



## GTSI Is the Catalyst for the IRS's Network Modernization Project

**The Internal Revenue Service (IRS) is known to be one of the world's most efficient tax administrators. Headquartered in the greater Washington, DC area, the IRS operates ten service centers and three computer centers throughout the U.S. Over a period of years, the agency adopted a more customer-focused approach toward citizens and devoted a significant number of resources to speed up tax return processing and provide more accurate information that helped tax payers understand and meet their tax responsibilities.**

The IRS had numerous non-standard OEM remote management networking switches installed at its sites throughout the United States that were obsolete, out of warranty, and incapable of being centrally and securely managed. In addition, the agency network was plagued by outages, and the switches were not IPv6 compliant. This unstable redundant network connecting multiple locations severely compromised the IRS's ability to efficiently and accurately process taxes. To achieve its long-term goal of operating with the same high-level efficiency and confidentiality as banks and credit card companies, the IRS needed to modernize and enhance its network to add advanced functionality and security and bring network downtime to an acceptable level. Consequently, the agency was looking to incrementally replace the outdated network hardware and take advantage of new technology at a low cost.

The IRS wanted to avoid many of the difficulties that had overwhelmed its previous modernization project in the 1990s, which had been a costly endeavor and failed to correct many of the existing problems. This would

require a standardized, logistical approach and working with a single vendor that employed meticulous planning, had clear deliverables, and was accountable for meeting the IRS's performance specifications and business objectives.

GTSI was awarded a task order to develop and fine tune the network design of a new infrastructure that included 1,839 Cisco switches for 390 IRS sites by January 31, 2006.

GTSI presented the IRS with a proposal to standardize all 390 sites on the same Cisco Catalyst switch platform by replacing legacy, end-of-life Cisco switches and routers with Cisco 3750 and Cisco 6500 models and improving connectivity in the three computer centers with minimal disruption to service. The IRS accepted GTSI's three-phased approach that included design review and site planning, equipment configuration and testing, and onsite installation and testing.

Because GTSI was one of the prime contractors on the IRS Treasury Commercial Vehicle (TCV) blanket purchase agreements, the agency

was able to purchase components for the GTSI-implemented system at precompeted prices and terms. The TCV is a series of eight acquisition vehicles valued at \$100 million that enable the Department of Treasury and the IRS to acquire commercial off-the-shelf products from a wide range of manufacturers under a flexible, single source.

### **A network upgrade that stands the test of time**

GTSI assembled a team of highly skilled Cisco-certified engineers who assessed the computer centers' current network and operating environments and identified equipment that needed to be replaced. A key piece of GTSI's assessment was conducting an inventory of the agency's assets and creating a bill of materials for new Cisco routers and switches that would replace the old equipment. GTSI then developed and fine-tuned a network design and created a tactical plan that established project milestones and schedules for the installation, configuration, acceptance testing, and turnover of the new Cisco switches and routers.

On October 15, 2005, GTSI began the implementation phase of the project. GTSI's Integration Center, located in Chantilly, VA, offered high-quality integration as well as ship-and-hold services, which enabled system components with disparate configurations to be integrated and delivered to each site by the January 31 deadline.

When the equipment arrived at the IRS's staging area, GTSI confirmed that all units functioned properly by conducting a series of ping tests and then configured the switches and routers for redundancy, NTP settings, interior gateway routing protocols, and security. GTSI configured the Cisco switches to add an additional layer of performance monitoring. After the GTSI engineers validated that all equipment operated according to the agency's specifications, the team installed the switches and routers in GFE racks and connected them to the network with GFE risers, patch panels, and patch cords. Before turning over the network to the IRS, GTSI certified the network's performance by turning up the equipment and performing another round of tests.

Throughout all stages of the entire project, GTSI ensured that the operational tasks and full service acceptance testing at each site

were completed efficiently and on time, and it informed the IRS of issues, problems, and progress through weekly status and jeopardy reports and teleconferences.

What normally would have been a one-year project took GTSI three months to complete. When the project was turned over to the IRS, GTSI provided the agency with high-quality, as-built documentation for all sites and devices.

In 2006, after the successful implementation of the network modernization project, the IRS asked GTSI to replace 89 legacy switches with Cisco 6500s in existing chassis and upgrade 69 switches to Cisco 6500s with completely new chassis. GTSI, again, successfully completed another phase of the network modernization project.

In 2007, GTSI began the planning phase for modernizing IRS's Treasury Net (TNet) WAN that involved replacing more than 600 Cisco routers and 1000-plus Cisco switches with newer models of Cisco integrated service routers and catalyst switches. The new equipment will be sent to the GTSI Integration Center, where all models will receive asset tags, image loads, software updates, burn-ins, and testing and will then be delivered to more than 300 sites.

## **A switch to a standardized platform yields results**

The IRS's network modernization project improved network capacity, resilience, security, and application awareness and enabled the agency to achieve its goal of reduced unscheduled downtime. With increased external and on-campus bandwidth, the network supports IPv6 and provides a platform for enhanced services such as VoIP and IPTV. Network security significantly improved, and the IRS was securely able to manage network infrastructure remotely. This, in turn, enabled the IRS to cost effectively manage its network infrastructure and process tax returns with speed and accuracy. Additionally, GTSI facilitated a \$1.1 million trade-in credit for the obsolete equipment.

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