State of North Carolina

Mitigating Cybersecurity Risk through Desktop Remediation

Cybersecurity

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Executive Summary:

In 2013, the State had more than 40,000 computer devices spread across 13 agencies running on Windows XP, an operating system so outdated that Microsoft planned to stop supporting it in 2014. In order to mitigate the risk, we purchased the extended support agreement that gave us support and security patches through April 14th, 2015. Many years of underinvestment in client computing technologies resulted in an environment plagued with significant and widespread security, obsolescence, usability, and supportability issues. This not only included the continued operation of conventional desktop and laptop devices, but also emerging, high-value technologies such as mobile computing and virtualized desktops. Moreover, the state had failed to properly invest in application delivery and data security technologies which resulted in higher ROI than traditional operations that focus on device management.

In addition to the risk associated with the outdated unsupported software, the state would be out of compliance with federal regulations pertaining to sensitive data sets such as those related to tax records or data covered under HIPPA. This project insured that the state remained compliant and that these data sets were secure.

We had a number of devices where application remediation dependency was a factor. In cases where applications would not run on Windows 7, and they required Windows XP, the agencies are working on upgrading the applications. For example, the Department of Transportation (NCDOT) has a modernization initiative that will replace the PC's associated with the camera software that this is impacting. Others have less specific plans. For instance, the Office of Information Technology Services (OITS) and Department of Administration (DOA) have software that manages HVAC systems.

As part of this project all agencies were asked to submit security deviations for their situations so they can be tracked and monitored by the OITS Statewide IT Division. This process includes a plan for remediation as well.

Business Problem and Solution Description:

The problem was immanent at the start of 2013, when the State Chief Information Officer inherited a deeply rooted problem of expiring desktop hardware across all State agencies. Not only was the technology unsupported, but the technology posed an extreme security risk. Microsoft ended its support for Windows XP on April 8, 2014. North Carolina's solution was to overhaul and replace all desktops within state agencies or upgrade the operating system to Windows 7, if the existing hardware would support it.

Existing staff resources were used in addition to 40 contract employees to complete the necessary steps to bring this project to conclusion. Initial key deliverables were conducted during FY 13/14 and included customer segmentation analysis, Phase I equipment deployment, tactical plan upgrades, system upgrades to existing hardware and the development of statewide desktop service strategy. FY 14/15 completed the project with total operating system and device upgrades and the implementation of a proposed desktop services plan.

Significance

Prior to the initiation of this project some agencies began the process to upgrade these outdated systems independently, but by making this a statewide project and initiative we ensured that every agency was working towards remediation with a common timeline.

Under the supervision of the State Chief Information Officer, this project selected a sponsor and hired a project manager. The project sponsor provided frequent updates on the status of the project to the Statewide IT division on a weekly basis, as well as monthly updates to all agency CIOs. In addition to stakeholder buy-in at the top level, agency IT staff were early advocates for a current and updated statewide operating system. With the completion of this project the state has a standard and efficient support process for state-owned devices and operating systems allowing for the ability of IT specialist to provide cross-agency support.

Benefit of the Project

Personal computers running the Windows XP Operating System have been upgraded to a supported hardware and operating system with almost 100% completion. Known risks such as security vulnerabilities have been, mitigated.

The original budgeted overall cost for this project was $17,600,000, including internal and external labor, hardware purchases, software updates, and the extension of a CSA with Microsoft, with the actual cost coming significantly under budget at $9 million.