

Japan Airlines: Raising the bar in the airline industry

Overview

■ Business Challenge

To solidify its market leadership in the face of increasing passenger traffic and competition, Japan Airlines (JAL) needed a way to reduce the potential for costly service interruptions caused by IT system outages.

■ Solution

Japan Airlines, working with IBM, implemented an enterprise-wide IT issue tracking, change and configuration management solution—an industry first in Japan—that gives JAL management greater visibility into, and control over, the company's mission-critical IT operations and a better understanding of how they impact the business as a whole.

■ Key Benefits

Improved quality of service in the first year:

- System outages down 58 percent
- IT service interruptions down 39 percent
- Time to recover from outages down 80 percent



An industry that depends on IT

Information technology is, in a way, as important to Japan Airlines as the safe and timely transportation of its passengers. Every aspect of the airline's business operations, from reservations to ticketing to scheduling to maintenance to business operations and more, relies on its IT systems to support its business. JAL's IT systems are—in every sense of the phrase—mission-critical.

Increasing passenger volume, along with heavier use of the Internet, is putting greater demands on these systems than ever before: Today, half of JAL's tickets are sold via the Web, and its reservation and ticketing systems are entirely electronic.

“Thanks to this new information, never before available, we were able to dramatically demonstrate the importance of improved monitoring and management of the airline's IT systems to the business side of the enterprise.”

— IT service and planning executive, JAL

Improving on-time performance by increasing IT reliability

Business Benefits

- Reduces the number of system failures and interruptions, and overall downtime, dramatically: In the first year, system failures were down 58 percent, IT service interruptions were down 39 percent and downtime was reduced by 80 percent; in addition, the rate of outages continues to improve
- Improves overall quality of service by reducing IT outage-related operational delays
- Gives JAL management unprecedented visibility into the current state of its IT systems, fostering a greater understanding of how IT affects the business
- Provides issue tracking, configuration and change management that reduces the overall risk of IT outages and the resulting negative impact on airline flight operations
- Helps to achieve better business resiliency through more efficient, streamlined business processes that help to recover from outages more quickly and prevent IT issues from recurring
- New policies and procedures leverage industry best practices for IT management

...these actions ultimately benefit not only the airlines individually, but also the industry as a whole.

In the airline industry, the cost of an IT outage can be millions of dollars per hour, according to JAL. There is not only the direct cost of lost sales while the systems are down, but the highly interdependent nature of the business means that an IT outage has a ripple effect that is felt throughout the enterprise. The resulting delays cause not only inconvenience for passengers and other customers, but higher costs for the airline as well.

Beyond the direct financial impact, the potential for damage to the airline's reputation is just as great. An outage of as little as 15 minutes will be picked up by the media and reported. A loss of prestige like this can hurt revenues long after the actual problem is cleared up.

Being proactive

Japan Airlines management saw an opportunity, provided by evolving technology, to improve its operations, cut risk and raise the standard of service quality for the entire industry. JAL took a leadership position, pioneering aggressive efforts to improve the availability of its IT systems.

JAL had long been working to maintain the highest possible standards of IT reliability, but these efforts faced a fundamental challenge. JAL had limited visibility into the state of its IT systems at any given time, in terms of configuration, operational status, asset location or the potential impact of changes. Obtaining this information would enhance the company's existing quality initiatives, giving JAL the ability to not only respond more quickly to IT system problems, but provide a basis for continuous improvement so that future problems could be avoided entirely. This improvement in capability had the potential to affect the entire business, enabling JAL to achieve unprecedented levels of service and thus solidifying JAL's market-leading position as a premier air carrier.

With some 1,500 servers supporting multiple business units, the scale of the project was considerable. The project, undertaken by IBM Global Technology Services, addressed the challenge of crossing boundaries within the enterprise. Each division within JAL had its own processes and procedures for change and systems management, and information was not shared between divisions.

In some cases, procedures were inefficient. For example, recovering from an outage might require the presence of a key systems administrator. Since most system changes are conducted in the middle of the night when the load is the lightest, that's when outages are most likely to occur. Understandably, it was often difficult to reach an administrator promptly to authorize corrective action.

JAL Information Technology Co., Ltd. (an IT joint venture company founded by JAL and IBM/JAL's IT arm) and IBM Global Technology Services implemented new procedures and policies based on the industry-standard Information Technology Infrastructure Library (ITIL). This supplier-independent, open framework of best practice approaches facilitates the delivery of high-quality IT services, including an extensive set of management procedures and process design guidance.

The solution monitors system status continuously. Mobile phone electronic message alerts are sent, when needed, to some 200 critical employees (including the CIO) to update the latest IT outage situation so that appropriate action can be taken promptly. Incidents are ranked by severity, from Level 1 to Level 4, with Level 1 incidents being those that can have the most severe impact on flight operations.

To speed recovery and increase system resiliency, the team defined new policies that govern how each kind of incident is to be dealt with. For example, before the most severe incidents can be closed, specific remediation steps must be defined and acted upon. In this way, the same problem is much less likely to recur.

New information focuses the business on the importance of IT

The new information provided by the solution helps not only the IT side of the company, but the business side as well. Thanks to an unprecedented level of knowledge about system status, company management has gained a better appreciation of the mission-critical nature of JAL's computing systems.

Key Components

Hardware

- IBM System p®

Software

- Tivoli Monitoring®
- Tivoli Enterprise Console®

Services

- IBM Global Technology Services – Outsourcing Services
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Why it matters

Leading the industry, Japan Airlines implemented an enterprisewide IT monitoring and management solution based on the Information Technology Information Library of industry-standard best practices that has dramatically reduced both the number and severity of IT outages. This saves the airline millions of dollars, reducing risk and maintaining its reputation as a reliable, premium air carrier. The new information that the solution provides gives unprecedented visibility into JAL's IT systems, enabling company management to better focus its attention on mission-critical availability.

At the first board meeting after the system was installed, JAL's CIO was able to show that some 1,000 system changes were being made every month—12,000 per year, each one carrying with it the potential for IT service interruption. "Thanks to this new information, never before available," says a JAL IT service and planning executive, "we were able to dramatically demonstrate the importance of improved monitoring and management of the airline's IT systems to the business side of the enterprise. This, combined with our demonstrated results, has helped management to place the appropriate focus and priority on our efforts to improve system availability."

JAL has realized impressive gains in system reliability, resilience and availability. In the first year of operation, Level 1 incidents fell by 58 percent, and Level 2 incidents fell by 39 percent. The time needed for recovery has also been drastically reduced, with systems being brought back online 80 percent faster. Now that JAL has met its initial objectives, it is setting higher standards.

What JAL's leadership means

While JAL's airline industry-first initiatives in boosting IT availability have helped it to maintain its competitive advantage among its peers, these efforts have broader implications. Other airlines have been influenced by JAL's improved performance to make changes of their own. Taken together, these actions ultimately benefit not only the airlines individually, but also the industry as a whole and the traveling public as well, through improved on-time performance and an air transport system that runs more smoothly.

Establishing transparency and best practices-based management of its IT systems is a critical first step to further improvements to come. JAL is investing server consolidation and a service-oriented architecture approach to its IT systems, two initiatives that promise to reduce the number of potential points of failure while increasing cost-effectiveness and system performance.

For more information

To learn more about how IBM can help transform your business and help you innovate, please contact your IBM representative or visit us at:

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