

# ADVANCED NETWORK SYSTEMS

## A Case Study in Disaster Recovery & Security

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### The Bank of Fincastle: Protecting Business Assets and Customers Using Business Continuity, Disaster Recovery and Enhanced Security

It only takes one look to see that The Bank of Fincastle is deeply committed to reliability, community and customer service. Founded in 1875, the Bank has been serving a growing customer base for over 135 years. With seven branch locations in Botetourt and Bedford Counties, and a complete portfolio of full-service banking offerings, The Bank of Fincastle has consistently maintained a position as a strong community bank.



#### Business Requirements

At the end of 2010, the Bank's executive steering committee set two major objectives for improving and protecting their IT operations. The first was to upgrade and enhance their business continuity and disaster recovery program, and the second was to improve the security of the network.

According to Michael Jasper, CFO of The Bank of Fincastle, "In terms of business continuity, we needed a solution that would address various levels of system failures, from a single device failure to a complete loss of our main network operations center. Our initial goal as a business was to be able to bring an individual server back up within a few hours and, under a worst-case catastrophic scenario, to bring all IT capabilities

back on-line within 24 hours. What we ultimately installed is a much faster solution for both. For us, the big issue in achieving that goal was that we had to have a solution that would enable us to be more self-sufficient in our recovery process and have a greater degree of control over the outcome." He noted, "Prior to the implementation of our new data recovery system, we were doing tape backups, which had to be physically transferred and secured at an offsite location. We realized that this wasn't the most efficient or reliable way we could be handling this process and decided to eliminate the risks that went along with using a tape based solution."

Jasper added, "In terms of our security upgrade, we wanted a comprehensive solution that would provide us with the best possible security stance. It had to have a full set of features and functionality to protect us on all critical levels. It needed to ensure we would meet and exceed the requirements established for audit compliance, and finally, it had to be a good investment in terms of handling our security needs in the future."

#### The Backup and Recovery Solution

Reaching the optimal solution for The Bank of Fincastle began with in-depth consultations conducted by Advanced Network Systems with the Bank's IT staff and executive management. Based on the information gathered by Advanced Network Systems in these discussions, a comprehensive needs analysis and a technology strategy plan were developed. Upon approval by The Bank of Fincastle's Board of Directors,

#### PROJECT SUMMARY

- **Support for IT Regulatory Compliance.**
- **Disaster Recovery** – Consultation, planning, design, implementation, testing, troubleshooting and ongoing support services, including:
  - **Virtualized Server Environment** – reduced from nine physical servers to two virtual servers
  - **Automated Data Backup and Recovery** – mirrored off-site backup, verification and recovery application for virtual machines.
  - **Storage Area Network (SAN)** – for maximum disk utilization and flexibility.
  - **Wide Area Network Upgrade** – Bandwidth upgrade with built-in network service redundancy
  - **E-mail Archiving** – A centralized storage, search and retrieval system enabling de-duplication of e-mail and attachments.
- **Network Security** – Consultation, planning, design, implementation, configuration, testing and ongoing support services, including:
  - **Intrusion Prevention System**
  - **Firewall Upgrade**
  - **Data Loss Protection**

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*Michael Jasper, CFO,  
The Bank of Fincastle*



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implementation of the technology plan began.

The business continuity portion of the project began with the design and installation of a new, virtualized server environment in the Daleville operations center, and in a remote backup facility at their Bedford branch location. As a result of this process, the Bank consolidated the number of servers in their infrastructure from nine down to two. To most efficiently handle the Bank's growing data storage requirements, a Storage Area Network (SAN) solution was implemented to offer improved disk utilization and centralized storage management. The critical data backup functionality, along with

backup verification and recovery capabilities, was achieved via an application designed for virtual machine environments. The end result was a solution capable of bringing a single failed server back up within minutes and all their critical network systems and operations back up within hours.

To facilitate higher-speed transport of data between the two designated backup and recovery locations, and to provide the Bank with redundant routing capability, Advanced Network Systems recommended and oversaw the upgrade of the Bank's wide area network. The Company assisted the Bank in planning and implementing its transition from a traditional point-to-point network between locations to a MPLS network connection that offers significantly enhanced performance and reliability. This includes a 50 Megabit connection between the Bank's headquarters and their disaster recovery site. An added bonus that came along with the improved network speed is that employees can now process transactions more quickly, which improves productivity and response time to customers. A final element in the backup solution for the Bank was the implementation of an e-mail archiving solution that offers automated, centralized backup and de-duplication, along with search and recovery tools that provide the ability to comply with state and federal regulations governing e-mail retention.

The Bank of Fincastle's IT Manager, Robert Chapman, commented, "A virtualized server environment, paired with a data replication and recovery solution designed for virtual machines, has taken our disaster recovery capabilities to a whole new level. The automated mirroring feature in our backup solution has helped us leverage the capabilities of our virtualized environment. Plus we have much more flexibility now. If a virtual server goes down, we can immediately fail over to a complete, ready-to-start replica; there's no rebuilding of machines. We can capture changes and update virtual machine images as often as every few minutes, if needed; plus we can recover an individual file from the same backup we would use to restore an entire machine." He added, "The technology has eliminated the administrative burden on our staff for ensuring backups, and we have a much higher level of confidence in our data integrity, should we need to do a restore. We don't worry about managing the process, we don't need to monitor and verify the completion of backup jobs, and we can verify the recoverability of every backup we do."

Michael Jasper also noted, "Advanced Network Systems worked hand-in-hand with us from start to finish on this initiative. Along with the technology, they also helped us design a formal recovery and restoration process, including all required procedures, for the newly installed systems. After that, they fully tested the solution and troubleshooted issues to ensure everything worked the way it was supposed to. They also continue to support us with the ongoing maintenance of the system."



## The Security Solution

In the banking industry, mitigating the risks of both external and internal IT security threats is a requirement for achieving regulatory compliance. But for The Bank of Fincastle, a community bank that competes with larger commercial entities, the issue of security goes far beyond regulation, to include consumer trust, business image and competitive positioning. Advanced Network Systems' security upgrade solution was based upon The

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Bank of Fincastle's objective to employ the newest technologies available to enhance its security position and, in turn, continue to maintain its long-standing reputation of trustworthiness and reliability.

Advanced Network Systems' security upgrade solution for The Bank of Fincastle included the upgrade of its firewall system, as well as the addition of a state-of-the-art Intrusion Prevention System. This multi-layer defense strategy allows the Bank to monitor all network traffic, as well as actively detect and block malicious traffic, thereby offering maximum protection against external as well as internal network attacks.

According to Robert Chapman, "Our security upgrade, including the intrusion prevention capabilities, gives us important, additional layers of network protection. We now have better tools for monitoring and enforcing our security policies, as well as the ability to stop attempted attacks on our network resources as they occur." He added, "Information security is a

complex and constantly evolving challenge, so we always want to be using the best tools possible to protect the integrity and availability of our customers' information and systems."

## Why Advanced Network Systems?

Michael Jasper commented, "The relationship we have with Advanced Network Systems has been a long-term partnership in every sense of the word. Our ability to successfully meet our IT goals has been a direct result of their expert advice and involvement in these projects. In order to allow a service provider access to your network, there has to be the highest levels of trust and confidence, and that's what we have with them. Advanced Network Systems spends the required time, on whatever level is necessary, to understand what we want to accomplish. They turn what they hear into a plan and present us with all the best options available, based on how we operate, our budget and time considerations. Advanced Network Systems has always helped us make the best choices and then put those choices to work with minimal disruption to our business. They're not reluctant to train us on the technologies so we can be more self-sufficient. From an IT compliance standpoint, the different technologies and procedures we implemented in security and recovery helped our next audit go very smoothly."

Jasper added, "From my perspective, we could have chosen anyone to install a server or firewall in our network. What makes Advanced Network Systems such an invaluable business partner is their commitment to helping us—from beginning to end—take full advantage of any technology we adopt. That's a unique quality of how they do business, and we reap the returns on our IT investments with them every day."

## Plans for the Future

The Bank of Fincastle's plans for the future includes maintaining its commitment to community and full-service, relationship banking. Michael Jasper noted that, "The recent deployment of these network technologies will make The Bank of Fincastle's operational growth and future expansion easier. "We now have systems in place that give us room to grow, can be more easily managed, and have dramatically increased the speed and reliability with which we can do business. I believe we're better positioned to take advantage of all the opportunities and challenges the future has to offer."



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