

Ariel builds strong, new municipal storage network on HP StorageWorks All-in-One Storage System



“With the HP AiO system we found everything we were looking for in a storage solution – ease-of-use, data mirroring, scalability and reliability – at a price that fit our budget.”

– Michael Altynikov, Chief Information Officer, City of Ariel

Industry: Government

HP customer case study: HP StorageWorks All-in-One Storage Systems, Microsoft Windows Storage Server

Objective:

Provide highly available, easily-managed shared storage for critical municipal applications

Approach:

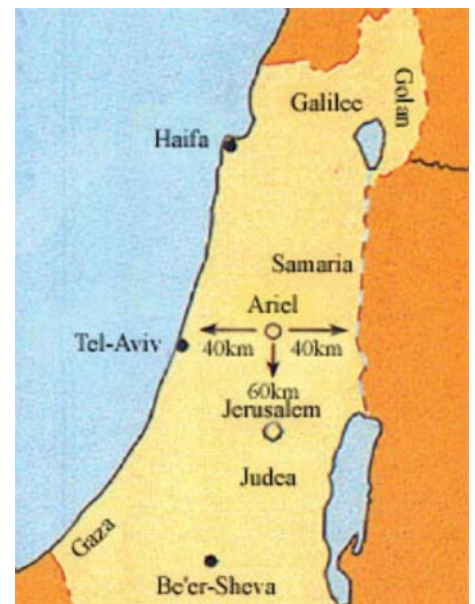
Use HP StorageWorks All-in-One Storage Systems and Microsoft Windows Storage Server to build disaster-resilient, easy-to-manage consolidated storage environment

Business technology improvements:

- Improves disaster recovery and resilience through mirrored sites
- Reduces storage management time by about 30 percent – including file recovery within minutes versus hours previously
- Cuts server deployment time from hours to minutes

Business benefits:

- Achieved disaster-recovery solution for 30 percent less cost than other options and reduced recovery time from days to hours
- Enables rapid storage deployment to meet new demands
- Supports overall growth without additional staffing



“Smart City” faces big IT challenges

Settled in 1978 in the middle of Israel, the city of Ariel is halfway between the Mediterranean Sea and the Jordan River. With the approval of the Israeli government, settlers quickly established a working community that included a school, a library and a community center.

Approximately 30 years later, Ariel is home to more than 20,000 residents – and to 10,000 students at Ariel University Center of Samaria, the largest college in Israel. Ariel’s industrial center has 150+ plants and factories. Additionally, in the summer of 2008, the city received approval to construct 27 new factories in its industrial park, which promises to add up to 2,000 new jobs.

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Ariel’s rapid economic and population growth requires state-of-art information technology to manage financial resources, deliver services and conduct government business. Ariel’s “Smart City” program promotes the widespread use of technology to provide a closer link between residents and municipal government services.

The city uses a blend of self-managed network resources – as well as Web-based software-as-a-service (SaaS) subscription applications, including a geographic information system (GIS), billing services and enterprise resource planning (ERP) from Israel Local Authorities Data Processing Center, a public company. In early 2008, Ariel’s four person technology team began migrating the city’s self-managed applications off their oldest servers and consolidated them on newer servers, where they run in virtual environments under VMware ESX Server.

Time to break new ground in storage management

This virtualization effort led Ariel’s technology group to reevaluate the city’s data storage resources. The city’s three main storage servers could not provide the shared storage infrastructure required to achieve all of VMware’s high availability features.



In addition, the direct attached storage on legacy storage servers had led to redundant data stores, since deduplication was not feasible. The three legacy storage servers were also costly due to multiple licensing fees and the labor-intensive individual tape-based backups for each system. Also, recovery using slow tape-based systems could take days following a data loss.

“Our storage utilization was not very effective,” explains Ariel’s Chief Information Officer Michael Altynikov. “Instead of simply upgrading out-of-date storage servers, we decided to seek a solution that would allow us to maximize our investment in server virtualization, provide true business continuity capabilities, and improve our storage utilization through shared resources and data deduplication.”

Cost-effective and feature rich: HP AiO meets Ariel’s needs

In the summer of 2008, Altynikov and his staff began evaluating available storage options. They looked at solutions from HP, EMC, NetApp, Falconstor and open-source SAN controllers. Early on the selection team ruled out the open-source options because they were not complete solutions and lacked vendor

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support. The technology staff carefully considered both NetApp and EMC, but eventually eliminated them due to high cost and improper sizing.

Ultimately, Ariel selected two HP StorageWorks 1200r All-in-One (AiO1200r) Storage Systems, which are based on the HP ProLiant storage server and operate under the Microsoft Windows Storage Server operating system. The AiO1200r provides Ariel with shared and scalable iSCSI storage for any application, as well as built-in data protection.

Altynikov, working through HP partner, One1, met with HP and Microsoft storage experts at HP's offices in Ra'anana, Israel. "It was nice to have actual storage experts available to answer our questions," Altynikov notes. "The HP AiO system offered everything we were seeking and fit within our budget. The HP solution was 30 percent cheaper than NetApp – and about 15 percent less than the EMC solution."

The Ariel IT staff installed the HP AiO systems on their own. "It was easy," Altynikov emphasizes. "It took me about a week in total. For anyone who has set up a Windows server before, it would be very easy. The GUI is simple."

The AiO systems are equipped with high-performance Serial Attached SCSI drives for the reliable storage of frequently accessed data. Ariel

also installed supplemental storage in the form of an HP StorageWorks 60 Modular Smart Array (MSA60) equipped with less costly Serial ATA disks for less intensive storage applications. The MSA60 is attached directly to the AiO system and managed through the same AiO Storage Manager interface, which simplifies the creation, migration, growth and protection of data stores.

HP AiO benefits community with savings, efficiency and security

By consolidating its storage from three separate storage servers to a single, centrally managed HP AiO environment, Ariel has achieved all of its initial storage goals and much more. One HP AiO1200r is located in the city's main computing center and the second AiO system is based in the backup data center. The systems are equipped with HP Storage Mirroring Software, which provides asynchronous data replication between the sites.

"We spend about 30 percent less time managing storage than we did before," Altynikov notes. "We replicate our critical data to our backup site about one kilometer away, which gives us a very high level of disaster-recovery resilience – and eliminates any backup window." Ariel's IT group also backs up data off-line to an HP StorageWorks Ultrium tape drive and send tapes off site for additional security.

Customer solution at a glance

Disaster-resilient, easy-to-manage, consolidated storage environment based on HP StorageWorks All-in-One Storage Systems, Microsoft Windows Storage Server

Primary applications

- File sharing
- Print management
- Business continuity and disaster recovery

Primary hardware

- 2 HP StorageWorks 1200r All-in-One (AiO 1200r) 3.6 TB SAS Storage Systems
- HP StorageWorks 60 Modular Smart Array (MSA60) 6 TB SATA Storage System
- 20 servers from various vendors
- 140 desktops; 10 from HP, including HP Compaq dx2390 and dc5100
- 56 printers; 30 from HP, including HP LaserJet, OfficeJet, DeskJet and DesignJet
- HP StorageWorks Ultrium 448 Tape Drive with HP LTO 2 tape media

Primary software

- HP StorageWorks All-in-One Storage Manager Software
- HP StorageWorks Storage Mirroring (AiO Edition) Software
- HP Data Protector Express Software
- Microsoft® Windows® Storage Server 2003 R2
- Microsoft Exchange Server 2003
- Microsoft Windows Server 2003
- Microsoft SQL Server 2005
- VMware ESX Server

HP Services

- Pre-sales HP and Microsoft consultation
- Three-year Support Plus 24 hour Service
- On-site HP Services implementation support

Why HP?

- Cost-effective disaster recovery and resilience
- Long-time HP customer
- Superior ease of use
- No special training required
- Do more in less time – single dashboard with point and click simplicity

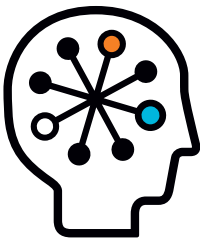
Applications on the HP AiO1200r shared storage include Ariel's VMware virtual servers, print servers, Web servers and general file shares. "Everything we moved to the AiO systems runs faster," Altynikov says. "File recovery used to take hours from tape. Now we can do it in minutes. We can also fire up a new virtual server, for instance, in minutes. Before, if we had a server available at all, it would take several hours to make it ready; this allows us to be more responsive to our users' needs."

Single Instance Storage deduplication built in to the HP AiO1200r systems improves Ariel's capacity utilization by 30 percent or more by eliminating duplicate files within shared volumes. Concludes Altynikov, "In the long term, the HP AiO shared

storage architecture will save us in operating expenses, particularly when we consider its ease of use, improved utilization, disaster-recovery capabilities and the support it provides for our move to virtualized servers. As we replace physical servers with virtual servers, we save electricity, cooling, maintenance and licensing costs."

About Ariel

The capital of Samaria, Ariel (www.ariel.muni.il) is located in the heart of Israel, 40 km (25 miles) east of Tel Aviv, 40 km west of the Jordan River and 60 km north of Jerusalem. The city stretches 12 km (8 miles) in length and is situated over 600 meters (almost 2000 feet) above sea level.



Technology for better business outcomes

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4AA2-8102ENW, July 2009

