

## Airlines fly high on Frame Relay expertise and global reach

Global airline and aviation data service suppliers, ARINC, has expanded its global reach, increased operational efficiencies and saved up to 40% in data networking costs by streamlining their operations and upgrading to an IP global network.

### Summary

Based in the US, ARINC realised that if it wanted to improve its global competitiveness, it had to move away from its ageing, highly duplicated networks with multiple protocols, and develop a strategy for migrating to an IP-based ARINC Global Network (AGN). The new Frame Relay solution provides ARINC with a modern, global telecommunication infrastructure that has vastly increased its operational efficiencies and enabled it to position itself more effectively to capture a larger market share.

### Background

Every minute that an airplane spends on the ground costs its operator money. To manage their fleets safely and efficiently, airlines collect as much data as possible from aircraft while they are in the air.

ARINC, founded in 1929 to provide reliable and efficient radio communications for airlines, is a major operator of such telecommunications, together with data systems to handle passenger check-ins and other essential airline services.

These services depend on an extensive network of radio transmission stations and IT systems. At Heathrow Airport, for example, ARINC's check-in system links 28 airline host systems to more than 1,100 terminals at check-in desks, departure gates and back offices. The company, based in Annapolis, Maryland, USA, employs around 3,000 staff worldwide

### Challenge

Airlines are facing big competitive pressures following the downturn in air travel in 2001. ARINC is responding by working rigorously to optimise the value of the service provided to its customers. It is also extending its services and expanding geographically, particularly in Europe and Asia. The company's vision is to become a global 'one-stop' communications provider to the airline and aviation industry.

Good network management is essential to this vision: "resilience is essential," says Simon Glenister, Senior Marketing Director, ARINC Europe. "For our customers, we are their network. The applications and services we deliver are critical to their operational and business needs. Reliability and service quality are therefore of extreme concern. We have been very effective at reducing costs while continuing to provide airline-quality network connectivity."

*Seamless rationalisation of networks is vital to ARINC.*

To provide this resilience, ARINC built up relations with more than 20 telecommunications suppliers, mainly supplying X.25 and leased line networks to link its ground stations and customer connections. However, this number of networks was costly and difficult to manage.

In 2000, ARINC began a long-term strategic programme to rationalise its networks and ensure that it was fully exploiting its infrastructure. This involved consolidating the number of network providers from 20 to four primary international telecom service providers. Though there are still many different local access and niche providers.

This rationalisation had to be done seamlessly. A network failure would cause manual check-ins, delayed departures and otherwise inefficient operations that would result in huge knock-on costs.

In association with



## Solution

ARINC realised that it had to move away from its ageing, highly duplicated networks with multiple protocols, and develop a strategy for migrating to an IP-based ARINC Global Network.

ARINC has achieved this aim by rationalising many of its locations outside North America under a single umbrella contract with BT. After a 12-month selection process, during which it invited bids from across the industry, the company signed a four-year contract with BT in May 2001. The partnership extends a relationship that dates back 10 years.

Apart from BT's proven technical skills and competitive pricing outside North America, the company was chosen for its ability to work internationally. This included installing systems in parts of Eastern Europe with poor infrastructure, and at ground stations in remote locations in Iceland. Under the contract, BT has to work across many different time zones, languages and cultures.

"We selected BT on the basis of their global ubiquity, price-competitiveness and their status as an established service provider, with the in-country relationships necessary to delivery top-quality service," says Jim Houghton, Contracts Manager, Telecom Services, ARINC.

Although based on Frame Relay networks, BT's contract is technology independent and gives ARINC the flexibility to upgrade to new technology in the future. It also provides a platform for expansion into Asia, in line with ARINC's global strategy.

## Results

One immediate benefit from the rationalisation was a cut of up to 40% in network costs where only BT services are used.

ARINC also benefits from being able to concentrate on its core business – helping airlines operate safely and efficiently – without needing to devote unnecessary management resources to data networking.

ARINC's customers benefit from the ability to access services through different technologies and over a broader geographical range. "BT's performance has been consistent and their willingness to work with us on creative, forward-looking solutions is what really sets them apart," says Simon Glenister.

## Technical information

*Technology-independent contract improves global connections*

ARINC operates a global information infrastructure, linking radio transmission stations and ground installations at airports and airline back-offices.

This had been based on an X.25 network operated by some 20 companies, one of which was BT. It wanted to consolidate the number to three, which was seen as the minimum possible while maintaining maximum service availability.

ARINC realised that it had to move away from its ageing, highly duplicated stand-alone networks with multiple protocols, and develop a strategy for migrating to an IP-based ARINC Global Network.

As part of its global strategy, the company also needed to take its network into parts of Eastern Europe where there was no existing infrastructure.

BT's proposal was:

- To move from its existing X.25 technology to frame relay, with a clear migration path to IP Select, C-ATM and CMB services.
- It also proposed fully-managed hub locations in Europe and Asia.

The technology-independent contract comprises of:

- A Frame Relay network (originally Concert, now BT Frame Relay), for links up to 2mbit/s
- ATM where greater bandwidth is needed
- A network of 138 sites
- And, in regions without adequate telecommunications infrastructure on the ground, the network is delivered to ground stations via VSAT satellite links.

The uplink for these services is BT's satellite communications centre at Goonhilly in the UK. The network is managed from Stockley Park, near Heathrow, which houses dedicated resources for ARINC including a 24x7 helpdesk.



### Offices worldwide

The telecommunications services described in this publication are subject to availability and may be modified from time to time. Services and equipment are provided subject to British Telecommunications plc's respective standard conditions of contract. Nothing in this publication forms any sort of any contract. This case study is subject to copyright. Copying, reproducing or otherwise exploiting any part of this case study is strictly prohibited.

© British Telecommunications plc 2004  
Registered Office: 81 Newgate Street, London EC1A 7AJ. Registered in England and Wales no. 1800000.

Printed on paper which meets international environmental standards