax Number)

atomlinson@advizex.com

(email address)

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

*Advizex Technologies, LLC*

(Company)

*[Signature]*

(Authorized Signature) (Representative Name, Title)

*M GARITO*

(Printed Name and Title of Authorized Representative)

*5/12/2021*

(Date)

*216 901 1818*

(Phone Number) (Fax Number)



***1.5 ADDENDUM ACKNOWLEDGEMENT***

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: CRFP LOT2100000001**

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

**Addendum Numbers Received:**  
*(Check the box next to each addendum received)*

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input checked="" type="checkbox"/> Addendum No. 6  |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input checked="" type="checkbox"/> Addendum No. 7  |
| <input checked="" type="checkbox"/> Addendum No. 3 | <input checked="" type="checkbox"/> Addendum No. 8  |
| <input checked="" type="checkbox"/> Addendum No. 4 | <input checked="" type="checkbox"/> Addendum No. 9  |
| <input checked="" type="checkbox"/> Addendum No. 5 | <input checked="" type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

**Rolta Advizex Technologies, LLC**

Company



Authorized Signature

**6/21/2021**

Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.



Department of Administration  
 Purchasing Division  
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 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
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<b>Proc Folder:</b> 871666			<b>Reason for Modification:</b> Addendum 1 issued to extend the bid opening date.
<b>Doc Description:</b> SCALABLE INFRASTRUCTURE STORAGE SOLUTION			
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-04-21	2021-05-25 13:30	CRFP 0705 LOT2100000001	2

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BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:**  
**Vendor Name :** Advizex Technologies, LLC  
**Address :** 6480  
**Street :** Rockside Woods Blvd. South, Suite 190  
**City :** Independence  
**State :** OH **Country :** USA **Zip :** 44131  
**Principal Contact :** Mika Munoz  
**Vendor Contact Phone:** 304-615-3301 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**

Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

Vendor  
 Signature X

*Scotch*

FEIN#

371504931

DATE

6/29/21

All offers subject to all terms and conditions contained in this solicitation





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<b>Proc Folder:</b> 871666		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM 2 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION		Addendum 2 issued to extend the bid closing date	
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-05-13	2021-06-08 13:30	CRFP 0705 LOT2100000001	3

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 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:** 000000181088

**Vendor Name :** Advizex Technologies, LLC

**Address :** 6480

**Street :** Rockside Woods Blvd. South, Suite 190

**City :** Independence

**State :** OH **Country :** USA **Zip :** 44131

**Principal Contact :** Mika Munoz

**Vendor Contact Phone:** 304-615-3301 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

**Vendor Signature X**  **FEIN# 37-1504931** **DATE 6/29/21**

All offers subject to all terms and conditions contained in this solicitation



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<b>Proc Folder:</b> 871666			<b>Reason for Modification:</b> Addendum 3 issued to publish a copy of vendor questions with responses.
<b>Doc Description:</b> ADDENDUM 3 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION			
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-05-24	2021-06-08 13:30	CRFP 0705 LOT2100000001	4

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 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:**

**Vendor Name :** Advizex Technologies, LLC

**Address :** 6480

**Street :** Rockside Woods Blvd. South / Suite 190


**City :** Independence

**State :** OH **Country :** USA **Zip :** 44131

**Principal Contact :** Mika Munoz

**Vendor Contact Phone:** 304-615-3301 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

**Vendor Signature X**  **FEIN#** 371504931 **DATE** 6/29/21

All offers subject to all terms and conditions contained in this solicitation



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<b>Proc Folder:</b> 871666		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM 4 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION		Addendum 4 issued to extend the bid opening (closing) date to 06/29/2021, 1:30 pm	
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-05-27	2021-06-29 13:30	CRFP 0705 LOT2100000001	5

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 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:**

**Vendor Name :** Advizex Technologies, LLC

**Address :** 6480

**Street :** Rockside Woods Blvd. South, Suite 190


**City :** Independence

**State :** OH **Country :** USA **Zip :** 44131

**Principal Contact :** Mika Munoz

**Vendor Contact Phone:** 604-605-3301 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

**Vendor Signature X**  **FEIN#** 371564931 **DATE** 6/29/21

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<b>Proc Folder:</b> 871666	<b>Reason for Modification:</b> Addendum 5 issued to clarify section 4.2.2.2 of the specs and cost sheet		
<b>Doc Description:</b> ADDENDUM 5 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION			
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-05-28	2021-06-29 13:30	CRFP 0705 LOT2100000001	6

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**VENDOR**

**Vendor Customer Code:**

**Vendor Name :** Advizex Technologies, LLC

**Address :** 6480

**Street :** Rockside Woods Blvd. South, Suite 190

**City :** Independence

**State :** OH

**Country :** USA

**Zip :** 44131

**Principal Contact :** Mika Munoz

**Vendor Contact Phone:** 304-615-3301

**Extension:**

**FOR INFORMATION CONTACT THE BUYER**

Linda B Harper  
(304) 558-0468  
linda.b.harper@wv.gov

Vendor  
Signature X

FEIN# 37-1504931

DATE 6/29-21

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<b>Proc Folder:</b> 871666		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM 6 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION		Addendum 6 issued to extend the bid opening (closing) date to July 9, 2021, 1:30 pm.	
<b>Proc Type:</b> Central Master Agreement		No other changes	
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-06-23	2021-07-09 13:30	CRFP 0705 LOT2100000001	7

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:** 000000181088

**Vendor Name :** Advizex Technologies, LLC

**Address :** 6480

**Street :** Rockside Woods Blvd. South, Suite 190

**City :** Independence

**State :** Ohio **Country :** USA **Zip :** 44131

**Principal Contact :** Mika Munoz

**Vendor Contact Phone:** 304-615-3301 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

**Vendor Signature X**  **FEIN# 37-1504931** **DATE 6/29/21**

All offers subject to all terms and conditions contained in this solicitation



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Proposals  
 Info Technology

<b>Proc Folder:</b> 871666		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM 7 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION		Addendum 7 to modify Section 4.2.2.37 of the specifications and publish a clarification.	
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-06-25	2021-07-09 13:30	CRFP 0705 LOT2100000001	8

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:** 600000181088  
**Vendor Name :** Advizex Technologies, LLC  
**Address :** 6480  
**Street :** Rockside Woods Blvd. South, Suite 190  
**City :** Independence  
**State :** OH **Country :** USA **Zip :** 44131  
**Principal Contact :** Mika Munoz  
**Vendor Contact Phone:** 304-615-3301 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**

Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

Vendor  
 Signature X

FEIN# 37-1504931

DATE 6/29/21

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Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Proposals  
 Info Technology

<b>Proc Folder:</b> 871666			<b>Reason for Modification:</b> Addendum 8 to open technical questions with a deadline of 07/02/2021, 3:00 pm,
<b>Doc Description:</b> ADDENDUM 8 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION			
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-06-30	2021-07-09 13:30	CRFP 0705 LOT2100000001	9

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Customer Code: 000000181088  
 Vendor Name: Advizex Technologies, LLC  
 Address: 6480  
 Street: Rockside woods Blvd. South, Suite 190  
 City: Independence  
 State: OH Country: USA Zip: 44131  
 Principal Contact: Mika Muror  
 Vendor Contact Phone: 304-615-3301 Extension:

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

Vendor Signature X FEIN# 37-1504931 DATE 6/30/21

All offers subject to all terms and conditions contained in this solicitation





Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Proposals  
 Info Technology

<b>Proc Folder:</b> 871666		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM 9 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION		Addendum 9 issued to publish the attached	
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-07-02	2021-07-09 13:30	CRFP 0705 LOT2100000001	10

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

**Vendor Customer Code:** 000 000 181 088  
**Vendor Name:** Advizex Technologies, LLC  
**Address:** 4480  
**Street:** Rockside woods Blvd. South, Suite 190  
**City:** Independence  
**State:** OH **Country:** USA **Zip:** 44131  
**Principal Contact:** Mike Linoz  
**Vendor Contact Phone:** 304-415-3801 **Extension:**

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

**Vendor Signature X** *Mike Linoz* **FEIN#** 37-1504931 **DATE** 7/2/21

All offers subject to all terms and conditions contained in this solicitation



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Proposals  
 Info Technology

<b>Proc Folder:</b> 871666		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM 10 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION		Addendum 10	
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-07-07	2021-07-09 13:30	CRFP 0705 LOT2100000001	11

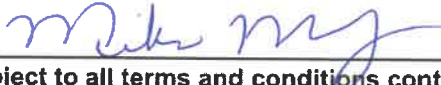
**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Customer Code: 000000 1F1088  
 Vendor Name: Advizex Technologies, LLC  
 Address: 4480  
 Street: Rockside woods Blvd. South, Suite 190  
 City: Independence  
 State: OH Country: USA Zip: 44131  
 Principal Contact: Mike Kuroz  
 Vendor Contact Phone: 304-415-3301 Extension:

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

Vendor Signature X  FEIN# 37-1504931 DATE 7/7/21

All offers subject to all terms and conditions contained in this solicitation



Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Centralized Request for Proposals  
 Info Technology

<b>Proc Folder:</b> 871666		<b>Reason for Modification:</b>	
<b>Doc Description:</b> ADDENDUM 11 - SCALABLE INFRASTRUCTURE STORAGE SOLUTION		Addendum 11	
<b>Proc Type:</b> Central Master Agreement			
<b>Date Issued</b>	<b>Solicitation Closes</b>	<b>Solicitation No</b>	<b>Version</b>
2021-07-08	2021-07-09 13:30	CRFP 0705 LOT2100000001	12

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Customer Code: 000000181088  
 Vendor Name: Advizex Technologies, LLC  
 Address: 02480  
 Street: Rockside woods Blvd. South, Suite 190  
 City: Independence  
 State: OH Country: USA Zip: 44131  
 Principal Contact: Mika Munoz  
 Vendor Contact Phone: 304-425-3301 Extension:

**FOR INFORMATION CONTACT THE BUYER**  
 Linda B Harper  
 (304) 558-0468  
 linda.b.harper@wv.gov

Vendor Signature X *Mika Munoz* FEIN# 37-1504931 DATE 7-8-21  
 All offers subject to all terms and conditions contained in this solicitation



***1.6 SOLICITATION ADMINISTRATION (COI)***

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
5/18/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> <b>CBIZ Insurance Services, Inc.</b> 6050 Oak Tree Blvd., South #500 Cleveland, OH 44131	<b>CONTACT NAME:</b> Erika Schabo <b>PHONE (A/C, No, Ext):</b> 216-447-9000 <b>E-MAIL ADDRESS:</b> elahti@cbiz.com		<b>FAX (A/C, No):</b> 216-447-9007
	<b>INSURER(S) AFFORDING COVERAGE</b>		
<b>INSURED</b> <b>AdvizeX Technologies, LLC</b> 6480 Rockside Woods Blvd. S Suite 190 Cleveland, OH 44131	<b>INSURER A :</b> Phoenix Insurance Co.		<b>NAIC #</b> 25623
	<b>INSURER B :</b> Travelers Prop. Cas. Co. of America		25674
	<b>INSURER C :</b> Hartford Insurance		
	<b>INSURER D :</b>		
	<b>INSURER E :</b>		
	<b>INSURER F :</b>		

**COVERAGES**                                  **CERTIFICATE NUMBER:**                                  **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:		6301S684339	05/01/2021	05/01/2022	EACH OCCURRENCE \$1,000,000
						DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000
						MED EXP (Any one person) \$10,000
						PERSONAL & ADV INJURY \$1,000,000
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY		BA1S687237	05/01/2021	05/01/2022	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000
						BODILY INJURY (Per person) \$
						BODILY INJURY (Per accident) \$
						PROPERTY DAMAGE (Per accident) \$
B	<b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$10,000		CUP1S687458	05/01/2021	05/01/2022	EACH OCCURRENCE \$15,000,000
						AGGREGATE \$15,000,000
C	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	45WECAA7S8F	11/01/2020	11/01/2021	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER
						E.L. EACH ACCIDENT \$1,000,000
						E.L. DISEASE - EA EMPLOYEE \$1,000,000
						E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER**                                  **CANCELLATION**

[Empty space for Certificate Holder]	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>Mark G. Stee</i>



**1.7 PURCHASING AFFIDAVIT**

STATE OF WEST VIRGINIA  
Purchasing Division

# PURCHASING AFFIDAVIT

**CONSTRUCTION CONTRACTS:** Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

**ALL CONTRACTS:** Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

**DEFINITIONS:**

**"Debt"** means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

**"Employer default"** means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

**"Related party"** means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: ADVIZEX TECHNOLOGIES, LLC

Authorized Signature: \_\_\_\_\_ Date: 6/30/21

State of OHIO

County of CUYAHOGA, to-wit:

Taken, subscribed, and sworn to before me this 30th day of JUNE, 2021

My Commission expires 12-26, 2022



SCOTT HESS  
NOTARY PUBLIC  
STATE OF OHIO  
Recorded in  
Cuyahoga County  
My Comm. Exp. 12/26/2022

NOTARY PUBLIC [Signature]





**1.8 DISCLOSURE OF INTERESTED PARTIES**

West Virginia Ethics Commission  
**Disclosure of Interested Parties to Contracts**

(Required by W. Va. Code § 6D-1-2)

Name of Contracting Business Entity: Advizex Technologies, LLC Address: 6480 Rockside Woods Blvd. South/St. 190 Independence, OH 44131

Name of Authorized Agent: Mika Munoz Address: 600 ANDERSON DR./PLAZA 10/2ND FL PITTSBURGH PA 15220

Contract Number: CRFP0705 LOT 2100000001 Contract Description: Scalable Infrastructure Storage Sol.

Governmental agency awarding contract: WV Lottery

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

**1. Subcontractors or other entities performing work or service under the Contract**

Check here if none, otherwise list entity/individual names below.

**2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)**

Check here if none, otherwise list entity/individual names below.

**3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)**

Check here if none, otherwise list entity/individual names below.

Signature: \_\_\_\_\_ Date Signed: 6/30/21

**Notary Verification**

State of Ohio, County of Cuyahoga:

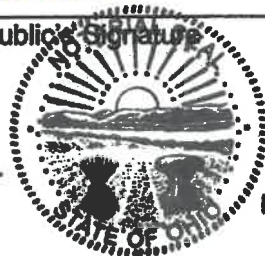
I, Scott Hess, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 30th day of June, 2021.

Scott Hess  
Notary Public's Signature

**To be completed by State Agency:**

Date Received by State Agency: \_\_\_\_\_  
Date submitted to Ethics Commission: \_\_\_\_\_  
Governmental agency submitting Disclosure: \_\_\_\_\_



SCOTT HESS  
NOTARY PUBLIC  
STATE OF OHIO  
Recorded in  
Cuyahoga County  
My Comm. Exp. 12/26/2022

## PHASE I - HW/ SW MODERNIZATION AND MIGRATION SERVICES

---

This request for proposal (RFP) is organized around the following sections, each of which will require responses from a respondent vendor, it will not be sufficient to respond with a copy of the section as stated in the RFP.

The intent is for the vendor to describe how they can meet or exceed specifications, with technical documentation or industry publications included as deemed necessary.

However, any attachments must be cross referenced to the applicable specification:

- Project Goals and Objectives
  - General Specifications
  - Additional Specifications
- Mandatory Requirements
- Qualifications and Experience
- Mandatory Qualifications

The primary focus of this project is to refresh the Lottery's existing infrastructure. This infrastructure includes virtualized systems, storage arrays, data protection, networking equipment and replication devices. This would include requisite support and end user training. Migration of services is to include the transition of existing services and applications to the new platform.

WV Lottery is seeking a vendor to provide OEM Hardware, Software, Installation, Migration, Maintenance, Support, Training, Erasure, and Operational Transition Services for our Charleston and Bridgeport, WV data centers. The project will be focused on three major phases:

- Phase I - Hardware/Software Modernization and Migration Services;
- Phase II - Application Lifecycle Transition Services and Disaster Recovery; and,
- Contract Term — These activities/costs apply to the entire duration of the contract and may span both phases.

The detailed project goals and objectives are listed below. Please describe in detail how your proposal will meet or exceed these goals and objectives. Note that marketing material should not be included 'as is' to provide these descriptions. Technical articles or industry information can be included as exhibits to each section with a cross reference to the corresponding feature.

Vendor is to describe in detail (writing) its approach and methodology to meeting or exceeding every objective or requirement documented in the Project Specifications.

This includes each of sections 4.2.1.1 through 4.2.1.102.

## 4.2.1.1 TO 4.2.1.16 PROJECT SPECIFICATIONS (GOALS AND OBJECTIVES)

### General Specifications

#### PHASE I Hardware/Software Modernization and Migration Services

Hardware/Software Modernization and Migration Services will include hardware/software delivery, start-up and configuration. The existing VM servers will be moved to the new hardware. At the end of this phase, activities will transition to Application Lifecycle Transition Services, these will include building the new VM server environment, data migrations, post installation premium support and decommissioning of hardware.

<p>4.2.1.1</p>	<p>Please describe in detail how your solution provides for Firmware and software upgrades across each area of the solution HCI, DPS, UDS and Networking.</p> <p>Vendor provided solution should include software that simplifies and consolidates all of the appliance hardware and software lifecycle management processes with a single, non-disruptive patch and upgrade capability. Non-disruptively means all data is accessible, writable, usable, and available prior, during, and after the lifecycle process. This simplified update package should also include patches, updates, and new versions of software defined storage software, hypervisor, management tools, security updates, as well as hardware firmware updates and drivers.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>Advizex proposes and recommends Dell EMC VxRail, IDPA, PowerScale, and PowerSwitch to meet your requirements.</b></p> <p><b>HCI – Dell EMC/VMware VxRail is the result of a unique industry partnership between Dell and VMware. Customers, like WV, benefit in that:</b></p> <ul style="list-style-type: none"> <li>• <b>The hardware releases, VMware software releases, vSphere, vSAN, are co-developed, tested, and verified by the VxRail engineering team before release</b></li> <li>• <b>All Hardware and software updates and patches are regression tested on the exact same certified hardware as all other customers</b></li> <li>• <b>Requires no customer-owned development/test environments to ensure that the updates or patches will be compatible.</b></li> <li>• <b>No other OEM except Dell EMC can provide this service on a continual basis throughout the supported life of the products.</b></li> <li>• <b>Dell EMC also packages vSphere, vSAN, drivers, firmware, VxRail manager, security patches into one single update that can be applied to each cluster node at a time.</b></li> </ul>

- Because of the inherent architecture of HCI and the proposed 6 node solution, there is no downtime required for these updates and no single point of failure.
- The 6 node cluster can accommodate 2 failures at once, which means that all data will be accessible, writable, usable, and available prior, during, and after the lifecycle process, even if an unexpected node failure occurs during the maintenance windows

**DPS – Similar to VxRail, Dell EMC’s Integrated Data Protection Appliance (IDPA) is a fully engineered solution, where Dell’s server and Data protection software divisions partner and deliver a unique customer advantage in consolidated system software release packages for server firmware, DPS, software, patches. These system software patches ensure:**

- All DPS software including Data Domain, Networker, Avamar, remain compatible with the server hardware environment as well as firmware on components within the IDPA.
- Greatly simplified management for WVL, as opposed to, other non-integrated competitive solutions where multiple software applications would need to be updated, on multiple operating systems, and potentially separate non-integrated storage arrays. IDPA is the only solution that fully integrates all WVL’s data protection into one 2U simple to use and manage appliance.

**UDS – PowerScale UDS storage solution helps WVL perform regular software and firmware updates via one streamlined automated process. PowerScale’s Non-Disruptive Upgrade process (NDU) supports a variety of modes that allow WVL to balance upgrade time with availability. This Rolling Upgrade provides the highest availability by updating one(1) node at a time and then moving to the next. This mode installs all available software and firmware updates on a node in maintenance mode, restart, validate and then move with the next node. All of this is done while keeping all data accessible, writable, and usable during the upgrade process.**

**Networking – Dell EMC’s PowerSwitch data center switch updates combine boot code and CPLD (firmware) into one update bundle for WVL. This simplified maintenance for the Top of Rack (TOR) switches included in the Advizex recommended solution. The TOR environment also includes fully redundant paths for HCI, DPS, and UDS along with high-speed Interconnect switch links (ISL) that eliminate single points of failure in the TOR fabric for these solutions. These configurations allow maintenance to occur with all dependent data services remaining available.**

<b>4.2.1.2</b>	<p>Please describe in detail how your solution will provide for contact management including a decision tree that shows how calls would be managed for multiple components. Phone and onsite support for any hardware/software issues including but not limited to HCI, UDS, DPS and Networking.</p> <p>Vendor provided HCI, UDS, DPS and Networking solution should allow for a streamlined method of contact which minimizes the number of involved parties for all of the integrated components, including the hypervisor, from a single call, single contract, backed by a monitored dial-home secure remote connection for monitoring, diagnosis, and repair for ALL devices in the solution. The manufacturer (OEM) would take ownership of the support incident through the entire process of resolution.</p>
	<p><b>Response:</b></p> <p>The Advizex recommended and provided Dell technical solutions for WVL all include 5 years of ProSupportPlus. Support incidents for this single support contract service level may be entered via Dell Support assist enterprise – a secure remote monitoring, diagnostic, and proactive secure remote connection for the entire solution; or initiated by WVL through a single point of contact with Dell support.</p> <p>One of the unique advantages of the Dell solution(s) is the fact that the entire solution including VMware Vsphere hypervisor and VCenter for VxRail is supported by the Dell support team. This streamlined approach avoids unnecessary handoffs between hardware and software OEM’s for most support. Another major advantage of the ProSupportPlus offering is that it includes a named support account manager (SAM) to help coordinate complex and multiple component support when necessary.</p> <p>In the event of a complex, critical, or multiple component incident – the assigned SAM is engaged to help coordinate with WVL and the multiple support teams to ensure that all parties work together towards complete incident resolution. Should the case need to be escalated further because of unique technical complexity or severity, a resolution manager will also be engaged to help coordinate resources, work with the SAM and make sure all support milestones are kept while keeping the customer in communication along the way until resolution.</p>



4.2.1.3

Please describe in detail how your solution meets the Lottery's Disaster Recovery and Business Continuity requirements as described in this RFP. This process should account for failover and failback. Provided solution should be capable of automated failover of UDS, HCI and DPS services from one location to another.

The software should be capable of automating all steps of the failover process, include the capability to automate failover of NAS services, but not limited to Active Directory changes, DNS changes, host and IP Address changes and Windows or Linux client access. Solution should include readiness monitoring and continuous testing of the DR features that permit non-disruptive testing while data is being replicated.

**Response:**

**100% Comply**

The Advizex recommended Dell EMC solution contains a broad range of features and capabilities that WVL can leverage to ensure the highest level of Business continuity and Disaster Recovery preparedness. Advizex understands the goals WVL has set to achieve and has assembled a solution that will meet all of them.

Starting with HCI, Advizex has designed a 6-node HCI cluster, per-site, and configured it with the required capacity from a RAM, compute, storage perspective to fully meet WVL's performance objectives and availability needs with up to two(2) major failures; including complete node failure.

Each of these clusters are capable of independent service. WVL's virtualization needs are configured to tolerate two failures.

The next step is current data availability and synchronization between sites for vSphere. Our solution also includes RecoverPoint for Virtual Machines software (RPVM). It provides journaled replication of all VM's on 15-minute intervals or less. This VM-based replication, as well as consistency groupings, ensure that WVL's Recovery Point Objective (RPO) can be met within 15 minutes for all VMware guests.

The consistency groupings allow WVL to group applications and databases for consistent recovery in the event these clones need to be activated at the Secondary location. RPVM automates changes required



to accelerate the Recovery Time Objective (RTO) like IP address changes, DNS registrations, AD changes, and service configuration changes.

RPVM also provides the capability for WVL and their agents to test failover events, scripts, and automations to ensure that they are ready in the event of a disaster. These tests can be done non-disruptively to sample VM's at the secondary site and are destroyed once they are no longer needed.

With HCI, a critical component is often missed; the ability to roll forward changes from DR back to Production. RPVM includes the capability to roll changes made during an actual disaster back into the restored production systems to improve the quality and recovery timeline.

For UDS, Advizex is recommending two(2) PowerScale clusters. One(1) for each location and has partnered with Superna Disaster recovery suite to provide the highest level of failover for UDS services available.

The PowerScale hardware, at the onset, uses a modular, scale-out architecture with four(4) active-storage nodes and advanced erasure coding HA storage practices. These ensure extremely high Mean Time Between Failure (MTBF) and fault resiliency in each cluster.

In the event of a disaster with significantly affected all nodes or the entire data center, the UDS data will have already been replicated to the secondary cluster and the Superna DR solution will automate the failover process for clients to connect to the surviving active cluster.

For Data Protection, IDPA uses Data Domain global deduplication and replication functions.

With IDPA protecting backups at each location, the internal Data Domains will replicate backup data and catalogs to the alternate locations(s).

The single unified data protection console, called System Manager, will be used to monitor SLA's, replication, and switch the backup catalogs from primary to secondary, as needed, to protect workloads that may have been migrated due to a disaster event.

The Advizex recommended Dell EMC solution includes:

	<ul style="list-style-type: none"> <li>• Comprehensive disaster preparedness</li> <li>• High levels of primary redundancy within the solutions</li> <li>• Secondary matched DR systems with full replication of data</li> <li>• Incremental journaled replication to ensure 15-minute RPOs for all VMware environments</li> <li>• Comprehensive and efficient backup solutions for both sites with network efficient and reliable replication</li> <li>• Ensures a consistent ability to restore from backup, if needed</li> </ul> <p>These comprehensive capabilities for DR preparedness, recovery, automation, monitoring, and testing will ensure that WVL can deliver a continuous DR testing strategy to ensure the highest levels of application availability achievable today.</p>
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<p>4.2.1.4a</p>	<p>Please describe in detail how your solution will meet the Lottery's Point in Time Recovery and Recovery Point Objectives.</p> <p>Vendor provided DPS solution should include software licensing for each WVL data center that provides Point in time recovery for all WVL virtual guests via journal based bi-directional VM replication. The Recovery Point Objective for replication should be 15 minutes or less. This replication software should include features designed to reduce RTO including DR testing, validation, fail-over and fail-back automation, including automation processes for IP address changes and DNS updates.</p> <p>This point in time recovery solution should include and be licensed for the capability of establishing at least five (5) consistency groups of guests which in the event of a failover, have identical RPO's and maintain application consistency as a group or per virtual machine. The product should also provide any point-in-time recovery per VM.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended solution is licensed for Dell EMC RecoverPoint for Virtual Machines (RPVM). RPVM provides point-in-time DVR-style recovery of virtual machines, volumes, or consistency groups containing multiple objects.</p>

	<p><b>RPVM:</b></p> <ul style="list-style-type: none"> <li>• Uses bidirectional journal replication</li> <li>• Is efficient enough to provide 15 minute or less RPO for all VMs</li> <li>• Features for DR testing, validation, as well as, fail-over, and fail-back automation</li> <li>• Supports scripting to automate other custom actions such as IP changes, DNS, MAC cloning, or other changes that may be required in a DR scenario.</li> <li>• Enables the capture of changes made at the DR site in the event of a DR event so that new data can be replicated back to the Production site when the DR event is over</li> <li>• Supports up to 64 consistency groups</li> <li>• Supports consistency group sets to ensure consistent recovery of interdependent applications</li> </ul>
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<p>4.2.1.4b</p>	<p>Please describe how your DPS solution simultaneously supports standard applications, platforms, and protocols with application consistent protection (Backups that restore a useable platform), e.g. MS Exchange, SMSSQL, System State and SharePoint. This is related to structured data backups and restore.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell EMC IDPA solution fully supports application-consistent backup by leveraging VMware image-level backup capability and vSphere snapshots, the VM state, as well as, data in memory, and in-transaction data being backed up backed up.</p> <p>The IDPA solution is able to leverage VMware vStorage API for Data Protection (VADP) as well as Microsoft's Volume shadow copy service (VSS)/ This delivers fully-consistent application backups for any supported Windows server, including Exchange, SharePoint, and MSSQL.</p>

<p>4.2.1.5</p>	<p>Please describe in detail how your solution meets the Lottery's requirements for data compression of backups without additional licenses or hardware additions.</p>
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	<p><b>Vendor provided DPS solution should include data reduction software capable of logically storing at least 1.56PB of backup data (Lottery currently gets 26:1 data reduction) on the included data protection storage, without additional licenses or hardware additions. Provide the average compression rate for your DPS solution.</b></p> <p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA solution includes the latest software-defined version of EMC Data Domain, the industry leader in data reduction and purpose-built data protection storage.</b></p> <p><b>IDPA’s integrated Data Domain is the only product available that will be able to match your current 26:1 data reduction performance (currently on Data Domain).</b></p> <p><b>Other competitive solutions with mismatched Software and storage hardware would require tremendous capacity to deliver the WVL’s 1.56PB of logical capacity while IDPA is able to deliver this within 2U as configured in our proposal.</b></p> <p><b>In addition, if WVL needs to expand – IDPA already includes an additional 624TB of logical capacity in the appliance, 2.184PB total, that can be enabled with a simple license key. <u>No hardware installations required.</u></b></p>
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<p><b>4.2.1.6</b></p>	<p><b>Please describe in detail how your HCI solution handles the adding or replacing of compute storage functions without disruptive impact to production.</b></p> <p><b>Response:</b>  <b>100% Comply</b></p> <p><b>Advizex recommends the VxRail leveraged VMware vSphere hypervisor, vCenter management, vSAN Software defined storage (SDS) and VMotion. It supports lifecycle refresh and capacity adds without any disruption to production.</b></p> <p><b>The Advizex recommended solution leverages a 6-node cluster, per location, and supports two(2) simultaneous failures that include up to 2 complete nodes.</b></p>
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	<p><b>This allows for a node to be placed in maintenance mode, removed from the cluster, or an unplanned node failure without any loss of productivity.</b></p> <p><b>VxRail manager fully automates updates, cluster adds, cluster node retirement, and even new model VxRail appliances to be added to the cluster allowing your next hardware refresh to occur with no downtime.</b></p> <p><b>VxRail doesn't require storage pinning or storage only nodes to accomplish this – rather every node is able to contribute to vSphere and vSAN equally. This maximizes availability and minimizes management for WV.</b></p>
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<p><b>4.2.1.7</b></p>	<p><b>Please describe in detail how the vendor provided HCI solution software has the ability to scale-out one node at a time with very few simple steps non-disruptively—and once added, automatically rebalance resources and workloads across the cluster, creating a single pool of resources.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended VxRail solution is designed for life-cycle management from the start. When a new node or even new model nodes are connected into the VxRail cluster, VxRail manager will detect the new node and prompt the admin to add the new node to the existing cluster.</b></p> <p><b>The VxRail manager will deploy the same consistent software bundle running in the cluster to the new node fully automated. Once the node has been configured by VxRail manager, the storage pool will be expanded, CPU resources will be expanded, and RAM will be expanded. VMware will then be able to re-balance the guests and workloads across the new and existing nodes.</b></p> <p><b>Using VMotion to migrate the workloads between nodes ensures that these operations all occur non-disruptively.</b></p>

4.2.1.8	<p>Please describe in detail how the vendor provided HCI solution includes software to deliver the capability to provide Quality of Service on a per-VM basis.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended VxRail solution uses VMware vSAN and offers a Storage Policy-based management (SPBM) rules.</p> <p>The storage policy is applied at the vSAN object level, as a result, QOS or storage policies can be applied at the VMDK, VM, or vSAN datastore level. In fact, multiple policies can even be applied to the same VM.</p> <p>These vSAN policies will allow WVL to prioritize critical business applications, while “noisy neighbor” processes and VM’s can be limited and controlled. The granular and simple consistency of these policies allow WVL to avoid complex data and capacity management of diverse storage pools and only apply rules where needed at the VMDK or VM level.</p>

4.2.1.9	<p>Please describe in detail how the vendor provided HCI solution includes software to deliver the capability to provide Storage-policy based management on a per-VM basis.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended VxRail solution uses VMware vSAN and offers a Storage Policy-based management (SPBM) rules. The storage policy is applied at the vSAN object level, as a result, QOS or storage policies can be applied at the VMDK, VM, or vSAN datastore level. In fact, multiple policies can even be applied to the same VM.</p> <p>These vSAN policies will allow WVL to prioritize critical business applications, while “noisy neighbor” processes and VM’s can be limited and controlled. The granular and simple consistency of these policies allow WVL to avoid complex data and capacity management of diverse storage pools and only apply rules where needed at the VMDK or VM level.</p>

<p>4.2.1.10</p>	<p>Please describe in detail how the vendor provided HCI solution software delivers the capability to provide Storage-policy based management on a storage group or pool basis.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended VxRail solution uses VMware vSAN and offers a Storage Policy-based management (SPBM) rules.</p> <p>The storage policy is applied at the vSAN object level, as a result, QOS or storage policies can be applied at the VMDK, VM, or vSAN datastore level.</p> <p>In fact, multiple policies can even be applied to the same VM.</p> <p>These vSAN policies will allow WVL to prioritize critical business applications, while “noisy neighbor” processes and VM’s can be limited and controlled. The granular and simple consistency of these policies allow WVL to avoid complex data and capacity management of diverse storage pools and only apply rules where needed at the VMDK or VM level.</p>

<p>4.2.1.11</p>	<p>Please describe in detail how your UDS software solution included the capability to add or replace nodes non-disruptively for lifecycle management. Non-disruptively means all data is accessible, writable, usable, and available prior, during, and after the lifecycle process.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>Advizex recommended and provided PowerScale is designed to be highly available during software upgrades, node refreshes, node failures, or node additions:</p> <ul style="list-style-type: none"> <li>• When nodes are added, the purpose-built native file services operating system (OneFS) will expand the cluster capacity and redistribute the data non-disruptively among all active nodes.</li> <li>• When nodes are scheduled for refresh, OneFS will initiate the smartfail process which evacuates all data from the node and</li> </ul>



	<p>distributes to remaining nodes non-disruptively and then removes the node from the cluster seamlessly.</p> <ul style="list-style-type: none"> <li>• In the event of an unexpected failure, OneFS leverages erasure coding protection to protect the data and provide availability with protection policies designed to meet WVL's unique availability requirements.</li> </ul>
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<p>4.2.1.12</p>	<p>Please describe in detail how your UDS solution provides Ransomware Protection and Auditing/Storage Management functions, including but not limited to:</p> <ul style="list-style-type: none"> <li>• <b>Advanced Auditing</b> — software for auditing purposes that includes scheduled reporting, searching, pro-active data protection with automated responses, and interactive user interfaces for viewing audit information.</li> <li>• <b>Ransomware Prevention</b> — included software to automate the incident response activity in regard to ransomware on a file system. The software feature should provide the capability to actively monitor user behavior analytics, and detect abnormal file access behavior to protect the data. The ransomware prevention feature should include the capability to take automatic snapshots of data in response to abnormal behavior, as well as automatically denying the user who initiated the abnormal behavior until verified and unlocked by an admin.</li> <li>• <b>Storage monitoring</b> — included software should include software capability to create quota policies with templates, provide granular disk usage reporting, quota management, and a help desk function to delegate locked and lost file assistance.</li> </ul> <p><b>Response:</b></p> <p><u>Advanced Auditing</u>  <b>100% Comply</b></p> <p>The Advizex recommended UDS solution includes advanced auditing provided by Superna Easy Audit for PowerScale. Easy Auditor is a powerful auditing platform native to PowerScale with custom triggers, continuous search results, configurable actions, wiretap real time auditing, data loss prevention, and AI powered Robot Audit which automates event creation and report validation. Superna is the only solution available that can audit SMB, NFS, and HDFS. Easy audit is completely integrated with PowerScale, leveraging PowerScale for</p>
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	<p><b>compute, storage, and integrated snapshot/replication features of PowerScale.</b></p> <p><b><u>Ransomware Prevention</u></b>  <b>100% Comply</b>                  The Advizex recommended UDS solution includes Ransomware Prevention provided by Superna Ransomware Defender. Superna Ransomware defender (SRD) leverages advanced automated and integrated audit features and analytics to actively monitor and automatically respond to potential ransomware attacks. SRD will detect abnormal file access patterns, initiate native PowerScale snapshots, and disable the source user or machine to prevent further attack. This allows administrators to act and address the source before all data is encrypted or damaged. In addition, SRD now includes a managed banned list of over 2500 extensions, and expanded behavior detection analysis with honeypot and support for air-gapped PowerScale with 1 hour RPO.</p> <p><b><u>Storage Monitoring</u></b>  <b>100% Comply</b>                  The Advizex recommended solution includes Superna Cluster Storage Monitor (CSM) with AD integrated quota templates, granular cluster storage reports, AD integrated automatic and group enabled quota management, and help desk functions for file unlocking. Superna also offers a self-service user data recovery portal which enables version history, full content searching, and recovery of files from snapshots.</p>
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<p><b>4.2.1.13</b></p>	<p><b>Please describe in detail how the OEM hardware is delivered, setup, configured and testing with respect to support personnel, describe how these services will be delivered (on-site vs. remote) and by whom (vendor/OEM staff).</b></p>
	<p><b>Response:</b>                  The Advizex recommended solution includes Dell EMC ProDeployPlus for every hardware component in the solution. ProDeployPlus includes the follow OEM provided services:                  Site Readiness review                  Implementation planning                  Onsite hardware installation and packaging material removal                  Install and configure system software                  Install support software and connect to Dell Technologies CloudIQ</p>

**Document project and perform knowledge transfer**  
**Deployment verification**  
**Transfer of configuration data to Dell EMC tech support**

**An Example of detailed service tasks for HCI is as follows:**

- **Reviews the completed Pre-engagement Questionnaire with Customer to get acceptance and verify accuracy of documented configuration details.**
- **Performs pre-deployment validation to verify requirements are met.**
- **Validates that the Customer-provided ToR switch meets the requirements for VxRail deployment.**
- **Validates that the Customer-provided external vCenter meets the requirements for VxRail deployment.**
- **Conducts a deployment review meeting.**
- **Validates that the equipment is on site at the appropriate location with power and cable requirements met.**
- **Performs physical installation of VxRail nodes, including racking, cabling, connecting to ToR switch, and powering up.**
- **Provides project-specific physical installation instructions as well as active expert guidance for Customer.**
- **Deploys and configures VxRail cluster per Customer requirements.**
- **Enables Data-At-Rest-Encryption (DARE) on the vSAN datastores, if required, and if VMware approved KMS server is accessible.**
- **Verifies that the nodes are added to the VxRail cluster.**
- **Performs secure remote support client setup and verifies connectivity.**
- **Completes deployment verification.**
- **Registers the Customer to receive product alerts.**
- **Completes solution deployment validation.**
- **Conducts a basic Knowledge Transfer.**

**Advizex will provide a Single Point of contact Program manager from Advizex staff to perform consolidated program management throughout all phases of the project.**

4.2.1.14

Please describe in detail your proposed plan for OEM onsite residency (dedicated on-site support) and off-site support during the life cycle of the project. This should also include your plan for onsite and remote support for pre and post deployment deliverables.

**Response:**

**Advizex recommends and has provided for OEM Onsite residency services in the following amounts:**

**HCI (3) months or approximately 480 hours.**

**UDS (2) months or approximately 320 hours.**

**DPS (1) month or approximately 160 hours.**

The Dell EMC OEM onsite residency services are designed to offer flexible technical support services to assist WVL in accepting operational responsibility of their new systems. Each of these resident engineers will be a senior level technical resource with focused education and certifications in their specific area of expertise as well as related platforms. These resident engineers will have deep technical knowledge of provided solution(s) as well as overall IT knowledge and experience. The Dell Resident engineers (residents) will ensure that best practices for optimization have been followed and that the systems are configured to support WVL's IT policies, processes, and procedures. These resident engineers will also partner with Advizex technical resources to provide an integrated support and operational transition plan for WVL. These plans will result in documented designs, runbooks, and knowledge transfer for the new environment.

**Specifically: Advizex recommends the following activities for WVL by Resident services by technology: (not limited to)**

**HCI:**

**Configure new VMware infrastructure with VxRail to meet best practices and WVL's IT policies, processes, and procedures**

**Create replication processes for Virtual machines between Charleston and Bridgeport.**

**Works with DPS resident to complete recover point failover automations.**

**Provisions VSAN storage, configures vSAN policies**

**Defines processes and procedures for operating system templates, configuration processes, and day 2 growth**

**Optimizes VMware software and VxRail Hardware**

**Sets up reporting to ensure performance of VxRail environment.**

**Tests failover and fault tolerance of VxRail environment**

	<p><b>UDS:</b>          Performs advanced configuration ensuring seamless integration in WVL's Active Directory          Perform configuration and tests Failover, WORM, replication, and other Powerscale software          Works with WVL's document imaging vendor to assist in planning for the cutover from Centera to Powerscale.          Partners with DPS resident to ensure data protection policies are met          Creates reports for WVL, helps to define processes and documentation for Superna Suite as well as Powerscale software          Develops runbooks for UDS DR          Sets up reports to monitor system health and performance</p> <p><b>DPS:</b>          Plans and configures backup policies with WVL          Integrates with Vmware, and Powerscale to ensure all environments are properly protected          Designs, implements, and tests RPVM failover to Bridgeport.          Configures reporting to ensure Data protection performance and SLA's are met          Transitions backup policies from old to new environment          Fine tunes backup procedures          Works with WVL to test backup, restore, and replications</p>
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<p><b>4.2.1.15</b></p>	<p><b>Describe how your solution meets the following objectives for the original equipment manufacturer (OEM):</b></p> <p>The manufacturer of the proposed products should be listed on the Gartner Magic Quadrant report as defined below matching the technology type. Gartner Documents provided. (see Appendix 1 for Gartner Reports).</p> <ul style="list-style-type: none"> <li>• HCI — as described in 2019 Gartner Magic Quadrant report for HCI.</li> <li>• DPS — as described in 2020 Gartner Magic Quadrant report for Data Center Backup and recovery solutions.</li> <li>• UDS - as described in 2020 Gartner Magic Quadrant report for Distributed File Systems and Object Storage.</li> </ul>
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	<ul style="list-style-type: none"> <li>• <b>Networking</b> — as described in 2020 Magic Quadrant for Data Center and Cloud Networking.</li> <li>• For each subsystem (HCI/DPS/UDS/Networking) , identify where you are ranked according to the following categories: Not Listed, Niche, Visionary, Challengers, Leaders</li> </ul>
	<p><b>Response:</b></p> <p><b>HCI - Leaders Quadrant</b>  <b>DPS - Leaders Quadrant</b>  <b>UDS - Leaders Quadrant</b>  <b>Networking - Visionaries Quadrant</b></p>

	<p>Describe how your solution can meet or exceed the timeline shown below as a sample. Include all assumptions. An approved timeline will be included as part of the contractual terms for this RFP. Note that pre-planning precedes hardware/software delivery and that hardware/software delivery starts the timeframe for completion of the project.</p>																																																																																				
<p>4.2.1.16</p>	<table border="1"> <thead> <tr> <th>Task Name</th> <th>Duration</th> <th>Start</th> <th>Finish</th> </tr> </thead> <tbody> <tr><td>1 Pre-Planning</td><td>16 days</td><td>Fri 3/12/21</td><td>Wed 3/31/21</td></tr> <tr><td>2 Installation</td><td>7 days</td><td>Thu 4/1/21</td><td>Fri 4/9/21</td></tr> <tr><td>3 Unit Testing</td><td>3 days</td><td>Fri 4/9/21</td><td>Tue 4/13/21</td></tr> <tr><td>4 System Testing</td><td>7 days</td><td>Tue 4/13/21</td><td>Wed 4/21/21</td></tr> <tr><td>5 Software Testing</td><td>7 days</td><td>Sun 4/18/21</td><td>Mon 4/26/21</td></tr> <tr><td>6 Changes</td><td>5 days</td><td>Mon 4/26/21</td><td>Fri 4/30/21</td></tr> <tr><td>7 Final Testing</td><td>7 days</td><td>Fri 4/30/21</td><td>Mon 5/10/21</td></tr> <tr><td>8 Migration</td><td>14 days</td><td>Mon 5/10/21</td><td>Thu 5/27/21</td></tr> <tr><td>9 Phase I Cutover</td><td>0 days</td><td>Tue 6/1/21</td><td>Tue 6/1/21</td></tr> <tr><td>10 VM Upgrade</td><td>14 days</td><td>Thu 6/10/21</td><td>Tue 6/29/21</td></tr> <tr><td>11 SQL Upgrade</td><td>7 days</td><td>Tue 6/29/21</td><td>Wed 7/7/21</td></tr> <tr><td>12 Exchange Upgrade</td><td>7 days</td><td>Sun 7/4/21</td><td>Mon 7/12/21</td></tr> <tr><td>13 Other Upgrades</td><td>7 days</td><td>Wed 7/7/21</td><td>Thu 7/15/21</td></tr> <tr><td>14 Documentation</td><td>21 days</td><td>Tue 6/1/21</td><td>Tue 6/29/21</td></tr> <tr><td>15 Phase II Complete</td><td>0 days</td><td>Thu 7/1/21</td><td>Thu 7/1/21</td></tr> <tr><td>16 Residency - HCI</td><td>90 days</td><td>Thu 7/1/21</td><td>Wed 11/3/21</td></tr> <tr><td>17 Residency - DPS</td><td>30 days</td><td>Thu 7/1/21</td><td>Wed 8/11/21</td></tr> <tr><td>18 Residency - UDS</td><td>60 days</td><td>Thu 7/1/21</td><td>Wed 9/22/21</td></tr> <tr><td>19 Ensure</td><td>7 days</td><td>Wed 11/3/21</td><td>Thu 11/11/21</td></tr> <tr><td>20 De-Commission</td><td>0 days</td><td>Thu 11/11/21</td><td>Thu 11/11/21</td></tr> </tbody> </table>	Task Name	Duration	Start	Finish	1 Pre-Planning	16 days	Fri 3/12/21	Wed 3/31/21	2 Installation	7 days	Thu 4/1/21	Fri 4/9/21	3 Unit Testing	3 days	Fri 4/9/21	Tue 4/13/21	4 System Testing	7 days	Tue 4/13/21	Wed 4/21/21	5 Software Testing	7 days	Sun 4/18/21	Mon 4/26/21	6 Changes	5 days	Mon 4/26/21	Fri 4/30/21	7 Final Testing	7 days	Fri 4/30/21	Mon 5/10/21	8 Migration	14 days	Mon 5/10/21	Thu 5/27/21	9 Phase I Cutover	0 days	Tue 6/1/21	Tue 6/1/21	10 VM Upgrade	14 days	Thu 6/10/21	Tue 6/29/21	11 SQL Upgrade	7 days	Tue 6/29/21	Wed 7/7/21	12 Exchange Upgrade	7 days	Sun 7/4/21	Mon 7/12/21	13 Other Upgrades	7 days	Wed 7/7/21	Thu 7/15/21	14 Documentation	21 days	Tue 6/1/21	Tue 6/29/21	15 Phase II Complete	0 days	Thu 7/1/21	Thu 7/1/21	16 Residency - HCI	90 days	Thu 7/1/21	Wed 11/3/21	17 Residency - DPS	30 days	Thu 7/1/21	Wed 8/11/21	18 Residency - UDS	60 days	Thu 7/1/21	Wed 9/22/21	19 Ensure	7 days	Wed 11/3/21	Thu 11/11/21	20 De-Commission	0 days	Thu 11/11/21	Thu 11/11/21
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14 Documentation	21 days	Tue 6/1/21	Tue 6/29/21																																																																																		
15 Phase II Complete	0 days	Thu 7/1/21	Thu 7/1/21																																																																																		
16 Residency - HCI	90 days	Thu 7/1/21	Wed 11/3/21																																																																																		
17 Residency - DPS	30 days	Thu 7/1/21	Wed 8/11/21																																																																																		
18 Residency - UDS	60 days	Thu 7/1/21	Wed 9/22/21																																																																																		
19 Ensure	7 days	Wed 11/3/21	Thu 11/11/21																																																																																		
20 De-Commission	0 days	Thu 11/11/21	Thu 11/11/21																																																																																		
	<p><b>Response:</b></p> <p><b>We have reviewed your sample timeline and acknowledge the fact that an approved timeline will be created as part of the contractual terms for this RFP.</b></p> <p><b>Upon acceptance of our proposal and negotiation of the final contract, Advizex Program Management begins. As with engagements of this type and size, it is critical that Project Management starts as early in the process as possible.</b></p> <p><b>The timeline provided in this RFP document will be reviewed by WVL, Advizex, and the OEM. We, as a team, will discuss the process and</b></p>																																																																																				



address any changes that may be necessary based upon the products being proposed and our past experiences. The resulting deliverables will include the following:

- A mutually accepted timeline
- A detailed Statement of Work that includes tasks and deliverables
- A WVL signed “Intent to Proceed “ and Purchase Order so the procurement process will start
- Project Management processes begin:
  - Team identification and roles
  - Project Kickoff
  - Plan review
  - Team Communication methods and processes
  - Initial scheduling
  - Escalation processes for Sales and Technical issues
  - Change Management processes
  - Risk Management procedures
  - Project issue and resolution tracking throughout the project
  - Project time reporting processes
  - Project communications for Stakeholders/C-Level entities and project participants
  - Meeting schedules
  - Short-term and long-term planning for deployment outage concerns
  - Milestones for deployment and deliverables

Our most important focus point concern is that the planned efforts and resulting deliverables meet your mandatory and mutually accepted expectations; we will do and delivery exactly what you asked for. Advizex has a robust Scope Change Process to eliminate Scope Creep and keep everyone on the same page and maintain project progress.

Project progress will be reported on a regular basis and that completed milestones will require WVL validation and signature of acceptance. This will continue until the completion of the final project deliverables.

Prior to the project completion, Advizex will meet with WVL stakeholders to discuss the handoff of all “As Built” documentation and the smooth handoff of all post-implementation support, technical reporting and escalation processes, and the consideration of “Spot Health Checks” to validate expected performance and identify any areas of concern.



	<p><b>Of anything that could affect timelines of this project, component delays overseas due to shortages, technology issues, and shipping delays may affect the delivery of the product and could possibly affect the overall timeline.</b></p>
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**4.2.1.17 TO 4.2.1.19 ADDITIONAL SPECIFICATIONS - HARDWARE SPECIFICATIONS**

Hyperconverged Hardware (HCI) — Also see mandatory specifications.

<p><b>4.2.1.17</b></p>	<p><b>Vendor provide HCI solution should include integrated health monitoring components that regularly report component health, status, utilization, configuration information, to the OEM for support and repair enablement.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended VxRail solution is supported by a wide variety of customer-friendly integrated health monitoring and service enabling features:</b></p> <ul style="list-style-type: none"> <li>• <b>The Dell EMC Support Assist Enterprise is used to send health information to Dell EMC for processing by Dell’s AI/ML predictive maintenance and service tools.</b></li> <li>• <b>SupportAssist automatically detects issues, captures system state information, and imitates alerts and contact from DellEMC.</b></li> <li>• <b>VxRail offers VxRail Analytical Consulting Engine. (ACE) is a web portal that centralizes data collection and analytics that WVLC can use streamline monitoring and make better decisions on how to manage performance and capacity of your HCI solution.</b></li> </ul>

<p><b>4.2.1.18</b></p>	<p><b>Vendor provided HCI solution should include defective media retention feature for 5 years (60 months) or greater.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended VxRail solution includes sixty(60) months of defective media retention; keep your hard drive.</b></p>

<b>4.2.1.19</b>	Each HCI solution host should include a minimum of two (2) Hot-swap power supply units.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>Each Advizex recommended VxRail solution node includes two(2) hot-swap power supplies.</p>

**4.2.1.20 TO 4.2.1.24 DOMAIN CONTROLLERS HARDWARE (PHYSICAL SERVER)**

<b>4.2.1.20</b>	Vendor provided server solution should include integrated health monitoring components that regularly report component health, status, utilization, configuration information, to the OEM for support and repair enablement.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended PowerEdge is supported by a wide variety of customer-friendly integrated health monitoring and service-enabling features.</p> <ul style="list-style-type: none"> <li>• Dell EMC Support Assist Enterprise is used to send health information to Dell EMC for processing by Dell's AI/ML predictive maintenance and service tools.</li> <li>• SupportAssist automatically detects issues, captures system state information, and initiates alerts and contact from Dell EMC.</li> <li>• Dell EMC will also proactively open a case and notify WV of and required dispatch of parts.</li> <li>• SupportAssist also provides predictive issue detection, and reports recommendations to help with failure prevention.</li> </ul>

<b>4.2.1.21</b>	Vendor provided server solution should include integrated health monitoring components that regularly report component health, status, utilization, configuration information, to WV lottery via free web and mobile applications for support, capacity planning, health status, and configuration consistency.
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	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Open Manage Enterprise (OME) is a free appliance that runs in your environment to gather health, status, and configuration information. OME will integrate into VMware vCenter, ServiceNow, ansible Modules, and other frameworks.</p> <p>OpenManage Mobile provides visibility into the health of your hardware infrastructure using Android, iOS smartphones, or tablets and quickly alerts IT pros to critical events – anywhere and anytime.          Utilize OpenManage Mobile to maximize hardware infrastructure uptime and respond rapidly to changing priorities or unexpected events</p> <p>Later this year, Dell will release support for PowerEdge servers within CloudIQ. CloudIQ combines monitoring, machine learning, and predictive analytics so you can take quick action and simplify operations of your on-premises infrastructure and data protection in the cloud.</p> <p>CloudIQ already supports a broad range of Dell Technologies products, including: PowerScale, IDPA, and VxRail.</p> <p>Once CloudIQ support is ready for PowerEdge servers, you will have one(1) console/mobile app for support, capacity planning, health status, and configuration consistent best practices.</p>
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<p>4.2.1.22</p>	<p>Vendor provided server solution should include a defective media retention feature for 5 years (60 months) or greater.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended physical servers include 60 month Defective media retention; keep your Hard Drive.</p>

<p>4.2.1.23</p>	<p>Each server should include an internal DVD-ROM drive.</p>
	<p><b>Response:</b></p>

	<p><b>100% Comply</b></p> <p>The Advizex recommended physical servers include internal DVD-ROM drives.</p>
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<p>4.2.1.24</p>	<p>Each server should include a minimum of two (2) Hot-swap power supply units, all required power cords, racking hardware, and physical chassis to contain and protect the components.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended physical servers include two(2) hot-swap power supplies per server, all required power cords, rack hardware, and 1U server chassis.</p>

**4.2.1.25 TO 4.2.1.31 UDS HARDWARE**

<p>4.2.1.25</p>	<p>Vendor provided unstructured data storage solution should include a minimum of four (4) nodes per location containing the storage media, CPU, RAM, and all required hardware components to deliver a fault tolerant, scale-out, unstructured storage solution with a minimum usable capacity of 23TB. Usable for UDS solution means after data protection policy has been applied and before any data reduction or compression features have been enabled.</p>
	<p>Response:  <b>100% Comply</b></p> <p>Advizex is recommending a four(4)-node PowerScale F200 solution for each data center. PowerScale F200 is a scale-out, fault tolerant unstructured storage solution with a minimum initial capacity of 23TB per location.</p> <p>This usable capacity does not count the inline, native data reduction features included in the all-flash F200 product. Each F200 node contains NVME flash media, CPU, RAM, and all required hardware to deliver this capacity and availability as required.</p>

	<p>In addition, the Dell Powerscale solution(s) also include FIPS 140-2 certified data at rest encryption, and also includes built in key management software. This encryption capability and certification is in excess of WVL's requirements and is included in our solution pricing response. It could be removed for nominal savings if WVL doesn't want to use Data at Rest Encryption for UDS.</p>
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<p>4.2.1.26</p>	<p>Vendor provided UDS should include integrated health monitoring components that regularly report component health, status, utilization, configuration information, to the OEM for support and repair enablement.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended PowerScale solution is supported by a wide variety of customer friendly integrated health monitoring and service enabling features.</p> <p>Dell EMC Support Assist Enterprise is used to send health information to Dell EMC for processing by Dell's AI/ML predictive maintenance and service tools. SupportAssist automatically detects issues, captures system state information, and initiates alerts and contact from Dell EMC.</p> <p>Dell EMC will also proactively open a case and notify WVL of and required dispatch of parts. SupportAssist also provides predictive issue detection, and reports recommendations to help with failure prevention.</p>

<p>4.2.1.27</p>	<p>Vendor provided UDS should include integrated health monitoring components that regularly report component health, status, utilization, configuration information, to WV lottery via free web and mobile applications for support, capacity planning, health status, and configuration consistency.</p>
	<p>Response:  <b>100% Comply</b></p>

	<p>The Advizex recommended Dell EMC solution includes CloudIQ at no cost for storage products and VMware environments.</p> <p>CloudIQ combines monitoring, machine learning and predictive analytics so you can take quick action and simplify operations of your on-premises infrastructure and data protection in the cloud. CloudIQ already supports a broad range of Dell Technologies products, including: PowerScale, IDPA, and VxRail.</p> <p>CloudIQ consists of a hosted web application console and mobile app for support, capacity planning, health status, and configuration consistent best practices.</p>
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<p>4.2.1.28</p>	<p>Vendor provided UDS solutions should support and include hardware for zero block elimination, inline de-duplication, and inline compression.</p>
	<p>Response:  <b>100% Comply</b></p> <p>Advizex recommended and supplied PowerScale includes native data reduction hardware that performs Zero Block Elimination, inline de-duplication, and inline compression before data is committed to media.</p>

<p>4.2.1.29</p>	<p>Vendor provided UDS should include all modules, components, hardware, cables, interfaces, switches, or other required components to deliver scale-out architecture and any other UDS technical solution requirements.</p>
	<p>Response:  <b>100% Comply</b></p> <p>Advizex recommends PowerScale for all modules, components, hardware, cables, interfaces, and switches for the back-end fabric.</p>

<p>4.2.1.30</p>	<p>Vendor provided UDS solution should include defective media retention feature for 5 years (60 months) or greater.</p>
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	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>Advizex recommend and supplies PowerScale includes 60 months of defective media retention; Keep Your Hard Drive.</b></p>
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<p><b>4.2.1.31</b></p>	<p><b>Each vendor provided node should include a minimum of two (2) Hot-swap power supply units, all required power cords, racking hardware, and physical rack-mount chassis to contain and protect the components.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>Each Advizex recommended PowerScale node includes two(2) Hot-swap power supplies, all required power cords, racking hardware, and a 1U rack mount chassis for the components.</b></p>

**4.2.1.32 TO 4.2.1.39 DPS HARDWARE**

<p><b>4.2.1.32</b></p>	<p><b>Vendor provided DPS should include integrated health monitoring components that regularly report component health, status, utilization, configuration information, to the OEM for support and repair enablement.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA is supported by a wide variety of customer-friendly integrated health monitoring and service-enabling features. Dell EMC Support Assist Enterprise is used to send health information to Dell EMC for processing by Dell’s AI/ML predictive maintenance and service tools.</b></p> <p><b>SupportAssist automatically detects issues, captures system state information, and initiates alerts and contact from Dell EMC. Dell EMC will also proactively open a case and notify WVL of and required dispatch of parts. SupportAssist also provides predictive issue detection, and reports recommendations to help with failure prevention.</b></p>



<b>4.2.1.33</b>	<p><b>Vendor provided DPS should include integrated health monitoring components that regularly report component health, status, utilization, configuration information, to WV lottery via free web applications for support, capacity planning, health status, and configuration consistency.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell EMC solution includes CloudIQ at no cost for storage products and VMware environments. CloudIQ combines monitoring, machine learning, and predictive analytics so you can take quick action and simplify operations of your on-premises infrastructure and data protection in the cloud.</b></p> <p><b>CloudIQ already supports a broad range of Dell Technologies products, including: PowerScale, IDPA, and VxRail. CloudIQ consists of a hosted web application console and mobile app for support, capacity planning, health status, and configuration consistent best practices.</b></p>

<b>4.2.1.34</b>	<p><b>Each vendor provided DPS solution should be a factory integrated 2U form factor appliance or less containing all backup application servers, reporting servers, and data protection storage.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DP4400 is a factory-integrated 2U appliance containing all backup application servers, reporting servers, and built-in Data Domain storage with 60TB of usable capacity.</b></p>

<b>4.2.1.35</b>	<p><b>Each Vendor provide DPS solution should include all hardware, including but not limited to CPU, RAM, cache, servers, hosts, guests, in order to deliver two (2) independent data protection and recovery solutions as defined by Gartner.</b></p>
	<p><b>Response:</b>  <b>100% comply</b></p>

	<p>The Advizex recommended IDPA DP4400 is a factory integrated 2U appliance containing all backup application servers, reporting servers, and built-in Data Domain storage with 60TB usable capacity.</p> <p>IDPA also includes a licensed hypervisor running on a dedicated CPU, RAM, and storage that hosts a complete data protection and recovery solution as defined by Gartner. The IDPA hosts all the backup and recovery software, web applications, management for the Data Domain storage.</p> <p>This is far superior to other competitive solutions that require WVl to provide a licensed hypervisor, licensed Windows Servers, storage, CPU, and RAM in WVl's production VMware environment.</p> <p>IDPA is the only solution that includes everything WVl needs for a complete data protection and recovery solution in one 2U box per data center.</p>
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<b>4.2.1.36</b>	<b>Vendor provided DPS solution should include hardware for reporting services that can report and monitor SLA's for backup operations.</b>
	<p><b>Response:</b> <b>100% comply</b></p> <p>The Advizex recommended IDPA DP4400 is a factory integrated 2U appliance containing all backup application servers, reporting servers, and built-in Data Domain storage with 60TB usable capacity.</p> <p>IDPA also includes a licensed hypervisor running on a dedicated CPU, RAM, and storage that hosts a complete data protection and recovery solution as defined by Gartner. The IDPA hosts all the backup and recovery software, web applications, management for the Data Domain storage.</p> <p>This is far superior to other competitive solutions that require WVl to provide a licensed hypervisor, licensed Windows Servers, storage, CPU, and RAM in WVl's production VMware environment.</p>

	<p><b>IDPA is the only solution that includes everything WVL needs for a complete data protection and recovery solution in one 2U box per data center.</b></p>
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4.2.1.37	<p><b>Vendor provided DPS solution should include defective media retention feature for 5 years (60 months) or greater.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DP4400 includes defective media retention for five(5) years. Also known as Keep Your Hard Drive.</b></p>

4.2.1.38	<p><b>Vendor provided DPS should include all modules, components, hardware, cables, interfaces, switches, or other required components to deliver modular DPS architecture and any other DPS technical solution requirements.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DP4400 is a factory integrated 2U appliance containing all backup application servers, reporting servers, and built- in Data Domain storage with 60TB usable capacity.</b></p> <p><b>Since the appliance is an all-inclusive product in a 2U Chassis, all cables, interfaces, components, modules, are self-contained within the appliance.</b></p> <p><b>Cables and interfaces required to connect to the vSphere environment as well as Out of band management are also included.</b></p>

4.2.1.39	<p><b>Each DPS solution host should include a minimum of two (2) Hot-swap power supply units per chassis, all required power cords, racking hardware, and physical rack-mount chassis to contain and protect the components.</b></p>
	<p><b>Response:</b></p>

	<p><b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DP4400 includes defective media retention for five(5) years. Also known as Keep Your Hard Drive.</b></p>
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**4.2.1.40 TO 4.2.1.44 NETWORKING HARDWARE**

<p><b>4.2.1.40</b></p>	<p><b>Vendor provided networking solution should be tightly integrated with the HCI solution lifecycle management process. This should include automatic VLAN configurations when nodes are added, and/or included in the automated firmware update process.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking hardware is on the Hardware Compatibility List (HCL) for VxRail, PowerScale, IDPA, and PowerEdge servers.</b></p> <p><b>This networking hardware will pass OEM network validation scripts and tools and is officially supported by Dell EMC</b></p>

<p><b>4.2.1.41</b></p>	<p><b>Vendor provided networking solution should be tightly integrated with the HCI solution lifecycle management process. This should include automatic VLAN configurations when nodes are added, and/or included in the automated firmware update process.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking supports SmartFabric integration with VxRail. SmartFabric can automate 99% of the network configuration steps for leaf and spine fabrics across multiple racks. This integration greatly simplifies the network management required when adding nodes and automates VLAN configurations as nodes are added.</b></p> <p><b>VxRail and Dell networking also help to automate firmware updates for switches and nodes. Consideration should be taken to ensure that network services remain available during node upgrades.</b></p>

<b>4.2.1.42</b>	<b>Vendor provided networking solution should support SmartFabric features that reduce the amount of management required for the network components such as VLAN auto-config.</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking supports SmartFabric integration with VxRail. SmartFabric greatly simplifies the network management required when adding nodes and automates VLAN configurations as nodes are added.</b></p>

<b>4.2.1.43</b>	<b>Vendor provided networking solution should be compliant and be certified for use with the HCI OEM solution.</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking hardware is on the Hardware Compatibility List (HCL) for VxRail, PowerScale, IDPA, and PowerEdge servers. This networking hardware will pass OEM VxRail network validation scripts and tools and is officially supported by Dell EMC.</b></p>

<b>4.2.1.44</b>	<b>Vendor provided networking solution should include all cables, racking hardware, SFP's interfaces, transceivers, or other components not specifically listed required to connect all hardware included in this entire RFP to the network with two (2) or more connections each</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking includes all cables, racking hardware, SFP's, interfaces, cables, and transceivers so that each supported hardware component supplied will have at least two(2) connections each.</b></p>

	<p>In addition to the requested Top of rack switches requested in this RFP – Advizex has also recommended and provided for (1) out of band management 48 port switch per data center. This is to provide WVL the capability to segregate management traffic and support management traffic away from the 25Gb TOR networks. This can easily be removed for nominal savings if WVL already has this capability – but is included in our solution pricing response.</p>
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**4.2.1.45 TO 4.2.1.49 SOFTWARE SPECIFICATIONS HCI SOFTWARE**

<p><b>4.2.1.45</b></p>	<p>Vendor provided HCI solution should include software offering a full complement of data efficiency services, including deduplication, compression, and erasure coding as inline processes. This solution should support failure to tolerate of 1 and 2. Raid 5 and 6 configurations should be supported by the solution.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell EMC VxRail solution with VMware vSAN includes software licensing for De-duplication, compression, and erasure coding as an inline processes. The six(6) node solution recommended and supplied will support “failure to tolerate” FTT = 1 or 2. The 6 node solution recommended is able to emulate RAID 5 or 6 for storage objects in vSAN.</p> <p>This means that WVL can lose up to two complete nodes and the storage will remain accessible for guests.</p>

<p><b>4.2.1.46</b></p>	<p>Vendor provided HCI solution should include software that is able to apply storage policy rules to individual VM objects dynamically no matter where the VM is running in the cluster.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell EMC VxRail solution with vSAN can apply storage policies to any object in vSAN, including VM’s and specific VMDK’s anywhere in the cluster.</p>

	<p><b>This means a storage policy applies to a VM or its storage even as it is migrating around the cluster or during maintenance activities.</b></p>
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<p><b>4.2.1.47</b></p>	<p><b>Vendor provided HCI solution should include software that is able to provide data at rest encryption.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell EMC VxRail solution with vSAN includes Data at Rest encryption for vSAN data stores or VM's. In addition, encrypted data stores provide validated FIPS 140-2 protection, and support encrypted VMotion for encrypted VM's.</b></p>

<p><b>4.2.1.48</b></p>	<p><b>Vendor provided HCI solution should include management software that is integrated tightly with the WV lottery's virtualization solution, VMware vSphere. This management software should support node additions, hardware status reporting, storage group management, storage policy management, QOS management, hardware firmware updates, software updates, from within the vSphere administration console.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell EMC VxRail solution includes VxRail manager software that is tightly integrated into vSphere.</b></p> <p><b>VxRail was jointly developed by Dell EMC and VMware and is the only fully integrated, preconfigured, and tested HCI appliance powered by vSAN. VxRail is managed through the same vCenter Server interface you will use for vSphere. It provides a familiar vSphere experience and enables streamlined deployment and the ability to extend the use of existing IT tools and processes. vCenter is used to manage vSphere, vSAN, including storage policy management, and QOS. VxRail node additions, hardware status, firmware and VxRail software updates are managed using VxRail HCI System software.</b></p>



4.2.1.49	<p>Vendor provided HCI solution should include software that currently supports integration into potential expansions of WVL's VMware platforms such as VDI, VCF, NSX, Horizon, vRealize Operations, vRealize Automation, SDDC Manager or vRealize Network Insight.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell EMC VxRail solution utilizes modern VMware virtualization platforms (VSphere et.al.) In addition, vSAN licensing is included with VxRail provided in our solution. VxRail being joint engineered and supported by VMware ensures that WVL will enjoy the highest possible integrations with other VMware platforms. Horizon VDI on VxRail is an extremely common implementation strategy as well as extending management tools to include components of the vRealize suite or NSX network virtualization. vSAN is also the exclusive software defined storage platform for VCF, or VMC on AWS. According to IDC in March 2021, VxRail has the largest market share of all HCI solutions, virtually ensuring that third party developers will seek to offer similar levels of integration because of the market opportunities.</p>

**4.2.1.50 TO 4.2.1.52 DOMAIN CONTROLLERS SOFTWARE (PHYSICAL SERVER)**

4.2.1.50	<p>Vendor provided server solution should include software that leverages integrated health monitoring components to regularly report component health, status, utilization, configuration information, to the OEM for support and repair enablement.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended PowerEdge servers are supported by a wide variety of customer friendly integrated health monitoring and service enabling features. Dell EMC Support Assist Enterprise is used to send health information to Dell EMC for processing by Dell's AI/ML predictive maintenance and service tools.</p> <p>SupportAssist automatically detects issues, captures system state information, and initiates alerts and contact from Dell EMC. Dell EMC will also proactively open a case and notify WVL of and required dispatch of</p>

	<p>parts. SupportAssist also provides predictive issue detection, and reports recommendations to help with failure prevention.</p>
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<p>4.2.1.51</p>	<p>Vendor provided server solution should include software that leverages integrated health monitoring components to regularly report component health, status, utilization, configuration information, to WV lottery via free web and mobile applications for support, capacity planning, health status, and configuration consistency.</p> <p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended PowerEdge servers include Open Manage Enterprise. (OME) is a free virtual appliance to run in your environment to gather health, status and configuration information. OME will integrate into VMware vCenter, ServiceNow, ansible Modules, and other frameworks.</p> <p>OpenManage Mobile provides visibility into the health of your hardware infrastructure using Android or iOS smartphones or tablets and quickly alerts IT pros to critical events – anywhere, anytime. Utilize OpenManage Mobile to maximize hardware infrastructure uptime and respond rapidly to changing priorities or unexpected events.</p> <p>Later this year, Dell will release support for PowerEdge servers within CloudIQ. CloudIQ combines monitoring, machine learning and predictive analytics so you can take quick action and simplify operations of your on-premises infrastructure and data protection in the cloud. CloudIQ already supports a broad range of Dell Technologies products, including PowerScale, IDPA, and VxRail. Once CloudIQ support is ready for PowerEdge servers, you will have one console/mobile app for support, capacity planning, health status, and configuration consistent best practices.</p>
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<p>4.2.1.52</p>	<p>Vendor provided server solution should include software providing a comprehensive server management solution including tools and components required to deliver premium functionality via an integrated</p>
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	<p><b>web-based management GUI and a CLI from within the guest operating system.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended PowerEdge servers include IDRAC9 Enterprise software and OpenManage Enterprise. IDRAC and OME combine to provide a comprehensive server management solution. Also included are tools and components to assist in lifecycle management of drivers, firmware, and deploy operating systems. These tools are available from within the windows operating system, web based GUI, or CLI.</b></p>

**4.2.1.53 TO 4.2.1.58 UDS SOFTWARE**

	<p><b>Vendor provided UDS software should include licenses and support for NAS protocols - SMBV3, NFS, CIFS, FTP, HTTP, and HDFS.</b></p>
<b>4.2.1.53</b>	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended PowerScale solution includes support for and licenses for SMBV3, NFS, CIFS, FTP, HTTP, and HDFS.</b></p>

	<p><b>Vendor provided UDS solution should include all software required to enable scale-out architecture, including software required for any back-end switching, or management tools.</b></p>
<b>4.2.1.54</b>	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended PowerScale solution includes all software to enable scale-out architecture, PowerSwitch OS10 networking software, DataIQ, CloudIQ, and InsightIQ management tools.</b></p>

	<p><b>Vendor provided UDS solutions should support and include software licensing for zero block elimination, inline de-duplication, and inline compression.</b></p>
<b>4.2.1.55</b>	<p><b>Response:</b></p>

	<p><b>100% Comply</b></p> <p><b>The Advizex recommended PowerScale solution includes licensing for Zero Block elimination, inline de-duplication, and inline compression.</b></p>
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<p><b>4.2.1.56</b></p>	<p><b>Vendor provided UDS solution should include software client and connection load balancers. Solution should allow clients to connect to multiple nodes simultaneously and all data across the cluster should be available from or through any node connection pool.</b></p> <p><b>Load balancing software should be policy driven and allow for different policies based on client groups, storage groups, or file system objects.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended PowerScale solution includes the SmartConnect client and connection load balancer.</b></p> <p><b>SmartConnect is designed as a built in component of OneFS to allow clients to connect to multiple nodes simultaneously and it enables all data from across the cluster to be available from any node connection pool.</b></p> <p><b>OneFS SmartConnect is policy driven and policies can be based on client groups, storage groups, and file system objects.</b></p>

<p><b>4.2.1.57</b></p>	<p><b>Vendor provided UDS software should include the capability to automatically migrate all data for lifecycle management or expansion on the backend storage fabric handled natively by the NAS software.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended PowerScale solution includes the OneFS native NAS operating system which has the capability to expand, replace, or recover data from the backend storage fabric natively and without downtime.</b></p>

	<p><b>OneFS also supports smartfail to proactively evacuate data from a cluster during lifecycle events eliminating the need for a costly and disruptive migration again. OneFS single common namespace never has to change and WVL's customers do not need to learn new paths in the future.</b></p>
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<p><b>4.2.1.58</b></p>	<p><b>Vendor provided UDS software should include the capability to transparently tier and migrate data workloads between multiple storage pools. Transparently means the end-user is not aware that their data has, will, or has been moved between storage pools. The UDS solution software should also include the capability to manage this automated storage tiering by policy at folder level.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended PowerScale solution includes OneFS native SmartPools which provides WVL the most cost effective and seamless way to tier data and migrate workloads between storage pools.</b></p> <p><b>Data tiering happens completely transparent to the end user and WVL's customers will not be aware that their data has been tiered. This is because OneFS provides one single namespace which doesn't change even if the data is tiered.</b></p> <p><b>Because OneFS is a policy driven solution, these tiering policies can be used to manage at folder level, or many other attributes such as client groups or server groups.</b></p>

**4.2.1.59 TO 4.2.1.69 DPS SOFTWARE**

<p><b>4.2.1.59</b></p>	<p><b>Each Vendor provided DPS solution should include all software, including but not limited to hypervisor, operating systems, backup software, agents, plug-ins, de-duplication or compression licenses, virtual appliances, guests, in order to deliver two (2) independent data protection and recovery solutions as defined by Lottery requirements.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p>

	<p>The Advizex recommended IDPA solution is a fully engineered converged backup appliance. It contains a licensed hypervisor, operating systems, backup software, agents, plug-ins, Data Domain de-duplication and compression licenses, as well as all other licensed VM's and virtual appliances to deliver a fully functional data protection, recovery, reporting, solution for each location.</p>
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<p>4.2.1.60</p>	<p>Vendor provided DPS solution should include all software required to perform recoveries from data-at-rest in a deduplicated and compressed state.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution is based on Data Domain and EMC backup and recovery tools. When Data Domain is paired with EMC backup applications, data is de-duplicated at both the client and storage side.</p> <p>When restoring data, Data Domain sends compressed and already reduced data sets to the agents. This accelerates time to recover as well as reducing any bandwidth impacts which may occur with solutions that are not able to do this.</p>

<p>4.2.1.61</p>	<p>Vendor provided DPS solution should include all software required to attach and boot a guest from any restore point on the data protection storage and VMotion the guest back to primary block storage on the HCI solution.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution contains high speed storage and connectivity to restore an entire VM from any restore point directly on the IDPA. This feature called "Instant Access" is specifically designed to permit booting a VM directly from the backup catalog and either VMotion back into production or restore as a clone permitting WVL to browse the old VM version and restore just what is needed.</p>

<b>4.2.1.62</b>	Vendor provided DPS solution should include all software required to use Key Management Interoperability Protocol (KMIP) for data-at-rest encryption.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution includes the capability to encrypt data at rest with self-managed keys and also supports external key manager that's KMIP compliant. IDPA also includes In-flight encryption to deliver the most advanced data security for WVL.</p>

<b>4.2.1.63</b>	Vendor provided DPS solution should include software for reporting services that can report and monitor SLA's for backup operations.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution includes advanced search, reporting, and analytics functions. System Manager consolidates day-to-day management functions, including monitoring, management, reporting, and deep search. System Manager also provides centralized views of job activity, health, capacity, and pre-defined KPI's or SLA's.</p>

<b>4.2.1.64</b>	Vendor provided DPS solution should include all software required to encrypt data-in-flight for replication.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution includes the capability to encrypt data at rest with self-managed keys and also supports external key manager that's KMIP compliant. IDPA also includes In-flight encryption to deliver the most advanced data security for WVL.</p>

<b>4.2.1.65</b>	Vendor provided DPS solution should include all software required to provide RBAC.
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	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution includes RBAC mapping of AD groups to roles on IDPA. IDPA allows granular access control to functions, if desired, and permits DBA's to perform limited backup and restore from SQL Databases without requiring a backup admin.</p>
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<p>4.2.1.66</p>	<p>Vendor provided DPS solution should include all software required to enable the backup application to be aware of and control replication.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution includes Data Domain native replication which is completely in control of replication activities.</p> <p>This allows Data Domain replication to replicate de-duplicated data, only having to transfer changed bits from one Data Domain to another. This drastically reduces the amount of bandwidth required between WVL's Charleston and Bridgeport Data centers.</p> <p>Data Domain also includes policies to control replication urgency, timing, and bandwidth consumption, further reducing any potential impact to other production data needs.</p>

<p>4.2.1.67</p>	<p>Vendor provided DPS solution should include all software required to support replication bandwidth throttling.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA solution includes Data Domain native replication which is completely in control of replication activities. This allows Data Domain replication to replicate de-duplicated data, only having to transfer changed bits from one Data Domain to another. This drastically reduces the amount of bandwidth required between WVL's Charleston and Bridgeport Data centers. Data Domain also includes policies to control replication urgency, timing, and throttling bandwidth</p>

	<p><b>consumption, further reducing any potential impact to other production data needs.</b></p>
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4.2.1.68	<p><b>Vendor provided DPS solution should include all software required to provide a web-based management interface capable of monitoring multiple systems, which will provide the capability to monitor both Charleston and Bridgeport solutions from either interface.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA System Manager consolidates day-to-day management functions, including monitoring, management, reporting, and deep search. System Manager also provides centralized views of job activity, health, capacity, and pre-defined KPI's or SLA's. This interface will show and manage both solutions from one interface.</b></p>

4.2.1.69	<p><b>Vendor provided DPS solution should include all software required to deliver network-efficient replication.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA solution includes Data Domain native replication which is completely in control of replication activities. This allows Data Domain replication to replicate de-duplicated data, only having to transfer changed bits from one Data Domain to another. This drastically reduces the amount of bandwidth required between WVL's Charleston and Bridgeport Data centers.</b></p> <p><b>Other competing solutions may depend on client-side reduction only which cannot reduce the bandwidth required to replicate data sets, relying on discards after the data has been transferred.</b></p> <p><b>Only Data Domain and IDPA is designed to deliver the most efficient replication available for backup data sets.</b></p>

## 4.2.1.70 TO 4.2.1.73 NETWORKING SOFTWARE

<b>4.2.1.70</b>	<p><b>Vendor provided networking solution should support SmartFabric features that reduce the amount of management required for the network components such as VLAN autoconfig.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking software supports SmartFabric integration with VxRail. SmartFabric greatly simplifies the network management required when adding nodes and automates VLAN configurations as nodes are added.</b></p>

<b>4.2.1.71</b>	<p><b>Vendor provided networking solution should be capable of integration, upgrades, and management by the HCI solution lifecycle processes.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking software supports SmartFabric integration with VxRail. SmartFabric can automate 99% of the network configuration steps for leaf and spine fabrics across multiple racks.</b></p> <p><b>This level of integration simplifies the network management required when adding nodes and automates VLAN configurations as nodes are added. VxRail and Dell networking can also help to automate firmware updates for switches and nodes. Special consideration should be taken to ensure that network services remain available during node upgrades.</b></p>

<b>4.2.1.72</b>	<p><b>Vendor provided networking solution should include zero-touch deployment software features.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking solution includes Open Network Install Environment or ONIE. ONIE provides for auto-discovery</b></p>

	and zero-touch switch operating system deployment. ONIE also provides zero-touch software updates.
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4.2.1.73	Vendor provided networking solution software should support automated configuration steps using Ansible as defined above in definitions.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking solution includes native agentless Ansible support. Dell partnered with Ansible and offers a free collection of modules for Dell EMC Networking in the Ansible Galaxy. This capability and integration allow WVL to deliver full network automation with Dell networking.</p>

**4.2.1.74 TO 4.2.1.81 INSTALLATION SPECIFICATIONS**

4.2.1.74	Vendor provided HCI solution should include OEM premium installation and deployment services for all included hardware and software features.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell EMC HCI solution includes Dell ProDeployPlus premium installation and deployment services for all included hardware and software. Detailed ProDeployPlus documentation is provided in Advizex’s RFP response packet.</p>

4.2.1.75	Vendor provided SERVER solution should include OEM premium installation and deployment services for all included hardware and software features.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell EMC HCI solution includes Dell ProDeployPlus premium installation and deployment services for all</p>

	<p><b>included hardware and software. Detailed ProDeployPlus documentation is provided in Advizex’s RFP response packet.</b></p>
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4.2.1.76	<p><b>Vendor provided UDS solution should include OEM premium installation and deployment services for all included hardware and software features.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell EMC HCI solution includes Dell ProDeployPlus premium installation and deployment services for all included hardware and software. Detailed ProDeployPlus documentation is provided in Advizex’s RFP response packet.</b></p>

4.2.1.77	<p><b>Vendor provided DPS solution should include OEM premium installation and deployment services for all included hardware and software features.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell EMC HCI solution includes Dell ProDeployPlus premium installation and deployment services for all included hardware and software. Detailed ProDeployPlus documentation is provided in Advizex’s RFP response packet.</b></p>

4.2.1.78	<p><b>Vendor provided NETWORKING solution should include OEM premium installation and deployment services for all included hardware and software features.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell EMC HCI solution includes Dell ProDeployPlus premium installation and deployment services for all included hardware and software. Detailed ProDeployPlus documentation is provided in Advizex’s RFP response packet.</b></p>

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<b>4.2.1.79</b>	<p>Vendor provided Installation services should include OEM delivered planning, best practices design and onsite configuration of all replication technologies including UDS bi-directional replication, DR capabilities, HCI bi-directional guest replication, and DPS bi-directional replication.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended services include:</b></p> <ul style="list-style-type: none"> <li>• OEM delivered planning</li> <li>• Project Management</li> <li>• Best practice design</li> <li>• Onsite configuration of all replication technologies</li> </ul> <p><b>PowerScale UDS bi-directional replication, PowerScale DR, VxRail HCI bi-directional guest replication with RecoverPoint for VM's and IDPA DPS bi-directional replication for backup data sets.</b></p>

<b>4.2.1.80</b>	<p>Vendor provided Installation services should include OEM delivered planning, best practices design, and configuration of all UDS advanced data protection software features and services.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended services include OEM delivered planning, project management, best practice design and onsite configuration of all UDS advanced data protection software and features.</b></p>

<b>4.2.1.81</b>	<p>Vendor provided Installation services should include a minimum of eighty (80) onsite hours of PROJECT MANAGER human resources to assist in project coordination and transition.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p>

	<p>Advizex has included 80 hours of Advizex provided Project Manager human resources to assist with project coordination and transition of all supporting services. Our intent is maintain consistent program management throughout all phases of the project as needed by WVL.</p>
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**4.2.1.82 TO 4.2.1.85 TRAINING SPECIFICATIONS**

<p><b>4.2.1.82</b></p>	<p>Vendor should provide OEM delivered training credits, pre-paid vouchers, etc., entitling six (6) WVL designated employees each the opportunity for one (1) unique training class with a minimum duration of five (5) training days averaging eight (8) hours per day for HCI solution.</p>
	<p><b>Response:</b>                  100% Comply</p> <p>Advizex has proposed training that include (6) full training subscriptions for OEM Dell EMC and OEM VMware training products. This subscription will allow training for each of the six(6) employees and include Instructor-led training, Online instructor led, Video instructor-led, or on-demand open curriculum technology-specific courses. This subscription option greatly exceeds the credit required for four(4) 40-hour classes per employee. Please refer to detailed documentation provided in our response bundle.</p>

<p><b>4.2.1.83</b></p>	<p>Vendor should provide OEM delivered training credits, pre-paid vouchers, etc., entitling six (6) WVL designated employees each the opportunity for one (1) unique training class with a minimum duration of five (5) training days averaging eight(8) hours per day for UDS solution.</p>
	<p><b>Response:</b>                  100% Comply</p> <p>Advizex has proposed training that include (6) full training subscriptions for OEM Dell EMC and OEM VMware training products. This subscription will allow training for each of the six(6) employees and include Instructor-led training, Online Instructor led, Video instructor-led, or on-demand open curriculum</p>



	<p>technology-specific courses. This subscription option greatly exceeds the credit required for four(4) 40-hour classes per employee. Please refer to detailed documentation provided in our response bundle.</p>
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4.2.1.84	<p>Vendor should provide OEM delivered training credits, pre-paid vouchers, etc. entitling (6) WVL designated employees each the opportunity for 1 unique training class with a minimum duration of five (5) training days averaging eight (8) hours per day for DPS solution.</p>
	<p>Response:  <b>100% Comply</b></p> <p>Advizex has proposed training that include (6) full training subscriptions for OEM Dell EMC and OEM VMware training products.</p> <p>This subscription will allow up to \$27,000 worth of training for each of the six(6) employees and include Instructor-led training, Online Instructor led, Video instructor-led, or on-demand open curriculum technology-specific courses. This subscription option greatly exceeds the credit required for four(4) 40-hour classes per employee. Please refer to detailed documentation provided in our response bundle.</p>

4.2.1.85	<p>Vendor should provide One thousand four hundred and seven (1,407) VMware service credits (OEM delivered pre-paid services and training) for the purpose of training WVL staff on VMware technology and consulting on VMware products. This will be classroom or virtual live instructor OEM training.</p>
	<p>Response:  <b>100% Comply</b></p> <p>Advizex has proposed 1,407 VMware service credits. These can be used for any VMware professional services, or any VMware training.</p>

**4.2.1.86 TO 4.2.1.88 MIGRATION SPECIFICATIONS**

4.2.1.86	<p><b>Vendor provided hardware solutions should include OEM delivered migration services for all Data, VM guests, and data protection SLA's from existing platforms to new vendor provided platforms.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>Advizex has proposed services that include OEM delivered migration services for all data, VM guests, and data protection SLA's from existing platforms to new vendor provided platforms.</b></p>

4.2.1.87	<p><b>Vendor provided solution should include OEM delivered data migration services for migration of all WVL guests from current hosts and storage to the new HCI solution.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>Advizex has proposed services that include OEM delivered migration services for all WVL guests from current hosts and storage to the new HCI VxRail solution(s).</b></p>

4.2.1.88	<p><b>Vendor provided solution should include OEM delivered data migration services for the migration of all data from VNX 5300 and Centera to the new UDS solution. The migration and installations services should include separation of document (object) data and file (windows) data to separate libraries whereas the document data is configured and protected by WORM policies, and the file data is protected by different storage policies.</b></p>
	<p><b>See Appendix II for an inventory of servers/storage to be upgraded.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>Advizex has proposed services that include OEM delivered migration services for all unstructured data. Object data will need to be converted by the document imaging application to file data prior to migration to the new PowerScale platform. All document data will be protected in separate libraries and secured with the OneFS native SmartLock feature.</b></p>

	<p><b>Services will also be provided to establish storage policies for the windows file server shares that are appropriate for each unique use case.</b></p>
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**4.2.1.89 TO 4.2.1.90 OTHER SPECIFICATIONS**

<p><b>4.2.1.89</b></p>	<p><b>The Vendor should include a detailed bill of materials (price list) that details each billable component of this RFP.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex response includes a detailed Bill of Materials as an attachment in our response bundle.</b></p>

<p><b>4.2.1.90</b></p>	<p>Vendor should provide WVLT with pricing for optional, additional OEM deployment resource services to be ordered at the sole discretion of WVLT. For cost scoring purposes, assume that the services each consist of one unit (1 day, 1/2 day) per type of contracted service. The list of optional quotes include:</p> <ul style="list-style-type: none"> <li>• 4.2.1.90.1.1. One (1) business day (8 hours) onsite HCI engineer</li> <li>• 4.2.1.90.1.2. One (1) business day (8 hours) on-site UDS engineer</li> <li>• 4.2.1.90.1.3. One (1) business day (8 hours) on-site DPS engineer</li> <li>• 4.2.1.90.1.4. One (1) business day (8 hours) on-site Project Manager</li> <li>• 4.2.1.90.1.5. Half-Day (1/2) (4 hours) Remote HCI engineer</li> <li>• 4.2.1.90.1.6. Half-Day (1/2) (4 hours) Remote UDS engineer</li> <li>• 4.2.1.90.1.7. Half-Day (1/2) (4 hours) Remote DPS engineer</li> <li>• 4.2.1.90.1.8. Half-Day (1/2) (4 hours) Remote Project Manager</li> </ul>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex response includes a separate detailed Bill of Materials for these optional services as an attachment in our response bundle.</b></p>

## PHASE II APPLICATION LIFECYCLE TRANSITION SERVICES AND DR RECOVERY

WV lottery is seeking a vendor to assist with application lifecycle activities and related support actions to ensure that WVL's Active Directory, SQL Server, Exchange Server, and other dependent applications are implemented on modern and supported operating systems, platforms, servers, or systems.

### 4.2.1.91 TO 4.2.1.95 OTHER VENDOR RESPONSIBILITIES

<p><b>4.2.1.91</b></p>	<p>This RFP will include Vendor professional services of system design, implementation, and testing related to Applications Lifecycle and disaster recovery activities for WVL with primary emphasis on the DPS sub-system for the disaster recovery component. These activities will require an approved Statement of Work (SOW) utilizing the established contract hourly rates. An Agency Delivery Order (ADO) against the contract established by this RFP (Master Agreement), will be issued and will be used for billing post-installation maintenance/support activities based on an established hourly rate as needed during the duration of this five (5) year project:</p> <ul style="list-style-type: none"> <li>• 4.2.1.91.1. Project Manager</li> <li>• 4.2.1.91.2. Microsoft Certified Systems Engineer</li> <li>• 4.2.1.91.3. DPS Engineer</li> <li>• 4.2.1.91.4. Disaster Recovery Specialist</li> <li>• 4.2.1.91.5. Other Staff</li> </ul>
	<p><b>Response:</b>                  100% Comply</p> <p>Advizex has reviewed the above requirements and propose the following roles for the duration of this five(5) year engagement. These roles are as follows:</p> <ul style="list-style-type: none"> <li>• 4.2.1.91.1. Project Manager</li> <li>• 4.2.1.91.2. Microsoft Certified Systems Engineer</li> <li>• 4.2.1.91.3. DPS Engineer</li> <li>• 4.2.1.91.4. Disaster Recovery Specialist</li> <li>• 4.2.1.91.5. Other Staff</li> </ul>

<p><b>4.2.1.92</b></p>	<p>The Lottery reserves the right to approve all staff members assigned to perform Lottery services. The Lottery reserves the right to reject staff and the Vendor/Manufacturer will provide qualified replacements.</p>
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	<p><b>Response:</b>  <b>Advizex acknowledges and will comply.</b></p>
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4.2.1.93	<p><b>Vendor and Manufacturer personnel should be able to work flexible hours due to the need for certain maintenance to be performed after business hours. The vendor will not charge higher rates for after hours or emergency services. The quoted hourly rates will be effective for all services. Vendor should be capable of responding on-site within 4 hours in the event of a system failure or maintenance issue.</b></p>
	<p><b>Response:</b>  <b>Advizex acknowledges and will comply.</b></p>

4.2.1.94	<p><b>Server based Microsoft operating systems and SQL database software costs are not included in this project but will be provided by Lottery, vendors proposing an alternative solution should include licensing, maintenance and support costs if a separate product is being proposed.</b></p>
	<p><b>Response:</b>  <b>Advizex acknowledges and will comply. No alternate, separate, or additional software licenses are included or required with our recommended solution. Our solution is designed to best fit into the West Virginia Lottery Requirements without unintended changes.</b></p>

4.2.1.95	<p><b>The Vendor should identify these staff members assigned to this project and should provide resumes and documentation supporting the experience. Changes to staffing, during the course of the contract,, should be approved by Lottery personnel and should meet all requirements detailed in this RFP. Vendors should submit these resumes and documentation with the bid but are required to submit them prior to contract award.</b></p>
	<p><b>Response:</b>  <b>Technical biographies have been included with our submission. Advizex will review the technical staff with WVL prior to engagement.</b></p>

**4.2.1.96 TO 4.2.1.98 CONTRACT TERM / MAINTENANCE SPECIFICATIONS**

4.2.1.96	Vendor should provide premium semi-annual OEM software and hardware maintenance remote installation assistance services covering WVLT for but not limited to all supported software, firmware, or quick fix releases for HCI, UDS, DPS, Server, and networking solutions for a term of sixty (60) months from date of delivery.
	<p><b>Response: 100% Comply</b></p> <p>The Advizex recommended and provided Dell ProSupportPlus services for HCI, UDS, DPS, Server, and Networking solutions include 60 months of Hardware and Software support and maintenance coverage. This includes complete and premium coverage, installation assistance services, patches, firmware, quick fixes, and proactive support.</p>

4.2.1.97	Vendor should provide premium OEM delivered proactive monitoring, issue detection, notification, and automated case creation for accelerated issue resolution for all hardware solutions provided for a term of sixty (60) months from date of delivery.
	<p><b>Response: 100% Comply</b></p> <p>The Advizex recommended and provided Dell ProSupportPlus services for HCI, UDS, DPS, Server, and Networking solutions include 60 months of Hardware and Software support and maintenance coverage. This includes complete and premium coverage, installation assistance services, patches, firmware, quick fixes, and proactive support. The proactive support will leverage SRS or Support Assist Enterprise – both free services that detect issues, notify, and automate case creation.</p>

4.2.1.98	Vendor should provide premium OEM delivered predictive analysis using AI/ML for the purpose of issue prevention and optimization for a term of sixty (60) months from date of delivery.
	<p><b>Response: 100% Comply</b></p> <p>The Advizex recommended and provided Dell ProSupportPlus services for HCI, UDS, DPS, Server, and Networking solutions include 60 months of</p>

	<p><b>Hardware and Software support and maintenance coverage. Included in this service is predictive analysis services which may identify and help WVLC correct issues before they present themselves. Also – best practice monitoring and optimization is included to assist with maintaining best practice configurations.</b></p>
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**4.2.1.99 TO 4.2.1.101 SUPPORT SPECIFICATIONS**

<p><b>4.2.1.99</b></p>	<p><b>Vendor should provide OEM delivered third party software support for eligible software installed on any of the vendor provided solutions as a response to this RFP for a term of sixty (60) months from date of delivery.</b></p> <p><b>Response:100% Comply</b></p> <p><b>The Advizex recommended and provided Dell ProSupportPlus services for HCI, UDS, DPS, Server, and Networking solutions include 60 months of Hardware and Software support and maintenance coverage. Included in these services are Dell provided third party support, and coordination of benefits between Dell and other supported third party software companies.</b></p>
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<p><b>4.2.1.100</b></p>	<p><b>All systems and networking tasks should be provided onsite unless approved by the West Virginia Lottery Management. During support hours a four-hour response (onsite) time is required to both locations. Support Hours are Monday through Friday 8-5 PM. EST. During non-support hours, response by phone should be made within 4 hours of notification.</b></p> <p><b>Response: The Advizex recommended and provided Dell ProSupportPlus Mission Critical services for HCI, UDS, DPS, Server, and Networking solutions include 60 months of Hardware and Software support and maintenance coverage. The mission critical designation offers WVLC a 4 hour response SLA's 24x7x365. WVLC can select to open support cases with a variety of severity levels and response times as appropriate for the actual issue and support needed.</b></p>
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4.2.1.101	<p><b>Vendor should provide hourly rates for ongoing support, as requested by the Lottery, including, but not limited to Exchange/SQL/Active Directory/Operating Systems:</b></p> <ul style="list-style-type: none"> <li>• 4.2.1.101.1 Project Management</li> <li>• 4.2.1.101.2 Exchange Engineer</li> <li>• 4.2.1.101.3 SQL Engineer</li> <li>• 4.2.1.101.4 Operating System Specialist Engineer</li> <li>• 4.2.1.101.5 Active Directory Engineer</li> <li>• 4.2.1.101.6 Other Staff</li> </ul>
	<p><b>Response:</b> 100% Comply</p> <p>Advizex has reviewed the above requirements and propose the following roles for the duration of this five(5) year engagement. These rates are as follows:</p> <ul style="list-style-type: none"> <li>• 4.2.1.101.1 Project Manager</li> <li>• 4.2.1.101.2 Exchange Engineer</li> <li>• 4.2.1.101.3 SQL Engineer</li> <li>• 4.2.1.101.4 Operating System Specialist Engineer</li> <li>• 4.2.1.101.5 Active Directory Engineer</li> <li>• 4.2.1.101.6 Other Staff</li> </ul>

**4.2.1.102 ERASURE REQUIREMENTS**

4.2.1.102	<p><b>Vendor should provide for certified, documented, data erasure services, packaging, transportation, and disposal for all components comprising two (2) ENC VNX5300 storage arrays and two (2) EMC Centera storage arrays. One of each system is to be packed, picked up and transported from each of WVL's data center locations.</b></p>
	<p><b>Response:</b> 100% Comply</p> <p>The Advizex recommended and provided Dell-EMC services include Dell provided certified data erasure and removal for WVL's (2) VNX5300, (2) Centera, and (2) Data Domain.</p>

### 4.2.2.1 TO 4.2.2.6 MANDATORY REQUIREMENTS

The following mandatory requirements relate to the goals and objectives and must be met by the Vendor as a part of its submitted proposal. Vendor must describe how it will comply with the mandatory requirements and include any areas where its proposed solution exceeds the mandatory requirement. Failure to comply with mandatory requirements will lead to disqualification, but the approach/methodology that the vendor uses to comply, and areas where the mandatory requirements are exceeded, will be included in technical scores where appropriate. The mandatory project requirements are listed below.

General Requirements: Vendor is to describe in detail (in writing) its approach and methodology to meet or exceed every objective documented in the Project Specifications as well as those requirements below. This includes sections 4.2.2 through 4.3.

<b>4.2.2.1</b>	<p><b>The Vendor must provide OEM on-site installation and configuration services for hardware as requested in this RFP.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended and provided Dell solution includes ProDeployPlus for all hardware and software included in these solutions. ProDeployPlus includes on-site installation and configuration as requested by WV.</b></p>

<b>4.2.2.2</b>	<p><b>The Vendor must provide OEM on-site post deployment services (residency) for each of the major sub-systems (HCI/DPS/UDS) as requested in this RFP:</b></p> <ul style="list-style-type: none"> <li>● <b>4.2.2.2.1. HCI - 3 months</b></li> <li>● <b>4.2.2.2.2. DPS - 1 month</b></li> <li>● <b>4.2.2.2.3. UDS - 2 months</b></li> </ul>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex response includes 3 months of OEM HCI residency services, 2 Months of OEM UDS residency Services, and 1 Month of OEM DPS residency services. A detailed explanation of residency services provided by DELL EMC is attached to the Advizex response bundle.</b></p>

<p>4.2.2.3</p>	<p>The Vendor must provide ongoing support services for the life of the support contract; sixty (60) months. Support services will be required for incident/problem management of migrated services including but not limited to Active Directory, SQL Server, Exchange Server, vCenter etc. These will be subject to the hourly rates quoted in the response to this RFP.</p>
	<p><b>Response:</b>                  Prior to the project completion, Advizex will meet with WVL stakeholders to discuss the handoff of all "As Built" documentation and the smooth handoff of all post-implementation support, technical reporting and escalation processes, and the consideration of "Spot Health Checks" to validate expected performance and identify any areas of concern.</p> <p>Part of this process includes establishing a trouble call or service request generation process for WVL to follow.</p> <p>A Statement of Work will be generated for secondary projects and include detailed expectations, tasks, and deliverables.</p>

<p>4.2.2.4</p>	<p>Vendor must transfer ownership of all hardware/software licenses and maintenance contracts to the West Virginia Lottery at the time the system "goes live" (at the end of Phase 1). This shall allow the Lottery to contact the hardware/software OEM directly for support.</p>
	<p><b>Response:</b>                  Advizex is bound to the policy of all OEMs associated to the transfer of ownership. Transfer of ownership occurs at the point of shipment from the OEM warehouse.</p> <p>This is due to insurance laws and the initiation of support contracts. If desired by WVL, Advizex will assist WVL in procuring OEM warranty extension(s) at potential additional cost to cover equipment from shipping date until "Go Live". This may also help keep renewal dates consistent if shipping times are diverse.</p> <p>Advizex will work with OEMS to ensure a fast transition to go live, but industry wide shipping delays and shortages due to global economic and Pandemic-related pressures are currently affecting lead times and some of this may be outside of the control of Advizex or participating OEMS.</p>

4.2.2.5	<p>The Lottery reserves the right to approve all staff members assigned to perform Lottery services. The Lottery reserves the right to reject staff and the Vendor/Manufacturer will provide qualified replacements.</p> <p>Response:  <b>Advizex acknowledges and will comply.</b></p>
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4.2.2.6	<p>Original equipment manufacturer (OEM) for each major component of this solution: HCI, DPS, and UDS must provide badged (W-2) employees for the project.</p> <p>Response:  <b>As with all Advizex resources OEM resources will be badged (W-2) employees. Advizex will provide resource management throughout the engagement Any need for specialized Subject Matter Experts will be escalated to WVL for consideration and approval.</b></p>
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**4.2.2.7 TO 4.2.2.12 HARDWARE REQUIREMENTS / HYPERCONVERGED HARDWARE (HCI)**

4.2.2.7	<p>Vendor provided HCI solution must include a minimum of 6 VMware compatible hosts per location. Each of these hosts must include all required components in order to host all of the existing and future VM guests for WV Lottery. These include but are not limited to CPU, RAM resources and access to storage on each host.</p> <p>Response:  <b>100% Comply</b></p> <p><b>The Advizex recommended HCI VxRail solution includes six(6) VMware compatible hosts per location. Each individual VxRail host provides all components required to host VM's including CPU, RAM, and storage.</b></p>
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4.2.2.8	<p>Each HCI solution host must include a minimum of 96GB RAM running at 2933Mhz, and one Intel Gold CPU model 6248 or greater. If vendor chooses to offer an alternate CPU, the minimum core count per host is 20, and minimum clock speed is 2.5 GHz. Single socket hosts are preferred, but dual socket hosts are acceptable if the additional 12</p>
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	<p>sockets of VMware vSphere Enterprise Plus software licensing and co-termed premium support are provided as a component of this RFP.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended HCI VxRail solution includes 96GB of 2933Mhz RAM per host, and one Intel Gold model 6248. Advizex's solution does not require any additional vSphere licensing, and is perfectly sized for WV's workload and license capabilities.</p>

<p>4.2.2.9</p>	<p>Each HCI solution host must include a minimum of two (2) 25GbE SFP-28 compatible network interfaces.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended HCI VxRail solution includes (2) SFP-28 25GbE network interfaces.</p>

<p>4.2.2.10</p>	<p>Vendor provided HCI solution must include all-flash storage media for the purpose of hosting and optimizing the performance of WV Lottery VMware guests.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended HCI VxRail solution includes all-flash storage media for both cache and capacity drives for all VxRail nodes. All-Flash provides the highest performance and most robust data services when used with vSAN.</p>

<p>4.2.2.11</p>	<p>Vendor provided HCI solution must include a minimum of 37TB of usable, persistent, all-flash, block storage capacity. This must be calculated after all overhead, fault tolerance methods, best practice slack space, and formatting losses have been accounted for.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p>

	<p>The Advizex recommended HCI VxRail solution includes all-flash storage media that supports 37TB of usable persistent block storage capacity. This is worst case available capacity after all overhead, fault tolerance, slack space, and formatting losses have been accounted for.</p>
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<p>4.2.2.12</p>	<p>Vendor provided HCI solution must include the 37TB usable block storage capacity as defined above while configured with primary level of failures to tolerate configured as 2. This means any combination of two (2) entire hosts, storage nodes, drives, cache drives may be unavailable and the entire 37TB of block storage capacity must remain online, usable, and available for use.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended HCI VxRail solution includes all-flash storage media that supports 37TB of usable persistent block storage capacity.</p> <p>This is worst case available capacity after all overhead, fault tolerance, slack space, and formatting losses have been accounted for. Using erasure coding and configured for FTT=2, all of this 37TB will be available, online, and usable with any combination of two (2) entire hosts, storage nodes, drives, cache drives being unavailable.</p>

**4.2.2.13 TO 4.2.2.19 DOMAIN CONTROLLERS HARDWARE (PHYSICAL SERVER)**

<p>4.2.2.13</p>	<p>Vendor provided solution must include three (3) industry standard X86 rack-mount servers. Each of these servers must support and include all required components to be able to host a locally installed Windows Server 201x Operating System. Two servers will be installed in Charleston and one server in Bridgeport.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended solution includes three(3) Dell rack mount industry-standard servers that fully support latest versions of Windows Server and will be deployed and installed with two(2) in Charleston, and one(1) in Bridgeport WV.</p>

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<b>4.2.2.14</b>	<p>Each server must include a minimum of 16GB RAM running at 2666Mhz, and one Intel E-2124 CPU or greater. If vendor chooses to offer an alternate CPU, the minimum core count per server is 4, and minimum clock speed is 3.3Ghz. Single socket servers are preferred, but dual socket servers are acceptable if the additional 3 sockets of Microsoft software licensing and co-termed premium support are provided as a component of this RFP.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended solution includes (3) Dell rack mount industry-standard servers with 16GB 2666Mhz of RAM, and one Intel E-2124 CPU. No other Microsoft licensing is requires as the requested CPU and socket count has been preserved.</p>

<b>4.2.2.15</b>	<p>Each server must include a minimum of two (2) 10GbE SFP+ compatible network interfaces.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended solution includes (3) Dell rack mount industry-standard servers each with (2) 10GbE SFP+ compatible network interfaces.</p>

<b>4.2.2.16</b>	<p>Each server must include a hardware-based RAID controller for the purpose of storage fault tolerance.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended solution includes (3) Dell rack mount industry-standard servers each with hardware-based RAID controllers with all flash media providing high performance and storage fault tolerance.</p>



<b>4.2.2.17</b>	<b>Vendor provided server solution must include all-flash storage media for the purpose of hosting WV Lottery physical servers.</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended solution includes (3) Dell rack mount industry-standard servers each with hardware-based RAID controllers with all flash media providing high performance and storage fault tolerance.</b></p>

<b>4.2.2.18</b>	<b>Each vendor provided server must include a minimum of 480GB of usable, persistent, all-flash, block storage capacity. This must be calculated after any fault tolerance methods, have been accounted for.</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended solution includes three(3) Dell rack mount industry-standard servers each with 480GB of usable all flash media in a RAID1 configuration providing high performance and storage fault tolerance.</b></p>

<b>4.2.2.19</b>	<b>Each vendor provided server must include the 480GB usable storage capacity as defined above while configured with primary level of failures to tolerate configured as 1 Drive. This should be a hardware-based raid mirror set. This means any storage device may fail and the entire 480GB of storage capacity must remain online, usable, and available for use.</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended solution includes three(3) Dell rack mount industry standard servers each with 480GB of usable all flash media in a RAID1 configuration providing high performance and storage fault tolerance. Each server will have (2) 480GB All flash drives included and configured as a hardware mirror set. This will allow 480GB of capacity to be available, usable, and bootable if either drive were to fail at any time.</b></p>

**4.2.2.20 TO 4.2.2.22 UDS HARDWARE**

<b>4.2.2.20</b>	Vendor provided UDS must include a minimum of 96GB of RAM per node.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended solution includes four(4) Dell F200 nodes each with 96GB of RAM per node.</p>

<b>4.2.2.21</b>	Vendor provided UDS must include a minimum of four (4) 25GbE interfaces supporting SFP28 connections for each node.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended solution includes four(4) Dell F200 nodes each with four(4) SFP28 25GBE interfaces connections per node.</p>

<b>4.2.2.22</b>	Vendor provided UDS must deliver 23TB usable storage capacity as defined above while configured with primary level of failures to tolerate configured as 2 drives or 1 node. This means any two storage devices may fail or any one complete node and the entire 23TB of unstructured storage capacity must remain online, usable, and available for use.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended PowerScale UDS solution will deliver 23TB of usable storage capacity before data reduction or compression. The F200 PowerScale solution is configured to tolerate up to two storage device failures or one complete node while the entire 23TB of usable capacity remains online, usable, and available for use.</p>

## 4.2.2.23 TO 4.2.2.25 DPS HARDWARE

4.2.2.23	Vendor must provide two (2) data center backup and recovery solutions, one to be installed in the WV Lottery primary data center, and the second identical solution to be installed in the WV Lottery secondary data center
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA DPS solution will include two(2) complete, licensed, and identical solutions. One(1) will be installed in Charleston, and one(1) in Bridgeport WV.</p>

4.2.2.24	Vendor provided DPS must include a minimum of two (2) 10GbE network connections supporting SFP+ interfaces. Small Form Factor Pluggable
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA DPS solution will include two(2) 10GbE SFP+ network interfaces per location.</p>

4.2.2.25	Each vendor provided DPS solution must include a minimum of 96TB usable capacity of data protection storage hardware per Site.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA DPS solution will include 96TB of usable capacity of data protection storage per site.</p>

## 4.2.2.26 TO 4.2.2.35 NETWORKING HARDWARE

4.2.2.26	Vendor provided networking solution must contain a minimum of two (2) L2 and L3 capable 48 port Ethernet TOR server aggregation switches per location.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking solution will include two(2) 48port 25GbE L2 and L3 capable Ethernet TOR server aggregation switches per location.</p>

4.2.2.27	Each Vendor provided networking switch must include a minimum of forty-eight (48) SFP28 interfaces, two (2) QSFP28-DD interfaces, and four (4) QSFP28 interfaces.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking solution will include (48) SFP28 interfaces, (2) QSFP28-DD interfaces, and (4) QSFP28 interfaces per switch.</p>

4.2.2.28	Each vendor provided networking switch must include concurrent support for a forty-eight (48) 25Gbps connections, and eight (8) 100Gbps connections all at full rate and non-blocking.
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking solution will include concurrent support for a forty-eight (48) 25Gbps connections, and eight (8) 100Gbps connections all at full rate and non-blocking for each switch.</p>

4.2.2.29	Each vendor provided networking switch must include scalable a L2 and L3 Ethernet switching with QoS and a full complement of standards based IPv4 and IPv6 features, including OSPF and BGP routing support.
	<p><b>Response:</b></p>

	<p><b>100% Comply</b></p> <p>The Advizex recommended Dell Networking S series data center class switches consists of enterprise-ready full featured L2/L3 switches with routing including QOS, OSPF, and BGP support. These switches are not simple web managed switches, or “light L3” products. Dell networking S series switches are ready for software defined networking, and use all 25Gb access ports and 100Gb ports for uplink and interswitch links.</p>
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<p><b>4.2.2.30</b></p>	<p>Each vendor provided networking switch must include L2 multipath support via Virtual link Trunking (VLT) and Routed VLT support.</p>
	<p><b>Response: :</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking S series data center class switch solution consists of enterprise ready full featured L2/L3 switches with routing and 100Gb L2 multipath support. Dell networking S series Data center class switches use VLT and router VLT support to deliver a modern, high performance leaf and spine architecture. This capability allows WVLT to keep critical storage HCI traffic off the core network – ensuring the best possible performance and reliability for their server environment.</p>

<p><b>4.2.2.31</b></p>	<p>Each vendor provided networking switch must support VXLAN gateway functionality support for bridging and routing the non-virtualized and virtualized overlay networks with line rate performance.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking S series Data center class switch solution consists of enterprise ready full featured L2/L3 switches with VXLAN gateway support. This positions WVLT perfectly for future virtualized networking and security with VMware NSX if desired. NSX, although not in scope of this solution, is an enterprise class virtualized networking and security solution that enables customers like WVLT to provision firewall and security services much faster than traditional methods, while also granting advanced visibility into traffic flows within</p>

	<p>the vSphere environment. The Dell networking solution is 100% ready for this when WVL is.</p>
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4.2.2.32	<p>Each vendor provided networking switch must include support for routable RoCE to enable convergence of compute and storage on Leaf/Spine fabric.</p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking S series Data center class switch solution consists of enterprise ready full featured L2/L3 switches support routing of RoCE. RDMA over converged Ethernet is a leading technology for future platforms, storage, and apps to more efficiently and quickly gain access to storage. The Dell networking is ready now, for when WVL may desire these capabilities.</p>

4.2.2.33	<p>Each vendor provided networking switch must include redundant, hot swappable power supplies and fans.</p>
	<p><b>Response: :</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking S series Data center class switches includes dual hot-swap power supplies and fans.</p>

4.2.2.34	<p>Vendor provided networking solution must include all components to connect all HCI solution nodes at 25Gbs, all UDS solution nodes at 10Gbs, all DPS nodes at 10Gbs, and all servers at 10Gbs.</p>
	<p><b>Response: :</b>  <b>100% Comply</b></p> <p>The Advizex recommended Dell Networking S series data center class switch solution support 25Gbs on all interfaces, and supports stepping down to 10Gbs for UDS, DPS, and servers.</p>

<b>4.2.2.35</b>	<p><b>Vendor provided networking solution must include all required hardware including but not limited to OM4 fiber cables, switch side transceivers or other components required to create two (2) 40Gbe paths for redundancy from each TOR paths to WVL's existing core network at each location. WVL will provide transceivers for core side equipment only. All other components must be included in this networking solution.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended Dell Networking S series Data center class switch solution includes all required hardware required to connect to WVL's core network with redundancy at 40GbE except transceivers for WVL's Cisco Core equipment. This includes at minimum, OM4 cables, switch side transceivers, and supportability for (2) 40GbE paths from each TOR to WVL's existing core network.</b></p>

#### 4.2.2.36 SOFTWARE REQUIREMENTS / HCI SOFTWARE

<b>4.2.2.36</b>	<p><b>Vendor provided HCI solution must include all software licensing for software defined storage components required to deliver the WVL solution requirements as documented in the RFP.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended HCI VxRail solution includes vSAN licensing required to deliver RAID6, D@RE, and any and all other RFP requirements for WVL.</b></p>

#### 4.2.2.37 TO 4.2.2.39 DOMAIN CONTROLLERS SOFTWARE / UDS SOFTWARE

<b>4.2.2.37</b>	<p><b>Vendor provided UDS solution must include licenses and capability for HDFS.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p>



	<p>The Advizex recommended PowerScale UDS solution includes HDFS licensing for both sites for the full capacity of the solution. HDFS is a critical component of the Ransomware and DR components of the UDS solution provided. HDFS provides quick analytics of file activity and can respond faster to security incidents than systems that lack these capabilities.</p>
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<p>4.2.2.38</p>	<p>Vendor provided UDS solution must include software licenses and capability for WORM storage for 64TB Raw (32TB per Site) to be controlled by policy. This policy enabled WORM storage once written cannot be modified. This replaces the current hardware (Centera) used for Document Imaging.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended PowerScale UDS solution includes WORM equivalent licensing (SmartLock) for 64TB RAW capacity (32 per site) and is controlled by policy. SmartLock (WORM) enabled storage policies deliver Write Once Read Many capabilities by policy where WVJ requires them.</p>

<p>4.2.2.39</p>	<p>Vendor provided UDS solution must include software licenses and capability for 64TB to replicate file level storage bi-directionally between our two data centers. This software should be controlled by policy with the potential for different replication parameters per folder or content type.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended PowerScale UDS solution includes licensing and capabilities for 64TB of native bi-directional storage replication. Replication (SynclQ) is controlled by policies and fully supports replication parameters by a variety of methods including content type and folder location.</p>

## 4.2.2.40 TO 4.2.2.58 DPS SOFTWARE

4.2.2.40	<p><b>Vendor provided DPS solution must include all software required to backup and also to recover operating systems, files, databases, and applications in both physical and virtual environments.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes mature and feature rich backup software to backup and recover operating systems, files, databases, and applications in physical and virtual environments. EMC networker, Avamar, DDboost, and others are all included in the IDPA solution.</b></p>

4.2.2.41	<p><b>Vendor provided DPS solution must include all software required to assign backup and retention policies that align with WV Lottery recovery objectives.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes mature and feature rich backup software to backup, retain, and recover data meeting and exceeding WVL's recovery objectives.</b></p>

4.2.2.42	<p><b>Vendor provided DPS solution must include all software required to report success and failure of backup or recovery tasks. This includes all web server software and all application server software to provide these reports via email or web applications.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes mature and feature rich backup software and reporting capabilities with IDPA System Manager consolidating day to day management functions, including monitoring, management, reporting, and deep search. System Manager will show backup success, failure, and SLA's from one console for both</b></p>

	<b>IDPA solutions. All of these functions run on the IDPA – no server hosting or additional licensing required.</b>
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4.2.2.43	<b>Vendor provided DPS solution must include all software required to improve the speed of backup processing to reduce the amount of time to run backups. This includes capability to de-duplicate backup data at source and destination to reduce the amount of data transmitted over the network.</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes DDBOOST technology for speeding up backups, as well as Data Domain with industry leading variable length de-deduplication. Data Domain built into IDPA supports global data reduction, which reduces data with variable length de-duplication and compression algorithms, supporting data reduction at source system (client side) as well as storage side, and in transit between the two IDPA systems – reducing LAN and WAN bandwidth requirements.</b></p>

4.2.2.44	<b>Vendor provided DPS solution must include all software required to provide built in fault avoidance and containment of issues in the data protection storage.</b>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes Data Domain invulnerability architecture to ensure data integrity. The DIA includes 4 different mechanisms to ensure data remains consistent and available. Data Domain is unique in the industry in that it checks all incoming data sent as it's stored, it never appends new data to previous data, it protects against power failure or multiple disk failures with background data scrubbing and on the fly error correction. Data Domain also includes self-describing metadata so the system can recover from scratch in a reasonable timeframe.</b></p>

4.2.2.45	<p><b>Vendor provided DPS solution must include all software required to provide advanced integration with VMware vSphere VADP which allows for full VM image level backup with change block tracking, incremental virtual machine image file restore, file level restore and single step source to target backup.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA DPS solution includes backup software supporting VADP, which offloads backup processes to a VADP proxy server and offers change block tracking with VSphere, full image level backup, file level restore, incremental VM image file restore, and single step source to target backup. This also eliminates the need for traditional backup windows by leveraging native VMware snapshot technology ensuring WV's systems are not impacted by backup processes.</p>

4.2.2.46	<p><b>Vendor provided DPS solution must include all software to integrate with and support backups and restores directly from Microsoft SQL to include application consistent backups.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p>The Advizex recommended IDPA DPS solution includes the DDBOOST plug-in for Microsoft SQL which extends the Microsoft job scheduler and provides DBA's the capability to directly backup and restore SQL servers from IDPA. By integrating into the MSSQL backup tools, it ensures that the backups are application-consistent as opposed to just a backup file sitting on a folder.</p>

4.2.2.47	<p><b>Vendor provided DPS solution must include all software required to natively tier de-duplicated data to public or private cloud object storage for long-term data retention.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p>

	<p>The Advizex recommended IDPA DPS solution includes the capability to natively tier de-duplicated data to on-prem Object storage or public cloud object storage for long-term data retention. The solution includes 5TB of cloud tiering and cloud DR and can be expanded by WVLT if needed in the future.</p>
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<p>4.2.2.48</p>	<p>Vendor provided DPS solution must include all software required to allow for multiple Ethernet links to be aggregated together for increased performance and failover.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended IDPA DPS solution includes support for link aggregation via industry standard Link Aggregation Control Protocol or LACP. This provides increased performance and availability as opposed to single interfaces or links.</p>

<p>4.2.2.49</p>	<p>Vendor provided DPS solution must include all software required to de-duplicate globally across the entire system and across backup application type.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended IDPA DPS solution includes Data Domain with industry leading variable-length de-deduplication. Data Domain built into IDPA supports global data reduction, which reduces data with variable length de-duplication and compression algorithms, supporting data reduction at source system (client side) as well as storage side, and in transit between the two IDPA systems – reducing LAN and WAN bandwidth requirements. Data reduction on storage isn't dependent on application type, however included native backup applications with IDPA also include complementary client side data reduction further increasing efficiency.</p>

<b>4.2.2.50</b>	<p><b>Vendor provided DPS solution must include all software required to provide NFS, CIFS and backup acceleration services at the same time in the same system.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes all software required to provide NFS, CIFS, and backup acceleration services at the same time in the same system.</b></p>

<b>4.2.2.51</b>	<p><b>Vendor provided DPS solution must include all software required to act as a destination for archive storage and must have the ability to lock files from being edited after they have been archived.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes all software required to provide a governance and compliance certified archive solution. The Data Domain operating system in IDPA support consolidating backup and archive in the same platform with inline encryption and locked archive preventing modification after archive.</b></p>

<b>4.2.2.52</b>	<p><b>Vendor provided DPS solution must include all software required to provide the ability for non-disruptive Disaster Recovery testing, without an actual failover.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes Recover Point for Virtual Machines (RPVM) which provides software defined VM replication and failover between WVL's sites, as well as the ability to restore backups to alternate locations, hostnames, IP's, or storage. This allows WVL to test backups, as well as test replication and failover strategies without affecting business critical applications or downtime.</b></p>

<b>4.2.2.53</b>	<p><b>Vendor provided DPS solution must include all software to replicate at the same time as backups with no requirement for a specific "replication window".</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes Data Domain replication and backup software that supports replication as well as backups to happen concurrently. Unlike other solutions, IDPA permits WVLT to avoid scheduling around variable backup and recovery windows, allowing WVLT to focus on other more important activities and reduce the human resources required to manage the backup system.</b></p>

<b>4.2.2.54</b>	<p><b>Vendor provided DPS solution must include all software required to provide functionality to continually verify that the data stored on the system can be accessed and restored in its original form.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes Data Domain invulnerability architecture to ensure data integrity. The DIA includes 4 different mechanisms to ensure data remains consistent, available, and unmodified. Data Domain is unique in the industry in that it checks all incoming data sent as it's stored, it never appends new data to previous data, and it protects against power failure or multiple disk failures with background data scrubbing and on the fly error correction. Data Domain also includes self-describing metadata so the system can recover from scratch in a reasonable timeframe.</b></p>

<b>4.2.2.55</b>	<p><b>Vendor provided DPS solution must include all software required to de-duplicate data inline into variable length segments before it is written to media.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes Data Domain software that employs source side variable-length deduplication that</b></p>



	<p><b>minimizes disk utilization and ensures that data in flight is already deduplicated when it leaves the source as well as when first stored. This is critical to network backup performance as is not possible with solutions not offering client side variable length deduplication.</b></p>
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4.2.2.56	<p><b>Vendor provided DPS solution must include capacity licenses that activate and enable a minimum of 60TB of usable data storage per solution.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes software licensing for 60TB of usable storage capacity per location/solution.</b></p>

4.2.2.57	<p><b>Vendor provided DPS solution must include an indexed search function to locate and restore files within the backup set.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended IDPA DPS solution includes IDPA System Manager consolidating day to day management functions, including monitoring, management, reporting, and deep search. The deep indexed search functions permit WVL to search within all backup storage to assist in recovery of single files within data sets. All of these functions run on the IDPA – no server hosting or additional licensing required.</b></p>

4.2.2.58	<p><b>Vendor provided DPS solution must include software licensing for 60TB of NFS compatible file system backup acceleration.</b></p>
	<p><b>Response: :</b>  <b>100% Comply</b></p>

	<p><b>The Advizex recommended IDPA DPS solution includes software licensing for 60TB of NFS compatible file system backup acceleration per location/solution.</b></p>
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#### 4.2.2.59 TO 4.2.2.60 NETWORKING SOFTWARE

	<p>Each vendor provided networking switch must include all of the following requirements:</p> <ul style="list-style-type: none"> <li>• 4.2.2.59.1. Software licensing for scalable L2 and L3 Ethernet switching with QoS and a full complement of standards based IPv4 and IPv6 features, including OSPF and BGP routing support.</li> <li>• 4.2.2.59.2. Software licensing for L2 multipath support via Virtual Link Trunking (VLT) and routed VLT support.</li> <li>• 4.2.2.59.3. Software licensing for VXLAN gateway functionality support to bridge and route the non-virtualized and virtualized overlay networks with line rate performance.</li> <li>• 4.2.2.59.4. Software licensing for routable RoCE to enable convergence of compute and storage on Leaf/Spine fabric.</li> </ul>
4.2.2.59	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>4.2.2.59.1</b>          The Advizex recommended Dell Networking S series Data center class switch solution consists of enterprise ready full featured L2/L3 switches and software with routing including QOS, OSPF, and BGP support. These switches are not simple web managed switches, or “light L3” products. Dell networking S series switches are ready for software defined networking, and use all 25Gb access ports and 100Gb ports for uplink and interswitch links.</p> <p><b>4.2.2.59.2</b>          The Advizex recommended Dell Networking S series Data center class switch solution consists of enterprise ready full featured L2/L3 switches and software with routing and 100Gb L2 multipath support. Dell networking S series Data center class switches use VLT and router VLT support to deliver a modern, high performance leaf and spine architecture. This capability allows WVLT to keep critical storage HCI traffic off the core network – ensuring the best possible performance and reliability for their server environment.</p>

	<p><b>4.2.2.59.3</b> The Advizex recommended Dell Networking S series Data center class switch solution consists of enterprise ready full featured L2/L3 switches and software with VXLAN gateway support. This positions WVL perfectly for future virtualized networking and security with VMware NSX if desired. NSX, although not in scope of this solution, is an enterprise class virtualized networking and security solution that enables customers like WVL to provision firewall and security services much faster than traditional methods, while also granting advanced visibility into traffic flows within the vSphere environment. The Dell networking solution is 100% ready for this when WVL is.</p> <p><b>4.2.2.59.4</b> The Advizex recommended Dell Networking S series Data center class switch solution consists of enterprise ready full featured L2/L3 switches and software support routing of RoCE. RDMA over converged Ethernet is a leading technology for future platforms, storage, and apps to more efficiently and quickly gain access to storage. The Dell networking is ready now, for when WVL may desire these capabilities.</p>
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<p><b>4.2.2.60</b></p>	<p><b>4.2.2.60. WV lottery is seeking a vendor to assist with application lifecycle activities and related support actions to ensure that WVL's Active Directory, SQL Server, Exchange Server, and other dependent applications are implemented on modern, supported and supportable operating systems, platforms, servers, or systems including the following requirements:</b></p> <ul style="list-style-type: none"><li>• <b>4.2.2.60.1. The vendor awarded this RFP must be able to perform these activities and actions with employees badged by the RFP responding vendor, unless the requirement is for OEM employees. There are specific vendor responsibilities and capabilities that will be measured with the intent of awarding and open-end contract for on-going maintenance and support for WVL Microsoft server systems to ensure continued server system functionality.</b></li><li>• <b>4.2.2.60.2. This contract must provide for professional services for system design, implementation, and disaster recovery activities for WVL and will require an approved SOW utilizing the established contract hourly rates. A separate contract release order will be issued and will be used for billing post-installation</b></li></ul>
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**maintenance/support activities based on an established hourly rate.**

- **4.2.2.60.3. The Server based VMWARE software (VMWARE, VCENTER, VMOTION and VSPHERE) programs are currently licensed to the Lottery and will continue to be used as applications are migrated from legacy to new platforms.**

**Any proposal that increases the number of required licenses, must include costs for VMWARE software for the duration of this contract (sixty (60) months).**

**Response:**

**Advizex confirms that Professional Services as requested above. This includes, but is not limited to Microsoft and VMware.**

**Advizex currently holds state-wide procurement contracts with the following states and agencies within each state:**

<b>State/ Number of State-wide Contracts</b>	<b>In-State Agencies and Departments</b>
<b>Ohio (5 STS state-wide contracts)</b>	<b>12+</b>
<b>Pennsylvania (3 state-wide contracts)</b>	<b>4+</b>
<b>New York State (2 OGS state-wide contracts)</b>	<b>4+</b>
<b>Massachusetts (8 IT state-wide contracts)</b>	<b>38+</b>
<b>Maine</b>	<b>4+</b>
<b>Connecticut</b>	<b>7+</b>
<b>Rhode Island</b>	<b>3+</b>
<b>Tennessee</b>	<b>2+</b>

**As part of these contracts, strict Nondisclosure Agreements (NDA) are in force. Your Account Executive, Mika Munoz, will facilitate reference discussions with both state-level contacts and similar technology and size secular clients, upon request**

**When considering our Microsoft capabilities, the experience, expertise and reference perspectives of Advizex include depth in capabilities.**

**Advizex has previously delivered on every aspect of what West Virginia Lottery is looking to accomplish for this initiative.**

As an example, Advizex has designed, installed, upgraded, configured, implemented and/or migrated multiple SQL (2000-2014) and Exchange 2000-2019 environments. These environments were across a variety of client base industry verticals and in support of organizations with anywhere from hundreds to thousands of users. These prior projects have been on both dedicated physical hardware environments as well as virtual.

As a fully qualified and certified (since 2006) Microsoft Gold Partner, we have successfully delivered on hundreds of projects related to:

- Data center upgrades
- Consolidation and migration efforts
  - Active Directory
  - AD core services (DNS, DHCP, CA)
  - Identity
  - Security
  - ... and more
- Microsoft Core Applications
  - Exchange
  - SharePoint
  - SQL
  - O365
  - ... and more

Our technical team has extensive hands on working knowledge assessing, designing, troubleshooting, upgrading, consolidating and migration of those systems. We've successfully dealt with the complexities that, often times, come with legacy data center upgrades.

While Advizex provides services work across all industry verticals, we have a working knowledge and understanding of a variety of state and local governments, and their supporting agencies. Some of these engagements include:

- Job and Family Services
- DOT
- Lottery Commissions
- City Municipalities
- 911 Services
- Judicial Departments
- Cannabis Commissions

	○ ... and more
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**4.2.2.61 TO 4.2.2.71 VENDOR REQUIREMENTS**

"OEM Operational Transition Services" means OEM provided, Expert-level human resources, intended to provide guidance post-deployment of the solution components. This resource will provide on-site infrastructure management, knowledge transfer to WVLT, and will ensure OEM best practices are implemented to ensure successful adoption the new solutions. These services are to be offered on-site in one (1) month intervals, with travel and expenses included. One (1) month is defined as 20 contiguous days of work or a maximum of 160 hours.

<b>4.2.2.61</b>	<p><b>Vendor must provide services for application lifecycle transition and re-platforming or any other work designated by the WVLT on an as needed basis and will bill hours provided each month. Separate invoices must be provided for work done for the WVLT. Invoices shall include all activity detail, including date, hours worked, employee name and a reference to the applicable statement of work (SOW).</b></p> <p><b>Response:</b>                  Advizex acknowledges and will provide the requested services.</p>
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<b>4.2.2.62</b>	<p><b>Vendor must provide hourly rate pricing for all custom application lifecycle transition services.</b></p> <p><b>Response:</b></p> <p>Please refer to the following sections for rate pricing:</p> <p><b>4.2.2.62 Advizex has reviewed the above requirements and propose the following roles for the duration of this five(5) year engagement are as follows:</b></p> <ul style="list-style-type: none"> <li>• <b>4.2.2.62.1. Project Manager</b></li> <li>• <b>4.2.2.62.2. Microsoft Certified Systems Engineer</b></li> <li>• <b>4.2.2.62.3. DPS Engineer</b></li> <li>• <b>4.2.2.62.4. Disaster Recovery Specialist</b></li> <li>• <b>4.2.2.62.5. Other Staff</b></li> </ul>
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	<p>See: 4.2.1.101 Advizex has reviewed the above requirements and propose the following roles for the duration of this five(5) year engagement are as follows:</p> <ul style="list-style-type: none"> <li>• 4.2.1.101.1 Project Manager</li> <li>• 4.2.1.101.2 Exchange Engineer</li> <li>• 4.2.1.101.3 SQL Engineer</li> <li>• 4.2.1.101.4 Operating System Specialist Engineer</li> <li>• 4.2.1.101.5 Active Directory Engineer</li> <li>• 4.2.1.101.6 Other Staff</li> </ul>
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<p>4.2.2.63</p>	<p>Vendor provided application lifecycle transition services must plan, document, and implement best practices   Active Directory domain controller upgrades, functional level modernization, and directory service best practices and policies for modernization of Microsoft client management features, printing, and deployment.</p>
	<p><b>Response:</b>          Advizex acknowledges and will provide the requested services.</p>

<p>4.2.2.64</p>	<p>Vendor must provide project management services for the entirety of application lifecycle transition and re-platforming project. Project manager services must be assigned to full time badged employees of the winning Vendor and in partnership with the OEM provider.</p>
	<p><b>Response:</b>          Advizex acknowledges and will provide the requested services.</p>

<p>4.2.2.65</p>	<p>Vendor provided application lifecycle transition services must assist WVL with modernization of other non-Microsoft application server products — including evaluation, planning, implementation, and support coordination with OEM of application. This is expected to include but not be limited to application requirements assessment, operating system configuration, database server configuration, and or application server configuration. See Appendix II for an inventory of servers/storage to be upgraded.</p>
	<p><b>Response:</b></p>



**Advizex acknowledges and will provide the requested services.**

**4.2.2.66** All Vendor(s) must submit documentation for all employees, upon Lottery Request, that will be assigned to work on Lottery Systems. All employees will be required to submit fingerprints for background investigation performed by the Lottery. Anyone failing a background check will not be able to work on this RFP. Best practices would be what is generally included by industry vendors.

**Response:**  
**Advizex acknowledges and will comply.**

**4.2.2.67** Vendor must provide documentation and background references to support the Requirements stated in this RFP. If the Lottery is unable to verify this experience, the Vendor is subject to disqualification.

**Response:**

**Advizex currently holds state-wide procurement contracts with the following states and agencies within each state:**

State/ Number of State-wide Contracts	In-State Agencies and Departments
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Pennsylvania (3 state-wide contracts)	4+
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Massachusetts (8 IT state-wide contracts)	38+
Maine	4+
Connecticut	7+
Rhode Island	3+
Tennessee	2+

**As part of these contracts, strict Nondisclosure Agreements (NDA) are in force. Your Account Executive, Mika Munoz, will facilitate reference discussions with both state-level contacts and similar technology and size secular clients, upon request**

**When considering our Microsoft capabilities, the experience, expertise and reference perspectives of Advizex include depth in capabilities.**

**Advizex has previously delivered on every aspect of what West Virginia Lottery is looking to accomplish for this initiative.**

**As an example, Advizex has designed, installed, upgraded, configured, implemented and/or migrated multiple SQL (2000-2014) and Exchange 2000-2019 environments. These environments were across a variety of client base industry verticals and in support of organizations with anywhere from hundreds to thousands of users. These prior projects have been on both dedicated physical hardware environments as well as virtual.**

**As a fully qualified and certified (since 2006) Microsoft Gold Partner, we have successfully delivered on hundreds of projects related to:**

- **Data center upgrades**
- **Consolidation and migration efforts**
  - **Active Directory**
  - **AD core services (DNS, DHCP, CA)**
  - **Identity**
  - **Security**
  - **... and more**
- **Microsoft Core Applications**
  - **Exchange**
  - **SharePoint**
  - **SQL**
  - **O365**
  - **... and more**

**Our technical team has extensive hands on working knowledge assessing, designing, troubleshooting, upgrading, consolidating and migration of those systems. We've successfully dealt with the complexities that, often times, come with legacy data center upgrades.**

**While Advizex provides services work across all industry verticals, we have a working knowledge and understanding of a variety of state and local governments, and their supporting agencies. Some of these engagements include:**

- **Job and Family Services**
- **DOT**
- **Lottery Commissions**
- **City Municipalities**

	<ul style="list-style-type: none"> <li>○ 911 Services</li> <li>○ Judicial Departments</li> <li>○ Cannabis Commissions</li> <li>○ ... and more</li> </ul>
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4.2.2.68	Vendor must have, and must commit, to maintain for the term of this contract, W-2 employed staff members experienced and qualified to support all technologies utilized in the systems as outlined.
	<p>Response:</p> <p><b>Advizex acknowledges and will comply.</b></p>

4.2.2.69	The winning Vendor must provide services and support for server buildouts and migrations from Server 2008 to new Windows Server 20xx platforms including but not limited to Clustered Exchange 20xx, Clustered SQL 2017, note Document Imaging and SharePoint will not be included in these migrations. See Appendix II for an inventory of servers/storage to be upgraded.
	<p>Response:</p> <p><b>Advizex acknowledges and will provide the requested services.</b></p>

4.2.2.70	Vendors proposing alternative virtualization solutions must include licensing, maintenance, and support costs in addition to all other specifications.
	<p>Response:</p> <p><b>100% Comply</b></p> <p><b>The Advizex recommended solution(s) are designed to leverage and extend WV's existing virtualization solution. VxRail is jointly engineered with VMware and is the best way for WV to achieve true HCI benefits with VMware without purchasing or licensing additional solutions. The Advizex solution is uniquely sized and designed to fit within WV's current licensing and support agreements, and ready to grow simply and easily if needed in the future.</b></p>

<b>4.2.2.71</b>	<p><b>On-Site Vendor must provide for the provision of OEM on-site operational transition services in addition to all other components of this RFP:</b></p> <ul style="list-style-type: none"> <li>• <b>4.2.2.71.1. Vendor provided HCI solution must include three (3) months of OEM on-site operational transition services.</b></li> <li>• <b>4.2.2.71.2. Vendor provided UDS solution must include two (2) months of OEM on-site operational transition services.</b></li> <li>• <b>4.2.2.71.3. Vendor provided DPS solution must include one (1) month of OEM on-site operational transition services.</b></li> </ul>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended and provided solution includes the desired residency.</b></p> <ul style="list-style-type: none"> <li>• <b>4.2.2.71.1 – Advizex will supply Dell OEM HCI expert-level residency services for the purpose of operational transition. Advizex has included 3 months in your solution.</b></li> <li>• <b>4.2.2.71.2 – Advizex will supply Dell OEM UDS expert-level residency services for the purpose of operational transition. Advizex has included 2 months in your solution.</b></li> <li>• <b>4.2.2.71.3 – Advizex will supply Dell OEM DPS expert-level residency services for the purpose of operational transition. Advizex has included 1 months in your solution.</b></li> </ul> <p><b>Please find details about Dell EMC residency program as attachment in our response bundle.</b></p>

#### 4.2.2.72 MAINTENANCE REQUIREMENTS

<b>4.2.2.72</b>	<p><b>Vendor must provide premium OEM software and hardware maintenance services entitling WVLT to but not limited to all supported software releases for all provided hardware including but not limited to HCI, UDS, DPS, Server, and networking solutions for a term of sixty (60) months from date of delivery.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p>

	<p><b>The Advizex recommended solution includes ProSupport Plus Premium Dell EMC software and hardware maintenance for all products for a term of 60 months from date of delivery. Please refer to the Dell ProSupportPlus documentation attached to the response bundle for details.</b></p>
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#### 4.2.2.73 TO 4.2.2.77 SUPPORT REQUIREMENTS

"OEM Premium Installation and Deployment Services" means a complete set of premium level deployment services provided by the OEM. Containing a minimum of these features: TAM engagement, Onsite hardware installation, packaging disposal, project management, Site readiness review, implementation planning, on-site installation and configuration of system software, system testing, verification, product orientation, project documentation, 30 day post deployment configuration assistance, and configuration documentation capture and delivery to OEM support organization.

<p><b>4.2.2.73</b></p>	<p><b>Vendor must provide premium OEM software and hardware support services entitling WVL to but not limited to support services for all provided hardware including but not limited to HCI, UDS, DPS, Server, and networking solutions for a term of sixty (60) months from date of delivery.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p> <p><b>The Advizex recommended solution includes Dell EMC ProSupportPlus Premium software and hardware support services for all products for a term of 60 months from date of delivery. Please refer to the Dell ProSupportPlus documentation attached to the response bundle for details.</b></p>

<p><b>4.2.2.74</b></p>	<p><b>Vendor must provide premium OEM software and hardware support services for all proposed hardware and software solutions as a response to this RFP entitling WVL to 24x7 remote technical support for a term of sixty (60) months from date of delivery.</b></p>
	<p><b>Response:</b>  <b>100% Comply</b></p>

	<p>The Advizex recommended solution includes ProSupportPlus Premium OEM software and hardware support services for all products for a term of 60 months from date of delivery. ProSupportPlus includes 24X7 technical support as requested. Please refer to the Dell ProSupportPlus documentation attached to the response bundle for details.</p>
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<p>4.2.2.75</p>	<p>Vendor must provide premium OEM software and hardware support services for all proposed hardware and software solutions as a response to this RFP entitling WVL to 4 hour mission critical onsite response technical support for a term of sixty (60) months from date of delivery.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended solution includes ProSupportPlus Premium OEM software and hardware support services for all products for a term of 60 months from date of delivery. The 4Hr Mission critical option is included for all solutions (MC). Please refer to the Dell ProSupportPlus documentation attached to the response bundle for details.</p>

<p>4.2.2.76</p>	<p>Vendor must provide premium OEM software and hardware support services for all proposed hardware and software solutions as a response to this RFP entitling WVL to priority access to specialized technical support for a term of sixty (60) months from date of delivery.</p>
	<p>Response:  <b>100% Comply</b></p> <p>The Advizex recommended solution includes ProSupportPlus Premium OEM software and hardware support services for all products for a term of 60 months from date of delivery. The 4Hr Mission critical option is included for all solutions (MC). Please refer to the Dell ProSupportPlus documentation attached to the response bundle for details.</p>

<p>4.2.2.77</p>	<p>Vendor must provide an OEM delivered assigned technical account manager to advocate on behalf of WVL and ensure the best possible</p>
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	<b>proactive and predicable support experience for a term of sixty (60) months from date of delivery.</b>
	<b>Response:</b> <b>100% Comply</b>  <b>The Advizex recommended solution includes ProSupportPlus Premium OEM software and hardware support services for all products for a term of 60 months from date of delivery. ProSupportPlus includes the services of a assigned Technical Support manager. These resources may be commonly referred to as Technical account manager, Support account manager or other. The role for WVL is to ensure the best possible proactive and predictable support experience. Please refer to the Dell ProSupportPlus documentation attached to the response bundle for details.</b>



## PHASE III - QUALIFICATIONS AND EXPERIENCE (SECTION 4.3)

Vendor should provide information and documentation regarding its qualifications and experience in providing services or solving problems similar to those requested in this RFP. Information and documentation should include, but is not limited to, copies of any staff certifications or degrees applicable to this project, proposed staffing plans, description of past projects completed (descriptions should include the location of the project, project manager name and contact information, type of project, and what the project goals and objectives where and how they were met.), references for prior projects, and any other information that vendor deems relevant to the items identified as desirable or mandatory below.

### 4.3.1 QUALIFICATIONS AND EXPERIENCE

<p>4.3.1</p>	<p><b>Qualification and Experience Information: Vendor should describe in its proposal how it meets the desirable qualification and experience requirements listed below:</b></p> <ul style="list-style-type: none"> <li>• <b>4.3.1.1. Vendor should have experience with, and a thorough understanding of, all power requirements and connector specifications for all types of equipment in the data center not limited to switches, Servers, storage, fiber specs, and types, 120/240 Power and PDU.</b></li> <li>• <b>4.3.1.2. Vendor should be able to professionally install hardware cabling and power systems into server equipment racks and cable tray systems and terminate connections in a clean, organized and professionally labeled manner including but not limited to CAT 5/6 (All Fiber types), etc.</b></li> <li>• <b>4.3.1.3. Vendor should have Project Management resources with hands on experience in Multiple Technical Areas including Data, Data Network Security, Distributed Systems, and Clustered Applications.</b></li> <li>• <b>4.3.1.4. Vendor should provide recent reference examples with customer name omitted that prove successful Microsoft Application lifecycle transition services.</b></li> <li>• <b>4.3.1.5. Vendor should have installed, configured, and implemented Clustered Microsoft SQL Server 2008 or later and Clustered Microsoft Exchange 2013 or later in both physical and virtual environments.</b></li> </ul> <p><b>Response:</b></p> <p><b>Advizex currently holds state-wide procurement contracts with the following states and agencies within each state:</b></p>
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State/ Number of State-wide Contracts	In-State Agencies and Departments
Ohio (5 STS state-wide contracts)	12+
Pennsylvania (3 state-wide contracts)	4+
New York State (2 OGS state-wide contracts)	4+
Massachusetts (8 IT state-wide contracts)	38+
Maine	4+
Connecticut	7+
Rhode Island	3+
Tennessee	2+

As part of these contracts, strict Nondisclosure Agreements (NDA) are in force. Your Account Executive, Mika Munoz, will facilitate reference discussions with both state-level contacts and similar technology and size secular clients, upon request

When considering our Microsoft capabilities, the experience, expertise and reference perspectives of Advizex include depth in capabilities.

Advizex has previously delivered on every aspect of what West Virginia Lottery is looking to accomplish for this initiative.

As an example, Advizex has designed, installed, upgraded, configured, implemented and/or migrated multiple SQL (2000-2014) and Exchange 2000-2019 environments. These environments were across a variety of client base industry verticals and in support of organizations with anywhere from hundreds to thousands of users. These prior projects have been on both dedicated physical hardware environments as well as virtual.

As a fully qualified and certified (since 2006) Microsoft Gold Partner, we have successfully delivered on hundreds of projects related to:

- Data center upgrades
- Consolidation and migration efforts
  - Active Directory
  - AD core services (DNS, DHCP, CA)
  - Identity
  - Security
  - ... and more
- Microsoft Core Applications

	<ul style="list-style-type: none"> <li>○ Exchange</li> <li>○ SharePoint</li> <li>○ SQL</li> <li>○ O365</li> <li>○ ... and more</li> </ul> <p><b>Our technical team has extensive hands on working knowledge assessing, designing, troubleshooting, upgrading, consolidating and migration of those systems. We've successfully dealt with the complexities that, often times, come with legacy data center upgrades.</b></p> <p><b>While Advizex provides services work across all industry verticals, we have a working knowledge and understanding of a variety of state and local governments, and their supporting agencies. Some of these engagements include:</b></p> <ul style="list-style-type: none"> <li>○ Job and Family Services</li> <li>○ DOT</li> <li>○ Lottery Commissions</li> <li>○ City Municipalities</li> <li>○ 911 Services</li> <li>○ Judicial Departments</li> <li>○ Cannabis Commissions</li> <li>○ ... and more</li> </ul>
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#### 4.3.2.1 TO 4.3.2.10 MANDATORY QUALIFICATIONS

The following mandatory qualification/experience requirements must be met by the Vendor as a part of its submitted proposal. Vendor must describe how it meets the mandatory requirements and include any areas where it exceeds the mandatory requirements. Failure to comply with mandatory requirements will lead to disqualification, but areas where the mandatory requirements are exceeded will be included in technical scores where appropriate. The mandatory qualifications/experience requirements are listed below.

<b>4.3.2.1</b>	<b>Vendor must be a Microsoft Certified Gold partner with Technical certification in the Microsoft defined "Datacenter" competency.</b>
	<p><b>Response:</b>  <b>Advizex has been a Microsoft Certified Gold Partner for over fifteen(15) years and continues to provide Advanced Professional Services.</b></p> <p><b>The scope of our practice includes the following:</b></p>

	<ul style="list-style-type: none"> <li>• <b>Cloud Productivity – Azure &amp; O365</b></li> <li>• <b>Directory &amp; Identity Management</b></li> <li>• <b>Messaging &amp; Communications – Exchange/Skype</b></li> <li>• <b>Infrastructure Management – Virtualization/System Center</b></li> <li>• <b>Portals &amp; Collaboration – SharePoint/Teams/Yammer/VSTeams</b></li> </ul> <p><b>Our current certifications and competencies include the following:</b></p> <ul style="list-style-type: none"> <li>• <b>GOLD</b> <ul style="list-style-type: none"> <li>○ <b>Cloud Productivity (Office 365)</b></li> <li>○ <b>Cloud Platform (Azure)</b></li> <li>○ <b>Collaboration and Content (SharePoint)</b></li> <li>○ <b>Data Center (AD/Server/Identity)</b></li> </ul> </li> <li>• <b>SILVER</b> <ul style="list-style-type: none"> <li>○ <b>Windows and Devices (Client Platform)</b></li> <li>○ <b>Data Analytics (SQL and Power BI)</b></li> </ul> </li> <li>• <b>TEAM QUALIFICATIONS</b> <ul style="list-style-type: none"> <li>○ <b>Microsoft Certified Professionals (MCP's)</b></li> <li>○ <b>Microsoft Certified IT Professionals (MCITP's, MCSE, MCSA)</b></li> </ul> </li> </ul> <p><b>We are fully capable and comfortable performing the services you have requested.</b></p>
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4.3.2.2	<p><b>Vendor must document its staffing plans for on-site installation, configuration and residency services.</b></p> <p><b>Response: 100% Comply</b></p> <p><b>Per the RFP requirements, Advizex is supplying Dell OEM ProDeployPlus and ProDeployPlus add-on services where applicable. In addition, Advizex is providing Dell OEM on-site residency services in the amount of 3 months for HCI, 2 months for UDS, and 1 Month for DPS. The staffing for on-site installation, configuration, and Dell OEM Residency services will be provided by DELL-EMC after the orders are placed. Resume's will be provided for residents prior to assignment. Advizex will also provide program management resources throughout the entire project from planning through completion of all phases. These program management resources will assist in coordination of all project aspects and will directly engage with Dell-EMC project managers to simplify and consolidate requests for WVLT staff and other resources.</b></p>
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<b>4.3.2.3</b>	<p><b>Vendor must provide references as requested in this RFP.</b></p> <p><b>Response:</b></p> <p><b>Advizex currently holds state-wide procurement contracts with the following states and agencies within each state:</b></p>																		
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<p><b>4.3.2.4</b></p>	<p><b>Vendor badged employees must be qualified and certified with Microsoft Active Directory, Microsoft Radius Authentication Server, Exchange, SQL Server, Disaster Recovery, SharePoint, Clustering Services, and Unified Communications.</b></p> <p><b>Response:</b></p>
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	<b>Advizex acknowledges and will comply.</b>
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4.3.2.5	<b>Vendor must have Badged Employees with the following certifications: MCSE on Windows Server 2012 or later, Exchange 2013 or later, and SQL Server 2012 or later. Resumes, references documenting at least three years full time experience with any of these products may be considered as equivalent certification.</b>
	<b>Response:</b> <b>Advizex acknowledges and will comply. In addition, several sample technical biographies have been provided for your consideration with additional ones available upon request. These can be found in Appendix A of this submission.</b>

4.3.2.6	<b>Vendor must have badged employees with significant security experience, including but not limited to certification as a CISM or CISSP.</b>
	<b>Response:</b> <b>Advizex will comply where CISM and CISSP levels of security are deemed necessary by WV.</b>

4.3.2.7	<b>Vendor must have assignable employees with primary skills in Data Center infrastructure design, maintenance and migration. Capabilities must include Windows Servers, Cisco Core Networking, Cisco Firewalls, Routers, and Switches, as well as the RFP responding OEM provided HCI, UDS, DPS, Server, and Networking solutions.</b>
	<b>Response:</b> <b>Advizex acknowledges and will comply. In addition, several sample technical biographies have been provided for your consideration with additional ones available upon request.</b>

4.3.2.8	<b>Vendor must have experience implementing best practices with vSphere 6.7 or later in a multi-site environment. Experience must include experience in planning, creating, managing, and assigning necessary</b>
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	<p>virtual resources such as storage, compute, and network for the purpose of deploying and managing virtualized Servers as required.</p>
	<p><b>Response:</b>                  Advizex acknowledges and will comply. In addition, several sample technical biographies have been provided for your consideration with additional ones available upon request.</p> <p>In addition, Advizex is frequently engaged to perform services for the VMware organization using our resources.</p>

<p>4.3.2.9</p>	<p>Vendor must have provided professional services Installing, Configuring, and migrating and implementing Microsoft Active Directory environments on Server 2012 or later. This environment must include multiple locations using site to site replication on at least four (4) Domain Controllers. This environment must have included both Physical and Virtual Domain Controllers. This work must have been for an agency or company of more than 100 users.</p> <p>Vendor may be requested to provide proof of any of the above listed qualifications before an award is made.</p>
	<p><b>Response:</b>                  Advizex has been a Microsoft Certified Gold Partner for over fifteen(15) years and continues to provide Advanced Professional Services.</p> <p>The scope of our practice includes the following:</p> <ul style="list-style-type: none"> <li>• Cloud Productivity – Azure &amp; O365</li> <li>• Directory &amp; Identity Management</li> <li>• Messaging &amp; Communications – Exchange/Skype</li> <li>• Infrastructure Management – Virtualization/System Center</li> <li>• Portals &amp; Collaboration – SharePoint/Teams/Yammer/VSTeams</li> </ul> <p>Our current certifications and competencies include the following:</p> <ul style="list-style-type: none"> <li>• <b>GOLD</b> <ul style="list-style-type: none"> <li>○ Cloud Productivity (Office 365)</li> <li>○ Cloud Platform (Azure)</li> <li>○ Collaboration and Content (SharePoint)</li> <li>○ Data Center (AD/Server/Identity)</li> </ul> </li> <li>• <b>SILVER</b> <ul style="list-style-type: none"> <li>○ Windows and Devices (Client Platform)</li> </ul> </li> </ul>

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	<p><b>Vendor must be able to provide ongoing Microsoft Professional Consulting Services for the West Virginia Lottery (WVL) on an as needed basis.</b></p>
4.3.2.10	<p><b>Response:</b>          Advizex has previously delivered on every aspect of what West Virginia Lottery is looking to accomplish for this initiative; including pre deployment, actual deployment, and post-implementation support services.</p> <p>As an example, Advizex has designed, installed, upgraded, configured, implemented and/or migrated multiple SQL (2000-2014) and Exchange 2000-2019 environments. These environments were across a variety of client base industry verticals and in support of organizations with anywhere from hundreds to thousands of users. These prior projects have been on both dedicated physical hardware environments as well as virtual.</p> <p>As a fully qualified and certified (since 2006) Microsoft Gold Partner, we have successfully delivered on hundreds of projects related to:</p> <ul style="list-style-type: none"> <li>● Data center upgrades</li> <li>● Consolidation and migration efforts           <ul style="list-style-type: none"> <li>○ Active Directory</li> <li>○ AD core services (DNS, DHCP, CA)</li> <li>○ Identity</li> <li>○ Security</li> <li>○ ... and more</li> </ul> </li> <li>● Microsoft Core Applications           <ul style="list-style-type: none"> <li>○ Exchange</li> <li>○ SharePoint</li> <li>○ SQL</li> </ul> </li> </ul>

- **O365**
- **... and more**

**Our technical team has extensive hands on working knowledge assessing, designing, troubleshooting, upgrading, consolidating and migration of those systems. We've successfully dealt with the complexities that, often times, come with legacy data center upgrades.**

# Dell EMC ProSupport Plus for Enterprise



Up to  
**31%**  
 fewer issues\*

Adopt complex technologies with confidence.

## Critical systems deserve our best support.

ProSupport Plus for Enterprise is enterprise-class support that is designed to proactively improve the performance and stability of your critical systems through environmental intelligence and the right expertise for your organization.

It is designed to not only get you back up and running quickly, but also help you get ahead of problems before they happen. You'll have the freedom to adopt complex technologies with confidence, knowing Dell Technologies' best resources are with you every step of the way.

Improve the performance of critical systems and accelerate your IT transformation.

## Choose ProSupport Plus:

- Immediate advanced troubleshooting from an engineer that understands the entire Dell Technologies infrastructure solutions product portfolio
- An assigned Service Account Manager - your #1 support advocate, ensuring you get the best possible proactive and predictive support experience
- 3rd party software support - we are your single point of accountability for any eligible software installed on your ProSupport Plus system, whether you purchased it from us or not
- Predictive analysis for issue prevention and optimization enabled by SupportAssist and Secure Remote Services
- Proactive monitoring, issue detection, notification and automated case creation for accelerated issue resolution enabled by SupportAssist and Secure Remote Services
- Semiannual systems maintenance - keep your ProSupport Plus systems up to date with installation of latest firmware BIOS and drive updates to improve performance and availability
- Optional next business day or 4-hour mission critical onsite hardware support response

# Proactive support for critical systems

## Benefits:

- Adopt complex technologies with confidence by relying on our experts
- Improve performance and stability with automated proactive and predictive recommendations
- Maximize workload availability with automated support enabled by SupportAssist and Secure Remote Services



### Experts

- Assigned Service Account Manager
- Priority access to specialized support experts



### Insights

- Proactive assessments and performance recommendations
- Predictive issue detection
- Semiannual systems maintenance



### Ease

- 3rd party software support
- Hypervisor, operating environment and OS support
- Automated case creation with notification

Feature	Basic	ProSupport	ProSupport Plus
Remote technical support	9x5	24x7	24x7
Covered products	Hardware	Hardware Software	Hardware Software
Onsite hardware support	Next business day <sup>1</sup>	Next business day or 4hr mission critical	Next business day or 4hr mission critical
3 <sup>rd</sup> party collaborative assistance		•	•
Self-service case initiation and management		•	•
Access to software updates		•	•
Proactive storage health monitoring, predictive analytics and anomaly detection with CloudIQ and the CloudIQ mobile app <sup>2</sup>		•	•
Priority access to specialized support experts			•
Predictive detection of hardware failures <sup>2</sup>			•
3 <sup>rd</sup> party software support			•
An assigned Service Account Manager			•
Proactive, personalized assessments and recommendations			•
Proactive systems maintenance			•

For more information, contact your Dell Technologies sales representative

<sup>1</sup>Onsite Response not available for high-end storage, data protection or converged products with Basic Hardware Support.

<sup>2</sup>Certain restrictions apply. View service description for product availability and details.

Availability and terms of Dell Technologies services vary by region and by product. [For more information, please view our service descriptions.](#)

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# Dell EMC

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# Customer Education

Individual Subscription Options

**DELL**EMC

# INDIVIDUAL SUBSCRIPTION OPTIONS



A subscription is the most flexible and cost-effective purchase option to achieve unique training goals and accommodate individual learning styles. Dell EMC Education Services offers two options:

- ◆ Customer Subscriptions
- ◆ v-Subscriptions

Assigned per individual, both subscription options provide access to our broad library of training for 1 year from date of purchase.

To select the best option to bring you as a manager or individuals on your team up to speed, determine your unique training goals and individual learning style.



# Is a Full Subscription right for you?

## The Challenge

You are managing a full-scale data center transformation consisting of products and technologies from numerous vendors. While the IT professionals on your team are talented in their area of expertise, each will need in-depth hands-on training at an individual level to develop the skills that will enable them to optimize performance, maximize ROI and accelerate time to productivity.

Individuals on your team are also looking to gain certification to validate their expertise.

## The Solution

A Full Subscription provides an individual maximum flexibility to achieve a variety of training goals and the most options to accommodate any learning style. Most courses align with Dell EMC Proven Professional certification.

We offer two Full Subscription options: one which includes On-demand Labs and one without.

[LEARN MORE](#)

### Best value for those who

- Plan to develop expertise in one or more technology segments
- Plan to take a vendor-neutral approach to information storage planning and design
- Retain knowledge best through live interactions with instructors and peers
- Plan to validate their expertise by becoming certified in a specific product or technology



# Is a v-Subscription right for you?

## The Challenge

You are known as the go-to IT person in your area of expertise. However, your organization is transitioning to new, emerging technologies that will impact your existing skill set. This presents skills development challenges to you on multiple fronts; some budgetary, some purely time available to pursue classroom training. The ability to take training online, on-demand is a high priority for you. You are also looking to get certified on Dell EMC products and technologies.

## The Solution

A v-Subscription enables the individual to get on-demand training and pursue certifications in multiple technologies anytime, anyplace. Ideal for those on a tight schedule and budget.

We offer two v-Subscription options: one which includes On-demand Labs and one without.

[LEARN MORE](#)



### Best value for those who

- Plan to specialize in one or more segments of Dell EMC-specific solutions and technologies
- Must quickly develop Dell EMC technology skills but are unable to attend live courses
- Retain knowledge best through self-paced learning modes
- Plan to validate their expertise by becoming certified in a specific product or technology

# Purchase Options

A Subscription is the most cost-effective purchase option for an individual or a team to achieve training goals. Assigned per individual, Subscriptions provide flexibility to accommodate individual learning styles.\*

	Full Subscription with ODL	Full Subscription	v-Subscription with ODL	v-Subscription
<b>Pricing</b>	<b>\$15,000/year</b>	<b>\$12,500/year</b>	<b>\$7,500/year</b>	<b>\$5,000/year</b>
Value cap (\$)	\$27,000	\$27,000	\$12,500	\$12,500
Access to "Open" curriculum courses	✓	✓	✓	✓
Access to Dell EMC product and technology-specific courses	✓	✓	✓	✓
Instructor-Led Training (ILT)	✓	✓	—	—
Online Instructor-Led Training (OILT)	✓	✓	—	—
Video Instructor-Led Training (VILT)	✓	✓	✓	✓
On-demand Labs	✓	—	✓	—


\*Please note: Packages, including StarterKits, redeemed via Subscriptions are not eligible to receive exam vouchers.

## Delivery modes:

**Instructor-Led Training (ILT)**—Traditional classroom training, with hands-on labs or case studies, delivered at one of our many training centers worldwide, by a highly qualified Dell EMC instructor.

**Online Instructor-Led Training (Online ILT)**—A real-time interactive training experience where students participate online to access the instructor-led virtual classroom.

**Video Instructor-Led Training (Video ILT)**—Top-instructor-led training delivered online, on-demand in streaming format, with an intuitive navigation menu.



Validate your skills  
as an IT professional.  
Get Proven.

Please visit <http://education.EMC.com/Certification>  
for program details.

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1-508-435-1000 In North America 1-866-464-7381  
[www.DellEMC.com](http://www.DellEMC.com)

## CONTACT US

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Phone: +1 888 362 8764 (US)

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 Follow Us on Twitter  
[@DellEMCLearning](https://twitter.com/DellEMCLearning)

 Like Us on Facebook!  
[facebook.com/ProvenProfessional](https://facebook.com/ProvenProfessional)

# Dell EMC Residency Services



**99.5%** of businesses recognize **direct value from resident engineers** across IT and business outcomes. Among those, almost half saw increased revenue as a result.

Trusted technologists with validated expertise and skills

To keep pace with change, increase resiliency and create competitive advantage, organizations should embrace bold IT transformation strategies. But implementing new solutions in a way that drives value back to the business, without deterring everyday operations, poses significant challenges for many organizations.

Residency Services provide specialized experts to help organizations in a number of ways, including:

- Drive transformation initiatives and integration at scale
- Deliver accelerated adoption of new technology
- Expertly pair solutions to the unique business environment
- Keep IT infrastructure running at its peak

With a broad range of specialties and consumption models, Residency is your perfect match to drive future growth. And, Residency Services have been found to deliver significant, measurable benefits.

## Key benefits:

- **50%** improvement in technology performance
- Increased technology utilization by **47%**
- **40%** reduction in cost of IT service delivery
- Improvement in IT staff efficiency by **45%**
- **23** fewer incidents per month
- **9** weeks saved during technology transitions



## Set your business up for future success and growth

### Unmatched expertise

Residents are specialized experts with:

- Validated expertise across Dell EMC infrastructure & platform solutions
- Extensive training and testing tracked for each resident
- Education and certifications that evolve to keep pace with shifting technologies and needs

Industry Standard

**Top 10**

Ranking in Pearson VUE Value of IT Certification survey

### Unleash the potential of your technology

#### TECHNOLOGY TRANSITION & OPTIMIZATION

- Primary & Unstructured Data Storage
- Data Protection
- Server
- Networking
- Converged Infrastructure
- Hyperconverged Infrastructure
- Dell Technologies Cloud Platform



#### PLATFORM & SOLUTION TRANSFORMATION

- Multicloud Infrastructure
- Business Resiliency
- Data Center Modernization
- Cloud Native Apps
- Application Optimization
- Program Management
- Digital Workplace
- Virtual Desktop
- Communication & Collaboration

## Experience the Perfect Match

Individualized service supported by an extensive global network with utmost resource flexibility

### Available for in-person or virtual engagement

- Onsite experts provide face-to-face interaction for a more personalized experience and are available in local languages
- Remote experts available in over 100 countries
- Short-term engagement options (1 & 2 week minimums) for remote service

### Rigorous Resource Selection Process

We carefully match the right resource to each unique customer

To learn more, contact your local representative or authorized reseller, or visit [delltechnologies.com/residency](https://delltechnologies.com/residency)

Source: IDC InfoBrief, sponsored by Dell Technologies, The Value of Resident Engineers on your IT Transformation Journey, June 2020

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## ATTACHMENT 4 – TECHNICAL BIOGRAPHIES

### A.4.1 MICROSOFT CONSULTANTS

#### A.4.1.1 Microsoft Consultant 1

Technical Biography for:	Consultant 1 Senior Microsoft Solutions Architect
Industry Certifications:	MCSA Office 365 MCSA Windows Server MCSE Messaging MCSE Productivity Quest Migration Manager for Exchange Quest Migration Manager for Active Directory
Competencies:	Microsoft Exchange 5.5-2016 Active Directory Office 365 Skype for Business Citrix NetScaler Azure AD VMWare Microsoft Azure IAAS ADFS Hyper-V Windows Server Quest Migration Tools BitTitan Migration Tools SkyKick Migration tools
Selected Areas of Expertise	Consultant 1's experience within the solutions practice includes: <ul style="list-style-type: none"> <li>• Active Directory design, implementation and migrations</li> <li>• Large Scale Exchange migrations both on-premises and cloud</li> <li>• Moving customers workloads to the cloud.</li> <li>• Migration to Exchange/Office 365 from foreign mail systems.</li> <li>• Migrations &gt; 10,000 users</li> <li>• Infrastructure Services, Operations, Identity, and Configuration Management</li> </ul>
Professional Summary	Consultant 2 has over 20 years of experience in system architecture, migration, planning and design including Microsoft Exchange, Microsoft Infrastructure, Office 365, Active Directory and Microsoft Collaboration products. He has worked for several Microsoft partners over the past 20 years and has completed multiple complex projects for a variety of clients.
Project Experience	<u>Uniform Company (3000+ users)</u> Migrated all users from Lotus Notes to Office 365 <ul style="list-style-type: none"> <li>• Implemented hybrid migration for Office 365 migration</li> <li>• Remediated environment (Exchange and AD) for Office 365 readiness</li> <li>• Implemented Azure AD Connect for directory synchronization</li> </ul>

	<ul style="list-style-type: none"> <li>• Worked with Quest to migrate the users to Office 365.</li> <li>• Implemented Skype for Business.</li> </ul> <p><u>Three local bank consolidation (1000+ users)</u>                  Combined Exchange and Active Directory for three Banks.</p> <ul style="list-style-type: none"> <li>• Implemented redundant Exchange environment.</li> <li>• Deployed brand new Active Directory.</li> <li>• Implemented Quest Migration Manager for AD and Exchange.</li> <li>• Migrated each of the banks.</li> </ul> <p><u>Large Hospital (7500+ users)</u>                  GroupWise to Exchange</p> <ul style="list-style-type: none"> <li>• Implemented redundant Exchange environment.</li> <li>• Implemented Quest Tools for GroupWise.</li> <li>• Migrated the users in a big bang migration.</li> </ul> <p><u>Hospital (2500+ users)</u>                  Hospital splitting off from larger hospital management. AD and Exchange migration.</p> <ul style="list-style-type: none"> <li>• Implemented Quest Migration Manager for AD and Exchange.</li> <li>• Migrated the users, email and computers to a new environment.</li> </ul> <p><u>Medical Device and Imaging company (2500+ users)</u>                  Several projects with them.</p> <ul style="list-style-type: none"> <li>• Office 365 Migration</li> <li>• Skype Deployment and Upgrade</li> <li>• Several Active Directory and Exchange migration from purchased companies.</li> </ul>
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### **A.4.1.2 Microsoft Consultant 2**

Technical Biography for:	Consultant 2 Microsoft Senior Delivery Consultant
Industry Certifications:	Quest Migration Manager for Active Directory Quest Migration Manager for Exchange
Competencies:	Active Directory Exchange Office 365 Quest Migration Manager Assessment and Remediation Project Management



<p>Selected Areas of Expertise</p>	<p>Consultant 2's experience within the Microsoft solutions practice includes:</p> <ul style="list-style-type: none"> <li>• Evaluation and implementation of Security hardening best practices</li> <li>• Domain consolidations and migrations</li> <li>• Microsoft on premises server infrastructure and architecture</li> <li>• Implementation of Exchange and Office 365</li> <li>• Microsoft Infrastructure security reviews and best practice implementations</li> </ul>
<p>Professional Summary</p>	<p>Consultant 2 is a Senior Microsoft Delivery Consultant for AdvizeX. Consultant 1's experience ranges from domain consolidation and migration, security hardening, GPO hardening and AD optimization.</p> <p>Consultant 2 has implemented multiple designs for clients that include domain migrations and Exchange migrations.</p>
<p>Project Experience</p>	<p><b>Project Experience</b>              Consultant 1 is currently working as a Senior Delivery Consultant with experience on the following projects:</p> <p><b>Large Regional Hospital System</b></p> <ul style="list-style-type: none"> <li>• Exchange 2010 to Exchange 2016 migration for 70,000 mailboxes</li> </ul> <p><b>Large Regional Hospital System</b></p> <ul style="list-style-type: none"> <li>• Domain consolidation of over 50,000 users</li> <li>• Computer systems migrations utilizing Quest Migration Manager</li> <li>• Working with on-site teams for troubleshooting and working with appropriate teams to repair workflows</li> <li>• Migration of servers and applications from legacy domains</li> </ul> <p><b>Enterprise Manufacturing Retailer</b></p> <ul style="list-style-type: none"> <li>• Security Hardening evaluation and implementations</li> <li>• Group Policy review and best practices evaluation</li> <li>• Exchange 2010 to Office 365 migration</li> </ul> <p><b>Property Management Corporation</b></p> <ul style="list-style-type: none"> <li>• Exchange 2010 to Office 365 migration for 850 mailboxes</li> </ul> <p><b>Large Regional Hospital System</b></p> <ul style="list-style-type: none"> <li>• GPO processing and hardening</li> <li>• Review AD for optimization</li> <li>• Correct issues with CA</li> </ul>

## A.4.2 STORAGE AND INFRASTRUCTURE CONSULTANTS

### A.4.2.1 Storage and Infrastructure Consultant 1

Senior Information Systems Consultant with over 15 years expertise in complete systems infrastructure lifecycle, methodology, and practices. Possesses strong analytical thinking, troubleshooting capabilities, and excellent interpersonal communication skills. Evaluates stated requirements and expectations in terms of technical feasibility and cost outcomes. Works closely and effectively with all levels of management to satisfy project/productivity requirements. Demonstrates commitment to leadership/teamwork through positive contributions in streamlining systems and providing superior customer service.

Their experience within the solutions practice includes:

- Provides design and support in implementation of core VMware vSphere Virtualization on Dell, HPE, and Cisco UCS devices
- Delivers and has successfully completed many customer onsite transitional and operational residencies focused on deployment, migration, implementation, configuration, and management of VMware, SAN, and NAS infrastructures using GUI and/or CLI, including knowledge transfer, and documentation
- Architects and implements replication technologies for VMware SRM and vSphere Replication
- Architects and implements Dell EMC Recoverpoint for Virtual Machines
- Provides design and support in implementation of Dell EMC VxRail HCI
- Provides implementation, technical oversight, project escalation management, and issue resolution/remediation
- Helps deliver assessments, performance analysis and ensure compliance on best practice configuration, design and layout of Symmetrix VMax/VMax3, Unity, VNX/VNX2, RP, Isilon, VPLEX, and Brocade/Cisco SAN switches
- Provides support in implementation, architecture, and design of EMC Symmetrix DMX, VMax, VMax3, Unity, VNX, VNXe, CX, NS, Isilon, VPLEX and DataDomain, including local and remote replication (vReplicator, SnapView, MirrorView, TimeFinder, SRDF, Unity, RecoverPoint, SyncIQ & VPLEX)
- Subject matter expert on migration planning and design using SANCopy, Open Replicator, VPLEX DataMobility, SRDF, PPME, and EMCopy
- Helps deliver assessments, performance analysis and ensure compliance on best practice configuration, design and layout of Symmetrix VMax/VMax3, Unity, VNX/VNX2, VPLEX, RP, Isilon and Brocade/Cisco SAN switches

### Technical Experience

Their experience with the design and implementation of EMC best practices for the following environments:

Operating Systems: Windows, Solaris, HPUX, AIX and Linux  
Platforms: EMC Symmetrix (VMAX, DMX), XtremIO, VNX (File and block), Clariion, Celerra and Isilon  
Software: EMC SRDF, TimeFinder, Celerra Replicator, ControlCenter, SnapView, MirrorView, Unisphere, Open Replicator, Open Migrator, SAN Copy

### Professional Designations and Certifications

- VMware Certified Advanced Professional – Data Center Virtualization Deploy 2019
- VMware Certified Professional 6.5 - Data Center Virtualization
- VMware Certified Professional 5.0 - Data Center Virtualization
- Dell EMC Speed Certification (EMC Symmetrix Performance Team – Partner level)
- Dell EMC Proven Professional - Specialist Level (EMCIE) for:
  - VxRail Solutions Implementation Engineer
  - XtremIO Solutions Implementation Engineer

- Unity Solutions Implementation Engineer
- Isilon Solutions Implementation Engineer
- VPLEX Implementation Engineer
- Symmetrix Implementation Engineer
- VNX Implementation Engineer
- Recoverpoint Implementation Engineer
- Recoverpoint/SE Implementation Engineer
- Clariion Implementation Engineer
- Celerra Implementation Engineer
- Data Domain Implementation Engineer
- Avamar Implementation Engineer
- EMC Proven Professional - Specialist Level (EMCSA) for:
  - Celerra Storage Administration
  - Specialist Level for Storage Administration
- EMC Information Storage Associate (EMCISA)

## **Selected Project Engagement Experience**

### Vitamix, Usher OH

- Isilon to Windows File Cluster Migrations
- Created migration workbook for file copies/migration activities
- Successfully migrated over 100 shares and over 25TB with minimal downtime
- Created a highly available DFS configuration with DFS-R

### Oberg Industries, Freeport PA

- Configured three HPE vSAN ReadyNodes clusters for three sites
- Configured vSphere Replication
- Configured environment for live vMotion from legacy vSphere clusters to new hyperconverged infrastructure

### Constellium, Ravenswood WV

- Installed and configured two Dell EMC VxRail clusters and one 2-Noded VxRail cluster
- Installed and configured Dell EMC Recoverpoint for VMs
- Installed and configured Veeam Backup and Replication (Community Edition) to assist in the AMD to Intel migration from legacy vSphere clusters to VxRail

### Massachusetts State Lottery Commission, Braintree MA

- Completion of onsite residency
- Prepared and configured four Dell EMC VxRail clusters
- Completed Physical to virtual and virtual to virtual migrations of legacy infrastructure to VxRail clusters
- Managed and maintained end to end migration to cutover activities and datacenter relocation
- Prepared and configured VMware Site Recovery Manager with vSphere Replication

### Campbell's Soup, Multiple Sites

- Installed and configured two Dell PowerEdge clusters and one 2-node VxRail cluster per site utilizing Compellent SC series storage array
- Migrated from legacy vSphere clusters to new installed Dell PowerEdge clusters

#### Healthcare Association of New York State, Rensselaer NY

- Installed and configured two UCS vSphere clusters
- Installed and configured two XtremIO and two DataDomain storage arrays
- Configured the environment for seamless migration from legacy vSphere clusters
- Configured the DataDomain for Veeam and replication

#### Cleveland State University, Cleveland OH

- Completion of onsite residency
- Prepared and configure VNX to Isilon migration infrastructure
- Configured Isilon for migrated infrastructure
- Managed and maintained end to end migration to cutover activities
- Mentored staff to begin managing production Isilon system

#### City of Columbus Police Dept, Columbus OH

- Prepared and configure VNX to Isilon migration infrastructure
- Configured Isilon for migrated infrastructure
- Managed and maintained end to end migration to cutover activities
- Configured SmartPool retiring policies to segregated intra-departmental data
- Utilized emcopy tool for migrations

#### Pinnacle Bank, Mt. Juliet TN

- Installed and Configured Isilon clusters in VCE vBlock 540s
- Configured InsightIQ for disaster recovery replication per EMC best practices
- Tested NAS migration functionality using NDMP and EMC NAS Migration tools

#### CBC Companies, Columbus OH

- Configured VMAX 40K following EMC Best Practices for FAST VP
- Completed performance analysis of current VMAX and HDS USPVM for migration
- Performed a variety of storage based (Open Replicator for Symmetrix) and host based (vMotion and Volume Manager) migrations
- Analysis of Celerra environment for migration to new Isilon environment
- Completed Brocade SANHealth review of FC SAN infrastructure

#### FirstMerit Bank, Akron OH

- Installed and configured new VNX2, Recoverpoint and VPLEX environment
- Presented best practices for configuring VPLEX with Recoverpoint replication and VNX backend
- Completion of on-site Storage Residency

#### Third Federal Savings and Loan, Cleveland OH

- VNX2 Install and Configuration

- Migration of ESXi datastores from iSCSI to FC
- Migration planning and implementation with SANCopy
- Recoverpoint Migration from Clariion to VNX2

#### CBIZ Inc., Cleveland OH, Leawood KS, Roanoke VA

- VNX2 and Recoverpoint Install and Configuration for three sites
- Recoverpoint Configuration for many-to-one replication configuration

#### Blackbox Network Services, Lawrence PA

- VNX and Recoverpoint relocation
- Bandwidth analysis of Recoverpoint replication environment
- Verification of environment to ensure Recovery Point Objective is not compromise during relocation of DR VNX and Recoverpoint
- VNX File Replication and Failover configuration

#### SourceHOV, Troy MI

- Completion of on-site Storage Residency
- Architecture, analysis, testing and implementation for Symmetrix VMAX pre-production and data center move
- Consolidate four Clariion storage arrays to VMAX 10K with requisite migration activities
- Installed and configured Recoverpoint
- Performance analysis of VMAX and CX-480 post data center move

#### Zimmer, Warsaw IN

- Completion of on-site Storage Residency
- Architecture, analysis, testing and implementation for Symmetrix VMAX pre-production and data center move
- Best practice analysis and remediation of EMC storage and SAN switch environment
- Deployed 90 TB across 60 NAS file systems for a SourceOne and Kazeon project during two weekend sessions

#### Designer Shoe Warehouse, Columbus OH

- Completion of on-site Storage Residency
- Architecture, analysis, testing and implementation for Symmetrix migration from DMX to VMAX
- Architecture, analysis, testing and implementation for Celerra NS40G migration to VNX5300 File
- Runbook creation for migration method and cadence

#### Takeda Pharmaceuticals, Deerfield IL

- Storage LUN layout and analysis of Exchange 2010 environment
- Performance analysis of pre-production VNX7500
- Comparative analysis and general health check of VNX7500

#### Cardinal Health, Dublin OH

- Completion of on-site NAS Residency
- Architecture and design for Celerra migration from NS80 to VNX5500

- Runbook creation for migration method and cadence
- Creation of usermapper migration tools to remediate usermapper mismatches across 24 Celerra arrays

#### Precision Strip, Inc., Minster OH

- RecoverPoint Implementation – Install and configuration with Continuous Remote Replication
- Migrate CX3-20 to VNX5300
- Configure new SAN switches and attach to existing environment
- Migrate Exchange 2003 Cluster
- Assist in migrating HPUX and XenServer

#### Emerson Hospital, Concord MA

- VNX5700 Configuration and Data Layout
- Migrate CX4-480 to VNX5700 using MirrorView/S
- Migrate NS-40G to VNX File shares with Replicator v2
- Runbook creation for SAN configuration, migration method and cadence

#### Ohio University, Athens OH

- Multiple VNX implementations with FAST suite and FAST Cache
- Host and SAN infrastructure remediation planning in preparation for migration from EVA to VNX
- Reconfiguration of NS-120 to offsite location as replication target from NS40G with DMX back-end storage
- Symmetrix provisioning
- Microsoft Exchange data layout on VNX
- VMware View (VDI) data layout on VNX
- Replicated DataDomain implementation integrated into NetWorker with DDBOOST

#### City of Grove City OH and Western Michigan University

- Multi-site replicated Avamar implementation
- Configuration of host agents for VMware, Windows, Linux backup and recovery
- Configuration of NDMP file server backup acceleration

#### Sinclair Community College, Dayton OH

- Multi-site VNX implementation with FAST suite and FAST Cache
- Host and SAN infrastructure remediation planning in preparation for migration from EVA to VNX
- Data Migrations from HP EVA storage for VMware, HP-UX, Microsoft Windows, PolyServe SQL cluster
- Replicated DataDomain implementation integrated into NetBackup
- DDBOOST & OST NetBackup implementations for server-side deduplication acceleration
- VNX Performance Baseline Analysis

#### City of Strongsville OH

- VNX implementation
- VMware best practices data layout
- DataDomain implementation integrated into NetWorker

#### Seattle Swedish Medical Center, Seattle WA

- DMX to VMAX data migrations

- Open Migrator, Open Replicator, SRDF based data migrations
- SAN configuration, zoning, LUN masking, storage provisioning
- Configuration of thin provisioning
- Host remediation
- ControlCenter configuration to manage VMAX environment
- Knowledge transfer to customer on Solutions Enabler CLI installation and usage
- Knowledge transfer to customer on provisioning using SMC and ControlCenter
- Data migration Runbook creation

#### Alcoa, Pittsburg PA

- Symmetrix analysis and performance review
- Oracle workload profiling on Symmetrix
- Oracle database layout on Symmetrix

#### Lakeshore Northeast Ohio Computer Association, Independence OH

- Celerra configuration
- Windows CIFS server migration to Celerra
- VMware Data Layout

#### Anesthesia Business Consultants, Jackson MI

- Clariion configuration
- Oracle Best Practice Data Layout on Clariion
- Exchange Best Practice Data Layout on Clariion
- Brocade switch firmware upgrades
- HBA firmware upgrades
- Data migration planning

#### Emerson, St Louis MO

- Symmetrix analysis and performance review
- Oracle workload profiling on Symmetrix
- Oracle database layout on Symmetrix

#### Ohio Health, Columbus OH

- Celerra Replicator v1 to v2 upgrade
- Celerra Replicator one-to-many and cascade configuration
- Celerra Migrations
- Celerra Replicator failover configuration and testing
- Usermapper remediation across three Celerra arrays
- Fail-safe network implementation on primary production Celerra

#### Kellogg's, Oak Brook IL

- Symmetrix analysis and performance review
- Oracle workload profiling on Symmetrix
- Oracle database layout on Symmetrix



## Previous Work Experience

JPMorganChase, Westerville, OH, June 2006 – June 2010

### **Associate VP, Engineer – Global Storage Sustain**

General responsibility for sustain activities within the SAN space at JPMC including:

- Upgrades of storage environments
- Migration design and implementation
- Security remediation of all devices
- Global ESRS Implementation
- Global Navisphere Active Directory integration

## **A.4.2.2 Storage and Infrastructure Consultant 2**

Network practice lead and principal architect focused on positively influencing the organizational direction of Advizex Professional Network Services by creating relevant service offerings and by improving the quality of work delivered. Responsible for consulting with clients to understand their business and technical needs, structuring high-value services engagements, and working with the pursuit and sales teams during the sales engagement process. Responsible for working with Project Managers and Delivery Consultants to ensure high quality deliverables during the Delivery process. Work with team members to develop training and certification plans across different areas of delivery to ensure technical depth across disciplines. Provide advanced technical and architectural consulting for key clients and mentor members of the networking services practice.

Twelve years in the IT field with the last ten (nearly six of those at Advizex) focused on networking in both the service provider and enterprise domains. Subject matter expert in route/switch and firewalls (both legacy and next generation). Extensive experience in providing network solutions to a variety of customer network types including service provider, enterprise, and co-location.

### **Experience**

- Designed and implemented Layer2 Cloud switching infrastructure for a cloud service provider using a multi-vendor solution including Cisco Nexus and Brocade switches, all in fully redundant and highly available switch fabrics.
- Implemented and maintained MPLS LDP backbone in a service provider network with core routers in 7 major markets. Connected cloud customers to physical locations with MPLS.
- Implemented dedicated internet access (DIA) for multiple data centers, working with Tier1 ISPs to provide a fully redundant, highly available method of delivering public IP.
- Firewall implementations/migrations using both legacy Layer4 firewall technologies (Cisco ASA, Juniper SRX, Brocade Vyatta) and next gen Layer7 firewalls (Palo Alto, FortiNet).
- Scope, plan, and implement network health checks and remediation services, next gen firewall migrations, next gen firewall policy creation, wireless planning and implementations, and NAC.
- Underlay and overlay routing design for SD-WAN solutions.
- Develop services and sales collateral including template level-of-efforts, template statements of work, template proposals, template scoping questionnaires, and delivery guides
- Develop emerging practices (e.g. Prisma Access, Network Automation).
- OSI Layer Eight
  - Cross-team communicator

- Presentations of service catalog to sales teams and customers
- Comfortable presenting to varying levels of audience (technical to C-level)
- Organized, dependable, and trustworthy

## Technical Experience

Platforms	Software	Operating Systems
<ul style="list-style-type: none"> <li>• Cisco Catalyst 2900, 3600, 3700, 4800, 6500, 9000</li> <li>• Cisco IOS Routers 1800, 2600, 2800, 2900, 6500, 7200, 7600</li> <li>• Cisco ASR 1K 9K</li> <li>• Cisco Nexus 2K, 3K, 5K, 7K, 9K</li> <li>• Cisco ASA, FTD, FWSM</li> <li>• Meraki MS350, MX84, MR32</li> <li>• HPE (3COM) 5500, 7500, 10500</li> <li>• Aruba 5400, 3810, 2930</li> <li>• Brocade CES, CER, MLXe</li> <li>• Brocade ICX 6450, 6650</li> <li>• Brocade VDX 6740</li> <li>• Brocade 6910</li> <li>• Juniper EX4500</li> <li>• Juniper vSRX</li> <li>• Vyatta Virtual Router</li> <li>• Palo Alto 5520, 5060, 3050, 3220, 3020, 850, 500, VM-300</li> <li>• FortiGate 60E, 90D, 101E, 300D, 1500D</li> <li>• Arista vEOS</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Visio</li> <li>• Cisco ACS</li> <li>• HP iMC</li> <li>• Palo Alto Panorama</li> <li>• Fortinet FortiManager</li> <li>• Aruba ClearPass</li> <li>• AirMagnet Pro</li> </ul>	<p><b>Server/Desktop:</b></p> <ul style="list-style-type: none"> <li>• Windows Server 2003 – 2012</li> <li>• Windows XP, 7, 8 10</li> <li>• Ubuntu and CentOS Linux</li> <li>• Mac OS X</li> </ul> <p><b>Network OS:</b></p> <ul style="list-style-type: none"> <li>• Cisco IOS</li> <li>• Cisco IOS-XR</li> <li>• Cisco NX-OS</li> <li>• Cisco ASA (Pre-8.3)</li> <li>• Cisco ASA (8.3+)</li> <li>• Brocade NetIron</li> <li>• Brocade FastIron</li> <li>• Brocade NOS</li> <li>• Vyatta Virtual Router</li> <li>• HP Pro-Curve</li> <li>• HP 3COM</li> <li>• ArubaOS</li> <li>• PAN OS (6.0 – 9.0)</li> <li>• FortiGate (5.2, 5.4, 5.6, 6.0)</li> <li>• VMware NSX (6.4)</li> <li>• Arista EOS (4.2)</li> <li>• VeloCloud</li> </ul>

## Certifications

- MCSE 2003
- CCNP - Routing and Switching
- Brocade Certified Network Professional
- VMware VCIX-NV
- Palo Alto Certified Network Security Engineer 8
- Palo Alto Certified Network Security Consultant 8
- Aruba Certified Design Professional

## Notable Projects

- **Campbell's (2020)** – Work with Delivery Consultants, Practice Manager, and Project Manager to improve and expand upon business with one of our largest Network Services customers. Scoping questionnaires, level-of-effort templates, statement-of-work templates, and delivery guides have been created to improve both the sales and delivery process and keep Campbell's highly satisfied with Advizex services while allowing Campbell's to achieve their business objects in a more efficient and cost effective manner.
- **DHL (2019)**– Resident Architect to design and standardize DHL warehouse network implementations. Design included standardizing predictive wireless surveys, creation of tool to scope WAN circuit size, and providing different levels of cost analysis/comparison, depending on the size and function, of the warehouse network implementation. Successfully helped transfer technical support from internal DHL to managed service provider while simplifying and streamlining the warehouse network turn up process.
- **Vitamix (2018)**– Resident Architect that planned, designed, and implemented redundancy and high availability of network infrastructure across all locations. Migrated WAN and Internet service providers at all locations and helped to transition managed services from one provider to another. Acted as a mentor to junior network engineer.
- **PBS (2017)** – Designed and implemented fully redundant network access at Washington DC data center and offices. Audited current network design and provided a gap analysis that indicated single points of failure in production switching infrastructure and provided detailed recommendations for remediation. Planned and implemented remediation tasks. Designed and implemented a highly secure out-of-band network utilizing FortiAuthenticator and FortiToken two-factor-authentication technology. Upgraded national WARN alert systems firewalls from Cisco ASA to next-generation Fortinet firewalls. Implemented two-factor-authentication to access WARN networks.
- **Cardinal Health (2016)** – Designed new 'Merger and Acquisition' site rollouts architecture that utilized Palo Alto next-generation firewalls. Configured Panorama management console with standardized templates and device-group configurations. Successfully implemented, tested, and verified the design at two sites as proof of concept. Provided knowledge transfer and training sessions with internal support staff.
- **Nifco (2015)** – Complete network remediation. Complete physical and switching remediation at seven sites including physical redundancy between devices where possible and spanning-tree optimization. Migrated to a unified routing design. Migrated sites from RIP and EIGRP to OSPF. Standardized BGP route settings each MPLS edge. Configured dynamic routing between core routers and MPLS router and between core routers and internet access firewalls. Created backup IPSEC tunnels with dynamic routing to handle automatic traffic redirection in the event of an MPLS circuit failure.
- **Marzetti (2015)** – Complete network remediation. Complete physical and switching remediation at seven sites including physical redundancy between devices where possible and spanning-tree optimization. Designed, implemented, and tested automatic failover between the headquarters network and disaster recovery location. Designed WAN migration plan from one service provider to another. Designed migration plan when moving data centers and offices.

## Notable Projects (Elsewhere)

- **MPLS Backbone** – Helped design and implement seven region MPLS network for local service provider. Worked with multiple service providers to implement redundant circuit paths between seven major points of presence. Installed and configured routers and customer access switches in each of the seven locations. Help to support the provisioning of new MPLS customers by configuring, shipping, and implementing customer edge equipment.

- **Company Acquisition** – Managed the merger of two large internal networks when the local service provider I worked for was acquired by a larger provider (WOW! Business). Provided temporary NAT solutions to allow access between critical but overlapping networks until IP addresses could be changed. Designed and implemented data center interconnects between three main data centers. Designed and implemented device standards.
- **DR as-a-service** –In 2013, in conjunction with our cloud engineers, designed a unique product that would automatically failover network and virtual infrastructure between data centers. Customers could move their VMware environment, routers, firewalls, WAN and internet access (with no IP change) to a different data center. This was designed using Zerto backup and Vyatta virtual firewalls and leveraging our DIA and MPLS networks.

## Work History

**Advizex** | Columbus, OH | Network Practice Lead | April 2019 – Current

- Create service offerings and improving the quality of work delivered.
- Consult with clients to understand their business and technical needs.
- Structure high-value services engagements.
- Work with the pursuit and sales teams during the sales engagement process.
- Work with Project Managers and Delivery Consultants to ensure high quality deliverables.
- Work with team members to develop training and certification.
- Provide advanced technical and architectural consulting for key client.
- Mentor members of the networking services practice.

**Advizex** | Columbus, OH | Network Delivery Consultant | November 2014 – April 2019

- Post-sales delivery implementation of next-generation firewalls and data center solutions.
- Firewall implementations/migrations using both legacy Layer4 firewall technologies (Cisco ASA, Juniper SRX, Brocade Vyatta) and Next-generation Layer7 firewalls (Palo Alto, Fortinet).
- Data Center, Internet, and MPLS migrations.
- Developed scoping procedures to bridge gap between pre-sales and post-sales delivery.
- Design and implement network solutions.

**WOW! Business** | Columbus, OH | Network Engineer | September 2013 – November 2014

- Design, support, and maintain MPLS backbone to service data, voice, and cloud customers.
- Support the sales team in a sales engineering role by creating network design diagrams or initiating face-to-face whiteboard sessions with potential customers to determine the best solution for their individual needs.
- Design, support, and implement new cloud products; especially DR oriented solutions.
- Assisted in acquisition and network migration of Bluemile Inc. legacy networks and assets.

**Bluemile Inc.** | Columbus, OH | Network Engineer | December 2011-September 2013

- Provide professional services to customers. Configure routing protocols, firewalls rules, and IPSEC VPNs.
- Provision, test, and turn-up new customers. Support and advise on network/services migration.
- Implement and maintain multiple PCI DMZ environments for different products.
- Available for on-call as a Tier-2 through Tier-3 technical support for customer, backbone, and physical infrastructure specific issues.
- Documented network architecture and created Standard Operating Procedures documentation concerning the implementation of MPLS, DIA, and cloud customers.
- Facilitated maintenance procedures, design changes, and migration plans ranging from vendor hardware

upgrades (Cisco, Juniper, Brocade), firewall configuration and conversions, protocol turn-ups (ISIS, OSPF, BGP, MPLS/LDP) and service implementations (L3VPN/VPLS/VLL).

**Bluemile Inc.** | Columbus, OH | Cloud Engineer | August 2010 – December 2011

- Responsible for the implementation and maintenance of cloud and dedicated server networks.
- Design, support, and maintain complex Layer2 architecture servicing cloud customers.
- Configure, maintain, and troubleshoot internal systems supporting cloud engineering operations (WHMCS, Ubersmith, cPanel, Zen, OpenVZ).
- Accountable for guiding and advising NOC Engineers through Tier-2 and Tier-3 technical issues.
- Support dedicated server and VPS customers (server builds, network provisioning, DDOS monitoring).
- Support and analyze wholesale voice network (Empirix Hammer, Wireshark).
- Monitor network backbone and business-related systems.

**Critical Systems** | Wickliffe, OH | IT Engineer | January 2009 – August 2010

- SMB network design, implementation, and maintenance.
- Novell Netware to Microsoft Active Directory enterprise migrations.
- Novell GroupWise to Microsoft Exchange enterprise migrations.

## A.4.3 VIRTUALIZATION AND INFRASTRUCTURE CONSULTANTS

### A.4.3.1 Virtualization and Infrastructure Consultant 1

This consultant has extensive experience in systems architecture design, planning, implementation and management. Most recently he has focused on the delivery of advanced solutions built converged/hyperconverged architectures with VMware vSphere, NSX, VCF and vRealize Infrastructure for SDDC.

They have provided technical expertise in a variety of industries including service providers, manufacturing, government, construction, healthcare, retail, call center, and financial. Across these environments he has performed infrastructure design, deployment and management; desktop deployment and management; project management; process improvement; and training.

Their experience includes:

- Architecture and delivery of advanced solutions including VMware vSphere, NSX-V/NSX-T, VMware Cloud Foundation and vRealize Suite, Horizon/View, and SRM.
- Deployment and implementation of Dell/EMC/VCE Converged/Hyperconverged Infrastructure solutions.
- Large scale data center virtualization.
- Best practice design, implementation and upgrade of Active Directory and Exchange.
- Project management and management of process improvement initiatives.

#### **Technical Expertise**

- VMware vSphere
- VMware NSX-V and NSX-T
- VMware Cloud Foundation (VCF)
- VMware vRealize Suite and SDDC Infrastructure
- VMware Site Recovery Manager
- Converged/Hyper-Converged Infrastructure systems

- Cisco Unified Computing System (UCS)
- Microsoft Windows and Active Directory
- HP BladeSystem and Virtual Connect
- Dell/EMC storage
- Cisco and HP networking
- Cisco and Brocade SAN

## Certifications/Badges

- VMware
  - VCIX/VCAP – Networking Virtualization (NV)
  - VCIX/VCAP – Data Center Virtualization (DCV)
  - VCP – Cloud Management and Automation (CMA)
  - NSX Livefire – Advanced Implementation
- Cisco
  - CCNP Data Center
- Dell/EMC/VCE
  - VxRail Appliance Deployment and Implementation
  - VCE Converged Infrastructure Master Implementation Engineer
  - EMC Implementation Engineer – Symmetrix Specialist
- Nutanix
  - Certified Master 5 – Multicloud Infrastructure
- Microsoft
  - Microsoft Certified Systems Engineer
- HP
  - HP Master Accredited Systems Engineer

## Selected Project Engagement Experience

### New York Power Authority (NYPA) – White Plains, NY

- Designed and implemented a full VMware SDDC stack solution for a multi-site infrastructure upgrade
- NSX-T 2.5 on ACI with planned upgrade to 3.X and Federation
  - Microsegmentation of applications using NSX-T
- vRealize Suite
  - vRealize Automation 8.X
  - vRealize Operation
  - Lifecycle Manager/WorkspaceOne Access

### New York Department of IT and Technology (DoITT) – New York, NY

- Designed and implemented the NSX-T on ACI and VCF architecture for a VCF on VxRail deployment which will support datacenter automation tools.
- VCF 4.x, NSX-T 3.X
- vRealize Automation 8.X

### Pittsburgh Public Schools – Pittsburgh, PA

- Deployed VCF 4.X on Dell Ready Nodes in place of an existing VCF 2.X platform
- Re-architected the physical switching to support updated VCF requirements

### New York Department of Education (NYCDOE) – New York, NY



- Designed and implemented the NSX-T on ACI and VCF architecture for a VCF on VxRail multi-datacenter upgrade project.
- VCF 4.x, NSX-T 3.X

#### Healthcare Association of New York State – Rensselaer, NY

- Designed and implemented a Cross-vCenter NSX-V solution to provide a workload mobility and failover solution for a multi-site datacenter refresh.
- Deployed UCS 63XX series Fabric Interconnect clusters running vSphere 6.7

#### Ascena Retail Group – Etna OH

- Designed and implemented an automation solution based on VMware vRealize Automation Suite supporting standardized deployment of Windows and Linux VMs with integration to AD, Infoblox, and Satellite.
- Re-architected a multi-site, multiple UCS domain infrastructure leveraging UCS Central.
- Assisted in a company-wide upgrade of vSphere 5.X to 6.0, including standardization of ESXi deployments and implementation of Enhanced Linked Mode vCenter installation.

#### VCE, The Virtual Computing Environment Company – Franklin MA

- Deployed all models of Vblocks to a wide variety of customers and industries.
- Designed and implemented a 3,000 desktop VMware View Desktop as a Service solution on Vblock for an international Service Provider.
- Designed and implemented Site Recovery Manager solutions on Vblock infrastructures.
- Architected and implemented stretched cluster solutions on Vblock using EMC VPLEX Metro clustering.

#### Dawn Foods – Jackson MI

- Implemented a Cisco UCS/EMC VMAX installation in a production/DR architecture supporting SAP.
- Designed and deployed a VMware vSphere and Site Recovery Manager solution using VMAX SRDF replication.

#### WellPoint/Anthem – Richmond VA

- Implemented a Cisco UCS solution running VMware vSphere and utilizing EMC Celerra/Centera storage to host an EMC SourceOne Email Archive solution for over 50,000 mailboxes.

#### Lawrenceburg Distillers, Inc. – Lawrenceburg IN

Completed a full data center upgrade including:

- Upgrade of Active Directory from 2003 to 2008 with forest migration.
- Upgrade of Exchange from 2003 to 2010.
- Multi-site implementation of HP EVA storage, using HP Continuous Access EVA replication.
- Upgrade of VMware vSphere/ESX infrastructure.
- Implementation of a DR solution using VMware Site Recovery Manager.
- Implementation of VMware View in support of a user training center.

#### Campbell-Ewald – Warren MI

- Planned and executed a multi-site Active Directory upgrade and an upgrade of Exchange 2003 to 2010 supporting over 1,500 Windows, Mac, and mobile clients.



- Implemented an HP EVA storage system to support MS Exchange.

## Work Experience

2009 – Present      Rolta Advizex

Senior Delivery Consultant, Virtualization

- Provide technical and consultative leadership to deliver virtualization, automation, and converged/hyper-converged infrastructure solutions.
- Deployment and Implementation Engineer for VMware vSphere/vRealize/SDDC, Dell/EMC/VCE converged and hyper-converged solutions, Cisco server and network hardware, HP server and storage hardware and related technologies.
- Develop technical strategies to deliver solutions and services which support customers' business objectives.

2008 – 2009      Alliance Data Systems / Honda of America Manufacturing

Technical Manager / Systems Engineer

Alliance Data Systems:

- Implemented VMware vSphere in a multi-site production/DR architecture.
- Implemented HP Storage Mirroring for real-time replication of virtual machines.
- Developed a migration and growth plan for storage.

Honda of America Manufacturing:

- Deployed HP c7000 BladeSystems with Virtual Connect at multiple data centers.
- Implemented HP Virtual Connect for BladeSystem connectivity.
- Standardized VMware ESX installations across sites and tuned for performance.

1999 – 2007      OhioHealth Group

Director of Information Systems / Manager of Systems Environment

- Implemented VMware ESX and executed migration from physical servers.
- Migrated messaging platform from Lotus Notes/Domino to Microsoft Exchange.
- Planned and executed migration from Novell/Windows/HP-UX environment to a Windows 2003 AD domain using Samba to support HP-UX interoperability.
- Implemented Group Policy for desktop and user management.
- Deployed Citrix Presentation Server for remote application access.
- Designed and implemented an automated data transfer process providing secure and efficient information exchange with business partners, including HIPAA compliant EDI.
- Architected and managed implementation of a business-wide audit application to track and report on data quality, as well as a contract tracking database maintaining information on contract arrangements across multiple lines of business.
- Managed consolidation of three disparate database systems into one Oracle installation, and subsequent migration from Oracle to SQL Server.

1997 – 1999      Defense Supply and Construction Center

Systems Engineer

- Supervised a team of network administrators managing Windows NT servers running MS BackOffice platforms.
- Assisted in the successful transition from multiple disjoint local networks to a Windows domain model supporting over 3,500 end users.

- Championed the use of an image-based deployment for Windows 95 desktops and led the team which implemented the solution.
- Led the Y2K assessment effort for Windows server platforms and assisted in the remediation of over 600 applications.

1992 – 1997 Oles, Kirch & Associates, CPAs  
Systems Consultant / Network Administrator

- Provided technical consulting services to clients and administered the in-house Novell network supporting Windows and Macintosh clients.
- Designed, deployed, and supported small-business networks for the firm's clients.
- Worked with the Manager of Government Accounting to develop and market an application that automated GAAP conversions for Ohio school districts.

1988 – 1991 IBM Corporation  
Development Engineer

- Designed, prototyped, and tested hardware peripherals for highly-parallel mainframe computing platforms.
- Member of an engineering team that successfully designed and delivered a prototype large-scale shared memory device for mainframe-class supercomputers.

### A.3.3.2 Virtualization and Infrastructure Consultant 2

#### **Profile Summary**

Virtualization Consultant focused on VMWare solutions. Over 18 years of experience in the IT industry and 5+ years of consulting experience in system architecture, planning and design on myriad IT solutions including virtualization, storage and networking.

#### **Technical Expertise**

They have experience with the design and implementation of VMWare solutions following VMWare best practices.

**Infrastructure:** HP Blades, HP Servers  
Dell Servers, Blades, Cisco UCS  
Cisco Fiber Channel Switch configuration  
HP/Cisco Networking

**Operating Systems:** Windows Operating Systems, All VMWare Hypervisors since 3.5, some Linux

**Virtualization:** VMWare vSphere, VSAN, VCF, NSX (Load Balancing and Microsegmentation), Horizon Suite – (DEM, AppVols, Thinapp, RDSH, UAG), VRops, Workspace ONE (vIDM, on the Identity Manager side)

**Storage:** HP EVA/MSA, EMC Clariion, VNX, VMAX, Netapp, Equallogic  
RAID: design & implementation  
Remote Replication: EMC Recoverpoint  
Storage Management: EMC Navisphere, EMC Unisphere, Netapp ONTAP

#### **Professional Designations and Certifications**

- VMWare VCP 6.5 DCV, Working on VCP for End User Compute
- Cisco CCNA (Catalyst)

- Six Sigma Greenbelt

## **Selected Project Engagement Experience – Most Recent**

### Excelsa Healthcare – February 2020 – Current – 500+ concurrent sessions on HP Hardware

- Upgrade Horizon Environment from 7.3.2 to 7.10 at 2 sites including Cloud Pod Architecture
- Upgrade UEM 9.1 to DEM 9.9
- Upgrade App Volumes 2.11 to 2.18
- Upgrade to VCenter/VSAN Clusters from 6.5U2 to 6.7U3b
- Upgrade of 7.3.2 Security Servers to UAG 3.7 (Following ESB track)
- Upgrade current Win 7 Image Agents
- Working with customer to upgrade to Windows 10 infrastructure, but still have to work out all of the application dependencies with Imprivata Scanners and EMR systems
- Set up replication of Appstacks using NFS volume linked to Prod/DR

### Lincoln Electric -July- October 2019

- Designed and Deployed Horizon 7.9 Environment for up to 400 users on Dell Hardware
- 2 sites with mismatched hardware so laid out challenges and risks with design as far as failure capacity was concerned
- App Volumes 2.16 - Built 5 Appstacks for 3 different use cases
- Implemented UEM 9.8 – including folder redirection, mapped drives, application profiling, printer mappings and multiple ADMX changes/Win10 tweaks... especially around Start Menu, Use of VMware Optimization Tool
- Implementation of VMWare VCSA
- Built multiple Win 10 images (based on use cases) leveraging Mandatory profiles to cut down login times
- Implemented Microsegmentation using NSX

### Equity Trust – October 2019 – February 2020

- Migration of old 6.x environment to Horizon 7.9. for 100+ sessions, including branch offices in North Dakota and Puerto Rico on HP Hardware
- Implementation of UEM 9.8 – for mapped drives, printer mappings shortcuts, Windows 10 settings and Desktop Shortcuts
- Implementation of App Volumes 2.16
- Built Internal load balancers for App Volumes and Horizon using NSX Edge Gateways
- Built External load balancer for Horizon using NSX Edge Gateway going through Unified Access Gateway(s)
- Upgrade of current hardware to supported/recent firmware and ESX 6.7U3

## **Previous Work Experience**

### **Wesco Distribution**

- Responsible for configuration and management of solutions, specifically virtualization, storage and storage networking

- Principal storage administrator responsible for HP EVA, EMC VMAX/VNX, Equallogic, and Netapp environments
- Principal VMWare administrator overseeing 50 host/ 500 VM environment
- Responsible for DR for VM environment leveraging Recoverpoint for real time replication.

#### **McKesson Corporation**

- Implementation and support of virtual environment consisting of ESX and Lab Manager environments
- Managed EMC Clariion, Equallogic, IBM, Apple, Nexsan, and Netapp environments.
- Responsible for backup environment utilizing Netbackup 6.5 and Bare Metal Restore

### **A.4.4 PROJECT MANAGERS**

#### **A.4.4.1 Project Manager 1**

##### **Consultant Background**

This consultant has over 20 years of experience leading projects and teams to deliver strategic technology initiatives. Kevin has supported multiple industries, including retail, banking, health care, government, insurance, and education. Because of his technical and leadership background, Kevin can on-board and make positive impacts early in the project lifecycle.

##### **Projects of Note**

###### Virtualization

- Project Managed an 1100 node migration from Citrix to VMware Horizon. Responsibilities included scope, schedule, executive status, and resource management. Created, distributed, and maintained all employee deployment communication. Point-of-contact for 3<sup>rd</sup> parties providing on and offshore development. Managed changes to architectural documents and maintained contact data for all on and offshore associates.
- Project Manager responsible for the migration from HyperV to VMware for a regionally-based grocery chain. This project combined design, implementation, and cross-training. Staying on schedule and budget, we could add scope and assist the customer with additional work reclaiming vitally needed storage.

###### Implementation

- Managed a program to convert 62 acquired retail banking centers to the new company in seven weeks. This project included managing the scope, schedule, and resources for eight internal departments and five external partners and required technical experience with retail infrastructure, remote site deployments, and resource management. Detailed and executive-level financial and status reporting was completed weekly. Maintained the site-by-site implementation schedule for all workstreams.
- Led a significant initiative project for DSW, including migration to a new credit processor, extensive hardware and software replacement, improved software distribution and standardization, tokenized sales transactions across channels, implementation of EMV payment standards, and introduction of alternative payment acceptance. Responsible for vendor and financial management, application development, compliance adherence, executive communication, implementation, and support.

## Microsoft

- Led a project to upgrade, expand, and improve the security position of a recently acquired company's Microsoft System Center environment. Phase II included creating and distributing a deployable click to run package for Office Pro Plus. The project was completed with the migration of 450 mailboxes to a newly created O365 tenant. This project's success allowed for the acquired company to meet the security and license standards of their new parent company.
- Kevin managed several Microsoft initiatives including, O365, Teams, Active Directory, Windows 10, Configuration Manager, Operations Manager, and MS SQL.

## Data Center

- Managed the migration for a regional banking partner to a new Dell EMC Data Domain. This project included installation, configuration, and data migration of the Data Domain to prepare the customer to implement Dell PowerProtect Data Manager. This initiative included managing the scope, schedule, and resources for three disparate companies. Despite vendor delays and customer blackouts, we went live with the new storage array as scheduled and smoothly transitioned, as planned, to the vendor.
- Led a storage array migration of a 700 server dual-data center initiative, increasing redundancy, reducing risk, and adding seven complete environments within six months. Expanded Microsoft System Center Configuration and Operations Manager supporting all corporate Windows servers and in-store Windows systems.

## **Professional Experience**

Advizex – Columbus, Ohio 2019–Current

### **Program Manager**

Responsible for the management of program and project level customer initiatives, including scope, budget, schedule, resource, and detailed and executive-level reporting.

### Key Projects

- Served as Program Manager to convert 62 retail banking center locations to the parent company in seven weeks. The project included the day-to-day management of 13 different teams, 30 field engineers, 25 bank employees, 3,500 hardware components ordered, and a matrixed installation schedule. Additionally responsible for executive-level status, communication, and financial reporting.
- Led a project to design, plan, and implement a VMware Horizon VDI for a county government agency. The project's successful completion enabled consolidated operations, cost savings, technical and security improvements, cross-training, and life cycling of aged hardware for the customer.
- Program Managed a design, plan, and deployment of a Citrix to VMware Horizon VDI migration for 1100 on and offshore employees. This 15-month initiative included extensive schedule, scope, and resource management. The project was completed in time for the customer to avoid substantial licensing fees.

DSW, INC. – Columbus, Ohio 2007-2019

### **Senior Director of IT Operations (2015-2019)**

Kevin had responsibility for providing leadership, strategy, and financial management for an IT Operations organization servicing 500+ retail locations, digital commerce, 10,000+ employees, two data centers, 2500+ servers, storage, backups, IT service management, code deployment, system availability, and the corporate office.



- **Financial Management:** Direct responsibility for \$15 million annual capital and expense budget. Implemented a new storage array across two data centers in four months with a 30-month ROI leading to a yearly expense save of \$475,000. Consolidated store implementation partners saving \$400,000 in professional services annually.
- **Leadership:** Created DSW's IT Operations team as a separate entity from infrastructure. On-boarded an offsite 3<sup>rd</sup> party support organization providing overnight Tier I / II support and system patch management. Moved enterprise to a 30-day OS and application patch cycle. Implemented a Dev Ops practice supporting DSW's digital initiatives and segregation of duties across critical systems. Maintain PCI, SOx, and FTC compliance. Implemented improved metrics, reporting, and accountability throughout all production systems leading to a 25% decline in incidents over one year.

Director Store and Corporate Systems (2012-2014)

Merged two distinct application development and support teams into a single organization.

- **Management:** Directed a team of four managers and 20+ associates, with an annual capital and expense budget of \$10 million. Created a single team responsible for tier II / III support, engineering, vendor management, service delivery, and business analysis in support of store systems, HR, payroll, credit processing, corporate intranet, finance, procurement, loss prevention, and investor relations.
- **Leadership:** Presented monthly to CEO and executive committee and quarterly to Board of Directors Technology Committee regarding strategy, project status, IT risk, and system availability. Defined multiyear road map across the portfolio for the store and corporate applications and store infrastructure.

(Senior) Manager – Store Systems (2007-2012)

Managed a 15 associate team providing design, engineering, and tier-II / III support for 450+ retail locations.

- **Store Systems Support:** Merged infrastructure and application teams into a single organization supporting all in-store hardware and software, new store cabling and implementation services, procurement, payment and sales, and traffic reporting.
- **Process Improvement:** Standardized hardware solutions and procurement partners, built the still-in-use internal technology process for opening and relocating stores, which has a 100% on-time rate, and on-boarded a single partner to cable, stage, and install all new stores.

Huntington Bank – Columbus, Ohio 2006-2007

Manager – Enterprise Network Services

Managed 10+ associates in a design and support organization covering the corporate, remote site and ATM connectivity, data security, and disaster recovery.

- **Management:** Design, engineering, and Tier II/ III support of data services including network connectivity, routing, switching, firewalls, proxies, load balancers, RSA tokens, and management tools.
- **Regulatory Compliance:** Responsible for maintaining adherence to all regulatory standards. Worked directly with internal and external auditors for scheduled and unscheduled audits.
- **Disaster Recovery:** Managed bi-annual disaster recovery exercise ensuring full resiliency across data centers for all corporate-based firewalls, proxies, network nodes, point-to-point sites, and B2B VPN connections.
- **Financial Management:** Responsible for \$1 million annual expense budget.

Intellinetics Inc. – Columbus, Ohio 2005-2006

Senior Consultant

Led project management and business process analysis.

- **Leadership:** Project planning, statement of work creation, and RFP response.
- **Process Improvement:** Operational support procedures, project templates, and artifacts, financial management.

- **Customer Relationships:** Managed existing customer account relations, including technical support, new opportunities, and governmental compliance.

Tween Brands – Columbus, Ohio 2001-2005

#### **Manager – Data Communications (2003-2006)**

Managed 10+ associates 24x7 Operations team supporting corporate and retail locations.

- **Managed Services:** Responsibilities and voice and data networking included service desk for retail and corporate locations, desktop support, voice & data networks, and two data centers.
- **Financial Management:** \$1.5 million annual expense and capital budget. Implemented detailed financial tracking and developed processes and artifacts for regular auditing and analysis of telecommunication costs.

Tween Brands – Columbus, Ohio

#### **(Senior) Network Analyst (2002-2003)**

Led enterprise support of all local and wide area networks.

- **VoIP Migration:** Led, designed, and implemented \$1 million migration consolidating three legacy voice solutions into a single Cisco VoIP architecture, including building out new corporate headquarters and distribution center structured cabling for main and intermediate distribution frames.
- **WAN Migration:** Implemented B2B VPN connectivity in place of legacy point-to-point for corporate remote connectivity.
- **Support Services:** Led LAN and WAN operational support covering 700+ retail locations, corporate offices, and distribution centers.

Cardinal Health – Columbus, Ohio 1999-2001

#### **Team Lead – LAN Infrastructure and Data Security (2001-2002)**

Led support team of five associates in two states overseeing corporate offices, 22 distribution centers, and three data centers.

- **Financial Management:** Accountable for \$1.3 million annual budget.
- **Large initiatives:** Led \$3 million migration to a consolidated Cisco Infrastructure.

## **A.4.4.2 Project Manager 2**

### **Sr. Project Manager**

This PM has 18+ years of PMP certified experience leading cross functional teams, as the single point of accountability, delivering value-add solutions across multiple platforms.

#### **Soft Skills**

- Facilitation, aligning Customer business requirements with IT solutions in support of end user adoption
- Player/coach, with successful track record for building matrixed project teams to plan and deliver project scope on time and within the forecasted budget
- Technical understanding of infrastructure integration and deployment across multiple sites, including IT security controls
- Advocate in support of Customer organizations mission statement and workplace culture with consistent practice for the same



## Areas of Knowledge

- Infrastructure build & deployment
- Office 365 migrations
- Win10 migrations
- Active Directory consolidation
- Healthcare M&A
- 3rd Party Mobility Software Integration
- On / Offshore Resource Management
- Risk Management / Mitigation
- Change Management
- Manufacturing Oil & Gas

## Certifications

PMI PMP certified – 79791  
PMI MBA certified

## Education

BS CIS - University of Akron  
AAS CIS - University of Akron

## Projects of Note

- O365 Program implementation for large East coast-based health services provider
  - Office 365 migration
  - Win10 migration
  - Organizational Change Management
  - Exch migration
  - End User communications
  - AD consolidation
- M&A Project management in support 3rd party FTP jobs and Business process onboarding for large East coast-based health services provider's acquisition of health insurance provider
- Vendor management for B2B company's enterprise facilities move, including new facilities buildout and old facility decommissioning
- M&A Program management, integrating and standardizing technical environments utilizing cross functional team, and third-party vendors
  - Active Directory consolidation
  - Workstation migrations
  - Exch migration
  - End User communications
  - Mobile device management
  - Win10 deployment
  - Application rationalization
  - User Acceptance Testing
- Technical PM to establish SAP solution in Azure
  - Solaris/Oracle SAP migration to Windows/SQL SAP
  - On-prem to Azure SAP training landscape database refresh process
  - Azure Certified Security Controls "confidential" data classification
  - Azure backup and recovery using Data Protection Manger
- Microsoft O365 Cloud optimization
  - Azure Active Directory and Federation Services Implementation

- Exch 2010 to Office 365 Exch Hybrid Migration
- Office 2016 ProPlus Deployment
  
- Global R&D in support of developing a scalable 3rd Party Applications workflow:
  - Application rationalization / Total cost of ownership
  - Internal charge back system
  - Cloud optimization
  
- Mobile Operations Platform, delivering a fit for purpose 3rd party mobile application in support of oil & gas operator rounds at three North America refineries
  - Cisco C1D2 industrial wireless network build out at Ohio based refinery, including Motorola MC9090 MDM deployment
  - Motorola's Mobility Services Platform integration at multiple refineries allowing provisioning, monitoring, and rapid wireless deployment of Motorola handhelds
  - Maximo / Primavera P6 migration from Alaska regional data center to Houston mega data center
  - Syntempo / Primavera reporting solution implementation at North America based refineries
  
- Business Information Manager, responsible for strategic development and delivery in support of West coast refinery IT investment portfolio
  
- Liaison to US Refining and Petrochemical sites in support of vendor selection for industry Fatigue Management Identification guidelines, ANSI/API RP 755