



Case Study: Integrating Existing Data



The Business Problem

A major American airline has experienced strong growth in both revenue and customers served over the last decade. To better serve their growing customer base, this airline has led the industry in the use of information technologies and is recognized as among the most forward thinking and customer friendly airlines in the United States. Self-serve check-in, electronic ticketing and other innovations that are now common were pioneered by this airline. As a result of these innovations, the company's network is currently used to process and support over \$2 billion in annual revenues.

However, because of this rapid growth and the continued rollout of new services, their network was placed under severe stress. Their IT department was charged with minimizing performance degradation at airport stations, minimizing issues on the airline's web site, and delivering high service levels to their internal customer service staff... all while expanding their network locations and capabilities.

The IT Problem

As 2003 opened, this airline's network booked \$3,800 of revenue every minute of the day, or over \$2 billion per year. To ensure adequate performance and availability of the network, IT has deployed a number of different network management and monitoring systems to ensure network health and performance. However, since each of these systems stored data in its own database and generated their own alarms, IT was confronted with several issues:

- First, they were inundated with event alarms. With over 20,000 alarms per day, the IT staff had difficulties separating the important alarms from the unimportant.
- Second, they had no easy way to automate solutions, so if one person discovered a fix to a common problem, the only way to automate that fix was to write custom scripts in Perl and deploy those. With limited NOC and engineering staff, IT did not have the time or resources to automate many solutions in this fashion, so they spent most of their time fighting fires and reacting to problems that they would have preferred to have found sooner and fixed faster. Often the network operations group only found out about problems when the frontline help desk staff received a call from an affected user.
- Finally, IT management had existing monitoring software and was not looking to start over with all new software - they just wanted to make the various products that they'd already paid for work together.

The Solution: Singlestep Unity™

The airline had two goals for working with Singlestep. First, to improve network uptime, which would have a direct impact on top-line revenue. Second, to ensure that they could grow their network as they added new routes, without adding network engineering staff. This latter goal is particularly important since it allows them to reduce their cost per mile, an important measure within the airline industry of how efficient an airline is.

The airline identified three primary objectives that had to be met and deployed Singlestep Unity to help achieve them. These objectives were:

1. Decrease the time to resolve network problems.
2. Reduce the number of network events a senior network engineer had to resolve.
3. Create a central database with system-wide event and work flow history that would be used for planning, process refinement, hardware, software, and personnel budgeting, and overall training requirements.

The initial installation of Unity took less than 6 hours. Within moments of the installation being done, the Senior Network Support Specialist working with Singlestep spotted a duplex error on one of their Cisco routers that he wouldn't have seen before. He was able to reset the router quickly and prevent further network problems. Later, a policy was created through Unity that automated this task on all future duplex errors.

After further refinement, the number of events was reduced from over 20,000 to under 40 per day – a 99.8% reduction.

The next step was to create some initial filters and policies, using Unity's simple-to-use, visual policy tools so that the airline's IT department could tell what was really happening on their network. Once these policies were set up, Singlestep and the airline jointly specified and created more sophisticated policies so that commonly taken actions could be automated, reducing the time to resolve events, and relieving the IT staff of some routine management tasks.

Results

Unity's swift deployment enabled the airline to start getting return on their investment from day one. The initial set of data filtering policies reduced the number of overall event messages in the system by more than 75%, letting the IT staff see important alarms much more easily. After further refinement, the number of events was reduced from over 20,000 to under 40 per day – a 99.8% reduction.

Automated diagnostic, escalation, and resolution policies are drastically cutting the cost per event of managing the airline's network and letting senior staff focus on projects that contribute to the bottom line rather than fighting fires every day. Within the first month, this airline noted operational savings from the deployment of Unity. In the future, they anticipate that Unity's historical database will aid their planning efforts and allow them to pinpoint places where they can be even more efficient.

Within minutes of installation, network events that needed action were filtered out from the hundreds of generic message events from disparate monitoring systems, and presented in a single view. Unity adds value to our current management systems, reduces time from event to resolution, and helps my team to proactively manage our network.

–Manager of Network Operations, Major Airline