

## Cathay Pacific Maximizing Network Performance While Reducing Cost and Enhancing Customer Service

**Business Profile:**

Cathay Pacific Airways, registered and based in Hong Kong, offers scheduled cargo and passenger services to over 90 destinations around the world.

**Industry:**

Airline

**Challenges:**

To support future expansion, Cathay Pacific needed to upgrade their network and transition from a proprietary to an open system that could utilize IP-based applications to improve the customer experience.

**Solution:**

Cathay Pacific implemented a new Integrated Traffic Management (ITM) system designed by SITA SC Professional Services and based on WX application acceleration platforms from Juniper Networks.

**Benefits:**

The WX-based ITM system increased Cathay Pacific's WAN capacity by 68 percent with minimal disruption to the existing network, resulting in a significant cost savings by eliminating the need for higher-speed links and equipment upgrades.

Cathay Pacific is one of the first companies to take advantage of SITA's Integrated Traffic Management (ITM) service, built on Juniper Networks technology, allowing the airline to dramatically increase network performance and better manage traffic carried on its networks while reducing costs and enhancing customer service.

**Cathay Pacific – Providing “Service Straight from the Heart”**

Cathay Pacific has gone from strength to strength since its foundation in 1946.

In 1964 the airline carried its one-millionth passenger. Today it carries over a million passengers every month. By the year 2006, Cathay Pacific will have a fleet of more than 100 wide-bodied aircraft serving Hong Kong day and night.

Cathay Pacific was named “Airline of The Year” in 2003, distinguishing itself from other airlines with its unique “Service Straight from the Heart.” The airline has one of the highest load factors among full-service carriers. Cathay Pacific is a founding member of the oneworld alliance. Together with its member airlines, oneworld offers passengers flights to more than 570 destinations worldwide.



**The Need for a More Efficient Network**

In its constant pursuit of cost savings and service enhancements, Cathay Pacific faces a set of complex business and IT challenges, including:

- Improving the quality of the passenger experience – from booking to check-in to in-flight services
- Transition from proprietary to open systems using Internet Protocol (IP)-based applications and infrastructure
- Overcome existing bandwidth limitations and constraints to support the rollout of new applications.

“We needed to be able to maximize additional capacity out of existing network links to support new systems and applications,” says Edward Nicol, Director of Information Management at Cathay Pacific. “We needed control mechanisms to ensure that new services don’t negatively impact the performance of existing mission-critical applications. SITA SC was the best provider capable of delivering the solution we needed.”

**SITA’s Solution: Integrated Traffic Management (ITM)**

After an extensive three-month assessment of the existing infrastructure by SITA SC Professional Services, it was determined that an ITM solution was the best possible solution for Cathay Pacific. Details gathered during this assessment were then used to build a high-level technical design as well as a business case, allowing SITA SC to set the right expectations and demonstrate a solid return on investment.

“We were able to deliver a design ensuring predictability in service deliverables and results,” said Russell Robertson, Regional Vice President Business Management, Asia Pacific, SITA SC, “since the information gathered during the assessment was unique to Cathay’s particular communication infrastructure and business requirements.”

“During the assessment phase it became clear that SITA SC was the best provider capable of delivering the solution we needed,” says Cathay Pacific’s Nicol.

The solution was then developed in partnership with Peribit Networks, the technology leader in WAN application performance. Peribit was acquired by Juniper Networks in April 2005.

“By combining our Professional Services with Juniper’s advanced technology, we have been able to deliver a seamless ITM system to Cathay Pacific,” added Robertson. “It is a service which not only drives down Cathay’s costs, but also improves the service performance of the airline’s entire telecommunication infrastructure.”

The ITM system is built around Juniper Networks WX™ application acceleration platforms, which combine next-generation compression with traffic control functions including bandwidth management into an easy-to-deploy appliance. This allows Cathay Pacific to recoup capacity on its network links, enabling traffic loads to grow without the need to buy additional network bandwidth. It also gives added visibility into the WAN, significantly improving network and application performance, and generating direct cost savings.

By designing, deploying and managing the WX infrastructure from Cathay Pacific’s side of the network, SITA SC can ensure the airline benefits from the ITM system across its entire WAN infrastructure – regardless of whether it is provided by SITA and/or other service providers.

After an initial rollout at 11 Cathay Pacific sites during March and April 2005, the ITM system was brought up incrementally across the business. By June 2005, 58 sites were using the service, delivered via 73 WX platforms.

### The Technology Behind the Solution

The WX application acceleration platforms are based on Juniper Networks' unique WX Framework™, the industry's only integrated WAN optimization architecture enabling web-based application rollout, data centre consolidation, and improved disaster recovery/backup. The WX Framework delivers next-generation compression, bandwidth management, path optimization, latency reduction and centralized network management.

- Compression – a dictionary-based compression algorithm, Molecular Sequence Reduction™ (MSR™), provides a two- to four-fold increase in WAN capacity by recognizing repeated data patterns and replacing them with labels. With the “reclaimed” bandwidth, new applications can be rolled out without the need to upgrade WAN links.
- Bandwidth Management – this includes Quality of Service (QoS) capabilities as well as bandwidth allocation, allowing latency-sensitive applications such as voice over IP (VoIP) to be prioritized, while ensuring that mission-critical traffic isn't crowded out.
- Path Optimization – The WX Framework's Policy-based Multipath capability monitors the performance of each network path and automatically diverts application traffic from one path to another if performance no longer meets acceptable levels.
- Latency Reduction – The Packet Flow Acceleration™ (PFA™) technology reduces the impact of network latency (delay) and improves application performance over WAN links.
- Centralized Management – The WX Central Management System™ (CMS™) software, working in conjunction with other network management tools, ensures high reliability and uptime for the ITM system, allowing the WX platforms to be easily configured and managed from a central location.

### Benefits of an ITM Solution

Through next-generation compression and traffic-optimization techniques such as bandwidth management, path optimization, and latency reduction, the ITM system is increasing Cathay Pacific's WAN capacity by 68 percent with minimal disruption to the existing network. This capacity gain translates to significant cost savings by eliminating the need for higher-speed links and equipment upgrades, as well as making the existing network more efficient.

#### The ITM solution:

- Facilitates application rollout without the need to expensively upgrade IP VPN bandwidth.
- Reduces Cathay Pacific's total cost of ownership.
- Offers peace of mind and a one-stop shop – with more than 50 years' worth of technical expertise and a proven ability to manage third-party suppliers, SITA SC ensures that network headaches never find their way back to Cathay Pacific.
- Benefits from global support – SITA SC provide round-the-clock network monitoring and management, worldwide.
- Delivers leading-edge WX technology as a managed service.

**Cathay Pacific**

Cathay Pacific Airways is an international airline registered and based in Hong Kong, offering scheduled cargo and passenger services to over 90 destinations around the world. Its vision is to make the airline the most admired in the world, ensuring safety comes first; providing service straight from the heart; encouraging product leadership; delivering superior financial returns and providing rewarding career opportunities.

For more information on Cathay Pacific please visit [www.cathaypacific.com](http://www.cathaypacific.com).

**Juniper Networks**

Juniper Networks is the leader in enabling secure and assured communications over a single IP network. The company's purpose-built, high performance IP platforms enable customers to support many different services and applications at scale. Service providers, enterprises, governments and research and education institutions worldwide rely on Juniper Networks to deliver products for building networks that are tailored to the specific needs of their users, services and applications. Juniper Networks' portfolio of proven networking and security solutions supports the complex scale, security and performance requirements of the world's most demanding networks.

For more information about the WX application acceleration platforms, please visit the company's website at [www.juniper.net/products/appaccel/wan/](http://www.juniper.net/products/appaccel/wan/).

**SITA SC**

SITA SC is the only global Communication Services Integrator dedicated to the travel and transportation industry (TTI), providing consultancy in the design, deployment and management of complex communication solutions and reliably implementing, integrating and managing communication services. SITA SC is an innovative, commercially-managed not-for-profit organization, set up and wholly-owned by the air transport community.

SITA is local, globally; SITA delivers solutions and services to the TTI and to international organizations and governments over the world's most extensive communication network. As a community of 600 airline and GDS members and 2,000 customers, SITA supports the TTI in driving down costs, removing complexity and improving operational performance. As a cooperative, any profit SITA generates is returned to its member customers.

For more information please refer to [www.sita.aero/solutions/network](http://www.sita.aero/solutions/network) or contact [network@sit.aero](mailto:network@sit.aero).



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