

FCC Migrates to Microsoft® Exchange

99.99% Availability and a Single, Unified Platform for the FCC Keeps Users Collaborating and Reduces Total Cost of Ownership for the System

By transitioning to the Microsoft messaging platform, the Federal Communications Commission (FCC) now has an architecture to meet the requirements set by its Chairman: high speed and wireless remote access, improved security, 99.99% availability, and future scalability. Avanade's commitment to knowledge transfer ensured that the organization has the framework and skills in-house to support and manage the new infrastructure.



▲ **COMPANY DESCRIPTION:** This independent government agency is directly responsible to Congress for regulating interstate and international communications by radio, television, wire, satellite, and cable.

▶ SNAPSHOT

Industry	Government	Size	2,500 employees in 3 central offices and 24 field offices across the country	Avanade Assets	Avanade Connected Methods
Geography	USA	Previous Platform	Novell® GroupWise Novell® Netware	Team	Avanade Project total 11 Exchange 2
Technology	Microsoft® Exchange 2000; Microsoft® Windows 2000; Microsoft® Active Directory, Windows 2000 Security, VPN Services, Terminal Services, System Management Server				FCC Project total 100 Exchange 10

Situation

Inability to meet demands for high speed remote access, high availability, and scalability on a secure environment prompts government agency to upgrade existing architecture

When the new Chairman of the FCC articulated his vision for the organization, he set out to establish a new standard within the government for the use of IT, in particular for office automation. The organization's IT group undertook market research and feasibility studies to determine the most suitable technology to replace the agency's aging enterprise infrastructure and support the FCC's current and future needs. Bill Lay, former deputy CIO for the agency, explains the findings, "To achieve a leadership position in IT, operate with a tightly integrated system, and gain the ability to adopt new technology as soon as it became available, we found that we would need to move to a Microsoft platform." The existing architecture, built on Novell Netware and GroupWise technology, would not meet the new requirements the Chairman set for the messaging system: high speed and wireless remote access, improved security, 99.99% availability, and future scalability.

Adding to the complexity of the project, the Auctions Group of the agency needed a separate infrastructure to fulfill a regulatory requirement. Although the group would have a domain separate from the rest of the organization, it wanted to share the agency's Internet namespace. The result would be an internally distinct domain invisible to the outside world. Additionally, during the migration period, the existing GroupWise messaging infrastructure would need to coexist with the new Exchange infrastructure, with all three domains acting as one namespace. The solution would also have to integrate with some of the agency's existing assets, such as its storage area network (SAN).

In migrating to a Microsoft environment, the agency's IT staff of Novell engineers would need to evolve into Microsoft experts. The organization wanted a vendor who could provide the technical expertise to design and build the system and who could provide the knowledge exchange and process framework needed to enable the FCC's staff to support the new system and deliver on current and future projects.

Following government procurement procedures, the agency sent the work out for bid. The project included the design and delivery of an infrastructure built on Microsoft Windows 2000 and Microsoft Exchange 2000 with Active Directory that would integrate mobile devices, take advantage of advanced directory services, respond to the growing sophistication of the agency's users, expand telecom opportunities, and provide better security.

Solution

Working in collaboration with the customer, Avanade delivers an upgraded infrastructure for 2,500 users that supports enhanced security as well as high speed and wireless remote access

After considering several other vendors, the agency chose Avanade. "From the beginning, Avanade was someone we wanted to talk with," states Lay. "Through the bidding process we saw just how few other companies had managed all facets of such a complex project. We were very impressed with the depth of experience among every member of Avanade's large team." During the oral presentation, Avanade's deep technical expertise and enthusiasm for knowledge sharing gave the agency a level of confidence and comfort around the project that it did not experience with the other vendors. The added power of Avanade's relationship with Microsoft and Accenture® and the willingness to work with the agency's existing assets, such as its XIOtech SAN, were also deciding factors.



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Avanade worked collaboratively with the agency's employees to design a Microsoft Windows 2000, Active Directory, Exchange 2000, and Microsoft System Management Server 2.0 infrastructure. This included the plan for migrating the agency's 2,500 users to the new environment for all services, including authentication, DNS, DHCP, WINS, IAS, RRAS, Terminal Services, VPN, file and print services, as well as messaging. "To get to 99.99 percent reliability, every computer in the system needed to be upgraded in parallel within just 18 months. Avanade did a great job helping to map out the critical paths," states Lay.

The desktops and users were migrated from a Novell Netware network operating system to the new Microsoft Windows 2000 infrastructure. Avanade helped the agency to develop a comprehensive operations model for its new Microsoft environment, including a System Management Server (SMS) deployment to manage servers and desktops post-migration. "We set a goal to ensure that our customers — that is, the system users — would not be down for more than 24 total, not business, hours through the migration. The Avanade team worked with our experienced Novell staff to pull together a migration engine that allowed us to migrate 20 to 25 people a day and meet our downtime goal," Lay explains.

To ensure the security of the system while giving users high speed remote access, Avanade helped with the integration of SecurID with Microsoft Outlook Web Access and Microsoft VPN and Remote Access services, which FCC staff then configured. Avanade also implemented a fault tolerant solution that provided remote access to e-mail from the agency's existing BlackBerry® devices using the BlackBerry Enterprise Server (BES) product.

To meet the needs of the agency's Auctions Group, Avanade created two Exchange infrastructures that coexist with dual forests and implemented a solution for redirecting inbound mail to the appropriate server. This allowed the Auctions Group to have a distinct domain but share the external Internet namespace with the rest of the agency. Avanade also established coexistence at the messaging and calendaring level between the Exchange infrastructure and the existing Novell GroupWise infrastructure. All three infrastructures act as one namespace.

The agency requested sophisticated procedures and capabilities for storage, including tape backup, SAN startup, and disk storage for employees. Lay explains, "We wanted something that I doubt anyone had ever done before. The Avanade team got quite excited about finding a solution and reached out to other teams around the world to combine knowledge and craft a solution that fit our vision. It was an incredibly collaborative process that pulled from Avanade resources far beyond our own project."

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Avanade Value

Strong team collaboration and knowledge exchange with the customer's IT staff fosters an upbeat attitude that contributes to successful project delivery

With little or no in-house experience with a Microsoft environment, the agency needed to quickly develop a framework for managing the infrastructure. By integrating the customer's internal IT team into the project from the very beginning, Avanade helped them to take ownership of the solution as they learned about its capabilities. As Joseph Guisto, Avanade's Technical Lead explains, "We deeply involved the customer's IT team in the envisioning, design and testing — all aspects of the project that would build the knowledge and experience they would need to run and maintain the new system. All the work that would be performed one-time only — knowledge and experience that the customer's team would not need post-implementation — we did ourselves." To ensure that the agency had ongoing support after the implementation, Avanade recommended Microsoft's Premier Support Services (PSS).

Avanade's willingness to share knowledge extended beyond customer's IT staff to its subcontractors who helped with the migration. Avanade's enthusiasm for effectively employing technology fostered a spirit of teamwork among the eleven Avanade engineers, the agency's 100 IT staff, and various subcontractors. Lay explains, "On everything Avanade did, they created a real team environment. This project involved 13 different companies, with Avanade as the lead. With their professionalism and leadership, the Avanade folks created a highly collaborative environment that fostered true teamwork."

From a funding perspective, Avanade also helped the FCC work within its budget restrictions. As Lay explains, "Not counting the SAN, this was a \$5 million project. We didn't have the discretionary funding needed for such a large project. Avanade helped us to structure the project over three fiscal years for a smooth budget with no peaks and valleys. Mid-project, we decided to add Microsoft Terminal Services, and Avanade did a great job working this into the schedule and the budget without any wrinkles."

Results

From outdated to state-of-the-art, this government agency now experiences 99.99% availability and high-speed accessibility from their messaging system

The project delivered on all of the Chairman's requirements. Users have several options for secure remote access to e-mail, the agency's Auctions Group has its own domain but with a shared namespace, and the messaging system now runs with 99.99% availability. Lay elaborates, "We asked Avanade to help us design a system for four nines and the system is providing that. As the FCC, people turn to us to voice concerns over what they see on TV or hear on the radio. We need a system that can support 100,000 emails an hour without a denial of service response. Avanade showed us that reliability, savings, and manageability aren't mutually exclusive. They helped us to design a system that is also affordable, supportable, and maintainable. We would not have been able to do this without Avanade." The system easily passed the agency's third-party security audit. Moving to a single, unified platform also helped to reduce the agency's total cost of ownership for the system.

Lay also explains the importance of scalability. "Our organization probably

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Ron Stone, Chief Information Officer, FCC



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won't grow significantly, but our computer users will continue to become more sophisticated and demand more from the system. We're also apt to have frequent reorganizations, and now there's room in the system to accommodate this without wrecking the architecture."

The chief information officer for the agency, summarizes the project outcome most succinctly, "Because of the considerable work accomplished by the Avanade team, we are now in possession of a state-of-the-art computer network architecture that will serve the agency's needs for many years to come."

About Avanade

Avanade is the leading technology integrator specializing in the Microsoft enterprise platform. Our people help customers around the world maximize their IT investment and create comprehensive solutions that drive business results. For more information about our services, please visit www.avanade.com.



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