

Federal Aviation Administration: Meeting Sky-High Storage Needs



Redundant Snap Server 4500s Make Critical Air Traffic Control Data Instantly Available

Introduction

Ensuring air travelers get safely from point A to point B is the mission of the Federal Aviation Administration’s (FAA) Air Traffic Control (ATC) facilities across the country. Ensuring ATC facilities have uninterrupted access to air traffic systems and data is the mission of the Air Traffic Organization Terminal (ATOT) Technical Center in Atlantic City, New Jersey. ATOT provides critical system support services to 155 ATC sites across the U.S., tracking hundreds of flights each day.

The Challenge

Strict data retention requirements

The FAA’s aircraft tracking systems are critical tools for keeping air traffic moving smoothly and safely. As the skies become increasingly crowded, the volume of Continuous Data Recording (CDR) information—including flight plans, radar targets and flight status data—is growing rapidly. Its importance is also growing. Recent Homeland Security legislation requires that the FAA retain all CDR data for 45 days.

This presents a major data storage challenge, according to Craig Gerace, Computer Specialist for the FAA’s Air Traffic Organization Terminal (ATOT) Technical Center in Atlantic City, New Jersey. The optical disk system the group was using to archive CDR data just wasn’t adequate any more. “It was very labor-intensive. We were recording 6 to 8 optical disks a day. On each disk, we had to record which SMC [system monitor control, which records CDR data] the

Executive Summary

Challenge

Need reliable, cost-effective storage to meet federal data retention requirements

Solution

Redundant Snap Server 4500s

Results

Dramatically accelerated access to critical data

Easy, cost-effective storage scaling

Increased flexibility of storage resources



“With the Snap Server, we can play back any flight data any time we want on any scope we want. It just makes life a lot easier. The users love it.”

Craig Gerace
Computer Specialist
FAA ATOT, Atlantic City, New Jersey

Federal Aviation Administration: Meeting Sky-High Storage Needs

data came from, time stamp it, then archive it in a file cabinet,” Gerace says. “Any time we had to go back to review specific data, it was a real pain. We had to figure out which disk the data was on, remount it and find the data.” Human error added to the chore, making data difficult to find in the event that a disk was mislabeled with the wrong date or time.

In addition to the inconvenience of the optical drive system, it just wasn’t keeping pace with the growth in data volume. Gerace says security regulations that expanded data format and retention requirements were sending storage needs sky-high.

“We needed something better,” Gerace recalls.

Solution

Snap Server 4500s

Something better appeared one day when Gerace was surfing the web to explore storage alternatives.

“I came across the Snap Server and it looked interesting,” Gerace says. “I did some research and was impressed with the Snap Server’s track record. So I said, let’s try it out.”

Gerace contacted Adaptec and arranged for an on-site of the Snap Server 4100. They set it up in ATOT’s lab environment to evaluate its ability to meet the needs of ATOT’s application. It did.

“We ran the Snap Server through a number of demanding tests and it held up very well,” Gerace says, noting that performance was only one hurdle the Snap Server had to clear.

“Because we are a government agency, cost is always an issue,” he says. “The Snap Server was very cost-effective, so that made it very attractive for us. In fact, it allowed us to deploy redundant Snap Servers, instead of just one, at each location.”

Gerace deployed redundant Snap Server 4100s at 10 regional Terminal Radar Approach CONTROL (TRACON) locations across the country. One Snap Server was used for primary storage, with the second

appliance used for redundant storage; the two systems were synchronized each night.

Following the deployment, consolidation of TRACON sites around the country dramatically increased the amount of data flowing to each Snap Server. To meet ATOT’s increased capacity needs, Gerace upgraded to redundant Snap Server 4500s at each TRACON.

The Result

Simplicity, Reliability and Scalability

Gerace says implementing the Snap Servers was surprisingly simple. “We installed, configured and had the Snap Servers up and running in a matter of hours,” Gerace says. “It was extremely easy.”

Accessing CDR data is also fast and easy, as compared to ATOT’s old optical drive.

Because the Snap Servers are right on the network, Gerace says users no longer have to go searching in file cabinets to find the right disk.

“With the Snap Server, we just look up the date and time for a particular flight in the SMC system, map to the Snap Server and, boom, it’s up and running on the controller’s scope,” he says. “Now we can play back any flight data any time we want on any scope we want. It just makes life a lot easier. The users love it.”

With ATC data growing every day, Gerace says scalability is another critical Snap Server advantage.

“With the Snap Servers, we can plug in additional disks to meet our growing storage demands, without adding new systems. So it’s very cost-effective,” he says.

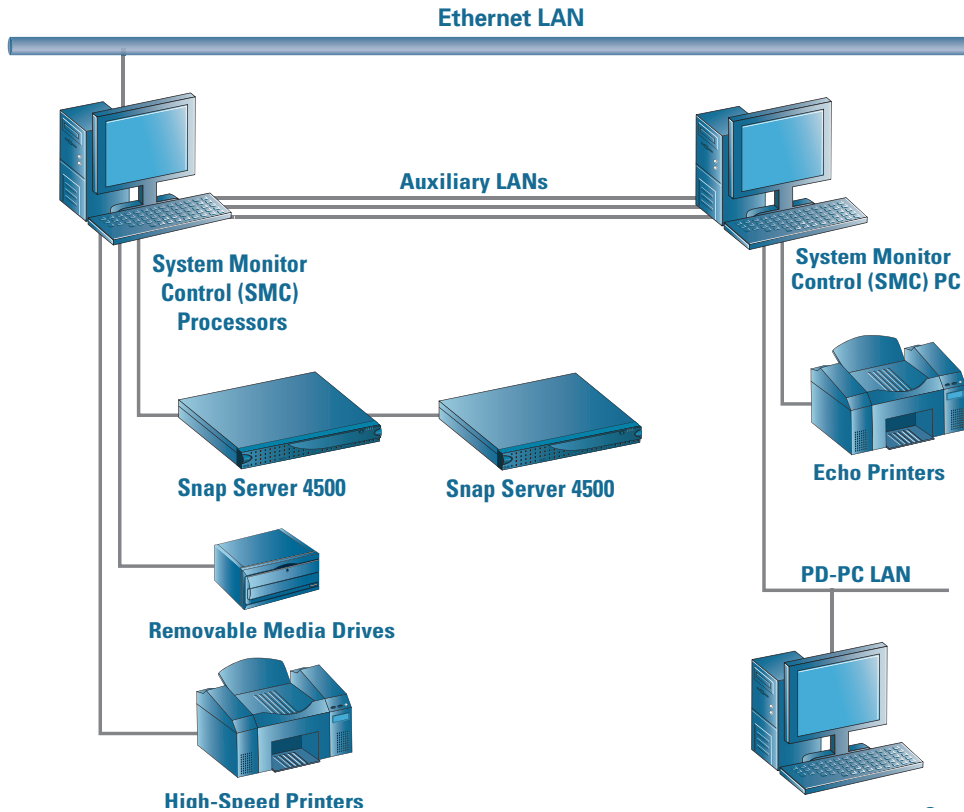
Since deploying the Snap Servers, Gerace says the ATOT storage infrastructure has evolved and expanded, migrating to a large, consolidated RAID storage pool recording CDR data from multiple TRACONS. Gerace says the Snap Servers continue to play a critical supporting role, providing each TRACON with redundant backup and

recovery capabilities. The reliability of the Snap Server makes it ideal for this role, Gerace adds.

“Our Snap Servers have been virtually trouble-free since we installed them,” he says, noting that he has confidence in Adaptec technical support should something ever fail. “Support is so important to me. If I have a facility down in the middle of the night and I can’t fix it, I need to be able to call someone for assistance. Whenever I have a question, Adaptec has been right there for me.”

Gerace concludes that his Snap Server decision was the right one. “It all comes down to simplicity and reliability,” he says. “The Snap Server has what it takes to meet our evolving storage needs.”

Federal Aviation Administration: Meeting Sky-High Storage Needs



Solution Features

Exceptional Price/Performance

The Snap Server offers excellent price/performance, with on-the-fly scalability and provisioning.

Rapid Data Access

The Snap Server delivers data at Gigabit speeds via the network, dramatically accelerating data access as compared to removable media systems.

Affordable Redundancy

The Snap Server's attractive economics make redundant data storage an affordable reality.

adaptec

Adaptec, Inc.
691 South Milpitas Boulevard
Milpitas, California 95035
Tel: (408) 945-8600
Fax: (408) 262-2533

Literature Requests:

US and Canada: 1 (800) 442-7274 or (408) 957-7274
World Wide Web: <http://www.adaptec.com>

Pre-Sales Support: US and Canada: 1 (800) 442-7274 or (408) 957-7274

Pre-Sales Support: Europe: Tel: (44) 1276-854528 or Fax: (44) 1276-854505

Copyright 2006 Adaptec, Inc. All rights reserved. Adaptec, the Adaptec logo, Snap Appliance, the Snap Appliance logo, Snap Server, Snap Disk, GuardianOS, SnapOS, and Storage Manager are trademarks of Adaptec, Inc., which may be registered in some jurisdictions. Microsoft and Windows are registered trademarks of Microsoft Corporation, used under license. All other trademarks used are owned by their respective owners.

Information supplied by Adaptec, Inc., is believed to be accurate and reliable at the time of printing, but Adaptec, Inc., assumes no responsibility for any errors that may appear in this document. Adaptec, Inc., reserves the right, without notice, to make changes in product design or specifications. Information is subject to change without notice.

Part Number: 906874-011 Printed in U.S.A. 01/06 4096_1.2