



# Airport saves millions using dynamic digital signage driven by Dell Wyse thin clients



## Customer profile

NORMAN Y. MINETA  
**SAN JOSE**  
INTERNATIONAL  
AIRPORT



<b>Company</b>	Mineta San Jose International Airport (SJC)
<b>Industry</b>	Travel, Hospitality and Tourism
<b>Country</b>	United States
<b>Employees</b>	200+
<b>Web site</b>	<a href="http://flysanjose.com/fl">flysanjose.com/fl</a>

## Challenge

PCs were expensive to deploy across hundreds of displays and consumed substantial power and space. Aesthetically, the PCs were less than desirable because the flat-panel displays had to be mounted a substantial distance from the wall to accommodate the PCs' large form factor.

## Solution

System integrator AirIT implemented Dell™ Wyse thin clients for an affordable, space-saving, low power-consumption and low-maintenance solution allowing seamless integration within the airport's architectural design requirements, while providing the computing power necessary to drive software applications and full motion video.

## Benefits

- \$100 million saved in project costs by building fewer gates because of common-use technology
- Millions of dollars saved in provisioning costs over 2 years
- Reduced time required to maintain thin clients

## Application areas

- [Green Efficiency](#)
- [Virtual Desktop](#)
- [Virtualization](#)

“The common-use digital signage solution throws off less heat, consumes less energy and dramatically reduces our IT efforts and costs—all while providing ample power to drive our displays, thanks to Dell Wyse thin clients.”

*Diane Mack-Williams, IT Director, Mineta San Jose International Airport (SJC)*

San Jose is America's tenth-largest city and the capital of Silicon Valley. Its airport—Mineta San Jose International Airport (SJC)—is rapidly changing with a comprehensive modernization program that will offer a polished, high-tech face to the world that reflects the innovative character of the region and the people it serves.

"When considering form factor, reliability, price/performance and the company's reputation for standing behind its products, Dell Wyse thin clients emerged as the clear choice for AirIT."

*Chris Keller,  
Executive Vice President and  
Chief Operating Officer,  
AirIT*

The \$1.3 billion project will accomplish a challenging, fast-track and complex implementation that is doubling the size of the airport's terminal facilities while it has continued to operate and improve the quality of customer service during construction. It will also make SJC a forerunner in an emerging trend: a common-use infrastructure that leverages technology including Dell Wyse thin clients for dynamic digital signage to enable different carriers to tap into the same airline gates and counters—creating efficiencies, cost-savings and flexibility for both airlines and airport alike.

SJC is a completely self-supporting enterprise, owned and operated by the City of San Jose. As a public entity facing a period of serious budget challenges, SJC must operate with extreme efficiency, a requirement that is especially acute in the current economic environment where flights and passenger counts have fallen 20 percent over the past two years.

"Airports are increasingly looking for ways to do better with less," says Robert Swensen, airport operations and activation manager for SJC. "Traditionally, airline carriers lease and manage their own ticket counters and gates, a model that is not only expensive, but also fails to get the most use of resources."

#### **Building an airport using Silicon Valley technologies**

Under the new SJC common-use business model, carriers now rent aircraft gates and ticket counters based on the time they actually use. Those

that have greater usage can arrange to have "preferential use" of equipment and pay an annual fee to the airport, but the airport reserves the right to reallocate assignments as needs change. By applying technologies from local Silicon Valley companies such as VMware to virtualize desktop and server environments, the airport has successfully used affordable, technology-based solutions that will allow it to attract and handle more business, and process passengers and their baggage more efficiently and save money.

Sustainability is another important part of the modernization project. SJC's new terminal has been designed and built to LEED "green building" sustainability standards, and it features generous natural light, integral solar shading, recycled water and an energy-efficient ventilation system.

#### **Technology at work**

##### **Hardware**

Dell™ Wyse V90 thin clients

##### **Software**

AirIT Extended Airline System Environment

AirIT Flight Information Display System

Dell Wyse Device Manager

VMware®

Windows® XP Embedded



## Enabling dynamic signage for the common-use environment

To implement the IT infrastructure for the modernization project, SJC worked with systems integrator Air-Transport IT Services, Inc. (AirIT). The AirIT solutions installed at SJC included operational systems, a passenger processing system, and property and revenue management system for the billing of SJC's airlines and tenants.

SJC is taking advantage of AirIT's Extended Airline System Environment (EASE) platform to extend these and other carrier-specific applications onto the airport's common-use operating environment. The systems integrator also developed the Flight Information Display System (FIDS), a software solution for dynamically displaying text- and video-based way-finding information such as arrivals and departures, gate information and ticket counter displays on hundreds of flat-screen panels throughout the airport.

Dynamic digital signage is a crucial component of the common-use model. Gates and counters need to be effortlessly branded on the fly with the specific carriers' logos and related information, and travelers must be able to find arrival and departure, gate, and baggage claim information at a glance via hundreds of flat-panel displays dispersed throughout the terminals.

Dedicated PCs were initially used for the signage displays throughout the airport, but several difficulties soon emerged. The PCs were expensive to deploy across hundreds of displays and consumed substantial power and space. Aesthetically, the PCs were less than desirable because the flat-panel displays had to be mounted a substantial distance from the wall to accommodate the PCs' large form factor.

"When we had a dedicated PC behind every display, we faced unwieldy heat and power issues. The high temperatures took a heavy toll on the lifespan of our flat-panel displays, and the high power consumption was unacceptable in light of our green initiatives and rising energy costs," explains Diane Mack-Williams, IT director for SJC.

IT costs escalated as a result of the time and effort required to support traditional PCs. "We wanted to move to thin clients for centralized management to reduce the amount of time that on-site staff had to spend maintaining hardware," says Chris Keller, AirIT executive vice president and chief operating officer.

## Finding a solution in thin computing from Dell Wyse technology

AirIT's search for an affordable, space-saving, low power-consumption and low-maintenance alternative ended quickly and decisively with the selection of Dell Wyse thin clients running Dell Wyse Device Manager (WDM) software.

"Flat-panel displays have become commonplace in airports and are used in a myriad of applications and locations," says Keller. "Today, technology decisions have to be made to address both form and function, meaning technology has to allow for seamless integration within an airport's architectural design requirements, yet provide the computing power necessary to drive software applications and full motion video.

"When considering form factor, reliability, price/performance and the company's reputation for standing behind its products, Dell Wyse thin clients emerged as the clear choice for AirIT," says Keller.

The SJC IT staff heartily agreed with the decision to drive dynamic signage

"The new common-use model drives efficiencies and return on investment that both the airport and the carriers genuinely appreciate, due to the latest local Silicon Valley technologies, including Dell Wyse thin clients."

*Diane Mack-Williams,  
IT Director,  
Mineta San Jose International  
Airport (SJC)*



using Dell Wyse thin clients running the Microsoft Windows XP Embedded operating system and FIDS. “The common-use digital signage solution throws off less heat, consumes less energy and dramatically reduces our IT efforts and costs—all while providing ample power to drive our displays, thanks to Dell Wyse thin clients,” says Mack-Williams.

### **Saving millions of dollars in nine years**

SJC purchased an initial 180 Dell Wyse V90 thin clients—and immediately began reaping cost benefits. Buying and deploying a PC costs on average \$750 more than buying and deploying a thin client. By provisioning the first 180 thin clients instead of standard desktop computers, SJC avoided more than \$112,000 in up-front expenses. SJC also reduced ongoing IT costs. Now, instead of taking several hours to deploy a new desktop device, AirIT staff can take less than an hour to install a new Dell Wyse thin client without any operational disruptions.

Over time, provisioning costs will decrease even more dramatically. For example, during a nine-year period, SJC will be able to eliminate two full refresh cycles per device, at a savings of \$1,350 each time in hardware and staff time, resulting in potential savings of millions of dollars.

### **Maximizing use of IT resources**

Dell Wyse thin clients, when combined with Dell Wyse Device Manager (WDM) software also simplify support activities.

AirIT staff previously had to repair or update computers in the airport’s on-site lab. Instead, staff can stay where they are and remotely re-image the thin-client machine with WDM on the server using a hands-off process. Instead of spending a significant amount of staff time each week maintaining the hundreds of PCs used to drive display signage, AirIT now spends considerably less time maintaining the thin clients.

### **Saving \$100 million in project costs**

Overall, the common-use model has enabled SJC to avoid costs during the construction phase. Instead of building a temporary terminal to accommodate airlines while new construction was underway, the airport saved \$20 million by implementing common-use technology that allows airlines to share ticket lobby and gate counter resources.

As Swensen explains, “When we were creating the footprint for the new terminal, we were able to leverage the remaining gates to accommodate all of our carriers. It was a huge factor in our ability to complete construction on time and on budget, while avoiding construction of a temporary terminal.”

The common-use model has not only improved service and reduced costs for airline carriers, but has also helped SJC reduce overall project costs. The modernization program actually is reducing the number of aircraft gates from 32 before the project started to 28, without affecting the airport’s capacity to serve current and future traffic. SJC

estimates that it avoided \$100 million in project costs by building fewer gates because of common-use technology—an impressive statistic that helped SJC meet stringent budget requirements.

### **Conserving energy to help meet environmental initiatives**

Dell Wyse thin clients are a greener solution than PCs because they don’t need to draw power for spinning disks or fans. Also, with no moving parts to break, and minimal need for processing power within the device, thin clients last much longer before malfunctioning or becoming obsolete. SJC can use the same thin client for up to nine years instead of using and discarding two or three PCs during the same period. Because Dell Wyse thin clients run cooler, SJC anticipates that its flat-panel displays will last longer as well.

For SJC, Dell Wyse thin clients are a key part of an overall strategy to serve airlines better and more cost-effectively, while delivering a high-tech airport that is a showcase of how local Silicon Valley companies’ most advanced technologies can reinvent the way airports operate.

“The airlines have told us they are very pleased with the common-use system,” says Mack-Williams. “The new common-use model drives efficiencies and return on investment that both the airport and the carriers genuinely appreciate, due to the latest local Silicon Valley technologies, including Dell Wyse thin clients.”

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