Agency: Tennessee Housing Development Agency
Entry Name: Network Transition Project

Category: Management Innovation, Technology

Project Description/Management Challenge
The Network Transition Project was the process of moving the THDA computer network from a state-controlled environment to THDA staff management. It became the way of overseeing and managing the entire infrastructure: data and telecommunications, focused on network security, better staff communications, supporting THDA's unique business operations on its timeframe, and establishing long-range "emerging technology" decisions. This Network Transition Project began Feb. 1, 2007.

THDA has had a computer network since 1991. It was connected to the State of Tennessee's network to gain access to the internet, email, and State-required business applications. THDA also used the State telephone network. THDA struggled with that organization in the following ways:

1) Unstable Internet and email access
2) Ports opened on firewall by State, causing security issues to THDA
3) Lack of State Business Continuity Plan (BCP) vs. THDA having one
4) THDA's network being ahead of the State in operating systems and other technology
5) Not allowing THDA to test "emerging technologies" to enhance THDA business operations.

The State announced that it would centralize all network servers in 2006. THDA became alarmed that its business would be affected negatively by losing flexibility to manage its network. THDA was ahead of the State in its network infrastructure and the centralization would have caused serious issues in network access.   In coordination with the State Chief Information Officer and THDA Executive staff, an agreement was reached that would allow THDA to "transition" off the State network and totally oversee its own network. This became the Network Transition Project.

THDA had to work through challenges on this project. They were: first THDA could not hire any new staff, relying on its two System Engineers to do most of the work. Second, the IT staff had to learn new tasks previously done by the State's network staff. Third, IT staff would have to learn and administer a phone system on which it had very little experience. Next, IT customer service and network availability to THDA could not be compromised by the project and finally, annual costs for network infrastructure/telecommunications must be reduced.

THDA developed a very detailed two-phase project plan. Phase One included moving the data network totally under THDA control and to its own contracted internet service provider (ISP).   Phase Two included implementing a new VOIP telephone system for its central and one Section 8 remote offices. The initial task in Phase One included the contracting for consulting services for an IT assessment. IT staff and network strengths/weaknesses were identified. Next, the plan included the procurement phase. Many advanced technology products were purchased including network monitoring software, email migration tools, SPAM and content filtering devices. This phase also included the purchase of the email system (Exchange). Finally, the necessary communication lines were installed and THDA contracted with an ISP.

The installation phase of the project included the installation of the circuitry, routers and firewalls, email server, SPAM and content filter, fax server and software.   Testing of all installation was completed. During the test phase, all THDA staff (200 persons in 10 locations) was trained on the new email system.

Phase One was completed in six months and the data network transitioned to THDA control on July 1, 2007.

Phase Two to add the VOIP system began July 1, 2007. The principal issues were 1) decide which VOIP system to procure and install, 2) train the system engineers on the administration/operations of the system and its interconnectivity to the data network, 3) the cutover from the state system to the new phone system, 3) the notification of THDA customers/partners of the new THDA phone numbers, and 4) train staff on the new phone system. After much discussion with other HFAs that have VOIP Systems and reviewing the State of Tennessee VOIP contracts, THDA decided to implement Cisco IP telephony. This project was completed by January, 2008.

The project goal was to complete this transition using innovative technologies for network management, operations, disaster recovery, and security. THDA goals were to provide THDA with greater control and flexibility of the future of its technology infrastructure, to allow THDA to mandate what technology projects it must initiate to support its unique business strategies, and finally, provide for better communications capabilities throughout the organization.

Accomplishments/Why the Network Transition Project is Meritorious

Innovative
With the transition, THDA is now able to procure and implement technologies sooner (i.e. VOIP, wireless, Active Directory, Windows Server 2008, Blackberries) and at reduced and controlled cost. THDA now has the flexibility to alter its network based on its strategic needs. THDA was able to define its own service level agreement to potential internet service providers that is at the highest level possible in the industry. The project allowed disaster recovery solutions for THDA's BCP. Another innovative element of the project is independence for the choice of technologies, how, when they are tested and implemented. THDA can now procure, place technologies into a test mode, allow user feedback, and place into production on its schedule.

Replication by HFA
THDA's detail project plan and cost benefit analyses are logical and comprehensible. THDA uses standard network products, such as Microsoft®, Cisco, Symantec, Dell, Sophos, and GFI. These products can be used by any HFA to build its network. Since a key function of this project was to support the BCP, THDA can provide documentation on the connectivity, infrastructure, and operations of its disaster site for HFAs to replicate.

Achieve Measurable Improvements in Agency Operations
THDA can now leverage technology to help its employees be more productive and serve more customers. The new VOIP phone system allows better communications within the agency, and provides more resources to implement features such as unified messaging, call center, and call logging. THDA now has a more secure network (as shown through a penetration test) protecting its data and the customers it serves by controlling its own firewall and security policies.

 Specific ways the Network Transition has impacted the business are:
- Allows THDA IT to enhance customer service to THDA staff by reducing the amount of time a help desk ticket takes to be resolved.   In the event of a problem, THDA now has control (i.e.

internet blocked site, security issue, phone problem). IT is able to complete its help desk tickets 40% quicker than before the transition. Since July 1, 2007 there has been no downtime in the email system and only a 30-second downtime in the internet accessibility which is a significant improvement over the State system.

- Staff with blackberries can now receive voice mail left on their desk phones.
- Email system has much improved and expanded calendaring options.

Cost Benefits/Effective Use of Resources

The initial cost of the data network transition was $88K and the cost saving for THDA is $156K over five years. The initial cost of the VOIP phase was $311K and the operational cost over 10 years will be $586K. The total cost will represent a net savings of $660K to THDA for telecommunications.

The transition allows THDA to better utilize its staff to research and incorporate emerging technologies to stay on the forefront of technology. THDA has a BCP in the event of a disaster at its main office or any one of the remote field offices. The agency will be able to move operations to its "hot site" with little to no down time.

Shortly after THDA separated from the State, the State network had an outage for three days and THDA allowed the use of the internet connection to another State Agency so they could complete a very time sensitive task. They sent a thank you to THDA since it had saved them from losing a $650K grant.

Achieve Strategic Objectives

Strategic objectives met included:

- Completed the project on time, within one year from the decision to implementation.
- Met the goal of annual cost reductions in data network infrastructure and telecommunications
- Have a better trained IT staff with higher morale at same level in numbers as when project began
- Completed a successful penetration test showing network with no significant high risks
- Secured a telephone system with additional features
- Secured interconnectivity between Blackberry devices and the VOIP System
- Secured a means of interconnectivity between the central network and the disaster site for BCP
- Developed ability to plan major projects, such as enterprise content management, server virtualization, executive management system
- Secured a Service Level Agreement with the ISP that is the best in the industry
- Secured an email system providing better interconnectivity with the rest of the business products
- Secured own web presence using www.thda.org
- Secured complete autonomy in all decisions affecting the network, such as security policies and the type of traffic allowed to pass in and out of the network