ARINC

connect

In-Flight Entertainment – Flying High

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WELCOME TO CONNECT

Dear Valued Customer

Credit card fraud is seen as one of the major challenges of the aviation industry in recent years. As quoted in a recent report, several Asian airlines across the region have recently lost millions due to in-flight credit card fraud involving cross-border criminal networks. With more on-board merchandising opportunities available, it is without a doubt that airlines, together with credit card companies are starting to look at cost effective real-time credit card validation systems to be deployed on aircrafts to resolve such issues.

EVA Airways' recently installed SATCOM services on their entire fleet to enhance its flight operations and In Flight Entertainment systems, resulting in greater reporting accuracy and faster turnaround time, and the ability for passengers to send emails and short message service (SMS) throughout their journey.

It has become apparent that technology has now taken a larger role in boosting flight operations and in-flight passenger experiences.

We hope that you will enjoy this issue and learn how airlines in the region as well as around the globe have successfully implemented technology to meet their various challenges.

Regards,
The Editor
connect@arinc.com

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ONBOARD OPPORTUNITIES

- Colin Baker

The days of cabin crew asking passengers for the correct change for onboard purchases is almost over. In fact, the days of cabin staff asking passengers for money in any shape or form look as if they might be numbered.

The reason is the advent of cost-effective real time card-based transactions in the air - something that has been a long time coming but is gradually starting to make ground - although there is a long way to go yet.

There are clear benefits to having an online, real-time credit card transaction system. A few years ago, an investigation by Japan's Kyodo News Service showed that several Asian airlines had lost millions due to inflight credit card fraud involving cross-border criminal networks. Japan Airlines had reported about 10 cases of fraud with losses of up to US$1,900 per case. The cards had been stolen in the previous two days, making detection more difficult. Not surprisingly, credit card companies have tended to ere on the side of caution when it comes to onboard transaction limits that they would accept - and onboard offerings have had to live within these limits.

Keith Hunter, inflight duty-free senior vice-president at Qatar Airways, says, "When Visa and MasterCard had put restrictions on the limit on the acceptance of credit for their cards, there was a gradual decline in onboard sales as customers were restricted to using cash or a combination of additional cards. As such, we were not in a position to offer a credible selection of products we had in mind to compliment our first- and business-class profile."

The growth of these types of systems will enable airlines to expand the retail offering through near-instantaneous credit card authorization. Aircrafts will be able to communicate directly via the onboard network and the nearest earthbound network provider for the online authorisation of any inflight credit card or debit card transaction.

One of the keys to these developments has been the advent of airborne communications, driven by the rise of mobile technology. This is also helped develop the business case for electronic flight bags - Cathay Pacific recently found that real time card validation was one of the key business drivers for EFBs.

This has also helped the growth of onboard wi-fi - there are now an estimated 2,000-plus aircraft around the world with wi-fi capability. There are obviously installation costs and extra weight to be considered, and of course the business case. But some passengers, particularly business passengers, are warming to the idea.

A study by consultant Forrester Research in early 2010, 41 percent of business travelers said they would prefer in-flight Wi-Fi to in-flight entertainment systems. Twenty-nine percent of leisure travelers gave the swap the thumbs up. Forrester estimates take rates of seven percent to twelve percent for onboard wi-fi.

Other technologies that are becoming increasing standard on the ground are finding their way into the air. American airlines is trialling a system that will enable travelers to connect to an aircraft's wi-fi system to stream content from a library during the flight, instead of watching on their seatback device. Singapore Airlines, meanwhile, is to launch e-Magazines on its inflight-entertainment systems, with 20 magazines including the Economist, Wall Street Journal and Elle displayed in hi-resolution format on the seatback display.

ONBOARD OPPORTUNITIES

A selection of 20 international titles, including The Economist, Bloomberg Businessweek, Wall Street Journal Magazine, Prestige and Elle, will be loaded onto the airline's entertainment system, which can display the pages in high resolution on the seatback display.

In the longer run, given the move towards tablets, wi-fi connectivity and smart phones, airlines may well have to decide whether they essentially offer power sockets rather than inflight entertainment systems.

In the meantime, airlines are looking at how they can use their captive audience to boost ancillary revenues in the sky. Onboard retailer GuestLogix estimates that the top Asia-based airlines serving the busiest airports in the region today could generate hundreds of millions of US dollars in annual incremental revenue from the sale of ground-transportation tickets onboard alone.

The possibilities are not hard to see. Passengers flying into Singapore could buy tickets for the Singapore Flyer; those going to Hong Kong could book a ferry ticket to Macau; or Tokyo travellers could purchase a ticket for the bullet train. And unlike duty free items, these don't add weight to the aircraft or present logistical challenges to the airline.

There would also be opportunities for bundling packages together of course - say, the Singapore Flyer, a trip down the Singapore River and a pass for the transport system. There could be special offers for restaurants.

But the possibilities don't have to be generic. Experience Paris, for instance, has teamed up with Guestlogix to provide what it calls "Unique experiences" such as private tours through the lesser known streets of Paris, specialized tours for professional photographers, culinary adventures and tastings for gourmands and a full spectrum of concierge services.

According to Experience Paris' Larry Davis, "No two tours are alike. We create unique experiences for every client based on tastes and lifestyle, budget and preferences rather than applying one-size-fits all approach."

There are plenty of benefits for airlines as well. Joanna Wild, director of customer services at leisure carrier Thomas Cook UK says handheld devices with real time capability have strategic benefits. "Getting real time information on sales for each flight will enable us to respond to trends and stock accordingly."

She explains, "Now sales will be able to be tracked in real-time and re-stocking and ordering can be carried out live so that every product is available on every flight, whereas before, certain items would run out without the office knowing until it was too late."

This will also keep passengers happy of course, and the customer loyalty benefits are undoubtedly another potential benefit. Collinson Latitudes, a company that specialises in the area of consumer loyalty, says airlines should identify their customer's needs, and then find the "touch points" on the journey, enabling carriers to identify products and services along the journey. Economies of scale will mean the benefits are shared.

The rise of onboard selling opportunities could help airlines could also be another avenue for reward miles, which could be directed towards onboard web shopping rather than seats.

There is certainly an opportunity for airlines to offer services to their customers that are tailored to their needs - and making more out ancillary revenues is becoming more challenging as the low-lying fruit is harder to find. Airlines are increasingly seeing a business case that begins to make sense.

ONLINE PROTECTION

- Colin Baker

For an industry with low-margins, the roughly 1% online fraud rate that airlines suffer from is something they could do without.

And Asia-Pacific carriers seem to be faring worse than most in this regard. Figures from the Cybersource airline online fraud report for 2011 suggest that carriers in the region are seeing an online fraud loss rate of 1.9%, compared with a global average of 0.9% and just 0.3% in Europe and North America.

A report from consultant Deloitte estimates that airlines are losing on average US$2.4 million per year on fraud - although this is based on a relatively small survey of around half its 70-odd members, and Deloitte says that larger carriers will be losing considerably more than this.

In any case, there are more costs to consider than the headline money figures. “The real cost of the losses to fraud goes a lot further then the figure that appears on the books, as any concerns over an airline’s security can have a highly negative impact on the image of the company. It can also damage relationships with suppliers and harm the workplace,” says Deloitte.

As Andrew Fisher, chairman of the International Association of Airline Internal Auditors (IAAIA) and vice president of internal auditing at Ethihad Airways puts it, “Good governance boosts value in any business, by providing investors, customers and employees with confidence”.

The Deloitte report, which covers the year 2009, found that 35% of airlines had no policy for tackling fraud. This is an improvement on the 65% in the previous survey covering 2006, but still shows plenty of airlines have yet to adapt a strategic approach to the issue.

This appears to be changing, however, of those 35%, 22% are in the approach of creating a fraud policy and 43% of airlines say they had a fraud policy. Whistle blowing is one area that airlines can use to reduce fraud.

One airline that has gone down this path is Malaysia Airlines, which has had a programme in place for around five years. “Our whistle-blowing hotline has changed the culture of Malaysian Airlines and shown management they are not immune from discipline procedures,” said Esther Yap Siew Yen, vice chairwoman of the IAAIA and chief internal auditor for Malaysian Airlines at an IAAIA conference last year.

In any case, improvements in real-time credit authorization technology are also helping airlines reduce fraud. The advent of broadband connectivity on aircraft means that airlines can now communicate with credit card clearing agencies while they are in the air - and at least cut down on onboard fraud costs. Traditionally, airlines stored transaction data onboard and processed it once they had landed. By that stage, the passenger was long gone.

There are also more sophisticated fraud detection systems available on the ground, such as Verified by Visa and MasterCard SecureCode services. The trend towards verifying transactions through codes sent to mobile phones is another safeguard - and fits in nicely to the onboard connectivity that airlines are offering. There are systems available to help airlines manage risk using airline specific date, PNRs, time to departure, flight routes and other features. The battle against fraud may not be won - but it’s becoming more sophisticated.

Colin Baker is editor of Singapore-based Asian Airlines & Airports, which covers the Asian civil aviation industry. Before that he was European Editor for Airline Business magazine and has also written for a number of other aviation titles.

SWIFT BROADBAND - EMPOWERING THE NEW GENERATION OF CABIN APPLICATIONS

ARINC's unique approach to In-Flight connectivity was first brought to the market in 2002. At that time, the onboard connectivity services comprised mainly of simple send and receive text messages. Passengers would use the installed In-Flight Entertainment (IFE) system to compose emails or SMS messages.

Nine years on, the products as well as the marketplace have dramatically evolved; yet the core ARINC principle of offering flexible, cost effective solutions designed to operate on different airframes, IFE technology and over any communication platforms, has remained.

Operating over SwiftBroadband, ARINC's new Cabin Connect Suite of products brings inflight connectivity to the entire aircraft, from flight deck applications and communications, through to crew connectivity and on to the cabin. For the passengers in the back, Cabin Connect provides web browsing, email, universal messaging, social networking and VPN access direct to their Personal Electronic Devices (PEDs). SwiftBroadband can also enhance the existing IFE seatback connectivity options, for example our Live Text News product has been recently enhanced to support audio and video content thanks to the increased bandwidth available over SwiftBroadband.

Supporting various commercial models, ARINC can work with airlines to find the best unique solution to offer onboard your aircraft fleet, creating differentiation and increased value for your passengers, crew and ground staff.

ARINC's Cabin Connect Suite allows airlines to fully customize the content, look, feel and layout. ARINC will work closely with airlines to tailor the solution according to their specific requirements and what is most appropriate for their passenger demographic. Third party sponsorship of services or content can be supported to provide either an additional revenue stream, or to help to cover some of the implied cost to the airline for offering free view services to passengers.

For newer aircraft with SwiftBroadband as standard, or those airlines that are pursuing a retrofit program, the opportunities to offer passengers next generation connectivity are greatly enhanced. Airlines with SwiftBroadband can offer their passengers the full connectivity package with options available such as internet browsing and social networking to Live News and sports video and audio updates sent to passengers' IFE seatback system.

For airlines with mixed fleets and varying levels of connectivity, ARINC can offer a variety of passenger communication options, from Seatback Messaging, send and receive SMS and Emails from the seatback IFE system, to Live Text News, News and Sport text updates sent directly to a passenger's seat.

ARINC provides airlines with a new generation of inflight connectivity thanks to Inmarsat SwiftBroadband, enhancing existing onboard IFE systems, and providing airlines with the opportunity to give passengers and crew new and exciting communications options via Cabin Connect Suite. Next generation connectivity offered at realistic prices and requiring small upgrades to airline equipment and software, for their passengers to enjoy an exhaustive range of connectivity options. To find out more about ARINC's Cabin Connect Suite, please visit http://www.arinc.com/cconnectsuite

Benefits of ARINC's Cabin Connect Suite

- Connectivity throughout the cabin, enhancing communications for the Flightdeck, Cabin Crew and Passengers
- Passengers can access real time entertainment such as Radio, News, Sports, Email, Universal Messaging and Web browsing.
- Range of passenger access options, own personal electronic device or via the seatback IFE hardware
- Multiple passenger payment modes to choose from : hourly use, monthly usage pass, incorporated into ticket price or FoC
- Easily customizable ; provides an additional platform for airlines to promote / advertise other services

EVA AIRWAYS - SPEEDING UP IN-FLIGHT CONNECTIVITY

Flight safety and customer experience has always been top on the priority list among most airlines, including EVA Airways – one of Taiwan's largest airlines. Having been awarded as one of the world's top-10 safest carriers by Germany's Aero International Magazine, the Chinese carrier has always placed great emphasis on utilizing technology to provide higher levels of safety, security and efficiency.

Since May 2011, ARINC has been providing its GLOBALLink℠ Satellite Communication (SATCOM) services to EVA Airways' entire fleet of aircrafts. "Technology is ever-changing and it is essential to utilize it to amplify our flight operations", commented Mr Lee Kang, Junior Vice President, Flight Operations Division of EVA Airways. "We required a solution that was cost effective and at the same time versatile enough to adhere to our evolving needs."

Having utilized leading edge flight operation technologies and IFE applications for decades, EVA Airways' flight operations team faced the challenge of selecting a SATCOM solution that was economical, flexible and highly reliable. "The challenge was to appoint a technology partner that was well versed with the industry and our requirements while recommending a solution that was stable and scalable," mentioned Mr Lucas Chuang, an engineer from the Flight Operations Division of EVA Airways. "The solution also has to significantly boost the flight operational performance cost effectively."

The advantages behind GLOBALink are evident and numerous for airlines. For EVA Airways, GLOBALink's air/ground datalink coverage allows air and ground crews to communicate via real time for vital flight information and operational control, weather, diversions, and emergencies. The ability to provide instantaneous information from air to ground crews means that the airline is able to enjoy greater reporting accuracy and faster turnaround times which ultimately enhances the airlines' flight operations and safety.

ARINC's collaboration with EVA Airways was not limited to just improving the communications channel of the airline's air to ground crews. EVA Airways also worked closely with ARINC and Panasonic Avionics Corporation to enhance its In-Flight Entertainment (IFE) services. SeatBack Messaging – a versatile and convenient In-Flight entertainment application enables passengers to send emails and short message service (SMS) throughout their flights.

> "It is the ideal solution for us," said Mr Lee. "What we have now is an IFE application that benefits both our customers and our business. ARINC's SeatBack Messaging has provided our passengers with different levels of in-flight connectivity and at the same time, benefitted the airline in terms of cost savings through its inexpensive connectivity infrastructure."

EVA AIRWAYS - SPEEDING UP IN-FLIGHT CONNECTIVITY

The essential benefit that SeatBack Messaging can offer to EVA Airways is the convenience of retaining its current IFE infrastructure while providing their passengers with full email and SMS capabilities. Another advantage of SeatBack Messaging is its flexible pricing scheme – passengers can pay for the service via the same application with their own credit card. The credit card details are validated in real time and no assistance is required from the cabin crew, hence making it convenient and efficient for both EVA Airways and its passengers.

Moving forward, EVA Airways will continue to work closely with ARINC and other technology providers to ensure that the airline's operations remain robust and stable.

GLOBALink Air/Ground Datalink Communications

ARINC's GLOBALink suite of voice and data communications has been engineered to help fine tune aircraft communication needs. Over 30 years ago, ARINC changed aviation communications forever with the Aircraft Communications Addressing and Reporting System (ACARS®). This revolutionary system became the defacto standard for efficient, reliable, and cost effective air/ground data communications.

More than 180 airlines around the globe are utilizing GLOBALink's datalink services for their critical communication requirements. GLOBALink's Air/Ground Data Link Communications include:

- VHF—fast, flexible digital data link
- HF—remote polar coverage
- Inmarsat—up-to-the-minute flight information reporting anywhere
- Iridium—overcomes intermittent communications in oceanic, polar and remote regions

GLOBALink SeatBack Messaging

In Flight connectivity has never been so versatile and convenient. SeatBack Messaging, developed by ARINC and Panasonic Avionics Corporation, an innovative solution for sending and receiving email, text messaging SMS, and even e-greetings cards right from a passenger's seat.

Utilizing a cost effective connectivity structure which connects to the existing In-Flight Entertainment (IFE) infrastructure, passengers can send and receive simple text emails and SMS messages to ground recipients using the IFE in-seat handset and seatback screen. Services under the SeatBack Messaging suite include:

- Seatback SMS / Short Text Service
- Short Message Service (SMS)
- In-Seat Email
- E-greetings

vMUSE was deployed at selected counters and gates of NAIA's Terminal 3 to support ANA's international flights.

ARINC EXTENDS ITS CHECK-INS TO MANILA TERMINAL 3, SUPPORTS NEW INTERNATIONAL SERVICE BY ANA

ARINC's vMUSE™ common-use passenger check-in technology was deployed at Terminal 3 of Manila's Ninoy Aquino International Airport (NAIA). The system supports new international service of All Nippon Airways (ANA), the first international service to originate from Terminal 3.

ARINC installed its technology at the request of the Manila International Airport Authority (MIAA). In a highly cost-effective move, ARINC configured the new Terminal 3 system as an extension of existing vMUSE technology at the airport's Terminal 2, reducing the project's complexity and eliminating the need for a Terminal 3 core room. ARINC vMUSE passenger check-in equipment was installed at selected counters and gates of Terminal 3, and ANA successfully launched its first international flight from Terminal 3 on March 1.

Operating the vMUSE service at Terminal 3 off the core room at Terminal 2 made the transition at the new terminal feasible with little added cost and within a short time frame. The vMUSE system can be extended very quickly to the rest of the terminal's check-in and boarding locations, to support future airlines operating at Terminal 3.

The management of NAIA noticed a significant improvement in productivity and readiness at Terminals 1 and 2 following the introduction of ARINC's check-in technology in 2009. Because of this, Terminal 3 was designed and set up to take advantage of ARINC's vMUSE technology for passenger processing.

As the first international carrier operating at Terminal 3, ANA commented that the check-in systems were robust and easy to use. "The passenger check-in systems at Terminal 3 of NAIA proved to be cost effective and efficient. We were impressed at how rapidly our departure control system was installed and ready for use, because we were working under tight timelines," said Takeshi Tokunaga, Deputy Director, Passenger Service Planning, Operations & Airport Services, ANA.

"We are delighted to work with MIAA and ANA on the extension of our passenger systems at Terminal 3, NAIA," said Jim L. Martin, Managing Director, ARINC Asia Pacific. "Our previous working experiences with ANA and MIAA on other projects have made us familiar with the kind of expectations both parties set for this project. Moving forward, ARINC will be pleased to continue supporting them in their future requirements."

ARINC's vMUSE is capable of serving multiple charter and scheduled airlines in one economical common-use system, without the costly re-engineering of departure control software normally required. vMUSE also reduces operational costs for airports with its Windows-based, plain-paper printing of boarding passes.

ARINC ADDS TWO NEW GROUND STATIONS IN MALAYSIA, EXPANDS GLOBALINK℠ COVERAGE IN ASIA PACIFIC

Two new remote ground stations (RGS) were launched in Langkawi and Miri, Malaysia, to enhance aviation data link communications services in the country. The deployment is in line with ARINC's plan to expand GLOBALink℠/VHF coverage in Asia Pacific, and brings the total of ARINC remote ground stations in Malaysia to seven, including current installations in Kuala Lumpur, Kuching, Kota Kinabalu and Penang.

The new deployments were accomplished in collaboration with Telekom Malaysia Berhad, and will provide domestic and international carriers with better air ground data link communications. ARINC also plans to deploy three more RGS in the country later this year.

"The GLOBALink expansion program in Malaysia is a significant move for us in providing seamless data link communications in the region," commented Jim L. Martin, Managing Director, ARINC Asia Pacific. "During this project it has been our pleasure to work with Telekom Malaysia, who were instrumental in getting the new ground stations operational."

The new stations will provide enhanced in-flight data transfer and communications between airline operations and aircraft flight decks, enabling greater efficiency and on-time performance.

"In Telekom Malaysia, our department focuses on the Malaysian aviation industry; especially on specialized technologies for Air Traffic Services. The synergy from our strategic partnership with ARINC as a network provider coupled with our strength in Engineering Logistic Support (ELS) will benefit the industry in this region," stated Mohamed Faisal Naina Mohamed, General Manager, Defence, Security, Aviation and Maritime Sector, Telekom Malaysia Berhad.

ARINC GLOBALink enables air crews to exchange information with ground crews and airline host systems anywhere in the world without the limitations and interruptions of voice radio. Data link improves flight deck processes and increases efficiency with clear, accurate, and unambiguous messages delivered directly to the crew, via either a cockpit display or a printer. Because data link also stores messages, flight crews can review and verify all operational instructions for enhanced safety. Compared with voice communications, data link improves flight deck processes and increases efficiency.

To date, ARINC's Asia Pacific operations have successfully deployed more than 200 VHF ground stations in 12 countries in the region.

ARINC RECENTLY PARTICIPATED IN THE FOLLOWING EVENTS WHICH GAVE US THE OPPORTUNITY FOR US TO INTRODUCE SOME OF OUR LATEST PRODUCTS AND SOLUTIONS IN THE MARKET. BELOW ARE SOME OF THE EVENT HIGHLIGHTS.

6th ACI Asia-Pacific Regional Assembly, Conference and Exhibition – April 5 – 8, 2011 (New Delhi, India)

ARINC was a proud sponsor of the 6th ACI Conference and Exhibition held at the Taj Palace in New Delhi, India. Solutions that were featured are ExpressDrop – SelfServ Common BagDrop Solution, ExpressCheck - remote check-in and BagDrop application and VeriPax – Passenger Reconciliation System. All three technologies are designed to enhance passenger processing and facilitation.

Shanghai International Business Aviation Show – April 13 – 15, 2011 (Shanghai, China)

ARINC's business aviation arm - ARINC Direct recently exhibited at the Shanghai International Business Aviation Show 2011 – an event organized specially for the Chinese business aviation community. It was also a good opportunity for us to showcase the business aviation solutions that ARINC Direct can offer. Live demonstrations of its Flight Planning services were also made at the booth.

6th International Air Traffic Control & Flight Operations Symposium – May 17 – 19, 2011 (Taiwan)

It was ARINC's pleasure to participate in the 6th International Air Traffic Control & Flight Operations Symposium as a sponsor and a speaker. Organized by the Chinese Civil Aeronautics Administration and EVA Air, the symposium aims to bring together industry experts to discuss on how to further enhance flight operations. Gavin Ng, Program Manager, Satellite Services presented on the capabilities of SwiftBroadband –satellite connectivity for airlines and business jets.

MARK YOUR CALENDAR!

Event Name:
IATA World Passenger Symposium 2011
Date: October 10 – 14 2011
Venue: Shangri-La Hotel, Singapore

For more details, please visit http://www.iata.org/events/passenger-symposium/pages/index.aspx


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A new age of in-flight connectivity
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Do the math:
Superior technology
+ the best technicians
= ARINC Managed Services

Technology Leadership

The AMS name has been built upon our superior ITIL Service Desk offering. Our customers benefit from a host of industry-leading capabilities including:

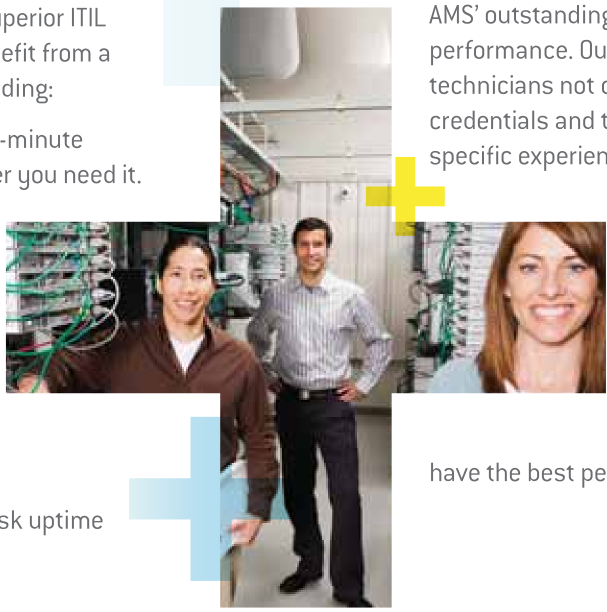
Mobilized Asset Management—up-to-the-minute asset information wherever and whenever you need it.

Device Level Monitoring—eliminates problems before they occur.

Automated Dispatching—makes repairs faster, ensuring stringent SLA levels are met.

Reporting— enables informed decisions to optimize resources.

Remote Kiosk Monitoring—optimizes kiosk uptime and reducing support costs.



Certified Technicians

AMS' outstanding reputation is built on performance. Our managers and technicians not only have the highest credentials and training, but have the specific experience to guarantee your airport's success on any IT project. AMS' advanced certifications include CAPM, CCNA, PMP and ITIL. It makes a differ-ence when you have the best people working for you.

The answer is simple: AMS

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