



CITY COUNCIL ACTION REPORT

March 30, 2010

TO: John Szerlag, City Manager

FROM: John M. Lamerato, Assistant City Manager/Finance and Administration
Susan A. Leirstein, Purchasing Director
Gertrude Paraskevin, IT Director

SUBJECT: Core Network Upgrade

Background

- City departments are increasingly relying on electronic functions for delivery of service. As such it is imperative that the network and systems are as stable as possible in order to eliminate any downtime and interruption of access to those resources.
- The city's current network infrastructure relies on a single piece of hardware, referred to as the core switch. Although it is backed up by a spare, when it fails the entire network is affected until such time as the spare can be configured and installed in its place. In addition, this hardware has been in place for 6 years and is now essentially obsolete. (Sale of these devices ended in 2006).
- An alternative configuration to one core switch is to build in redundancy throughout the network such that if one piece of equipment fails another continues to function in the same capacity with no loss of network connectivity, or access to systems. The failed switch can be repaired and placed back into service without any effect on the end users. We have identified two areas where redundancy is critical: the main network within city hall, and the core network within the Police Department. Attachment A illustrates the current network configuration and the proposed alternative configuration.
- An additional benefit to implementing the proposed network configuration is that network traffic will be more isolated, thus decreasing the amount of overall network traffic resulting in faster network performance.
- Another area that will help provide more stability is the expanded use of server virtualization technology. Virtualization offers the ability to easily recover systems in the event of a failure, and transfer processing from one virtualized system to another. The city has already established a blade server environment as the basis for virtualization. The purchase of additional network ports within the blade server chassis will allow for redundantly connecting servers within that chassis to the dual core switches proposed for city hall.
- Attachment B outlines the costs associated with the changes suggest above. Network management software has also been included to provide network configuration tools as well as network monitoring and network traffic analysis tools. These will also help to ensure the network is performing at its optimum.

Financial Considerations

- Funds are available in the operating accounts of the Information Technology Fund.

Legal Considerations

- To ensure high availability of systems especially for Public Safety concerns.

Policy Considerations

- Providing more network stability and uninterrupted access to servers will allow departments more efficient use of their time and the ability to expand the electronic access even more. **(Goal II)**
- Enhance the flow of communication internally by providing faster access to information. **(Goal IV)**

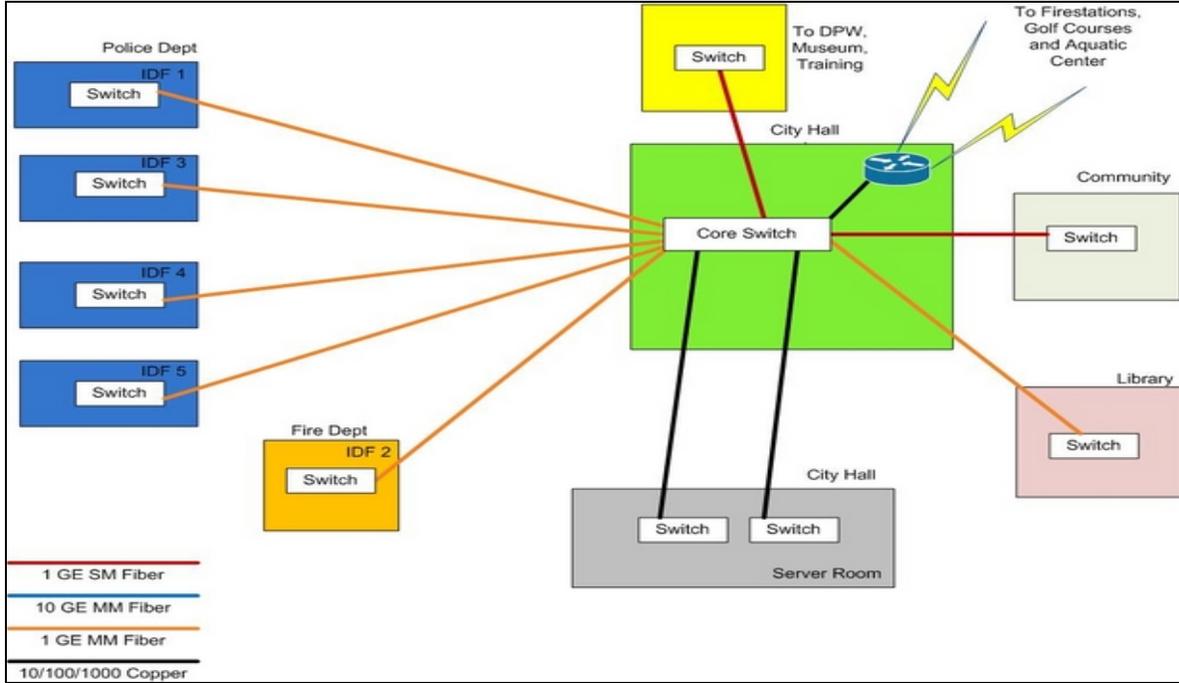
Recommendation

- In an effort to improve the reliability and recoverability of the city network infrastructure City management is requesting authorization to purchase necessary hardware, software and services from Hewlett Packard on the Regional Educational Media Consortium (REMC) contract and CDW-G utilizing the National Intergovernmental Purchasing Alliance (NIPA) contract for an estimated total cost of \$51,300 as outlined in Attachment B, and yearly maintenance of \$3,530 that may change annually based on the CPI. There would be no benefit to the city to formally bid for these products and services.

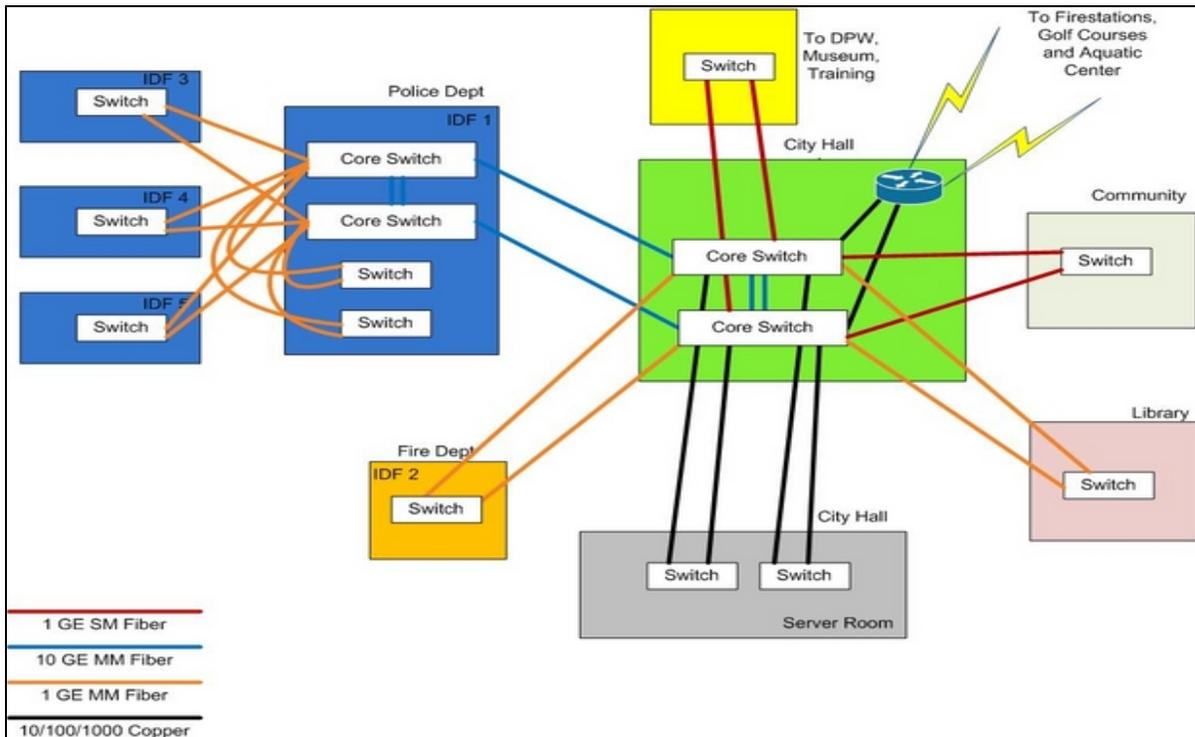
ATTACHMENT A

Configuration Diagrams

Current



Proposed



ATTACHMENT B

Pricing

Network Hardware

Description	Vendor Contract	Cost	Units	Total	Annual Maintenance
Network Core switches	CDW-G NIPA	\$9,000	4	\$36,000	1,960
Server Blade Enclosure switches	HP REMC	1,500	2	3,000	
Network Configuration/Management software	CDW-G NIPA	5,300	1	5,300	1,570
Services	CDW-G NIPA	175	40	7,000	
Total				\$51,300	\$3,530