

Request For Information

By

Union County, Ohio

For

Cloud Services

RFI Issue Date: April 26, 2019

RFI Response Due Date: May 24, 2019

SECTION 1 – RFI BASICS

1.1 RFI Overview and Summary of Cloud Services Needed

Prior to the planned release of a request for proposal (RFP) this summer, Union County has released this request for information (RFI) for the purpose of obtaining input, suggestions, recommendations, comments, and specifications information from qualified Cloud service providers based upon Union County's needs.

Union County's current on-premise server-storage hardware has reached its end of life. Also, several of the county data center's infrastructure components which support the on-premise server-storage environment are reaching their end of life. Significant capital expenditures would be necessary for Union County to continue to maintain on on-premise server-storage environment. Therefore Union County is seeking Cloud services to achieve the benefits of a Cloud based server-storage environment maintained in a Tier 2 or greater data center facility and move towards an operational IT infrastructure expenditure model.

Union County is releasing this request for information (RFI) to qualified Cloud service providers for the following services: VMWare-based virtual computing environment (physical hosts, disk storage, data center, local area network), backup/recovery services, possible co-location of a small number of physical servers and storage devices which have not yet reached their useful end of life, network, security, system management, system monitoring, and disaster recovery services.

Union County seeks recommendations for appropriate Cloud services under the infrastructure as a service (IaaS) model. The Union County IT team will maintain administrative responsibility for the virtual machines, Windows Active Directory, security, network (WAN/LAN), applications and databases.

1.2 Disclaimer

The intent of this RFI is to obtain information. It is not a formal request for proposal. There will be no award. No contractual relation is established by submission of a response to this RFI. This RFI does not commit or bind Union County to enter into a contract or other relationship or to proceed with the procurement described herein.

Expenses incurred by Respondents in developing, preparing, or submitting any information, documentation, or other materials in response to this RFI and/or by attending meetings directly or indirectly related to this RFI are entirely the responsibility of the Respondents and will neither be paid nor reimbursed by Union County. Union County reserves the right to use any and all information presented in any response.

1.3 Current Environment

Union County's primary server and storage hardware is housed in a small data center located at:

Union County Office Building
2nd Floor Auditors Office
233 West Sixth Street
Marysville, Ohio

Union County's servers are virtualized in a VMWare ESXi 6.0 environment and are largely Microsoft Windows Servers 2012 R2 with the exception of a couple Linux servers.

Key applications residing in this environment include Tyler Munis financial and payroll solution, Appraisal Research Corporation CAMA and tax system, Equivant court case management solution, DTS land records system, and several additional department specific applications. In addition, key data is stored across multiple file servers.

The Union County IT team currently supports the data center, including all application and system administration functions. Network management is outsourced with an outside IT consultant group, NetGain IS.

Union County's current data center includes raised flooring, a building generator which supports the data center, a dedicated UPS which can currently supply approximately 30 minutes emergency power to data center hardware, and a dedicated air conditioner.

Union County currently faces several major financial expenditures in order to continue to sustain an on-premise server-storage environment maintained in a county owned data center:

1. Current air conditioning unit is reaching end of life and will need to be replaced
2. UPS is reaching end of life and will need to be replaced
3. Server and storage hardware is largely 7 or more years old and application performance has become a growing problem, plus increasing costs to maintain aging hardware under support contracts. Replacement hardware would be needed
4. Union County's current data center is entry level and lacks the redundancy and other infrastructure advantages of a Tier 2 or better data center; a significant financial investment would be needed to add redundancy

Union County's current IT environment consists of the following personnel and resources:

1. 4 County IT Staff
2. Approximately 260 county employees supported; over 20 county departments and agencies supported at various levels of support
3. 5 Dell PowerEdge R720 Host Servers, 720 total RAM, 148 total vCPU
4. 2 Dell EqualLogic SANs
 - PS6100 10K SAS, RAID 5, 7TB usable, 7TB in use
 - PS6100 7K SAS, RAID 5, 12TB usable, 5TB in use
5. VMWare ESXi v6.0 virtualized server environment
6. Microsoft Windows Server AD
7. 16 Microsoft Windows Servers (largely 2012 R2)
 - 3 Microsoft SQL Servers
 - 2 Web application servers
8. 4 Linux Servers

9. Cisco Firewalls and Network environment
10. Backups: file based; 2x per day at midday and evening; 60 day recovery window from Daily backups; saved backups replicated across 2 EMC Data Domain storage devices
11. Microsoft Office 365 and Exchange Online
12. County's primary website www.co.union.oh.us is hosted; several public web applications are local
13. Sophos Intercept X Endpoint anti-virus (servers)
14. Newly available dark fiber is in place between Union County's data center and Metro Data Center, Dublin, Ohio

Current data backup information:

1. Each daily backup total data: 1.5TB
2. Each weekly backup total data: 7TB
3. Each monthly backup total data: 7TB
4. Retention Periods:
 - a. Daily: 2 months
 - b. Weekly: 2 months
 - c. Monthly: 3 months

1.4 Key Objectives

Union County seeks to accomplish the following major objectives in migrating to the Cloud:

1. Obtain "best practice" Cloud services at a cost effective price.
2. Move away from capital expenditure model towards operational expenditure model.
3. Move the production environment from the currently inadequate local data center to a Tier 2 or better data center.
4. Meet appropriate security standards as required by departments and agencies.
5. Achieve a sustainable and highly reliable data center/Cloud hosting service that meets or exceeds all service levels consistently.
6. Obtain clearly measurable metrics for success and failure within network, infrastructure, and support.
7. Gain flexibility to meet changing and growing IT resource requirements.
8. Improve backup and recovery capabilities.
9. Add disaster recovery services.

SECTION 2 – RFI PROCESS

2.1 RFI Questions for Union County and Contact Information

Respondents may contact Union County for clarification or additional IT environment details. All requests, questions or other communications regarding this RFI shall be made to:

Wade Branstiter, IT/GIS Director
Union County Auditors Office
233 West Sixth St
Marysville, OH 43040
937-645-3054
wbranstiter@co.union.oh.us

The last day for RFI questions to be submitted is May 17, 2019.

2.2 RFI Schedule and Next Steps

1. RFI Release Date: April 26, 2019
2. Last day for questions to be submitted: May 17, 2019
3. RFI responses due to Union County: 4:00 PM Eastern Time, May 24, 2019

Union County plans to release an RFP by early June 2019 after incorporating the response information received from this RFI.

Following the bid process and finalization of a contract with the selected Cloud service provider, the data center migration is expected to begin in fall 2019.

2.3 RFI Response Costs

Union County shall not be liable for any costs incurred by any Vendor in preparing and submitting a response to this RFI.

2.4 RFI Submittal

All responses must be submitted to Union County by 4:00 PM Eastern Time, May 24, 2019. Please submit one electronic version of your response using one of the following options:

- a) Save your response document on a USB drive and mail to the following address:

Union County Auditor's Office
Attn: Wade Branstiter, IT/GIS Director
233 West Sixth St
Marysville, OH 43040

- b) Email a copy of your response document to the following email addresses:
wbranstiter@co.union.oh.us (Wade Branstiter, IT/GIS Director)
asmarra@co.union.oh.us (Andrew Smarra, Union County Treasurer)

SECTION 3 – RFI RESPONSES

3.1 Questions and Information Requested from Cloud Service Providers

1. Data Center:
 - a. What is the minimum data center Tier level you would house Union County's production environment in?
 - b. What would be the physical location (City and State) of the Union County's primary production environment and Disaster Recovery environment?
 - c. Please describe how your organization's data center staff would monitor our production environment.
 - d. Please describe the available support for County IT staff to contact in the event of a problem.
2. Union County has several security requirements for various department data/files including: CJIS requirements, HIPAA requirements, Sheriff Investigation files, HR files, Health and other related benefits files, payroll files within and outside of SQL database, etc. Please recommend the minimum and optimal security standards that you would recommend a Cloud provider should meet to host Union County's environment.
3. If selected to host Union County's environment, would you be partnering with another service provider or would your organization handle all areas of the IaaS model services we are requesting? For example, would your organization team up with AWS or a Columbus metro area data center to provide the Cloud environment for Union County?
4. Please provide descriptions for additional Cloud provider services which Union County should consider that were not already listed under Section 1.1.
5. Union County would like to replicate several high priority VMs for DR purposes. Table 1 lists our virtualized servers and recovery priority for each. Please recommend an appropriate DR recovery solution and provide details regarding anticipated recovery for the high priority VMs.
6. Connectivity to host data center. Union County will have approximately 225-250 concurrent end user connections to the host data center.
 - a. Based on the information provided under the previous sections, please recommend an appropriately sized dedicated circuit to connect to your data center which would provide high performance end user access to applications and other resources.
 - b. Please describe the direct peering process and potential fees involved to establish a dedicated circuit from Union County's network to the host Data Center. Also, please explain potential inbound and outbound data transfer fees to be factored into the ongoing cost.
7. Microsoft SQL Server, Microsoft Windows Server, and VMWare licensing. Union County currently does not maintain Microsoft Software Assurance for its server and SQL systems. Are the costs associated with this licensing built into your Cloud services or would Union County separately purchase the necessary Microsoft Windows Server and/or SQL Server licensing for the Cloud environment? Is VMWare licensing built into the cost of your Cloud services offered?

8. System monitoring. Please describe the system monitoring the Cloud service provider would typically be included under the IaaS model. Would any monitoring tools be available to the Union County IT staff as a part of the bundled cost or available as an additional service offering?
9. For Section 4, please provide feedback, comments, corrections, and additional recommendations for Union County to consider including in the creation of its RFP.
10. Regarding any section of this RFI document, please feel free to provide feedback, comments, corrections, and additional recommendations for Union County to consider including in the creation of its RFP.
11. Are there any requirements or standards listed under the Section 4 which, if we include in the RFP, will significantly increase the cost of the Cloud solution for Union County or potentially unnecessarily add cost?
12. What is your SLA for service and support?
13. What is your process for migration to your Cloud environment?

3.2 Cloud Service Provider's Company Background Information

Please provide the following details about your company:

1. Short history of firm
2. Ownership structure
3. Total employee count (W2 and 1099)
4. Important national partnerships
5. Major recognitions
6. Do you own your own data center(s)? If Yes, please list location(s) - City and State. If a partner owns the data center(s), please describe this relationship and the location (City and State).
7. Are you SOC audited?
8. Which of these standards of compliance do you meet?
 - a. SSAE18
 - b. NIST
 - c. PCI
 - d. HIPAA
9. If you or your partner owns multiple data centers, what is the connectivity between data centers?
10. How long has your company provided Cloud services?
11. What is the redundancy level of your Cloud environment?
12. What are the approximate number of client VMs running on your Cloud environment?
13. What are the various managed services that you offer?
14. What is the level of oversubscription on your Cloud environment?
15. What is the redundancy level of your Cloud environment (N, N+1, N+2, etc.)?

SECTION 4 – CLOUD SERVICE PROVIDER SPECIFICATIONS DRAFT VERSION

This section contains a draft version of the specifications we intend to include in our RFP document. Please review and provide feedback and suggestions for Union County to consider in building its final version RFP document.

4.1 Data Center Facility

The data center facility is a critical component which will support Union County's production environment. The data center facility should include the following characteristics:

1. Adequate physical building security to protect from outside intrusion.
2. Adequate internal data center security to isolate Union County's equipment from that of other customers.
3. Diverse power feeds into the facility from diverse substations.
4. Multiple, redundant Uninterruptible Power Supplies
5. Multiple, redundant data Internet/data feeds with diverse entry points
6. Backup generator system including agreements for fuel in the event of extended power outages.
7. Adequate fire suppression and detection system.
8. Cooling capability must meet ASHRAE standards
9. Isolation from outside elements (No windows)
10. Room for future expansion if Union County's business requires additional data center capacity.
11. Documented change management processes and controls for all facility-wide enhancements.
12. Proper management of data center components. (i.e. cable management controls and standards)
13. Permanency – the data center facility location should not change during the term of this contract.
14. The facility must have passed the controls requirement of a SSAE 18 audit within the past 12 months.

4.2 Virtual Environment Provision & Hosting

The Cloud services provider should have the ability to deliver a robust and flexible virtual environment with the following elements:

1. Capacity to initially support at least 320GB of RAM and 76 vCPU to be allocated across approximately 20 virtual machines. Respondents will be expected to provide recommended RAM and vCPU to meet Union County's needs.
2. 12TB of useable, tiered disk storage available to the virtual environment in a RAID configuration.
3. Adequate network switch capacity to support Union County's communication needs including virtual environment and possible co-located equipment.

4. All necessary operating system and virtualization software licenses to support the full virtual environment.
5. Adequate separation between Union County's virtual environment and the virtual environments of other customers.

4.3 Backup/Recovery Service

Union County requires full backup/recovery services for its hosted environment. This will include both the virtual environment, as well as the co-located equipment specified under Section 4.4. This service should include the following elements:

2. Provide fully featured backup/recovery software/hardware solution to support both the virtual and co-location environments.
3. Provide required software licensing and agents required for all backup and recovery functions. This includes hot (online) backup capability for 3 Microsoft SQL Server instances.
4. Ensure that the predefined backup schedule is executed according to a mutually agreed upon plan. Report any variances in the backup schedule to the Union County IT staff.
5. Monitor system backups, troubleshoot failed backups and alert on failed backups per the Service Level Agreements.
6. Backups should be immediately stored in or replicated to a different physical location from the data center which houses Union County's production environment data.
7. Backups must meet Union County's data retention policies:
 - a. Daily backups to be retained for 30 days
 - b. Weekly backups to be retained for two months
 - c. Monthly backups should be retained for three months
8. In non-disaster scenarios, the backup/recovery infrastructure must be able to complete large scale restorations at SAN speeds and not be constrained by a network-based (TCP/IP) architecture.

4.4 Co-location Service

Union County has a small number of physical devices that are not virtualized which include: a vendor supported application server, two secondary storage devices, and a firewall device. The Cloud services provider should be able to deliver the following services related to this equipment:

1. Provision of adequate rack space for the following equipment:
 - a. One Dell PowerEdge R720 Server
 - b. Two EMC DD2200 Data Domains
 - c. One Cisco Firewall Device (Model TBD)
2. Diverse (A/B) conditioned power to service the above listed hardware. Respondents will be expected to propose recommended power to meet Union County's co-location needs.
3. LAN switch capacity to support the equipment listed above with VLAN capability as needed
4. Smart hands support must be available to Union County in the event of problems with the physical equipment. A non-exhaustive list of smart hands requests includes:

- a. Reboot servers
 - b. Install CD's into servers
 - c. Provide basic troubleshooting steps and follow instructions to assist in the restoration of service while on the phone with a Union County system administrator if a system is not available remotely.
 - d. Troubleshoot server network connectivity problems with the data center LAN.
 - e. Serve as liaison to own a hardware problem until the Union County system administrator validates that the problem is corrected.
 - f. Serve as a liaison with the hardware vendors as needed to coordinate hardware installations and upgrades.
 - g. Hard disk swaps.
5. Physical access to this equipment must be available to Union County IT staff members on a 24x7/365 basis.
 6. Physical access must be available to vendors who provide hardware and network maintenance services for the equipment located in this co-location rack on a 24x7/365 basis.

4.5. Network Services & Support

Union County requires the following network-related services:

1. Connectivity from the Union County local network to the Cloud provider's data center housing Union County's production environment (virtual and co-location equipment access).
2. Connectivity from the Union County local network to the designated Disaster Recovery data center (virtual and co-location equipment access).
3. Block of 5 public IP addresses in the Disaster Recovery data center.
4. Internet availability at production environment housed data center and Disaster Recovery data center. Respondents will be expected to propose recommended power to meet Union County's co-location needs.

4.6 Security & Compliance

Union County requires the Cloud services provider to meet the following security standards:

1. Union County's IT infrastructure must maintain compliance with NIST standards at all times.
2. Vendors providing hosting services must complete and maintain the required standards of a SSAE 18 audit on an annual basis.
3. Cloud service providers must meet the minimum security requirements for various County department data/files including: CJIS requirements, HIPAA requirements, Sheriff Investigation files, HR files, Health and other related benefits files, payroll files within and outside of SQL database, etc. Vendor must provide HIPAA BAA documentation.

4.7 Disaster Recovery Service – Virtual Environment

Union County currently lacks redundancy in its server-storage environment for optimal disaster recovery capabilities. Please see Table 1 at the end of this document for a listing of Union County's high priority servers and the desired disaster recovery timeframe for each server.

Union County seeks full disaster recovery services for certain applications and data in the virtual environment. No disaster recovery services are necessary for the co-location environment. Virtual environment disaster recovery services should include the following elements:

1. Replication of changes in the virtual environment to a secondary Disaster Recovery site to support a Recovery Point Objective of 1 hour or less.
2. Disaster Recovery facility must have enough computing and disk storage capacity to support the full virtual environment in the event of a disaster.
3. Disaster Recovery facility must have similar physical security and redundancy capabilities as the primary facility.
4. The disaster recovery approach should be able to support a Recovery Time Objective of 1 hour or less for the high priority servers listed in Table 1.
5. In the event of a disaster, full backup/recovery capabilities must be in place to support ongoing operations until all services are migrated back to the primary facility.
6. Assist in planning and execution of annual disaster recovery testing with Union County IT team.
7. Maintain documentation on the disaster recovery procedures required to migrate operations to the Disaster Recovery site/infrastructure.

TABLE 1.

Server	Used Space GB	Desired Recovery Time Objective (RTO)
Cisco Firepower CF_ManageCenter	100	<4hr
Cisco Umbrella UnionCo-ns1	100	<1hr
Cisco Umbrella UnionCo-ns2	100	<1hr
COURTVIEWAPP	31	<4hrs
COURTVIEWAPP2	44	<4hrs
COURTVIEWIMAGE	114	<4hrs
COURTVIEWSQL	437	<4hrs
DBSERV03	1625	<1hr
DTS-SERVER	272	<4hr
Henschen Linux	250	<4hr
MUNISCM	75	<1hr
MUNISMA	764	<1hr
POTAMUS	18	<24hrs
SMTPSERV	53	<1hr
SOLAR1	29	<24hrs
SOLAR2	125	<4hrs
UNIONDC	1486	<1hr
VCENTER01	76	<1hr
WEBSERV03	259	<4hrs
WEBSERV04	144	<24hrs