

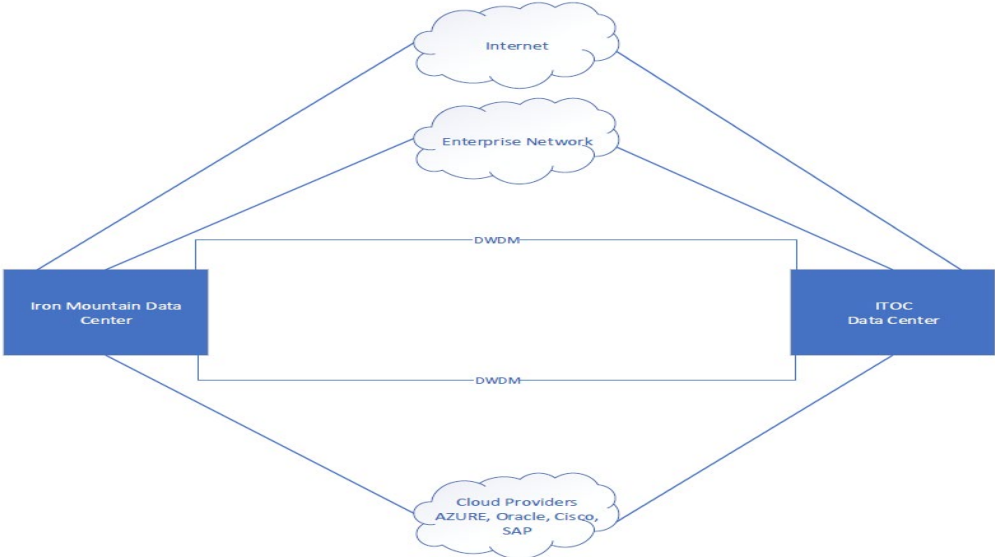
Question(s) (The following are questions submitted and represented as they were received.)	Response
<u>General DR Questions</u>	
Can we submit the proposals via email?	Refer to Section I, Subsection 12 for submission instructions.
Please confirm that the City would like to receive two volumes submitted for response. Volume I would encompass Proposal sections 1-6 with corresponding attachments, and Volume II would contain Proposal section 7 with Attachment C only.	Yes. The pricing workbook, Attachment C, must be contained within a separate folder structure. Refer to Section I, Item 12 - Submission of Offer, subsection 2.6.7. - Pricing (Proposal Section 7). (Changes were also addressed per Addendum 1.)
Can we get unlocked versions of the spreadsheets to work with, specifically Attachment A?	No.
Whether companies from Outside USA can apply for this? (like, from India or Canada)	No.
Whether we need to come over there for meetings?	Yes.
Can we perform the tasks (related to RFP) outside USA? (like, from India or Canada)	No.
respectfully requests an extension of the proposal deadline to 9/3/2021 in order to fully address the requirements and provide a comprehensive proposal response that will meet the need of City of Phoenix.	This item has been addressed per Addendum 1.
request a brief extension of time to submit our offer for the <i>Disaster Recovery as a Service – Requirement Contract</i> . We request that the deadline for submitting the DRaaS be extended by two weeks—to <u>August 30, 2021 at 3PM.</u>	This item has been addressed per Addendum 1.
The deadline for this bid is two weeks from being released and requires a large amount of solutioning that we will not be able to complete given the timeline. Can an extension be given to all bidders to August 31st?	This item has been addressed per Addendum 1.
Since this is a fully managed DRaaS are there restrictions on distance since other than listed in the RFP.	No. Refer to Section V, Subsection 3.3.
Who owns your DR program?	City of Phoenix ITS Department.
Do you have a DR Environment today?	Yes the city has DR environments for SAP, Peoplesoft, Kiva, and Retirement.
Are you currently using a DR provider?	Yes. Sungard.
Do you have a DR Plan Document or a document that identifies how to perform the recovery activities?	No. DR Plans will be developed post-award. Refer to Section V, Subsection 3.1.5.
What is the Address and NPA-NXX (Area Code and Exchange) of the production data center?	602-534
Does the DRaaS solution need to operate on multiple architectures besides x86?	Yes. Refer to Attachment A.
The RFP States "All components of the proposed solution must be supported by a single vendor for the duration of the contract" As a DRaaS vendor, we would like to propose our services using AWS infrastructure. Some of these AWS services would be managed by AWS. Would using AWS be considered a "Second Vendor" and therefore disqualify us from this RFP?	AWS would be considered a subcontractor or supplier to the prime contractor submitting the proposal. The prime contractor is ultimately responsible to the city for the service.

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4 App Tests - what does that encompass? Which applications or all that would be covered by Application based replication. Or 2 App Tests, as mentioned in the PDF	Refer to Section V, Subsection 3.2 and Attachment B, Tab 1 - DRaaS Solution Rqmts, Item No. 4.1.1.2. for testing information. Offerors should bid 1 complete test and 2 application specific tests per year. The City will determine the applications to be tested prior to scheduling the test. These will change each testing cycle.
Is there a breakout of applications listed in Attachment A by location?	No. The applications are hosted in one or both of the city's enterprise data centers.
Has application dependency been determined within the Recovery Tiers? For example, an application in Tier1 has a dependent application in Tier2?	Yes.
Is VDI part of the DR scope? If so, what are the requirements around VDI? Platform? Desktop Types?	No.
Is there a preferred carrier/vendor for multi-cloud onramps such as Azure, AWS, Oracle, etc?	The city currently uses Azure as its cloud provider but has no preference for DR vendor.
Is there any additional hardware or systems that the City will be supplying as part of the DR solution outside of the infrastructure that TierPoint will be providing (accommodating for out of scope applications and agencies)?	No.
Do we have a secondary backup infrastructure that can be relocated for off-site backup and DR? Commvault to Unity Tier 2? We can possibly use offsite backup to restore / recover non-mission critical workloads.	No.
Is the City of Phoenix open to leveraging cloud native versions of services such as Storage or DB as a Service in a recovery scenario?	Yes.
<u>Server and Application Information:</u>	
There is a mention of O365 but there are 2 Exchange servers listed in Attachment A – ApplicationData tab. Please provide some more detail on that setup	The city currently creates resources on-prem and migrates them to the cloud. The servers are also used as SMTP relays.
As per Attachment A, do the Oracle Exalogic hosts replicate to the Oracle Cloud or in scope for DR to TierPoint?	No, the Exalogic platform does not replicate to the Oracle cloud. They are in scope for DR.
Do the Solaris hosts replicate into a 3 rd party or Oracle Cloud? Are these 4 virtual systems running on a single or multiple physical hosts?	No, Solaris is on prem only and does not have any connection to Oracle Cloud.
Describe your AD environment	Single Forest, One Child Domain. Two Trusted Foreign Domains (Police and Courts). 10 Onpremise DC's, Three Additional DC's are in Azure.
For the VM/Appliance, PMCA31 , what OS is running on that appliance and what is it's purpose?	It is a VMware vCenter Server Appliance for PMC running photon OS. It hosts PMC Virtual Machines and manages their ESXi hosts.
For the Commvault physical servers (netb06, netb07, netb17, netb18, netb19, netb21, netb22, netb23, netwbw020), is it desired that these be replicated via Commvault mechanisms?	No.
The POWER servers are listed as having AIX as the Hypervisor and RedHat as the OS. Is the hypervisor POWER VM?	This is not correct. All PowerPC systems use PowerVM for virtualization and use AIX exclusively for OS. RedHat is not hosted on PowerPC.
What sorts of applications are running on the Mission-Critical and Critical Physical servers? (Databases, AD/DNS, etc.)	Refer to Attachment A.
Do the Solaris servers run on the Exalogic platform?	No.
Could the server list be annotated with the criticality for easier reference?	The criticality of the server or application hosted is listed in the RFP Attachment A.
Will the city need to co-locate any city-owned equipment at the recovery site? If so, can an inventory of that equipment be provided.	No.

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Can the 27 physical x86 recover as virtual?	Yes.
From the RFP: Systems currently running Unix operating systems other than RHEL 6 or 7 are also being replaced as soon as possible. Should we assume these are out of scope?	No.
For the physical servers (non-hypervisors) and Exalogic, can any assets be relocated / re-used for DR? (Exalogic can be recovered to standby with Data Guard or via backup, send backup - archive logs - every 30 minutes - restore time could be high)	City assets will remain in the city's enterprise data centers.
Is it possible to get a compute/storage architecture map, or at the very least, a list of the storage vendors we need to incorporate to the DRaaS solution?	Pure Storage Flash Arrays and Flashblades at each city data center. Legacy storage will be replaced prior to award.
What hardware is supporting the Solaris operating systems?	Oracle/Sun M5000 & T2000.
What services are being offered on the Solaris systems? What versions?	Solaris 10, Oracle. Refer to Attachment A.
What infrastructure is supporting the POWER servers?	Power7 /IBM 8205.
What services are being provided on the POWER servers? (Version?)	AIX v7.2, SAP Application hosting and DB2 v.
What services are being provided on the Oracle Exalogic servers? (version?)	OEL 6, Weblogic, Oracle CSS.
Is the City of Phoenix open to leveraging Physical to Virtual protection for physical source machines such that the DR version is virtual and not a physical host?	Yes.
Can we identify Always running / always on VMs as they related to Mission Critical? We can support native application-based replication for always-on VMs. (AD/DHCP/DNS/FW/LB, SQL, etc)	All VMs that are mission critical are always on.
How do we identify assets to be protected from Attachment A – Server Information? If workloads need to be protected from both DCs, we need to identify systems associated with data centers. Please identify servers and associated data centers.	The two datacenters function as one and as such there is no requirement to separate workloads into separate datacenters for DR.
What is the PMCA31 appliance? What function does it serve? Is it physical or virtual? Version?	It is a VMware vCenter Server Appliance for PMC running photon OS. Offerors should determine if this is necessary if all the VMs are being restored or provisioned on DR Cloud Provider.
Red Hat Enterprise Linux on power7 and 9, Are we to assume total of 16 LPARs?	There is No RHEL running on PowerPC. All RHEL is hosted on Intel X86, virtualized on VMware/UCS.
Backups:	
Are you currently using any licensed backup/replication software, if so what manufacture?	Commvault
Describe your backup and recovery methods today by server platform (x86 VM, x86 Physical, Exalogic, Solaris, AIX)	We use VSA for all VMs and physical servers. We use the Thick clients by exception for large systems. Non-Windows systems are backed up using VSAs running on dedicated servers in the target environment.
How often do you backup your data?	Daily Incremental, Weekly Full.
Are backups to tape or virtual? If tape, are the tapes stored offsite?	Tape. Offsite storage.
How long are backups retained?	1 year

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Commvault is your primary backup means for all systems?	Yes
Could you provide a brief overview of the current backup/DR/recovery solution or process?	Five weeks of backups are kept onsite/ondisk. Simultaneously AUX copies are made on DLT and shipped daily to off-site storage. And recovery request made that exceeds 5 weeks would require recall of Tapes.
<u>Data Bases:</u>	
What database types are in your environment	Oracle and SQL Server.
What is the current replication strategy between primary and secondary sites (e.g., data log transfer, mirroring, etc.)?	SQL Server - we have a limited number of databases using AlwaysOn for failover between sites. Most databases are clustered within the site, but not between sites. Oracle - uses data guard to replicate databases between sites.
How often is the data replicated?	SQL Server and Oracle - realtime replication of changes.
What is the Storage Size of the data base?	SQL Server - 8 TB. Oracle - 12TB.
Who currently manages the databases? i.e., 3rd party or in-house	In-house.
How do you manage the change process between Primary and Secondary site?	SQL Server/Oracle - changes made to the primary site are also made to secondary site manually.
Can we assume a single DB needed at DR instead of the cluster?	SQL Server/Oracle - yes; we would not expect databases at DR site to be clustered.
<u>Storage:</u>	
What storage platforms are currently in-use, and what platforms are being considered for the storage overhaul that was mentioned? (Of particular note are the netdbw clusters)	Pure Storage Flash Arrays and Flashblades at each city data center. Legacy storage will be replaced prior to award.
How is your storage presented to systems? (fiber, iSCSI, NFS)?	Combination of NAS and FibreChannel.
What is the make/model of the SAN storage?	Pure, FA-X90R3 (5.315) FlashBlade(3.16).
We will need high level disk config info (storage capacity, size & speed of drives, amount of cache, # of ports, etc.)	All NVRAM Flash. (1.3PB NAS, 580TB SAN Attached).
How many Fiber Channel ports are configured on your Disk Subsystem?	12 per Appliance one at each DC.
How many NAS ports are configured?	8 per appliance at each DC.
What is the replication method currently being used?	Active Clustering / Synchronous.
How many TBs of data need to be protected?	Refer to Attachment A.
Volatility (rate of change) of the data to be protected?	Unknown.

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Estimate yearly rate of growth?	30%
Is any storage virtualization being done?	No.
Who currently manages the storage? i.e. 3rd party or in-house	In-house.
What storage (SAN) is used for Solaris (Alchemy, Tax Mantra, eTax, iCapture, Talis)? Internal vs SAN? Can we get CPU specs on Solaris servers netap039, netap040, netap052, netap053?	Both.
What storage (SAN) is used for Physical x86? Internal vs SAN storage?	Both.
Power7 & 9 – Please provide storage (SAN) in used. Vendor, make, model?	Brocade DCX8510-4.
What clustered storage is being used on the NetDBW 452, 602, 603,701, and 702 servers?	SAN Storage as above, no internal.
What clustered service is being provided on the above NetDBW servers? (SQL? Version?)	Windows 2008 with SQL 2008 and 2012, and Windows 2016 with SQL 2014, 2016 and 2019.
What storage is supporting the workloads on the POWER systems?	SAN Storage as above, no internal.
How much raw storage is allocated to Exalogic storage servers?	70TB (35TB/DC).
What is ASM disk group redundancy configuration?	Oracle ASM uses disk groups to store data files; an Oracle ASM disk group is a collection of disks that Oracle ASM manages as a unit.
Is each Exalogic server using its own storage volumes, or do they both use the same storage volumes?	Yes.
What Pure Storage array make/model do you currently have in Production? Does a Pure Array exist in both sites?	Pure, FA-X90R3 (5.315) FlashBlade(3.16) Flash Arrays at both DCs.
<u>Network:</u>	
What sort of network equipment will be needed (Firewalls, routers, load balancers, etc.)	The City expects the vendor to provide all necessary equipment required to setup a data center for disaster recovery purposes. The specific equipment needed will be based upon the applications that are housed within the data center.
Will across the high availability and diverse route be required across the WAN circuit?	The vendor should recommend a solution that will meet the RTO and RPO requirements
What is the estimated bandwidth for data replication (if unknown, we will estimate from data provided above)?	The city currently has multiple 40 Gbps circuits over city-owned fiber between our production data centers, however the vendor should provide a recommendation based upon the applications that need to be supported.
For user access, how much internet bandwidth is required?	The city currently has dual 2 Gbps Internet circuits for our production network, however the vendor should provide a recommendation based upon the applications that need to be supported.
Will internet access be required at the recovery site, if so how much bandwidth is required?	Yes. The city currently has dual 2 Gbps Internet circuits for our production network, however the vendor should provide a recommendation based upon the applications that need to be supported.

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<p>Will VPN access be required?</p>	<p>Yes</p>
<p>Will you provide a network diagram?</p>	<p align="center">City of Phoenix Data Center Network Diagram</p>  <pre> graph TD Internet((Internet)) --- IMDC[Iron Mountain Data Center] Internet --- ITOC[ITOC Data Center] EnterpriseNetwork((Enterprise Network)) --- IMDC EnterpriseNetwork --- ITOC CloudProviders((Cloud Providers AZURE, Oracle, Cisco, SAP)) --- IMDC CloudProviders --- ITOC IMDC --- DWDM1[DWDM] ITOC --- DWDM1 IMDC --- DWDM2[DWDM] ITOC --- DWDM2 </pre>
<p>Do you require any other connections (cloud or MPLS) apart from the production environment?</p>	<p>See City of Phoenix Data Center Network Diagram above regarding the city's network data center architecture. The vendor should provide a recommendation based upon the applications that need to be supported.</p>
<p>Internet bandwidth required in Mbps? (To support and manage always on VMs, other possible infrastructure)</p>	<p>The city currently has dual 2 Gbps Internet circuits for our production network, however the vendor should provide a recommendation based upon the applications that need to be supported.</p>
<p><u>Security:</u></p>	
<p>What is your security posture, devices (make/model)? Would you want TierPoint to provide our managed NGFW solution or would you want to bring/manage your own?</p>	<p>The City of Phoenix is implementing the NIST 800-53 Moderate standards for its security posture. ASA 5555 for IPsec based connections. Fusion if we use express routes. The CoP reserves the right to outsource or manage its own NGFW solution. To be determined.</p>
<p>How will you be accessing your DR site? VPN over internet? MPLS?</p>	<p>MPLS w/IPsec.</p>
<p>Is data encryption required at the server level?</p>	<p>No, City encrypts at the storage level.</p>
<p>Will encryption in flight be needed WAN (replication circuit)?</p>	<p>Yes.</p>

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Does your DR need to be PCI compliant?	Yes.
What compliance regulations are you required to follow?	PCI, CJIS, HIPAA (limited).