Network Cost of Ownership:

Benefits of Vendor Standardization

Public Sector Case Studies

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Case Studies

To expand on the findings of the enterprise survey, Sage Research conducted 10 in-depth phone interviews with select survey respondents. All 10 interviewees had already qualified for and completed the survey. Sage selected two interviewees from each of five industry verticals:

1) Finance
2) Healthcare
3) Manufacturing
4) Public Sector
5) Retail

Within each of these verticals, Sage recruited one participant that had a "Primary Vendor" network environment and another that had a "Multi-vendor" network. Beyond these specifications, Sage attempted to recruit IT executives from companies that have already deployed several advanced technologies on their core network. The primary objective of these case studies is to demonstrate different companies' experiences deploying advanced technologies onto their core network using different approaches to network evolution.

The city's main criterion for selecting a primary vendor was financial stability. Their biggest fear was standardizing on a vendor that would at some point go out of business and no longer be around to support all of their legacy equipment. The next most important criteria was product functionality. The vendor's product suite had to meet all the city's networking needs at the time and be able to grow to meet their evolving needs in the future. Cost was also a factor, but the IT department was more concerned with having reliable products and a stable vendor supporting these products given the scope of the investment.

Key Findings

By standardizing on a "primary vendor" across its network, the city has realized multiple benefits in the past several years:

(1) Lower maintenance costs: *Moving from a multi-vendor to a primary vendor network has allowed the city's IT department to eliminate two full-time equivalents (FTEs), which translates to a savings of $200,000 per year*. The overall IT staff size fell from eight to six during this process, so the city was able to reduce its IT staff payroll by 25% as a direct result of standardizing on a primary vendor. Maintaining a primary vendor network simply requires less effort than managing and supporting a variety of different brands throughout the network.

(2) Lower training costs: According to the IT Director, it is much easier for them to train their IT staff on a standard suite of products than it was when they had a multi-vendor environment. *The Director estimates that they save as much as $15,000 per year as a result of fewer off-site training courses and less IT staff time spent on training in general.* The city currently employs 5 full-time IT-staffers, which translates to an annual training savings of $3,000 per IT employee.

(3) Less downtime: This was the most important motivating factor reason for switching to a primary vendor network, and it has paid off for the city. According to the IT Director, there has not been *any* unscheduled downtime on their network since they completed the standardization on Cisco gear. Previously, there were frequent downtime incidents when the city had a more heterogeneous network, and they typically took two hours or more to resolve. The standardized network has also minimized the amount of scheduled downtime as well (software upgrades, patches, etc.). *In the past 18 months, the company has only experienced four hours of scheduled downtime, and the majority of this has only affected certain parts of the network*.

(4) Superior vendor support: Now that it is purchasing all of its networking gear from a single vendor, the city benefits from a very high-level of technical and training support from Cisco. The vendor will often invite the city's IT staff to view

demonstrations of emerging technologies at their laboratories, and they get attractive discounts for purchasing these technologies because they are a "preferred customer."

(5) Price discounts on new technologies: Although one of their initial concerns with having a primary vendor was losing the power to bargain on price, the city reports that—*because* of its primary vendor relationship with Cisco—it gets better deals on emerging technologies than it could on the open market. The city is now one of Cisco's preferred government clients, and as such it gets access to the latest technologies coming out of Cisco's research labs and very aggressive deals to motivate them to deploy these technologies in their network.

Adding New Technologies to the Core Network

The city's success rate in adding new technologies to its core network is much higher now that it uses a primary vendor for everything. As the IT Director explains, "We know that our primary vendor has tested this new technology in an environment that is very similar to ours when we buy from them. Consequently, we know that it will work in our particular network. A new vendor may not have tested their product with your primary vendor's core networking equipment."

IP PBX

The company is currently in the process of deploying an IP PBX system in the data center. The first stage of the deployment will comprise 50 users connected to the system (primarily the IT department), which should be complete by the end of 2003.

While still in the early phases of deployment, the IT department is already realizing benefits from using its primary vendor for its IP PBX system. First, the city will not need to replace as much of its existing network equipment and software as it would have had to using a different IP PBX system. Its existing networking gear already has the necessary protocols and QoS necessary to support the new system. For the equipment that does need to be replaced, it will get a very attractive trade-in value because it is part of a new Cisco deployment.

Second, the initial deployment will cost less than it would have with a different vendor. Cisco has dedicated several engineers to the project because of the size of the account. If they had used a different vendor for the IP PBX, they would have had to hire an outside consultant to help them integrate the system into their existing data network.

Third, the ongoing management of the IP PBX will require fewer staff resources (lower cost of ownership) because it is coming from their primary network vendor. The city has already determined that it will not need to hire any additional full-time equivalents or ongoing consulting support to maintain its IP PBX system. *With a system from another vendor, the city would have had to spend at least $15,000 per year on outside consulting*

fees, and in the worst case scenario would have had to hire another full-time equivalent to support the system, which would cost a total of roughly $100,000 per year including benefits.

Conclusion

The bottom line is that the city has reduced its operational expenditures by 25% since standardizing on a primary vendor throughout its core network. The dividends on this decision, now five years old, are now compounding as the organization adds on emerging technologies to its core network. The most immediate case-in-point of this "emerging technology dividend" of a primary vendor strategy is the IP PBX deployment. The next project on the horizon is a comprehensive wireless LAN supplement to the wired network. In both of these cases, the city is able to maintain the same level of internal IT staffing even as the scope, complexity, and requirements of the network multiply. At a time of deep budget cuts in local governments across the nation, the decision to standardize on a primary vendor during the boom of the late nineties is really starting to pay off now.

Public Sector Case Study #2 (Multi-vendor)

Background and Network Approach

The Public Parks department of a municipal government for a Tier 1 U.S. city takes a "best-of-breed" approach to its network, but generally standardizes on a single vendor within each technology area. The department has 1,300 employees, with a $2.2 million annual networking budget that supports nearly 600 network-attached computers, 21 servers, and nearly 800 email accounts. The municipality as a whole (Parks department included) has 13,000 employees and central IT, Networking, and Telecom groups of dedicated staff that support the various departments. The central IT group has a list of pre-approved vendors that it recommends the various departments use. It is ultimately up to each department to decide on vendors for their own networks, but the central IT group can not offer support to these departments if they use other vendors. Consequently, the individual departments generally adhere to the city's approved vendor lists.

Exhibit 2: Public Sector Case Study #2 Snapshot

Industry Vertical	Public Sector
Company Size	Over 13,000 city employees (1,300 in Parks division alone)
Network Strategy	Best-of-breed, but standardizes on a primary vendor within each technology category
Top Benefits	Competitive bidding for each network contract
Current Concerns	Compatibility issues, especially when deploying new technologies on the network • Lost 10 business days during the initial IP PBX deployment due to compatibility issues with existing routers

The city has reached the point now where it typically has one preferred vendor for each product category (routers, switches, firewalls, telephony, etc.), but no over-arching vendor that it uses to standardize its entire network.

Key Findings

By taking a best-of-breed approach to its network evolution, the primary benefit the city realizes is competitive pricing. "We can shop around for each new project and pay vendors off each other," the IT Director explains.

Conversely, the IT staff acknowledges that having a multi-vendor network leads to integration and compatibility issues. There are often compatibility issues between the various network hardware and software elements, according to the IT Director. It takes

staff time to resolve these compatibility issues, and time is one thing their group does not have. There are three full-time IT staff members supporting over 1,300 employees in the parks division alone.

Adding New Technologies to the Core Network

The integration and compatibility issues have grown more complex as the city incorporates new, emerging technologies onto the core network.

Storage Area Networking

For example, when the Parks division implemented storage area networking (SANs), it deployed on SAN switch from Brocade and the other from McData. They tried unsuccessfully to get these switches to work together, but eventually ended up operating them in isolation, creating inefficiencies in the network.

IP PBX

The organization made the decision two years ago to deploy 3Com's NBX Communication Systems IP PBX at all new locations. The 3Com IP PBX worked well with their legacy Ericsson phone systems during the tests, and they felt that this product was the most competitively priced option that gave them all the functionality and features they required.

While the deployment has brought all the usual benefits of IP PBX (lower equipment costs, less cabling, easier moves/adds/changes, etc.), integrating it with their multi-vendor network environment has not been without challenges. When the Parks division installed the first site with the new IP PBX system, the IP addresses assigned to the 3Com IP PBX phone system did not work with the existing Cisco routers. The IT group ended up re-assigning a specific IP range for the IP PBX system, which solved the immediate problem but caused friction with the city's central IT management because they do not like departments to deviate from their assigned IP address ranges. *This episode consumed close to 10 combined working days, which made them miss their deadline for having the system live*. The new site, which was a combined community center, library, and police sub-station, was open for business on the 3rd of the month. The phone system for this new site did not work until the 7th. "They weren't happy about it," the Parks IT Director emphasized.

Conclusion

Although the municipal government continues to use a variety of vendors throughout its network, it has been taking active measures to consolidate each type of technology within the network down to one primary vendor. The amount of staff time and consulting fees it takes to get different products from the same technology to work together has proved burdensome, especially at a time when government budgets are shrinking across the board and the IT staff must make do with fewer resources. In the category of routers, for

instance, the city now uses Cisco at most locations. For wireless LAN and IP PBX, they have standardized on 3Com. This still creates issues for integrating these different technologies into a single, cohesive network, however.

It is most risky when the city adds a new, emerging technology onto the network. The central IT division of the city has a group of four full-time staff dedicated exclusively to testing various systems to make sure they will interoperate with the rest of the network. Once the central IT division has approved a vendor for interoperability with the rest of the network, the individual city departments will typically go through their own series of trials on their separate test networks that attempt to replicate the actual operating environment. “It is difficult to get help when you need it, so we try to make sure before deployment that it really works with what we have,” according to the IT Director. “Although we try to replicate everything on our test network, you always end up missing something.” This duplication of effort and the internal resources required to manage the incorporation of new technologies are leading the city to consolidate their number of vendors whenever possible.