



Date: April 8, 2014

To: Thomas J. Bonfield, City Manager
Through: Wanda S. Page, Deputy City Manager
From: Kerry L. Goode, CIO/Director of Technology Solutions
Subject: VoIP Telephone System Implementation (Internetwork Services Incorporated d/b/a Internetwork Engineering, IE)

Executive Summary

The City of Durham's hosted Voice over Internet Protocol (VoIP) telephone system was installed in 2009. The City of Durham now desires the provisioning of an in-house Cisco Unified Communications Solution, VoIP telephone system implementation, to service and replace the current hosted IP telephone system to reduce costs and increase functionality. The proposed in-house VoIP telephone system supports 1,622 phones and encompasses the following products: Cisco UC Servers, Voice Gateways, Analog Gateways, and InformaCast Server. InformaCast is a software solution that transforms Cisco phones, overhead speakers, and other devices into a powerful IP paging and emergency notification system which will enhance the City's active shooter notification guidelines.

In order to address the City's demands and telecommunications needs, the Technology Solutions Department issued an RFP for a Cisco Unified Communications Solution system in October 2013; several vendors responded to the RFP. The vendor selected to implement the in-house Cisco Unified Communications Solution for the City of Durham is Internet Engineering.

Recommendation

The administration recommends that the City Council authorize the City Manager to execute a service contract with Internetwork Engineering in the amount of \$951,211 to install an in-house VoIP telephone system and provide on-call engineering support and monitoring services for a five-year period.

Background

The City of Durham currently uses a variety of IPT digital phone equipment to supply voice services throughout the City. The features available with this equipment are limited by its technology. In an effort to replace the current hosted phone system (Bright House Network Business Solutions, formerly FeatureTel) with a new telecommunications system (Cisco Unified Communications Solution), the Technology Solutions Department desires to migrate to a system that will accommodate the continued technological growth of the City of Durham by enhancing infrastructure, configuration, and integration services associated with the VoIP implementation project.

As part of its efforts to pursue voice communication improvement, the Technology Solutions Department evaluated a VoIP solution. After the technology evaluation and Return on Investment (ROI) analysis, it was determined that it is possible for the City to implement a VoIP solution with a positive ROI over five years. An RFP for a VoIP solution was issued in late 2013. Considering the needs for business continuity, the RFP included the following functional objectives:

- Best-practice design and development of an on-premise City of Durham Cisco Unified Communication system to replace all features of the current FeatureTel solution and implement new features.
- Quality and timely project management, engineering, documentation and training services.
- Implementation services for installation, launch and post-implementation support of migration.
- Managed services to support the implemented system with defined SLAs and proactive monitoring capabilities.
- Quality call center migrations retaining all current functionality, ensuring a seamless and successful migration with limited interruption to City services and resident experience.
- Implementation of all current reporting requirements for successful migration.

Additionally, the proposed system will not require the City to replace the current desk phones in accomplishing the above objectives as this would result in increased costs.

The City received two proposals for the RFP, Strategic Connection and Internetwork Engineering. The City's selection committee completed the evaluation, and Internetwork Engineering was chosen as the preferred respondent based on the service evaluation criteria, both financial and service objectives. Internetwork Engineering's system deployment experience, managed services, and overall total cost of ownership proved to be the better of the two proposals.

Issues/Analysis

One of the critical pieces that need to be addressed in a disaster recovery plan is voice communication. In the event of a disaster at the main City of Durham facility, voice communications can be set up to automatically route calls to a predetermined secondary location. The resilient system design allows employees to be able to access phone services to maintain critical City operations without interruption and in a more efficient manner.

The current telephone system does not allow for enterprise paging throughout the system which is critical in an active shooter situation. The proposed in-house telephone solution will provide the transformation of paging and alerting over the current desk phones, overhead speakers, and smartphone devices in case of an emergency or active shooter situation.

In addition to significant savings and added features, the on-premise IP PBX has added value of extra reliability. When using a hosted option, the broadband connection is the only link to the hosting provider, and if the City broadband network goes down, all phones go down as well. The on-premise IP PBX will provide users with a connection through a combination of circuits, so the likelihood of a phone service going down is diminished.

Another advantage of an on-premise IP PBX is that the City retains greater control and can respond immediately to situations. User specific applications can be added to the system when required. Also, when new applications enter the market, an IP PBX hosting company may be reluctant to make the investment required to install it if there are not enough customers interested in it to justify the cost. With an on-premise IP PBX, the City is free to do what business imperatives demand—the ultimate flexibility.

The Emergency Responder assures that the IP PBX will send emergency calls to the appropriate Public Safety Answering Point (PSAP) for the caller's location and that the PSAP can identify the caller's location and return the call if necessary. In addition, the system automatically tracks and

updated equipment moves and changes. Deploying this capability helps ensure more effective compliance with legal or regulatory obligations, reducing the risk of liability related to emergency calls.

Internetwork Engineering has successfully installed several in-house telephone systems and provided administrator training for several companies using the Cisco Unified Communications Manager. Basic administrator training will be provided as part of implementing the proposed solution. This training will be a combination of participation during the installation and one-on-one training provided by Internetwork Engineering engineers.

Functionalities such as call forwarding, voice messaging, etc., will continue as these capabilities currently exist throughout the City. City staff will be able to more effectively communicate by using new and enhanced features such as Jabber for chat and video conferencing. The proposed timeline for complete system implementation of the VoIP system is June 2014.

Alternatives

The City can choose to remain with the current phone system but will not be able to use the more effective telecommunications technologies mentioned above.

Financial Impact

The proposed purchase of the new in-house VoIP system is \$792,569. Additionally, this contract includes first year maintenance costs of \$158,642.

The funds from the departmental communications budgets will be applied to these expenditures on a prorated basis as is done with the current phone system. The proposed solution will be implemented with the level of funds required for the VoIP system and will remain within the City's current annual telecommunications budget. The overall cost per year is a 16% savings compared to our existing phone system cost. After five years, the phone system costs will show over 30% savings after the infrastructure is paid off.

SDBE Summary

The Department of Equal Opportunity/Equity Assurance reviewed the bid submitted by **Internetwork Engineering** and has determined that they are in compliance with the Ordinance to Promote Equal Opportunities in City Contracting.

SDBE Requirements

There were no SDBE firms to provide this service.

Workforce Statistics

The workforce statistics for **Internetwork Engineering** are as follows:

Total Workforce	77	100%
Total Females	17	22%
Total Males	60	78%
Black Males	1	1%
White Males	55	71%
Other Males	4	5%
Black Females	1	1%
White Females	15	21%
Other Females	1	1%

