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– John Michaels, CTO, Maxim Group

## Maxim Group, LLC

*Financial institution leverages FalconStor CDP and virtualization technology to optimize storage utilization, achieve compliance, and ensure continuous data availability.*

### Background

Since 2002, Maxim Group has been a leader in the mid-tier investment banking, securities, and management industry, providing financial services to a diverse range of customers. Its offerings include investment banking, equity research, and private wealth management. Because financial data is the lifeblood of its business, it is imperative that its storage architecture evolves to accommodate growth, while enabling the company to maintain compliance and retain its competitive edge.

### Challenge

As a financial institution, Maxim must comply with stringent government regulations regarding data retention. These rules require that certain information be stored on indelible, non-rewritable media at an offsite location, and remain retrievable for at least three years. As the company expanded to five separate offices and over 400 employees, it became increasingly challenging to store data and ensure its integrity and availability with a limited IT budget and a four-person IT staff.

"We were using servers with direct attached storage (DAS) for daily disk to disk backup, and the data volume was overwhelming," says John Michaels, Maxim Group Chief Technology Officer. "We needed to better manage the offsite replication of all corporate data." Bandwidth had become inadequate for the volume being sent across the WAN from remote offices, so backup windows were shrinking and the risk of unprotected data became increasingly real. Losing certain critical data, such as financial databases or email information, could prove to be a "devastating blow".

### FalconStor Solution

Michaels worked with leading resellers Chi Corporation, who recommended the FalconStor® Continuous Data Protector (CDP) solution. One of the biggest distinguishing selling points was its TOTALLY Open™ architecture, which allowed it to integrate easily into Maxim's storage infrastructure without additional modifications or purchases. "By enabling us to virtualize existing data sets and create a centralized storage array for our growing server load, FalconStor CDP allowed us to preserve our DAS configuration while providing data security and protection," says Michaels.



### Industry

Finance

### Company Profile

Maxim Group, LLC is a full-service financial institution established in 2002. It currently has more than \$10 billion dollars under management, and revenues exceed \$150 million. The company's ability to add value and create opportunity for its clients is based on its commitment to understanding investors' goals and challenges.

### IT Environment

- > 20 servers including Microsoft Exchange, Microsoft SQL Server, Citrix, WebSense, Blackberry Enterprise, DNS, Linux, print server
- > Windows 2003 operating system
- > VMware Workstation

### IT Challenges

- > Managing data growth with limited IT budget and staff (only 4 people on IT team)
- > Compliance including SEC-regulated RPO and RTO requirements
- > Inadequate bandwidth for offsite replication
- > Shrinking backup windows

### Solution

- > FalconStor® Continuous Data Protector (CDP)
  - MicroScan™ technology
  - DiskSafe™ technology
  - FileSafe™ technology
  - Snapshot Agents

### Benefits

- > Ability to recover data in minutes
- > 20 servers protected simultaneously via virtualization
- > Saves thousands of dollars in hardware costs
- > Minimizes bandwidth needs and costs through 80% reduction in data volume
- > RPO and RTO exceeded; compliance achieved
- > Increased intelligence of DAS architecture

FalconStor CDP technology protects data between regularly scheduled backups, which allows Maxim to meet its recovery point objectives (RPO) and recovery time objectives (RTO). As part of the FalconStor CDP solution, Maxim leverages FalconStor MicroScan™, DiskSafe™, and FileSafe™ technology, along with application-aware Snapshot Agents for Microsoft Exchange and SQL Server. These features work together to enable continuous updates of local and remote active data sets, mirrored in real-time to other appliances with optimal network efficiency.

### Deployment Details

Prior to implementing the FalconStor CDP solution, Maxim backed up data in a “round robin” fashion, replicating from one server to another, to another, and so on. FalconStor CDP now continuously monitors each server and replicates or mirrors block- and file-level delta changes to a local appliance. FalconStor MicroScan technology provides built-in deduplication and compression to reduce data loads. Because only changes to data are saved, bandwidth is minimized.

With the FalconStor CDP solution implemented in a branch office, Maxim can replicate data volumes offsite, including those under SEC regulation. These capabilities are extended by the integrated, application-aware Snapshot Agents. “If an outage should occur, I can easily mount a previous snapshot for instant recovery,” says Michaels.

In addition, Maxim has adopted virtualization technology, virtualizing 19 of its servers. By importing live servers directly into VMware Workstation, Maxim can protect both the hosts and guests within each host. This enables them to expand their storage environment to protect a total of 20 virtual servers leveraging FalconStor CDP and DiskSafe technology without additional hardware expenditures or power consumption. “It may not be the ‘textbook’ way,” says Michaels, “but it allows us to best leverage under-utilized resources without adding extra cost.”

If data loss occurs, Michaels can mount a FalconStor TimeMark® snapshot and open it within the VMware Workstation. (VMDK files run directly from a FalconStor CDP engine server instead of copying to a local server.) If necessary, Michaels or his team members can transport an entire database from one location to another just by mounting a snapshot. “I don’t have to get in my car and drive to our NYC location anymore,” he says. “We can access and recover data from anywhere without requiring a technician physically on-hand. Thanks to virtualization and FalconStor CDP, I can now take vacations without worry.”

Michaels adds that this principle also holds true for testing, scheduled maintenance, and upgrades. “All we have to do is shut down one server and work off the others.”

“I’m trying to make it as easy as possible for myself and my team,” Michaels explains. “Armed with the tools for the near-instant recovery of physical and virtual servers – in essence, entire systems – we are moving forward with every possible defense against disasters and downtime.”

### Business Benefits

Having continuous protection from a single, centralized point of control has given Maxim numerous advantages. Increased operational efficiencies have enabled the small IT team to focus on improvements in other areas, and cost savings have strengthened the company’s bottom line in an often-uncertain marketplace. These savings are a result of reduced data volumes, minimized bandwidth requirements, and the ability to leverage the team’s operating knowledge and storage infrastructure without requiring complex new technologies or processes.

Michaels and his team can easily offload data into DR centers, making compliance an easy, achievable goal. In addition, Maxim is able to optimize compliance and efficiency in a highly “green” manner. Virtualization with FalconStor CDP allows Maxim to consolidate storage, minimize space and power requirements, and even shut down older servers. “What’s more, we don’t need to buy new servers,” Michaels states. “We just bring up a new virtual instance. This saves us thousands of dollars in the long run.”

Virtualized servers can recover data directly from point-in-time snapshots on an appliance. “This ‘one-two punch’ has reduced the data traveling across the WAN by a staggering 80%,” says Michaels.

“With FalconStor CDP, we’ve not only eliminated the vulnerabilities of unprotected data; we’ve created a seamless growth path for new advancements moving forward,” Michaels says. In fact, he feels that the sense of urgency has been minimized; what once may have seemed like a disaster is now a mere inconvenience. He recalls that he and his team have managed to recover from data loss due to recent blackouts, an air conditioner failure, and even a massive pipe burst – all in minimal time. “Now, because everything is automated and runs so smoothly, we don’t fret if something goes down. We just bring it back up.”

Because of the ability to recover key applications and data, often within minutes, Maxim’s employees and customers benefit from the highest possible levels of continuous data availability and services. Michaels surmises, “I never thought I’d be able to say this, but I’m 100% confident that our data is fully protected.”

For more information, visit [www.falconstor.com](http://www.falconstor.com) or contact your local FalconStor representative.

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