



## UTILITY BILLING SYSTEM DATABASE DISASTER RECOVERY IMPROVEMENTS

Innovation and Technology Department

**Board of Public Utilities**  
July 11, 2022

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## BACKGROUND

1. The City's datacenters are responsible for the storage, processing, and the distribution of large amounts of Citywide data for items such as:
  - a) Databases
  - b) Enterprise Applications
  - c) Billing Systems
  - d) Financial Systems



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## BACKGROUND

2. RPU and IT staff developed a Technology Continuity of Operations Plan.
3. The team found that in certain disaster scenarios, the Utilities' billing system has a recovery time that does not meet RPU's operational expectations and needs.
4. The time required to restore the current environment from a complete data center failure would impose significant business impacts to RPU.



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## BACKGROUND

5. Some servers in the City and RPU database environment are no longer supported by the manufacturer.
6. Expanding capacity and resolving these deficiencies will improve the City's continuity of operations and provide automated fail over of core critical services.
7. The Budget Engagement Commission and City Council allocated funding via Measure Z to address this critical infrastructure gap.



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## DISCUSSION

1. The major applications benefiting from this shared technology infrastructure include:
  - a) EnQuesta Utilities Billing System
  - b) Oracle UWAM Utilities and Citywide Asset Management and Work Order system
  - c) 311 Siebel Customer Relationship Management system
  - d) Posse Citywide and RPU Permitting system
  - e) M5 Fleet Management System



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## DISCUSSION

2. New server architecture bundles servers, storage, and virtual machine technologies into one package.
3. This creates the next generation of data center virtualization, called Hyperconverged Infrastructure.
4. Modernizes outdated servers, storage, and provides the City with Multi-Datacenter Active/Active resiliency.
5. Hyperconverged Infrastructure will provide the City with Cloud-like capabilities.



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## DISCUSSION

6. These Cloud-like capabilities will allow for the consolidation of isolated databases while enhancing security, governance, reduce server quantities, and software licensing costs while accelerating service delivery.
7. This upgrade is imperative to the City's continuity of operations, providing redundancy, efficiency, cybersecurity, and increased processing speed for users.



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## DATA CENTER MODERNIZATION

This upgrade aligns with the City's data center modernization efforts which will provide the following benefits:

- a) Replace central storage with faster and distributed solid state storage
- b) Enable full utilization of the City's failover data center to mitigate the impact of a City Hall Datacenter outage
- c) Replace and consolidate older servers
- d) Lower total cost of ownership
- e) Enable better organizational agility



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## DATA CENTER MODERNIZATION (CONT.)

- f) Enable faster resource provisioning
- g) Improve cybersecurity by accommodating isolated virtual tenants, consolidate isolated department's datacenters, improve efficiency, reduce duplicate hardware, software licenses and streamline infrastructure management across all departments.
- h) Provide a scalable datacenter infrastructure, software, and security to support future City and Public Utilities smart cities technology initiatives.



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## STRATEGIC PLAN ALIGNMENT



### No. 6. Infrastructure, Mobility & Connectivity

**Goal 6.2.** - Maintain, protect, and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

### Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability &amp; Resiliency



Equity



Innovation



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## RECOMMENDATIONS

That the Board of Public Utilities:

1. Approve an expenditure in the amount of \$196,249.59 for the Riverside Public Utilities share of the capital purchase, for the utility's billing system database disaster recovery improvements; and
2. Recommend that the City Council approve the purchase of the equipment and software detailed herein, with a Riverside Public Utilities cost of \$196,249.59 and a total project cost of \$ \$392,499.18.

