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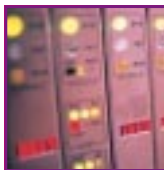
News from .aero

the domain of aviation

www.information.aero

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Welcome

Welcome to the October 2004 edition of newsletter that keeps you up to date on event at .aero – the world's first industry specific Internet top-level domain.

In the 1990s, the search was always on for the next "big thing". In our industry it's here, it's happening – and it will become increasingly based on aviations own self-managed Internet domain, .aero.

This edition of our newsletter offers some pointers for the future. For starters, we have an interview with Dr Paul Mockapetris, one of the living legends of the Internet. He considers the origins of the Domain Name System (DNS) that he invented, how a community can benefit from widely expected deployment of DNS security extensions (DNSSec) technology to ensure secure and effective use of the Internet – and he touches on the links that are emerging between radio frequency identification (RFID) technology, bar-coding and the DNS.

We also touch on the four IATA initiatives gathered under the umbrella of "Simplifying the Business". All rely on some form of communication between different systems – which translates into online technology via the Internet.

Finally, we offer a number of snippets from the world of .aero – from background on RFID to our evolving policy for those who wish to provide Flight Status Service under the .aero umbrella.

Remember that the .aero domain belongs to the aviation community.

.aero team, SITA

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How .aero is helping simplify the business

IATA has been asked by its member airlines to lead initiatives that will redefine the way we do business. It will benefit both the industry and the customer by making a more efficient travel experience for everyone. All of the initiatives rely on some form of communication between different systems – which means use of online technology via the Internet. With its pioneering stance and robust industry support .aero offers the best potential communication bridge, effectively becoming the “Type B” of the Internet age.

The objective is to improve customer service whilst saving at least US\$3 billion in annual costs. The background to the initiative is well understood across the industry, reflecting the difficult financial situation of the past four years, a changing environment with many new entrants to the market, the broadening availability of new online technologies and enhanced customer expectation of speedy, hassle-free service.

The projects include:

- 100 percent e-ticketing by 2007
- universal acceptance of common use self-service kiosks (CUSS)
- implementation of barcode standards to replace costly magnetic stripe boarding passes
- rapid adoption of radio frequency identification (RFID) baggage tags.

SITA has both a key strategic and a practical role to play in helping ensure these projects succeed.

The role of the logical network

However air transport companies decide to use the Internet, the Domain Name System (DNS – see special feature) will be involved whatever technology solution is implemented. Its advantage is that it is ubiquitous, always there and everyone can use it. It is not a proprietary technology.

Intelligent use of DNS technology is essential for safe use of the Internet. Domain names are essential to providing the level of machine/human interface needed to separate the host from physical network connections. The DNS is also essential for safe use of the Internet and flexible

management of both connections and systems. This is the field of the logical network – the software, servers, names and addresses that enable communications over the physical network.

A more detailed exploration of the logical network can be seen at www.nominum.com, including an interview with Gartner analyst Mark Fabbi. The article contends that “logical networks will play an increasingly vital role in business availability and service performance in the coming years due to the convergence of a number of trends. Ensuring that the logical network layer is rock-solid, including the DNS, DHCP and IP address management solution, is vital to the delivery of services across both enterprise and service provider networks”.



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Mark Fabbi, Gartner

The role of .aero

Certainly, communication between different systems is behind most, if not all, of IATA's initiatives. However, as airlines have transitioned to the Internet, many decided to establish links between systems on a case-by-case basis rather than using a common standard and the traditional shared solutions. This has created fresh problems because too many standards and technologies are involved.

As a result, a growing number of air transport companies are looking at new technologies and standards – for example, in order to consolidate and deploy a more cost effective solution to provide the same or better level of security.

The DNS is an essential bridge in this process – and .aero provides the exclusive policy/standard development platform for the industry. For example, some of the new technologies designed to improve security (such as DNSSEC) can be implemented independently of the commercial interests of large corporations or national boundaries. The industry can benefit from retaining full control over the use of these technologies through the management of its own domain space, not least the ability to amend or add rules and conventions.

Visionaries such as Paul Mockapetris (see special feature) foresee a time when every kind of 'identity' – whether an airline, a RFID tag or a phone number – will eventually

converge into domain names. In .aero, the air transport industry already owns the platform from which this can be achieved. The adoption of the four initiatives by IATA are significant in their own right. But they are the harbingers of much more change to come in the ease with which the Internet and its attendant DNS can help create a more secure but simpler business.

The advent of a predictable resource

To date there are more than 40 airlines and 200 airports already using [www.\(industry code\).aero](#) as a shortcut to their corporate website. This has become a fast entry alternative for those who know the code and like using a "system" that is predictable and works across a variety of situations.

The activation of two/three letter codes creates a fast track alternative for those who know the code and like using a "system" that is predictable and works across a variety of situations.

In June, with the full support of ICANN, SITA activated all remaining two/three letter industry codes within the .aero domain. The next step has now been taken, with the development of a program designed to link those .aero domains to airline/airport corporate websites.

The .aero team will continue to add links to corporate websites of airlines and airports that have not yet taken control of their pre-registered domain.

Why have we taken this action? For three principal reasons:

- to demonstrate that predictability works
- to help build momentum and user habits
- and last but not least to help the

community realize its goal – in recognition of the fact that, while those who are moving ahead faster than others are able to implement changes themselves, some may be prepared to accept a helping hand.

Risk of branding confusion?

It must be emphasized that the activation of industry codes within the .aero domain is not intended in any way to compete against or replace existing corporate websites. However, existing domain names that are also used for branding are very diverse. A traveler will only remember the handful of brands he or she uses most.

The activation of two/three letter codes creates a fast track. Using recognized codes as an "entrance" provides travelers with an opportunity to enter quickly into the world of airline/airport information simply by navigating through to the information they are looking for – whether it's the status of a given flight or a more general website enquiry.



Flight status service – a new policy developed

In June, .aero completed the trial of a new flight status service operated in collaboration with Geneva International Airport, IATA, ACI and SITA. As part of the pilot operation, a cross-sector task force developed a policy to guide the registration and use of domain names needed to operate such services.

This policy will ensure that future similar services can be operated by multiple providers yet retain the consistency so much needed by the traveling public.

Airlines, airports and IT providers are invited to review and comment on the policy and consider the introduction of a flight status service based on its proposed parameters.

A full PDF document of this policy is published on the .aero website.

Information accessed with ease..

The flight status service enabled anyone to check the status of any flight coming into or leaving from Geneva, simply by typing a flight number or route in the navigation bar of a web browser on a variety of devices including mobile phones, PDAs or PCs.

There were two options for testing: the first was to type in the flight number, expressed as a .aero URL, such as <http://BA723.aero> or <http://LX1751.aero>. This gave direct access to information relating to the flight number entered. The second option was to key in a

.aero URL composed of airport pairs attached by a hyphen. For example, <http://gva-lhr.aero>, gave information for all flights between Geneva and London Heathrow.

The level of participation clearly demonstrated that travelers, as well as local transport companies serving the traveling public, appreciate having rapid access to travel information in a consistent and predictable manner – across a variety of access devices, airlines and airports. A survey among 230 users revealed that 98 percent wanted this new method of presenting existing flight information – based on recognizable aviation conventions and the aviation top level domain .aero – to be expanded to airports worldwide.

For more information, contact aero.enquiries@sita.aero.

A survey among 230 users revealed that 98 percent wanted this new method of presenting existing flight information.

It's time to understand RFID



A powerful head of steam is building up over the introduction of radio frequency identification (RFID) tags, not least in air transport. As we discuss in the article on simplifying the business IATA has been mandated by its members to seek the rapid adoption of RFID for baggage. For more information see the IATA Baggage Working Group's dedicated website at www1.iata.org/Whip/Public/frmMain_Public.aspx?WgId=46; also the IATA Simplifying Business website at www.iata.org/whatwedo/simplibiz.

There is a growing body of analysis and information on RFID available on the Web. Here are two sources that may be of interest to readers anxious to get themselves up to speed on the technology and the issues. First, RFID Journal is a paid subscription website that covers the RFID industry in depth (www.rfidjournal.com). They also publish a weekly free newsletter.

Second, in May of this year, the ZD Net website published a series of articles in a news focus on RFID. They can be accessed at <http://zdnet.com.com/2251-1110-5216289.html>.

The man who invented the Domain Name System talks to .aero

Paul Mockapetris is one of the visionaries who developed the nuts and bolts of the Internet. Having participated in the development of SMTP e-mail system (the vital element that allows e-mail to be sent between different computers), in 1983 he turned to another key element – the need for a globally distributed human-friendly database of IP addresses. The result was the Domain Name System (DNS).



your address, but keep the same name. The key insight was to leave the system “open”, so names can keep track of things other than Internet addresses. The result was the DNS – a cornerstone of our Internet-enabled world, with over a billion names in use, a figure that’s expected to double every year for the next five years.

“The DNS was built to be simple and predictable,” explained Dr Mockapetris, echoing two of the elements that underpin the creation of .aero – still the only business sector to have its own TLD naming structure. “It was created to let people use names for anything. But we had to figure out how to organize the distribution of domain names and how to ensure the system could accommodate diversity without unnecessary restriction.

“We added an application to handle e-mail routing – and over time more people have added applications that depend on this massive distributed database and deliver value by providing information and data that people want.”

In an interview with Marie Zitkova, .aero Business Manager at SITA SC, Dr Mockapetris talked about his work – and the way it is continuing to reshape the Internet universe.

Every Internet address is defined as a number, and there are hundreds of millions of them in use. With the DNS, Paul Mockapetris created the ability to use a name to refer to an address, so that you can move and change

Special feature continued...

"For example, the phone industry will be using DNS to route calls and add features, using a facility called ENUM – designed to make the existing phone number space available for Internet telephony. During the ENUM development stage, a little piece of DNS technology was developed that others then adopted while they were figuring out how to use DNS to keep track of RFID (Radio Frequency Identification) tags," he replied.

Radio tags and security issues

This is an area of increasing interest to the air transport industry, so is RFID likely to become a mainstream technology soon?

"RFID is now in wide use, but there is not yet a global standard. We're getting there and I know your industry is working hard to use RFID for improvements in everything from parts supply to baggage handling. There are also serious privacy issues, but they are being resolved."

What about security – another core industry concern?

"Building a universally-accepted mechanism so that you can check digital signatures of DNS information is hard, and is the main reason why the DNS Security Protocol (DNSSEC) is not yet implemented. People are still discussing how to close the loop – for example, how those who run the .com domain can maintain signature verification information for 30 million sub-domains. There are also control issues: who will control the top-level key to the root? These are difficult questions.

"Overall, we're close to agreeing a roadmap for deployment. But while we develop the application, I'd like to see organizations using

it within their own closed communities – maybe .aero could become an early adopter? After all, as a sponsored domain, you can set and manage your own standards and policies."

As someone used to spending time in international airports, does Paul Mockapetris have any strong ideas about using Internet technology better?

"DNS manages distribution superbly. So given increased availability of wireless Internet in airport lounges, why not make smarter use of the Net and the resilience of the .aero domain? I'd like to be able to open my laptop or online PDA and connect to a relevant departure screen and airport map, without even buying the wireless service.

"Information is at the heart of our needs today – one of the biggest challenges for airport administrations is to deliver the right information in the right way at the right time. The beauty of the DNS is that a rich core functionality is already there. It just needs the right applications to generate even greater value."

Talking to the industry

Dr Mockapetris will discuss the future of the Internet and DNS and its implications on airport IT at the ACI Airport subcommittee (AITSC) meeting at ACI's World Assembly, Conference and Exhibition in Lisbon*.

The objective of this session, which is sponsored by .aero, is to engage in creative discussion about the impact of the latest DNS technology developments on the future of IT and communication in the air transport

industry, including the links which recently emerged between the RFID and bar coding technology and DNS.

From the .aero perspective, if the true potential of the .aero domain as an industry controlled partition of the DNS is to be realized, it must be seen in the context of the entire communications infrastructure of the air transport community. While on the surface .aero is just a "brand" name and a policy development platform, DNS as the technology behind .aero is of ever-increasing importance. This session is a key part of an awareness building campaign designed to empower the airport community to drive the policy development in the .aero domain.

"The DNS was built to be simple and predictable."

Dr. Paul Mockapetris

* Airport Council International (ACI) is a key member of the Dot Aero Council – the group that determines the strategy and conventions of the .aero domain.

Aviartner – success story

Belgium-based Aviartner is one of Europe's leading independent ground handlers, delivering a wide range of services at 32 airports in Belgium, France, Germany, the Netherlands, Italy and Switzerland. With more than 4,800 staff, the company deals with more than 250 airlines and almost 20 million passengers a year, as well as some 770,000 tons of cargo.

In line with its policy of being proactive and innovative in using IT to create a more effective business, the company has focused all Internet traffic through Aviartner.aero, including the redirection of all traffic directed at its .com and .be domains. All communications between

the company and its many stakeholders is now branded with .aero, from marketing collateral to exhibition stands, internal/external correspondence to press releases.

"The decision to use .aero as our primary domain was driven by our focus on the aviation industry," according to Aviartner Communications Manager Christine Karels. "It is helping us to increase visibility and offers a platform for enhanced domain security and stability. The reaction from customers has been entirely positive."

Aviartner covers the full range of airport services – including passenger and baggage handling, ticketing, cargo and mail handling, ramp services, aircraft servicing and



maintenance, flight operations and crew administration, load control and communications, surface transport of passengers and crews, operation of airport lounges, catering and security services, and executive aviation services.



Industry events

You can meet members of the .aero team at a number of forthcoming events including:

NBAA Annual Meeting & Convention – 12-14 October, Las Vegas – .aero Booth 801

The Washington DC-based National Business Aviation Association represents the aviation interests of 7,600 companies that own or operate general aviation aircraft. Founded in 1949, NBAA promotes the common interests of its members worldwide.

For more details, go to www.nbaa.org.

The Annual Meeting and Convention is the business aviation industry's largest annual gathering of buyers and sellers. The 2003 event welcomed 28,574 attendees, with 1,068 exhibitors occupying nearly 93,000 square metres of space.

Airports Council International (ACI) World Assembly Lisbon, Portugal – 13-15 October

Dr Paul Mockapetris - inventor of the Internet's Domain Name System (DNS) will be addressing the ACI Airport subcommittee (AITSC) at ACI's World Assembly, Conference and Exhibition in Lisbon, where he will discuss "the future of the Internet and DNS and its implications on airport IT". This session is sponsored by .aero.

.aero will be present for the duration of the exhibition, and will be represented by Marie Zitkova, .aero Business Manager - who will host a .aero information/meeting room in the exhibition area.

For more information contact aero.enquiries@sita.aero

Online information and late breaking news are available at www.information.aero
e-mail enquiries to aero.enquiries@sita.aero

This newsletter is issued by SITA, the Sponsor of the .aero Top Level Domain. SITA also operates the official .aero web site www.information.aero – providing information about domain registrations, policies and procedures and new developments in the .aero domain.

If you would like to comment on any of the articles in this issue or you would like more information, please contact our editor, Paola Piacentini, at aero.enquiries@sita.aero

News from.aero – the domain of aviation

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