BRITISH AIRWAYS DEPLOYS WAVE TO EXTEND GROUND-TO-AIR RADIO COMMUNICATIONS TO DESKTOP PCS

Image courtesy of British Airways

British Airways (BA) is one of the world's largest international airlines and is headquartered in London at its main hub at Heathrow Airport. It is the airport's major operator, controlling approximately 50 percent of flights to and from then airport, and is the largest airline in the U.K. based on fleet size, international flights and international destinations. The airline operates more than 300,000 flights per year and in 2011/12 carried more than 34 million passengers to nearly 150 destinations.

Like many airlines around the world, BA operates on tight margins. The International Air Transport Association (IATA)—the aviation industry's lobby group—predicted a member profitability margin of less than 1 percent as a result of high oil prices and a poor global economic climate. Air transport operations were also hard-hit by events on 9/11. The industry as a whole has had to reshape to cope with the after effects. Investment in new fleets and technology has been the key to recovery, along with careful capacity management, efficient process adoption and consolidation. Inefficient airline operations can mean that airlines incur fines. It is therefore vital for British Airways to have efficient and streamlined communications to support swift aircraft turnaround operations.

Ground-to-air communications are a critical element of airline operations, providing the ability to communicate between the airline's flight deck and the operational control center for a range of up to 200 nautical miles. For outbound and inbound flights, information relating to the aircraft and its passengers can be relayed, ensuring that the necessary preparations for passenger assistance or aircraft maintenance can be implemented prior to the aircraft landing. Ground-to-air communications are used by British Airways to facilitate efficient aircraft turnaround, helping to avoid the financial penalties associated with schedule delays.

"Our network convergence project was primarily focused on streamlining the management and provisioning of telephony services throughout the company, We are now exploring ways to exploit the new network to support other forms of communication—for example, we also operate paging, TV, video conferencing and CCTV over our IP network."

-- LEE WEATHERLEY, VOICE AND VIDEO SOLUTIONS MANAGER

BA SOLUTION BENEFITS

SIMPLIFIED COMMUNICATIONS ARCHITECTURE

By replacing its remote radio base station, radio handset and leased line connections architecture with desktop PC applications running over a standardized IP network that can be accessed from any geographical location, BA enjoys a more flexible, scalable and future-proofed ground-to-air communications capacity.

SIGNIFICANT CAPEX AND OPEX REDUCTIONS

Because it is no longer wholly dependent on aging radio base station and repeater hardware, spares inventory, recurring maintenance charges and monthly leased telephone lines, BA has seen immediate and longer-term cost benefits associated with its IP-based ground-to-air system.

UNLIMITED COMMUNICATIONS EXTENSIBILITY

Now that radio communications can be distributed over an IP network to other application-enabled wired and wireless devices, BA operations personnel have the flexibility to adapt to an ever-changing airport environment using any readily available network port or wireless connection to access ground-to-air communications.

FREEDOM TO EXPLORE NEW DEVICE CHOICES

WAVE applications can turn almost any smartphone, tablet, desktop phone, PC or handheld mobile computer into a push-to-talk (PTT) communications device, giving local communications a strategic capability that knows no device, network or regional boundary. With WAVE, BA has the ability to pursue transformational operating strategies that put critical voice communications on the device they believe most appropriate for any given role.

The ground-to-air radio system in use by British Airways consists of multiple radio base stations connected to a series of remote terminals distributed throughout Heathrow airport. In its original form, the British Airways ground-to-air radio system was connected to a legacy switch in the operations facility at its former main office, the Compass Centre, via a series of leased lines. Further leased lines were in use between the audio switch and the desk remote control units, where British Airways users would receive, process and respond to the information. The distributed nature of British Airways' leased line infrastructure was a result of having airline operations across the entire Heathrow campus.

THE CHALLENGE

An easy to use, cost-effective communication solution that is flexible and can accommodate a fast changing organization and location landscape.

There were several driving factors for British Airways to commence this project. Firstly, BA needed to relocate operations from its facility in the Compass Centre to its Waterside headquarters and the new Terminal 5. Secondly, the airline needed to reduce the total cost of ownership of voice, video and data services in use. Finally, British Airways wanted a way to manage communication services with ease.

In support of its technology strategy to embrace IP, British Airways had already deployed a CCCM IP telephony solution operating on a converged IP network. With IP convergence enabling voice and data packets to be transported on a single network infrastructure, British Airways was now in a position to also transfer its groundto- air communications onto its IP network.

THE SOLUTION

Secure, real-time communications from any IP enabled position on the network and from a number of industry standard smartphone devices.

To improve its communications services, British Airways selected an on-premise, fully managed and maintained solution from communications integrator Affini. The solution features WAVE operating on British Airways' existing converged IP network. Comprised of a number of elements, the WAVE solution deployed included clients on standard desktop PCs, and bespoke server infrastructure.

WAVE was recommended for and deployed to British Airways because it provides secure, real-time communications from any IP enabled position on the network and from a number of industry standard smartphone devices. This capability means that all British Airways end users, whether mobile or in the office, can effectively communicate and collaborate through voice, text and data. Using WAVE, British Airways now has the opportunity to operate a mixed estate of devices without impairing functionality.

Deployed to more than 75 operational positions serving in excess of 1,000 users, the WAVE Desktop Communicator application allows British Airways' operators to communicate to smartphones, radios and carrier push-to-talk (PTT) networks from any WAVE-enabled PC, across a secure network infrastructure. This capability not only removes the need to deploy radio handsets to desktop workers who don't need them, but also allows users to participate in communications between multiple radio channels. In addition, the Desktop Communicator provides activity displays, audio recording and instant replay to give users a complete communications history.

As a communications platform, WAVE is unrivalled. One of the key benefits to British Airways is the capability to cost effectively globalize radio communications. Using WAVE, British Airways now has the ability to replicate its U.K. control center anywhere in the world. Furthermore, British Airways' ground-to-air communications now benefit from the inherent resilience of its fully redundant IP network infrastructure.

"WAVE is a tremendously powerful unified communications platform with a suite of applications that makes it possible for teams of people, whether mobile or in their offices, to effectively communicate and collaborate," Weatherley said.

THE RESULT

An easy to use, cost-effective communication solution that is flexible and can accommodate a fast changing organization and location landscape.

The implementation of WAVE has delivered a number of benefits to British Airways. WAVE operates on a single IP network infrastructure, making it accessible from any location and from a range of devices. This provides British Airways with a flexible and scalable ground-to-air communications capability that can be extended to any location in the world. By supporting communications to a wider community of interest, WAVE also helps optimize aircraft operations and leverage investments in existing assets around the airport. WAVE was also specifically deployed to ensure a seamless transition from legacy infrastructure. Its ease of deployment reduces the risk of downtime often associated with major infrastructure upgrades, and offered minimal disruption to British Airways users. This elimination of downtime and lack of significant hardware upgrades allowed the airline to save on costs.

With radio communications distributed over an IP network to application-enabled wired and wireless devices, British Airways operations personnel have the flexibility to adapt to an ever-changing airport environment. The solution can be scaled to allow future expansion with ease, giving the airline the option to explore new or additional applications to support future interoperability.

"By putting our ground-to-air communications directly on our IP network, we could dispense with expensive remote terminals and leased lines, gaining the flexibility to adapt to every changing airport environment using any readily available network ports," Weatherley said. "We're now looking at extending its capabilities further to include smartphones and tablets, running on carrier data networks, ensuring seamless communications in any location. In addition, we're looking at the potential to integrate WAVE into a new enterprise collaboration platform and expand use of WAVE into the worldwide flight operations control center and LHR airport control center."

WAVE Work Group Communications

Because every operational environment is unique, we offer WAVE solutions that deliver the capabilities and performance required to match your converged communications needs, network size and sophistication, and IT/engineering resources:

WAVE 3000 is optimized for MOTOTRBO systems with a wireline interface, and offers radio extension to smartphones and tablets using a simple appliance server for ease of deployment, management and support.

WAVE 5000 offers a highly scalable, feature and IT rich, enterprise grade PTT solution, enabling full interoperability between different radio systems and extending their reach using smartphones, tablets, PCs, telephones and select enterprise collaboration tools.

For more information about the WAVE Work Group Communications solution, please contact your Motorola representative or visit **motorolasolutions.com/wave**.

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