

EDITORIAL

Architect of an Open World



With a slight increase of 0.3% in our revenues in Q1 2006 – a traditionally weak quarter for the Group – and a backlog that has grown by 6%, we are on track with our business objectives and continuing the growth momentum initiated in 2005. The rebalancing of our business between products and services is accelerating: we recorded excellent progress (+14%) in revenues from services (with a 22% increase in orders), offset it is true by a falling off in maintenance. The large contract we are currently finalizing with the local council in the town of Barnsley, in the North of England, to manage its IT infrastructure, marks Bull's return to the services market in the UK. And finally, high growth potential countries like Brazil have delivered exceptional performances, as has our business in telcos: where business is booming (hence the 56% increase in orders) especially with new applications linked to voice-over-IP.

In line with our "Horizon 2008" strategic plan, Bull is actively continuing its development and has just acquired HRBC, a French IT services company specializing in ERP systems for human resources, with the aim of further strengthening our expertise in consulting and systems integration. This is the third acquisition made by the business in the past eight months, following that of Enatel – the security software publisher specializing in enterprise Single Sign-On (SSO) – in September 2005, and AMG.net, the Polish consulting and systems integration company focusing on new technologies for the telcos and finance sectors, which we bought in March this year and will enable us to extend our position in Eastern and Central Europe.

As "Architect of an Open World", Bull continues to innovate in areas that are strategic for our customers: supercomputers, open systems architectures, Open Source, security... using our expertise in mastering complexity to help them meet the challenges of becoming ever more agile and more competitive. Our major customers – who joined us at the end of April in Cannes for our latest high-level seminar – have given the strongest backing to our new strategic positioning. Faced with major changes in the economic landscape, open information technologies are important levers of transformation available to businesses today. Thankfully, they are what Bull is all about, at the very heart of our expertise and culture.

Didier Lamouche, Chairman and Chief Executive Officer

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EXECUTIVE OPINION

Hassan Maad,
Managing Director, Bull Evidian

IT security in an open world: new rules, new challenges

All the research shows that it's true: IT insecurity is steadily increasing. And the cost is high. According to some studies, it could currently be costing over 100 billion dollars (source: Mi2G). Against this backdrop, it's not surprising that security is one of the top concerns for IT Directors and CIOs.

Today, three major factors mean that effective IT security is a vital necessity, whether on operational systems or new projects:

- Computing is at the heart of core business processes. From

enterprise resource planning (ERP) to e-commerce systems, information systems manage organizations' most vital processes and data.

(Continued on page 2)

BUSINESS NEWS

Air Berlin is "ready for takeoff" - with Bull

Air Berlin, the most successful German low-cost carrier, has experienced remarkable growth in recent years. Individual ticket sales, representing nearly 58% of the total turnover, continue to be the growth engine of the enterprise. The result? The company had to adapt its booking system to cope with this phenomenal growth.

// Always on a Monday" could be the firm's motto. At the beginning of every week, Airberlin.com is swamped with customers logging in to find out about the latest special offers or even to make reservations for their dream desti-

nations. "In particular, during our special promotions several thousand prospective customers access our bookkeeping system with vacation queries," explains Air Berlin's IT Manager Kai Gottschlich.

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EXECUTIVE OPINION (CONTINUED PAGE 1)



So they are the target of choice for potential aggressors: hackers, cyber-vandals, activists, criminals, competitors...

- **Information systems are increasingly open.** With the development of the Internet and mobile computing (3G, WiFi, etc), information systems provide open access to an increasing range of services for a growing number of users: business partners, customers, etc. And they incorporate more and more diverse technologies. That creates new risks – and it's all too easy to forget – threats that also, and most often, originate from inside the organization.

- **Security is now a legal obligation.** From Sarbanes-Oxley to France's LCEN law designed to build confidence in the digital economy, a growing number of regulations enshrine IT security as a cornerstone in the protection of customers and users (HIPAA – the Health Insurance Portability and Accountability Act, LCEN, etc), inves-

tors (Sarbanes-Oxley) and regulators (Basel II, etc). Security is no longer an option: it's a requirement. Under the Sarbanes-Oxley regulations, for example, it is the CEO him or herself who must take responsibility for compliance, and who is accountable under law!

An open world, new challenges

Security is becoming a vital feature of open information systems. But that means there are new kinds of challenges to overcome. Because up to now the traditional focus of security has been on ensuring service continuity and network security, but the growth of the 'open world' means there are also other, new demands.

In the new, open world there are four key IT security challenges to overcome:

- **Guaranteeing service continuity.** The importance of service continuity has been thrown into sharp relief by tragic events such as 9/11 in the USA. The aim is to guarantee 24h/24, 7d/7 availability and provide a disaster recovery plan, in line with best practice in IT governance (ITIL®). This is an area where Bull is very closely involved not only in providing hardware solutions, but also software innovations such as its SafeKit and ARF (Application Roll-over Facility) solutions. And not forgetting services: Bull offers one of the most advanced outsourcing data centers and disaster recovery planning facilities in Europe.

- **Protecting the network from attacks.** With the development of the Internet, this is the number one security challenge: firewalls, IPS, VPN, etc. Today we're moving beyond the 'perimeter fence' approach to network security towards a multi-faceted, end-to-end approach. In this area, Bull is involved not only through its TrustWay

VPN (Virtual Private Network) solution for sensitive industries, but also by offering the best solutions on the market from partner companies: drawing on its extensive expertise as a consultant and systems integrator on large-scale projects such as the DGI Pass security gateway, securing French tax declarations.

- **Authorization: identity and access management.** In an open world, the challenge is not simply to protect your confidential space from external threats. The idea of the 'corporate fortress' is crumbling with the need to be more open to customers and business partners. As the Ancient Greek historian Thucydides said: "the security of the city depends less on the strength of its fortifications than on the state of mind of its inhabitants". It is becoming increasingly essential to uniquely identify people within the organization, so the right people can authorize the right users, and prove these authorizations in the course of an audit. This area of security, known as identity and access management (IAM), is growing very rapidly and now offers tools that are becoming increasingly strategic for IT Directors/CIOs. In this area, Bull has invested significantly in R&D, especially via its specialist subsidiary, Bull Evidian, with two main themes: ensuring that security tools provide the closest possible fit with business processes – hence the launch of WiseGuard 3G, the new-generation, business process oriented, single sign-on (SSO) tool – and offering the highest levels of security for those who need it. This is reflected, for example in the launch of TrustWay PPS 2, a strong authentication solution that is both simple and ultra-secure for the mobile workstation: another pioneering innovation from Bull, two decades after it invented the smart card!

(concluded page 3)

EXECUTIVE OPINION (CONTINUED)

• **Certification: ensuring transaction security.** One of the values that underpins the 'open world' is to facilitate exchanges – between partners, customers, users... – via new technologies such as e-commerce and integrated supply chains. Which is why transaction security is so important? Having proved themselves in the banking environment, the technologies to enable this are now becoming more widespread: secure on-line public services, remote transactions... Bull has invested in this area for many years, resulting not only in our digital identity management solutions (particularly Bull MetaPKI), but also solutions for Web Services and payments systems security. Our offerings in this area also include innovative solutions such as secure archiving and digital safes.

Implementation: focusing on the essentials

So how should we respond to these new challenges? Security is not just about achieving a zero-risk situation: it's about balancing risks, time and budgetary constraints. In the increasingly complex environment brought about by the opening up of information systems, experience shows that it is vital to take a pragmatic, methodical approach.

• **Take a detailed and proactive approach to analyzing risks.** Security is all about prioritizing and making the right choices. There is no 'one size fits all' approach: it has to be adapted to each specific context: the public sector, banking, telecoms, industry... Hence the importance of analyzing the risks – before choosing any technology solution – and focusing on the right priorities. Bull, with its expert consultants in this area, is committed to providing effective support for organizations going through this process.

• **Go step by step, applying the 80/20 rule.** All the experience shows that creating secure information systems is a matter of bringing together a clear vision of the future and a pragmatic, step-by-step approach that concentrates on what's most important. Bull is well versed in helping its customers focus on their major priorities, while taking full advantage of the latest innovative technologies. The Group provides solutions that offer the maximum security for minimum investment, such as SSO and strong authentication solutions. The 'IAM NOW >' program, launched in 2005 by Bull Evidian, very effectively encapsulates this progres-

sive approach to identity and access management.

• **Put the user at the heart of security.** IT security is not a product, but a process. If it's too complicated for the user, administrator or auditor, it will be circumvented. More than ever, the user is at the heart of security strategy. The emphasis that we are putting on user authentication is a reflection of this. Every user who keeps to the security process is, for the IS department, a measure of success. This is why it is so important to take into account from the very start how easy the security tools are to use.

In an open world, security is an increasingly one of the biggest challenges. But it is possible to respond effectively: as we have seen from experience. The challenge is not only to manage the risks. It's a broader, business challenge: to build trust among customers, users, business partners, investors... all groups of stakeholders.

Our aim is to work alongside all kinds of organizations, to help them meet these challenges and so take greater advantage of all the positive opportunities offered by an open world!

HOT TOPICS

IT architectures: the new European dynamic

From 20-21 April, Bull welcomed many of its major international customers to the Palais des Festivals in Cannes, France, for a high-level conference on the theme of "IT architectures: the new European dynamic". In an atmosphere conducive to exchanges of the highest quality, the event proved an excellent opportunity to debate new challenges and the evolution of information technologies: and an auspicious moment for Bull to share its ambition to occupy much more of the territory in the changing European IT landscape.

Several highpoints marked out the conference. The first afternoon: dedicated to exploring the major changes in the economy and the importance of IT in the competitive value chain. The following morning: focusing on the fundamental evolution in IT architectures, with the rise of Open Source, virtualization, and the growing power of the data center using standard systems... And finally the second afternoon, during which our customers had the opportunity to meet with members of the Bull senior management team for one-to-one discussions.

The keynote speaker was Stéphane Garelli, Economics Professor at the University of Lausanne, Switzerland, and IMD Business School, and former Director of the World Economic Forum and Symposium in Davos. He immediately captivated everyone present with an uplifting presentation looking at the major factors governing European competitiveness. The international economic balance, the consequences of an open world and globalization, the impact of Chinese consumerism, the creation of new markets, the

evolution of value chains, the changes in customer expectations... all led to one main conclusion: Europe today is faced with a major challenge in terms of its competitiveness. There are a number of vital prerequisites for success: not least the ambition to win, to match up to these challenges.

Bull's own ambition in this direction was indeed the subject of the speech made by Didier Lamouche, Bull's Chairman and Chief Executive Officer. That ambition, set out in the company's strategic plan "Horizon 2008", is to take what it sees as its rightful place in the IT landscape, at the head of the pack among the European players in the industry. Calling on its strong and distinctive values: the ability to develop innovative products in open systems technologies, expertise in managing very large-scale infrastructure projects, in-depth mastery of IT security technologies.

In scientific computing, in complex infrastructures, it is up to Europe to rekindle its drive, its ambition and its independence. And it is up to Bull to play a major role in delivering the information technology to

achieve this.

Lisa Graff, General Manager of Server Platform Management in Intel's Digital Enterprise Group, then went on to outline the technologies that Intel believes will change the world. Just a few years ago, who would have anticipated the launch of an Apple Mac based on Intel processors? And who would have expected Intel to start targeting sectors such as health-care, education and digital cities? Lisa Graff – who flew in especially for the event from Intel's headquarters in Portland, Oregon – demonstrated just how much Intel is investing in Europe and just how far the company is in the process of reinventing itself.

Lisa was followed by Daniel Verwaerde, Director of the Nuclear Deterrence program at the French Atomic Energy Agency (the CEA), who rounded off the first afternoon's proceedings by presenting Tera-10, Europe's most powerful supercomputer and one of the biggest in the world today. He outlined how the computer was being brought into service, putting the emphasis on the reasons why Bull was chosen. He also stressed that this is an essential project for European competitiveness, given that the CEA is very keen to make its unrivalled computing resources available to other research centers and enterprises, for example as in the Ter@tec project.

We will be revisiting the conclusions of the second part of this event in more detail, in the next edition of Bull Direct. The morning featured presentations from Janick Taillandier, IS Director of the Paris transport company RATP, Frédéric Taieb, Director of France Télécom's Address+ project, and Francisco Antonio Huertas Méndez, Director of the Center for New Initiatives for the regional authorities in Extremadura, Spain.



BUSINESS NEWS (CONTINUED PAGE 1)

Air Berlin is "ready for takeoff" - with Bull

Air Berlin, the most successful German low-cost carrier, has experienced remarkable growth in recent years. Individual ticket sales, representing nearly 58% of the total turnover, continue to be the growth engine of the enterprise. The result? The company had to adapt its booking system to cope with this phenomenal growth.

// Always on a Monday" could be the firm's motto. At the beginning of every week, Airberlin.com is swamped with customers logging in to find out about the latest special offers or even to make reservations for their dream destinations. "In particular, during our special promotions several thousand prospective customers access our bookkeeping system with vacation queries," explains Air Berlin's IT Manager Kai Gottschlich. "Given our reputation, we owe it to our customers to make sure that the computers don't run a second slower during those queries."

Downtime is not an option!

As a result, the company decided to migrate its proven bookkeeping system, based on WBS blank software solution, a standard in the tourism industry – onto more modern computers. At the core of the Berlin-based airline's newly renovated computing center are two high-performance Escala PL6450R servers from Bull. With these computers, currently the fastest and most industrial Unix® computers in Germany, Air Berlin is in position to support the company's growth from a technical point of view. "It was a particular challenge for us that this migration

took place to a certain extent in the 'open heart' of operations, while we remained up and running," says Holger Schäfer, Managing Director of Stuttgart-based CCP Condor Computer GmbH, the systems integrator on the project.

Fast workhorses in the background

The two computers are more than doing justice to their reputations and are beginning to handle extremely heavy loads and short-term inquiry peaks – triggered by newsletter offers – very reliably. For security reasons the servers are in two separate computer rooms: the first one is used as the actual accounting machine, the second computer, equipped with several partitions, is used as a test environment and also as a standby host. "This has the advantage that each of the partitions can correspond to an independent computer, and we can flexibly adapt the resources to our requirements, whether it's the number of CPUs, the memory capacity or even the PCI board slots," explains Kai Gottschlich.

Security at every level

To further increase the security of the new system, the booking system and the standby partition of the second Escala server are clustered via High Availability Cluster MultiProcessing (HACMP). So in the event of a possible system crash, the task is automatically rolled-over in few seconds to the second computer, thereby guaranteeing high availability at all times. In addition, redundant internal disks are also housed separately in the two machine rooms. Data alignment takes

place via AIX® mirroring, so that even in the very improbable event of a total RAID storage system failure, no break in bookings is possible at any time.

"We have been working together with Bull and CCP since 1997 and decided without hesitation to use these partners once again," declared Kai Gottschlich when asked about the choice of the new servers. A clear show of confidence, as the future will demand maximum output from Air Berlin's technological success story: at the moment, Air Berlin has 52 jets in use, and is expecting the delivery of nine A320 Airbus airplanes. A further 49 Airbus planes are to be delivered by 2011, which means more connections, more destinations and thousands more reservations on airberlin.com.

About Air Berlin

In the past year, with 13.5 million passengers, Air Berlin's position as the second largest German airline behind Lufthansa was firmly reinforced. That's an increase of almost 12.45% compared to 2004. In total the Berlin company flies out of 17 German airports. In addition to the 48 European and North African destinations from Germany, the airline continues to develop its connections outside of Germany, from London and Amsterdam to Mallorca for example, as well as internal Spanish flights from Palma de Mallorca to 17 destinations on the mainland and the Balearic Islands.

BUSINESS NEWS (CONTINUED)

Health insurer CNAMTS chooses Bull to support its Linux RedHat distributions

As part of its global Open Source strategy, French health insurance provider CNAMTS (the Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés) has awarded Bull the contract to support its Linux RedHat distributions across all its technical infrastructure servers and front office applications (up to 5,000 servers in all), as well as to provide additional support services in other Open Source environments.

The three-year contract responds to CNAMTS's requirements for professional-quality support tools and expertise in Open Source software. It includes corrective maintenance and updating services, on-line support and assistance on

site, as well as audit, monitoring and technical assistance.

"We chose Bull because of its commitment to Open Source, its professional support center – which gives us access to a single contact point and personalized

support – and the possibility of accessing the full spectrum of the Group's expertise in Open Source software," explained Maryvonne Cronier, CNAMTS' IS Director.

For Bull, this is another new contract for its Open Access service – the support element of its Open Energy offering. Launched in November 2005, Open Energy is a comprehensive service offering based on a professional industrial approach and responding to the full range of requirements in the deployment life cycle for Open Source solutions: from porting to development, and including integration, support and change management services.

ONERA chooses Bull supercomputers to enhance its computing power and speed up its scientific research

The French national aerospace research agency will in particular use the power of Bull's NovaScale® servers to enhance the precision of its computer simulation models, speed up its digital simulation processes and adapt to use massively parallel computing power.

ONERA (the Office National d'Études et de Recherches Aéronautiques – National Office for Aerospace Studies and Research) is extending its computing resources with an order for a Bull supercomputer delivering some 1.43 TeraFlops of processing power.

ONERA is a major research establishment in Europe dedicated to the aeronautical and space sector. This order is the first

phase in a project that includes two optional parts, over the life of which the supercomputer will be enhanced to eventually deliver some 6.14 TeraFlops of power.

In this initial phase, the supercomputer designed by Bull will form a 14-node NovaScale® cluster, with each node consisting of 16 Intel® Itanium® 2 processors and 64 GB of central memory: making a total of 224 processors. The NovaScale servers will be connected by an ultra high performance Quadrics network and a Bull StoreWay data storage system, integrating the Data Direct Networks systems.

Operated using Bull's own HPC (High-Performance Computing) software platform – based around the Linux® operating system – the servers are designed to de-

liver part of the computing power needed by ONERA's entire scientific community, in order to enhance the agency's research capabilities in a number of areas, including:

- Enhancing the precision digital simulation modeling, thanks to the increased refinement of the physical models being implemented and increasingly accurate results
- Speeding up the digital simulation processes across a vast range of applications, enabling research teams to test and validate new models and methods more rapidly
- Accelerating the adaptation to massively parallel computing resources.

BUSINESS NEWS (CONTINUED)

Bull and Basis Bay announce a major business and technology agreement

A strategic alliance that launches Jazz Series, based on Bull NovaScale® server technology.

Bull and Basis Bay today announced a major 5-year OEM agreement, based on the following terms:

- Bull will provide Basis Bay with Bull NovaScale technology for the development of its own range of high-end servers, based on the Intel® Itanium® 2 processors for the Malaysia and Thailand markets
- Basis Bay Enterprise Servers - Jazz Series will be powered by the Bull NovaScale technology
- Bull and Basis Bay will partner on large projects with Bull providing its expertise in Services and Systems Integration.

The Jazz series are totally adapted to the specific market needs as they represent the most powerful solution available for Open Source and Windows-based solutions.

The Bull NovaScale server range is a new generation of open, standard and mainframe-class enterprise servers, supporting Windows®, Linux® and GCOS operating systems. It is a reliable and proven alternative to traditional mainframes, benefiting from cost-effective, scalable and open environments.

The features of the Bull NovaScale high-end servers make them particularly appropriate for application consolidation, very large databases, ERP applications or demanding high-performance applications. With very large computing power and bandwidth, they also answer the needs of scientific and technical applications that require powerful nodes within cluster or grid architectures.

"Bull is very pleased to announce today this new OEM agreement with Basis Bay.

OEM agreements represent a cornerstone in Bull's go-to-market model. This OEM agreement will significantly widen our market reach for NovaScale. We are impressed by Basis Bay's business execution in its target markets such as public sector, and we look forward to a great partnership" declared Michel Lepert General Manager of the Products and Systems activities of Bull.

"Bull is an ideal vendor for technology partnership, given their expertise and capabilities in high-end enterprise level mainframes in the international market. The relationship between Bull and Basis Bay is compelling in the way that it provides a strategic and competitive alternative for Malaysia and Thailand from a vendor with excellent technology and reputation" said Praba Thiagarajah, CEO of Basis Bay.

EXPERT VOICE

Pierre Caubit, Security Architect, Bull Service and Solutions

Web services security: challenges and perspectives



Within the framework of ITEA (Information Technology for European Advancement) initiative, Pierre Caubit was director of the Security part of LASCOT (LArge Scale COLlaborative decision support Technology) program, a human-centred decision support system for crisis management. He works as a systems architect and expert on some of Europe's largest IT security projects.

At a time when information systems need to be much more open and flexible, SOAs (Service Oriented Architectures) have become a major avenue for technology development. They are based on a simple principle, even if their implementation can be complex: dividing applications between the various "services" within a business, in other words building up a service application portfolio (for example, issuing a purchase order, passing the order to a supplier, calculating the price...) that can be easily aggregated and combined in different ways according to the actual needs of the business. The advantages of the SOA approach are that it enables the organization to make the most of its application portfolio and simplifies exchanges between heterogeneous environments. This means that elements that have already been defined and implemented can be 'reused', in order to reduce integration costs and improve responsiveness in the face of changing business needs, not just within the business but also among partners, suppliers, customers, etc.

The basic technology used for these kinds of services is the Web Services model. So although these changes offer huge potential for the future, they also create new kinds of risks. Hence the new requirements for systems security in terms of availability, integrity, confidentiality and proof.

Bull has been heavily involved in this fundamental evolution since the new concepts first started to emerge, in the early years of this decade. Apart from research and experiments into the security of SOAP (Simple Object Access Protocol) exchanges, based on the early "drafts" of XML (Extensible Mark-up Language) for big banks, Bull's main focus has been accompanied by the development of an XML security infrastructure as part of the LASCOT project within the European Union's ITEA pro-

gram, which has created an open infrastructure that can easily be adapted to any context. Using these technologies, one of Bull's main aims is to help its customers implement secure SOA middle-ware infrastructures running under Java, using open and secure technology "bricks".

Web Services open up a whole new, much simpler way of implementing complex processes. They ensure that information systems are more flexible, and are enabling a fundamental conceptual revolution in the definition of "applications". As a result, they will become increasingly virtualized, gradually transformed into numerous distributed Web Services, and at the same time enabling the increased virtualization of entire information systems themselves.

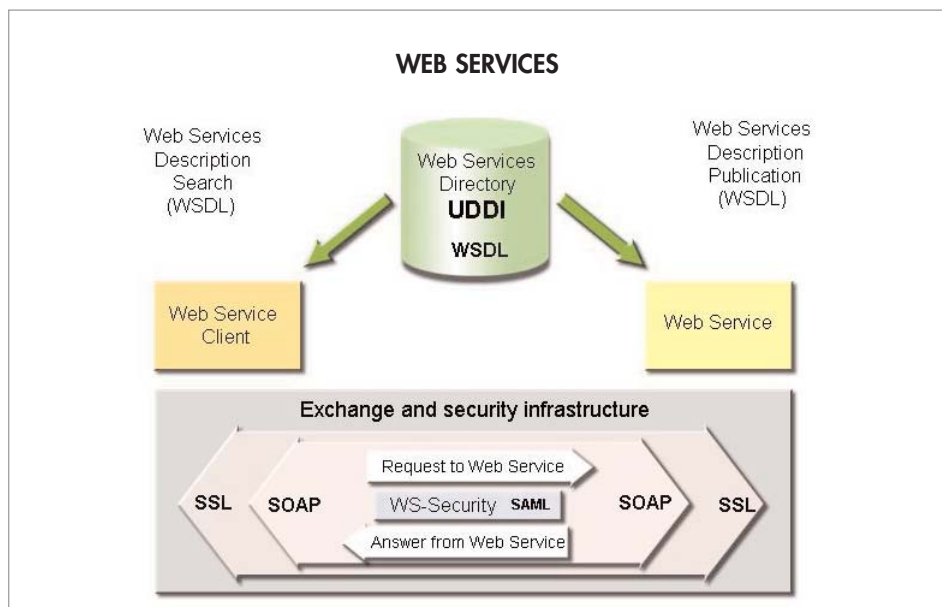
Web services: a flexible approach to systems architecture

Web services enable the implementation of distributed applications that utilize remote, heterogeneous components. The associated technical architecture – still in the process of being standardized – is

based on a layered model: transport, service detection, exchanges and communication, description of complex processes, contracts, etc. Specific descriptive languages – based on the XML (eXtensible Mark-up Language) standard – are associated with each layer. A simple and extendable language, XML has emerged as the standard for Web services' deployment, thanks to the fact that it is much more flexible than the older methods of describing components offered by standards such as DCOM and Corba.

The implementation of Web services is based on the classic "publish-find-bind" model for distributed components. Requests and data interchanges between services are enabled by the SOAP protocol, which is compatible with numerous transport protocols (HTTP, SMTP, POP3, FTP, etc), and carries remote procedural calls expressed in XML: including the sender address, name of the procedures to be run, and expected and returned parameters.

Web services accessible on a particular network are described in WSDL (Web Services Description Language). Based, like SOAP, on XML, WSDL enables the access interface to Web services to be described without the need for any content to be installed (such as Enterprise Java Beans, servlets or DCOM components).



EXPERT VOICE (CONTINUED)

The dynamic localization of Web services is also enabled by the UDDI (Universal Description, Discovery, and Integration) standard, which enables the creation of private directory services whose use is limited to a clearly identified group of businesses who are prepared to exchange particular application services: Internet, intranet, extranet, B2B applications... The directory offers a logical view of the available services, even though they may be spread across multiple supplier sites. UDDI is also based on XML in order to describe the information that enables each service to be published and found.

New security demands

In particular, a real 'service contract' needs to be established, to formalize the relationship of trust between the user or customer and the entity supplying the services. This contract will set out precisely the type of service required by the customer, the identification elements (how the customer entity will be identified, the identity of the customer application, the characteristics of that application...) which the customer applications will be capable of providing, so that the supplier can determine the appropriate level of access to their resources. Customers and suppliers will both need to adapt their existing security solutions in order to achieve the necessary service levels.

Advancement of Structured Information Standards).

SAML offers a fundamental and innovative approach, which separates the management of those requesting the service and the actual resources themselves, delegating the management of users and customer applications to the entity to which they belong, and offering a new model for controlling access to applications.

SAML defines security structures presented as proofs or 'assertions', as well as the exchange protocol which enables these assertions to be requested and delivered. What's more, the latest version of the SAML standard (version 2.0 published in March 2005) incorporates the centralization/decentralization principles and mechanisms recognized by the Liberty Alliance.

SAML's main objective is to specify the security models expected for Web services. Nevertheless, because SAML is a high-level standard, it is also usable in more traditional HTTP environments. In this case, it enables a user to be authenticated and provides SSO (Single Sign-On) identification.

Complementary standards

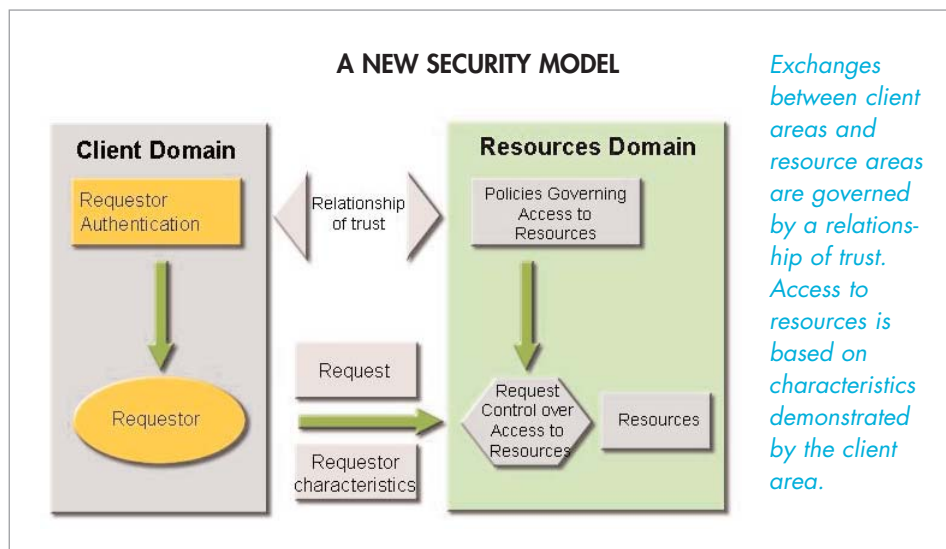
Apart from SAML, other specifications complement this core standard, such as WS-Security, XACML, XKMS, XML-Signature and others. In particular, proprietary mechanisms can be used to pro-

- **WS-Security, distributing Web services security elements** - WS-Security aims to ensure that security elements exchanged by Web services are compatible. The WS-Security structure forms part of the header of SOAP messages.

- **XACML, describing the policies for accessing particular resources** - The ultimate client authentication involves giving authorized access to resources only on the basis of definite criteria. Following on from individual authorization, then the authorization of groups of users, we are starting to see the emergence of the so-called RBAC (Role-Based Access Control) model. The development, set in motion by SAML, makes the concept of a 'role' more widespread and is proving itself to be very effective operationally. It involves using the full range of user characteristics as authorization criteria. Among the raft of new security standards, OASIS is recommending the user of XACML to describe the rules governing access to resources in a standard way, in XML. The standard does not concern itself with interoperability between independent organizations, but does aim to ensure the portability and permanence of access control policies described and used in a particular organization. XACML offers much more powerful ways of describing access control rules than traditional solutions.

- **XKMS, simplifying the management of digital certificates** - The new security standards apply not only to signatures, but also to the digital coding of the XML structures being exchanged. These operations essentially relate to the use of asymmetric key algorithms and their related X509 certificates. XKMS (XML Key Management Specification) aims to simplify and generalize the management of digital keys traditionally enabled by PKIs (Public Key Infrastructures), in order to speed up the deployment of applications and processes using this type of service. XKMS specifies the trust relationships based on keys, their certification and verification, and so on.

- **XML-Signature & Encryption** - Signature and digital encryption of XML structures. The digital signature and other elements associated with the encryption of a particular structure are described in standard XML structures. This standardization enables any recipient

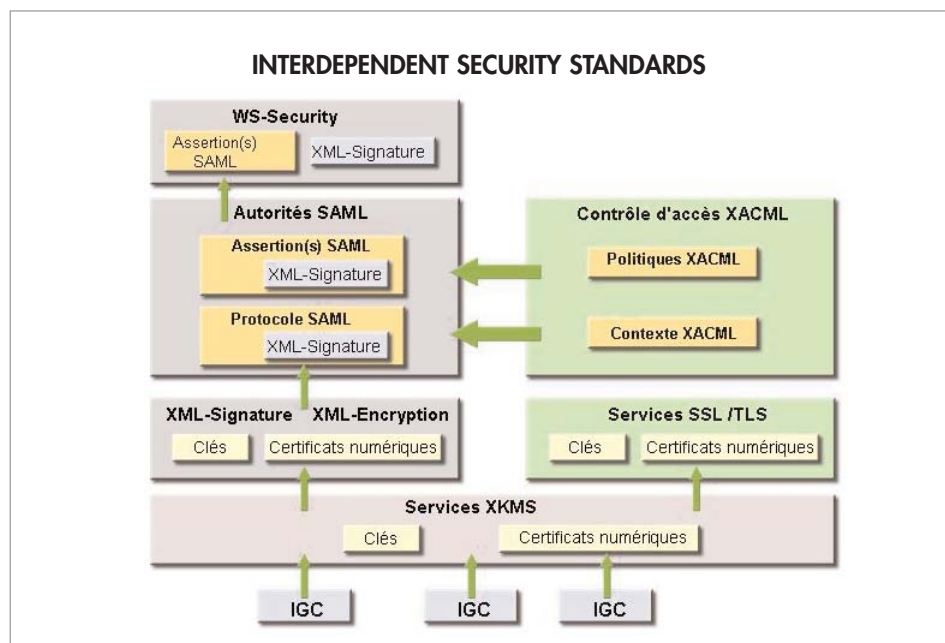
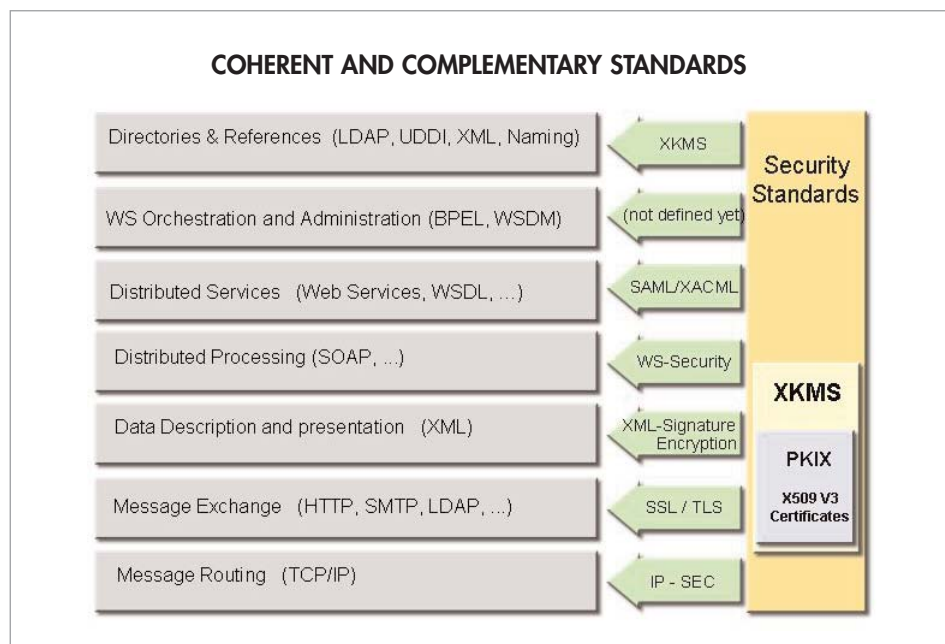


SAML, the pivotal security standard for authentication and access control

Just such a logical security model is offered by the SAML (Security Assertion Markup Language) standard developed by OASIS (the Organization for the

vide access control and decision functions, or they can use the SAML authorization assertion and specific decision mechanisms in the XACML (eXtensible Access Control Markup Language) standard.

EXPERT VOICE (CONTINUED)



to verify a digital signature and decrypt information that he or she has been sent. It involves ensuring the interoperability of signature and encryption operations.

The following diagrams show the consistency between these standards, and their functional and technical interdependence. In effect, they form a coherent chain of services: with each level (link in the chain) being dependent on the level beneath it (the link below).

Web services security: new challenges

One of the biggest challenges with these new security standards is to succeed in

translating them into homogeneous solutions. The creation of a simple and effective solution definitely requires a high level of technical expertise and capacity for synthesis.

In effect, the security infrastructure should simplify the security of Web applications accessed by users from browsers, as well as enabling overall management of security by systems administrators who may not be specialists in a particular environment (such as Java). A good implementation should effectively hide the technicalities both from the applications that use it and from the security administrators.

• **Providing non-invasive security controls** – In Bull's assessment, the main chal-

lenge that security infrastructures have to overcome is to ensure that the implementation of the new XML security standards is simple and transparent. In effect, we believe the adoption of these new standards by public and private sector organizations will be just as rapid as their implementation will be smooth, without disturbing applications that are already in place.

- **Automating digital certificate management** – Web services security depends on the digital signature of the XML structures being exchanged. This signature utilizes symmetrical key encryption techniques and X509 digital certificates. Security depends on the reliability of the techniques used to generate and preserve the keys, and the effectiveness of the management and control of the digital certificates being used. Efficient automation of these activities is essential.
- **Simplifying security administration** – The availability of a unified and intuitive administrative approach and control functions is absolutely indispensable. The successful implementation of new security services will essentially depend on the simplicity and effectiveness of these tools.

Bull: an advanced XML security architecture

Bull has carried out a number of R&D projects designed to respond to these issues. Other work has also been carried out on the design and integration of various solutions, now available with the 'Secure Access Manager - J2EE Edition' module from the company's specialist subsidiary Evidian, as well as via a modular framework adaptable to all kinds of customer environments. This framework is used by Bull Services on specific systems integration projects.

These solutions respond in particular to the three challenges noted above:

- **Providing non-invasive security controls** – The security mechanisms implemented by Bull, based on Java J2EE and XML standards, enable access to applications to be controlled without interfering with the application itself. They use non-invasive mechanisms that security controls can also use. As a result, there is no need to develop specific security functions for each application or even to call particular security functions.

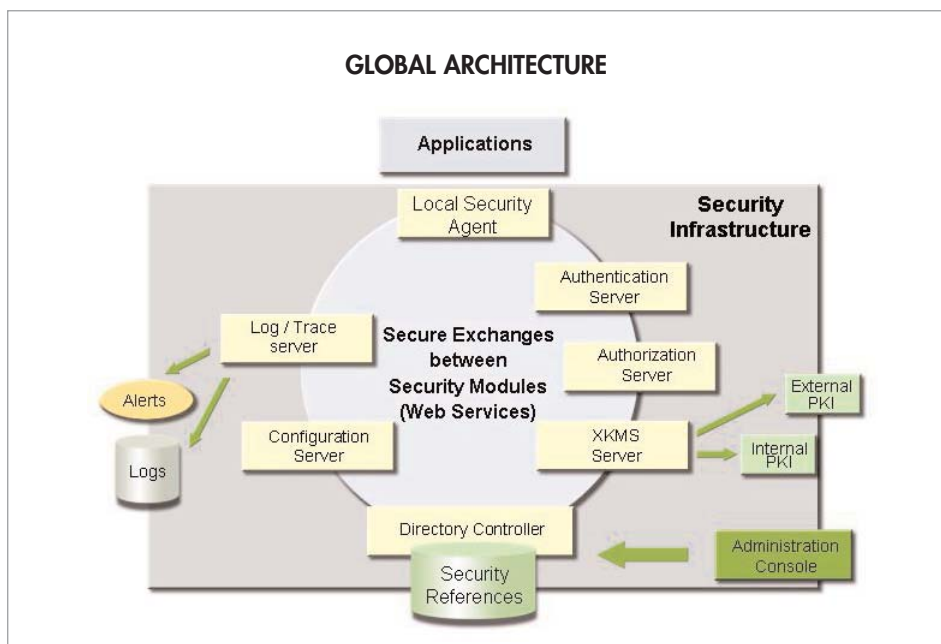
EXPERT VOICE (CONTINUED)

They can be “stationed” on the application infrastructure, without needing to address the actual security issues.

- **Automating digital certificate management** – To achieve this, Bull has designed software modules that incorporate and extend the possibilities offered by XKMS servers: on the one hand, simplified mechanisms for generating, revoking, renewing and verify certificates in such a way as to ensure service continuity from both security components and applications, and on the other hand, mechanisms for generating key-pairs and safeguarding private keys in protected environments (which may be specialist hardware resources).
- **Simplifying security administration** – Finally, Bull can put in place a configuration server that enables the characteristics of each component to be administered using a central security database. This mechanism enables extremely simplified management of all infrastructure components. As a result, only a minimum of information is required when installing a new security component for the first time: identity, access code, access point to a configuration server... Detailed configuration information is received direct from the configuration server.

The objective of security infrastructures designed in this way is to ensure interoperability between the equivalent functional security layers and integration between the various security layers, as well as to implement a security administration approach that offers a consistent and easily managed view of security. The diagram below shows Bull’s general XML security architecture and its main components.

Bull has successfully implemented these emerging security standards on many projects. In addition to the research work carried out as part of the ITEA program (on the LASCOT project). Various consultancy projects on information systems and Web services security have been carried out for major government departments and the French national central Information Systems Security Division (the DCSSI) over the past three years. In particular, advanced implementations have been delivered to enable the migration of the French Equipment Ministry’s



“Cerbère” security solution to SAML and WS-Security. Since 2002, Bull has also been working in partnership with Deutsche Post (the German Post Office) to gradually introduce these new principles into its Web services-oriented security infrastructure – one of the most ambitious in Europe – based on Evidian’s J2EE Secure Access Manager.

These security technologies have also been put at the heart of BSOA, Bull’s integrated Java middleware application platform, based on Open Source components including the JOnAS application server and additional components. This is a particularly open platform designed to enable the design, development, implementation and administration of service-oriented architectures (SOAs). Its aim is to implement tomorrow’s new technologies today, in a highly flexible and pragmatic way, using open and adaptable solutions.

When it comes to R&D, and following on from the LASCOT project and its work as part of the ITEA initiative, Bull has also been looking at ways of evaluating the benefits of semantics techniques (the Semantic Web and ontology) in facilitating the implementation of these new technologies.

This will be a major challenge for the next few years. In effect, new e-government projects will involve increasing numbers of exchanges with independent partners

(other public sector bodies and various other organizations) and under these conditions will need to rely on recognized mechanisms capable of supporting this level of openness. With this kind of approach, it is most likely that they will require Web services and other mechanisms capable of ensuring that they are secure to be used. The answer to this requirement should put the emphasis on the functional effectiveness and flexibility of the propose solution. Also the security component may be essential, it should not impose significant extra costs either in the implementation or the administration of the solution. The technological opportunities offered by the Internet infrastructures, XML, Web services and semantic analyses should encourage the increased automation and reliability of technical processes.

Glossary

- SAML** : Security Assertion Markup Language
- SOAP** : Simple Object Access Protocol
- SSL** : Security Socket Layer
- TLS** : Transport Layer Security
- UDDI** : Universal Description, Discovery, and Integration
- XACML** : Extensible Access Control Markup Language
- XKMS** : XML Key Management Specification
- XML** : Extensible Markup Language

SOLUTIONS

Interview with Philippe Pauty, Director of Bull's outsourcing business

Bull Managed Services, a relationship built on trust and a professional facility in constant evolution



Bull's production data centers have been the subject of an on-going modernization program. What are the main challenges for the outsourcing business?

Bull Managed Services is constantly in the process of updating its offerings and know-how, in line with market needs, technology developments and best practice in the industry. We are operating in a rapidly changing market and we have to continually adapt our resources to the needs and expectations of our customers, not just in terms of technologies, but also our processes, the flexibility of our services, variations in costs, security demands and service continuity. These improvements have all been achieved while at the same time we have been rationalizing our production costs. Our approach is to constantly make progress in terms of our productivity and technology developments. Without that, it would be impossible for us to offer attractive and competitive services.

What have been the most significant investments or advances?

We are constantly investing in security and compliance with ISO and European standards. We are subject to regular audits, and the businesses that visit our

centers pay particular attention to these audits.

Another major evolution has been the opening of our center at Trélazé (close to Angers in France) to the high-bandwidth regional network, which has enabled it to be connected to new operators. This has had an enormous impact on our business, particular thanks to the 24h/24, 7d/7 service continuity facilities which respond to the IT security and to the secure Internet access that can support very high transmission rates.

We have also set up a multilingual European call centre and increased the industrialization of our Open Source solutions. Our processes are also evolving in line with the ITIL® (IT Infrastructure Library) methodological framework, which has become the de facto standard for our outsourcing customers.

In April 2005, the excellence of our Trélazé center was recognized with the award of our SAP Hosting certification, a confirmation that Bull meets the exacting quality, security and customer satisfaction standards set by SAP.

How does Bull differentiate itself in this marketplace?

Today we have a significant hosting

capability. Our offerings are much more flexible, which matches well with our customers' changing expectations. And our industrial-scale resources mean we are in a good position to respond to new requirements, such as:

- Access to professional-scale support services and porting of solutions to Open Source,
- Hosting and operation of business solutions,
- Consolidation of customer infrastructures.

Bull Managed Services

Offerings

- Outsourcing
- Insourcing
- Third-party application management
- Desktop outsourcing
- Help desk
- Software support
- Recovery and legal archiving
- Consultancy and engineering

Innovative solutions

- Solution outsourcing
- Open Source support and porting services Open Energy

10 golden rules for successful Open Source projects

Capitalizing on its experience of numerous successful projects in Europe – with contributions from experts and customers from several major organizations – Bull has published its latest white paper on the Open Source "revolution" and best practices.

Aimed at decision-makers who are considering how best to exploit Open Source software components and integrate them into their information systems, the white paper provides a guide to understanding the Open Source phenomenon from a strategic, business-oriented point of view.

Based on interviews with experts and IS Directors, as well as its own unique experience as a manufacturer, software publisher and systems integrator on Open

Source projects, Bull sets out the ten golden rules for successful Open Source projects, as well as:

- The main challenges associated with Open Source
- Eight Open Source myths... and the realities behind them
- Four classic errors to avoid in implementing Open Source, and
- Six best practices for successful implementation.

The paper is further enhanced by exclu-

sive interviews with the Chairman of Europe's leading Open Source community, ObjectWeb, and two IT Directors from major organizations:

- Jean-Pierre Laisné, Chairman of the ObjectWeb Consortium
- Colonel Nicolas Géraud, Assistant IS Director of the French Gendarmerie Nationale
- Jean Milliez, IS Director of ACOSS (the central agency for social security funds in France).

The white paper can be downloaded free of charge from:
www.bull.com/opensource/insight.php

EVENTS

InfoSecurity roadshow in Europe

InfoSecurity events provide the best place for sourcing opportunities, information updates and free educational forums, tackling the key security technology issues set to affect your business.

After Madrid on March 21-23, Brussels

on March 22-23, and London on April 25-27, Bull Evidian will be showing its Identity, Access and SSO management solutions at InfoSecurity Italia, June 20-21, Roma, Sheraton Roma Hotel.

For more information: <http://www.infosecurity.it/>



Bull goes on tour to promote its Virtualization solutions

During April and May, Bull's teams will be travelling around Europe to present the business benefits of Escala's Virtualization capabilities to customers and potential customers.

Topics covered during this full day of presentations include Virtualization (system and storage), High Availability and customer testimonials.

After Paris on March 16th, where many customers came to share the latest Escala solutions and technological evolutions, the next meetings will take place in:

- Germany: May 4, Brühl
- UK: May 16, Coventry
- Belgium and Luxemburg: May 18, Namur
- The Netherlands: May 19, Antwerp

- Austria: end of May, Vienna
- Italy: June 8, Milan

To reserve a place:

Please contact your local Bull representative or Anne Charlet (anne.charlet@bull.net)

10-11 May 2006, Nice, Acropolis Congress Center

6th French National Conference on the Net and ICT for local authorities

The National Conference on the Net and ICT (Information and Communication Technologies) offers a forum for exchanging experiences and know-how between elected representatives and tech-

nical specialists. It is also a meeting place for local authorities and their suppliers.

Bull will be attending the meeting with its experts, who will be taking part in workshops and forums on:

- **Wednesday 10 May from 2:30pm to 4:00pm: workshop 2-2: "Virtual relations between local authorities and the State"** with a contribution from Olivier Herbaut, Director of Local Authorities Markets, Bull
- **Wednesday 10 May from 11:30am to 1:00pm: forum B: "The technology of**

trust and electronic archiving: conditions for success".

Stéphane Marcassin, Director of Security, Bull and Alain Borghesi, General Manager, Cecurity.com, will debate the securing of exchanges and protection of individual and personal data: secure access to virtual public services, e-signature and electronic document circulation, legal archiving, and electronic safes, and trusted third party.

We would be delighted to welcome you onto our stand (N° 29) where you will be able to see a presentation of our Coriolis suite, a comprehensive solution for local authority finances.



EVENTS (CONTINUED)**11 May 2006, at the Hotel Sofitel, Marseille****Open Source software seminar**

Didier Lamouche, Chairman and CEO of Bull invites the Group's customers from the PACA (Provence-Alpes-Côte d'Azur) region in the South-East of France to an Open Source software seminar on the theme: *"From a purely community phenomenon to a practical industrial reality"* Chaired by Jean-Claude Gaudin, Marseille Senator and Mayor, the seminar will also be an opportunity to launch Bull's new services center.

Today, the growing maturity of Open Source solutions is leading IT departments to incorporate them more and more fre-

quently into their information systems, and enabling the implementation of cost-effective, high-performance and extremely secure solutions.

Businesses and public sector bodies who have chosen these new technologies are using them to implement increasingly strategic and large-scale projects. To do so successfully they need to rely on proven, professional development practices based around industry standards.

It is against this backdrop that Bull is announcing the opening of a new servi-

ces center – based at the Techno pole of Château-Gombert science park in Marseille – dedicated to the development of applications that are mainly based around Open Source technologies.

As "Architect of an Open World" and a major player in Open Source, Bull is inviting its customers to hear the latest news about the best solutions available in this area, and share their own experiences and implementation stories. They will also explain how a professional, industrial approach has helped them to successfully conclude their development projects.

15-18 may 2006, Stockholm International Fairs, Suède**VON Europe**

Now in its 9th successful year, VON Europe is the definitive event for Europe's IP communications industry with all the major players from fixed, wireless and broadband service providers. The event gathered 2500 attendees from 65 countries in 2005 in Stockholm.

The Conference agenda is designed to give companies the inside track on communications convergence, up to speed with the current state of play, and the future developments in IP communications markets, technology and regulations.

Key VON Europe 2006 topics include:

- **VoIP and Wireless** – Voice over WiFi

and WiMAX, mobile operator strategies for VoIP, and 'the quadruple play' opportunity (broadband, fixed voice, video and wireless services);

- **Network convergence** – The latest in network architectures, including updates on IMS, fixed/wireless convergence, and architecting enterprise IP communications networks;
- **Competitive landscape** – PTTs, mobile operators, WiFi, broadband voice service providers and cable;
- **Business models** – As voice evolves to free, what business models can service providers adopt for sustainable profit margins and which are the value-

added services that will deliver future telecoms revenues?

Bull will participate to the Thursday session dedicated to the industry perspective. Lionel Toullier, from Bull Telecommunications & Media, will present, from a System Integrator point of view, the key issues of integrating the IMS (IP Multimedia Subsystem) in the existing Information System, limiting impact on legacy systems, both switching systems and BSS/OSS.

15-16th May 2006, at the Marriott Hotel, Milan (Italy)**Linux World Summit 2006**

Bull, Architect of an Open World will be Platinum sponsor of the Linux World Summit.

- On May 15th at 8:30 am, Bruno Pinna, Group Marketing Director, will be one of the speakers during the plenary session on the theme Open

Source: a new business model for software development.

- On May 16th, Mauro Ferrari, from IRIS Ceramica S.p.A., a worldwide leading manufacturer of Italian porcelain floor and wall tiles, will provide a customer testimony.

Bull will demonstrate the Bull Video Software (BVS) solution designed for Telco operators, running on a Bull NovaScale server.

Our experts will be pleased to meet the Summit attendees on our booth.

EVENTS (CONTINUED)

16-18 May 2006, Geneva

SAS Forum International

Over 3,000 decision-makers from 60 countries are expected to attend this event, from 16-18 at the Palexpo in Geneva. The Forum, which focuses on computing for business intelligence, will be a unique opportunity to share experiences around key business challenges – including performance management, HR management, customer relationship management, finance... – and sector-specific issues.

Jim Goodnight, -CEO and founder of SAS will welcome Edward C. Prescott, winner of the Nobel Prize for Economics in 2004, as the guest keynote speaker. He will share his vision of European and global economic prospects.

Bull will be attending the event as one of the sponsors, as well as under the umbrella of the ISA (Itanium Solutions Alliance).

Philippe Futersack, Project Manager in

the CRM Analysis Department of EDF's Commercial Division, one of our biggest customers, will be presenting as part of the "Best practices" session.

We would be delighted to welcome you at our stand, where we would be happy to explain how we can help you with your SAS9 projects and show you the results of an SAS ETL Benchmark run on a NovaScale server platform, in partnership with Intel Corp. and SAS EMEA.

From 16 to 19 may, Paris, Paris Expo, Porte de Versailles, Hall 1

Hôpital Expo / InterMédica

The international healthcare exhibition will take place from May 16 to 19 in the Paris Expo/Hall 1, Porte de Versailles, Paris. 26,000 healthcare professionals are expected.

Bull will be present on the booths of its business partners: ASH and McKesson.

The Santénergie consortium formed by

Siemens, Bull and EDS, and chosen by the GIP-DMP (the French government body charged with choosing the suppliers for the DMP project) will demonstrate the DMP (single electronic patient record) application on the Siemens booth.

In addition, on May 18, the GMSIH (Group for the Modernization of the

Hospital Information System)) organizes a full day dedicated to IT Directors and General Managers of hospitals and clinics, focusing on care delivery in Europe. Patrice Kiotsekian, Sales Director of Bull Evidian will be interviewed on the security issues and solutions for Healthcare Information Systems.

Tuesday 23 May, 8:45am to 6:00pm, 101, Rue de l'Université, Paris VII

Second French national parliamentary meetings on the Single Electronic Patient Record

Santénergie – the Siemens-Bull-EDS consortium for the Single Electronic Patient Record program – is one of the sponsors of the Second French national parliamentary meetings on the Single Electronic Patient Record (the Dossier Medical Personnel or DMP), is focusing on the theme of: "The DMP roadmap: a key staging post".

Organized and chaired by French politicians Yves Bur and Jean-Marie Le Guen, the meeting will take place on Tuesday 23 May 2006.

- Representing the Santénergie consortium, **Yves Algeria**, General Manager of Siemens Health Services, will be taking part in the **second round-table discussion, which will be debating,**

"Integrating the DMP into the existing health system. What organizational frameworks are needed? And what challenges need to be met?"

For more information

www.mmconseil.com/pages/renc_parl/rp.detail.php?id=83

EVENTS (CONTINUED)**13-14 June 2006, Deauville****CUBE (Bull European User Group) AGM**

The 22nd Annual General Meeting (AGM) of the Bull European User Group is being held at the Hotel Royal Barrière in the French seaside town of Deauville, on 13 and 14 June 2006.

The theme of the meeting will be: *"Which architectures and systems to choose, to control information systems costs?"*

The meeting will be chaired by Germain

Zimmerlé, Chairman of CUBE, and will also be attended by Didier Lamouche, Chairman and CEO of Bull and Bernadette Andrietti, Chairman of Intel France.

Key IT decision-makers, most notably from the French Gendarmerie Nationale (French Police Force) and the country's Department of State Modernization, will

share their points of view on the subject and their experiences. There will also be many opportunities for exchanges between user group members and Bull senior executives on the challenges involved in the continued development of information systems today.

From June 27 to 30, Dresden in Germany**ISC (International Supercomputer Conference)**

The 21st edition of the ISC will be held at the Dresden Congress Center in Germany, from June 27 to 30, 2006. As the leading supercomputing event in Europe, the ISC constitutes the premier venue for gaining an international perspective in the field of High Performance Computing (HPC).

Bull, which has posted great ambition on this market, is a sponsor of ISC 2006 and will showcase the very new version of its NovaScale servers and HPC solutions.

The CEA (France's Atomic Energy Authority), where Bull recently installed Europe's most powerful supercomputer, will present this major project. Pierre Leca,

Head of the Department "Sciences of Simulation and Information" at CEA, France, will participate to the session "Acquisition and Operation of an HPC System", on Wednesday 28 June, 6:00pm.

For more information:

<http://www.supercomp.de/>

WHAT'S NEW

Bull announces revenue for Q1 2006, slight growth in revenue and strong growth in orders in Services business in particular in Telco sector

Strong growth in orders in Services business in particular in the Telco sector. Bull revenues for the first quarter of 2006 were 257.2 million, representing a 0.3% increase compared with 256.6 million for the same period last year.

DIn a traditionally weak quarter for the Group, these figures demonstrate in particular:

- The successful relaunch of the services business which recorded a very satisfactory performance, with revenue growing by 14%
- The very good performance of high growth countries and sectors, particularly Brazil and telecommunications

- The confirmation of greater seasonal variation in 2006 in favor of the 2nd half of the year.

There was a 3% overall increase in orders taken during Q1 of 2006, with particularly good results in the telecommunications activities (+56%) and the services business (+22%). As a result, by the end of the quarter the Group's backlog

stood at 380 million, an increase of 6% compared to 31 March 2005.

"During the first quarter we have achieved our revenue objectives, particularly in services and telecommunications which are target activities in our Horizon 2008 strategic plan," commented Didier Lamouche, Bull Chairman and CEO. "Our focus on the seven key offerings defined in our plan as well as the continued growth momentum initiated in 2005 are key levers to enable us to achieve our 2006 objectives."

Bull acquires specialist human resources IT services company HRBC

Bull Management Division strengthens its leadership in ERP integration, and further enhances its presence in the market for high added value services

Bull has announced that it has acquired HRBC (Human Resources Business Consulting), an IT services company specializing in information systems for Human Resources (HR), a field where it provides both consulting and systems integration services.

With revenues of 4 million in 2005, more than 30 employees and an ambition to double its turnover in just three years, HRBC is renowned for its functional expertise as well as its in-depth knowledge of the main solutions on the market today, including HR Access, PeopleSoft

and SAP. HRBC – which operates principally in France, in Switzerland and Morocco – has focused on this area since 2002 and has built up a strong portfolio of customers in leading organizations.

The acquisition will enable Bull to strengthen its expertise with rare and highly demanded resources as well as to capitalize on the strong synergies between its own offerings and those of HRBC, and further strengthen its presence in the market for high added value services in targeted markets. In addition, the teams of HRBC will join Bull Management which will represent more than 400 consultants as of the 2nd half of 2006.

"This acquisition further underpins Bull's momentum in the fast-growing market for

HR information systems – in industry and the public sector – which has seen a 15% increase year on year," confirms Michel Husson, Director of Bull Management. "This is also one of the Group's key areas for strategic development, and HRBC's expertise perfectly complements Bull's offerings in this functional area. It enables us to offer our customers a comprehensive solution for their business needs."

"Today, HRBC is making a major leap forward in its development," adds Saad Oudrhiri, Chairman and Chief Executive Officer of HRBC, and the company's founder. "Becoming part of Bull not only gives us a new, international dimension to our offering but also gives us much greater access to the most important prospects in the marketplace."

WHAT'S NEW (CONTINUED)

Feedback from the doctors pioneering the single electronic patient record (DMP)

Within the framework of the MEDEC and INFORMEDICA exhibition, the Santénergie consortium – formed by Siemens, Bull and EDS, and chosen by the GIP-DMP (the French government body charged with choosing the suppliers for the DMP project) to take part in the demonstration and preconfiguration phases of the program – has sponsored a round-table discussion focusing on, “The content of single electronic patient records and the evolution of hospital and family doctor systems”.

Report on this roundtable:

Several hundred doctors in the Lower Normandy, Pays-de-Loire, Limousin, and Midi-Pyrenees regions of France are about to take part in the experimental phase of the French national project to introduce a single computerized record for each patient, with the Santénergie consortium. At the starting line, some of those taking part in the trial shared their experience, and expressed their hopes for the project.

The Santénergie consortium (founded by Siemens, Bull and EDS) is trialing the single electronic patient record (the Dossier Medical Personnel or DMP) in Lower Normandy, the Pays-de-Loire, Midi-Pyrenees and Limousin regions of France. Several hundred doctors in these areas are already using computerized patient records. So one year before the national DMP program is generalized, in July 2007, their experiences are worth listening to. Dr Denis No Mura, chairman of the regional shared healthcare information platform initiative (known as PRiSM) in Lower Normandy, a pioneering project of this type, explains that doctors are keen to take up the challenge of the DMP and quite willing to use it so long as, “it doesn't demand too much of their time, cost them too much or involve too many practical difficulties”. The introduction of computerized patient records enabled the main hospital in Nantes to make up lost ground in terms of its computing facilities, believes Dr Loik Lenormand, vice-Chair of the establishment's medical commission. The file – which holds reports from episodes of hospitalization, operations, anatomical, pathological or radiological procedures, and consultations, as well as any biological or anesthetic interventions –

has considerably improved the life of the hospital. “In emergencies, colleagues would not, in any case, go back, because we hold all the information and so we know so much more about the patients,” confirms Dr Lenormand, a specialist in urology. Those responsible for the electronic patient records in the Pays-de-Loire, however, are also keen to improve its usability, including more of the most useful images, developing the prescriptions functionality and eventually including a more detailed care record. “Of course, the extremely comprehensive DMP has the advantage of being very up to date, but it can be hard to understand and writing a summary of it can be complicated,” warns Dr Lenormand.

“A scalable DMP”

The experience of Santé-Limousin (Limousin Health) – a network for exchanging medical information between 70 private practitioners, three healthcare networks and five different establishments – is also rich in learning points. “We are still at the stage where we are surveying the landscape... and we've got both feet in the mud!” admits one of those promoting the project Dr François Lemaire, a private practitioner and hospital consultant at the hospital in Limoges. In this region, the doctors who join the network are given training, provided with a laptop computer and manage a “simple patient record, without any messaging functions or images,” for 2,500 patients who have volunteered to take part in the project. “It's really a bit of a test, to get our colleagues interested,” explains Dr Lemaire. In the doctor's opinion, the current system presents something of a

barrier, because doctors have to enter their notes twice. “I believe the DMP has a great future,” he continues, “but we should not be making extra work for ourselves, and it's important to take note of what the doctors are saying about the system otherwise some will be discouraged from using it”.

The head of the hematology and cell therapy clinic at the Limoges hospital, Dr Dominique Bordessoule, is very enthusiastic about the system. She can remember the implementation of an earlier, extremely time-consuming version of a single electronic record, seven years ago. “Today, the system is actually saving time for specialist and general practitioners, nurses, biologists and social workers who have real time access to earlier information and the patient's medical history, as well as hospital treatments and outcomes”.

The General Manager of Bull Services and Solutions Business, Jean-Pierre Barbéris, is keen to reassure the doctors who have been testing the electronic records. “The DMP must serve the needs of the medical profession”, he explains. “Because the principle of information sharing is at the heart of the system, it should act as a chain of trust between all the various people who use it. The consortium has taken particular care over the security of data held in the system – how it is accessed, transmitted, stored... and its traceability. Santénergie's DMP will evolve, because we are taking the widest possible soundings from the users on the ground and particularly the comments from those in the medical profession.” But Jean-Pierre Barbéris also recognizes that the widespread introduction of electronic records will be “a different kettle of fish”! “That next stage will take time and there will be costs involved,” Jean-Pierre Barbéris admits, “but our project is designed to increase in power.”

Report by the “Quotidien du Médecin” on the round-table sponsored by Santénergie at INFORMEDICA/MEDEC 2006.

WHAT'S NEW (CONTINUED)

Bull sets a new world performance record under Java benchmark, positioning Bull NovaScale servers as the reference platforms for large enterprise applications

- The NovaScale 5165 achieves a performance of 207,751 bops (Business Operations per Second)
- Enterprise infrastructures to benefit from Bull NovaScale servers increased power and flexibility
- Short response time and high throughput for interoperable and centralized enterprise applications

Bull has just set a new world performance record Server-Side Java SPECjbb2005 benchmark with its recently announced NovaScale 5165 server powered by 16 Intel® Itanium® 2 processors.

With a performance of 207,751 bops (Business Operations per Second), the NovaScale 5165 is ranked at the top of the 16-core based servers running Linux®.

Today, large enterprise applications are moving towards interoperability and centralization. In order to facilitate their development, implementation and operation, they are increasingly brought together using application servers or application frameworks. This offers a robust tech-

nical infrastructure that enables IT departments to concentrate their efforts on the business functionality.

Bull NovaScale server and BEA Systems Inc. JVM JRockit® results are key for customers that need outstanding performance for their J2EE applications using the JVM (Java machine).

Cost-reductions, high levels of flexibility and openness

Customers will be able to centralize their application infrastructure while benefiting from the performance, availability and robustness of the NovaScale platform, thus achieving a better control over enterprise applications and infrastructures.

More on SPECjbb2005 benchmark

SPECjbb2005 (Java Server Benchmark) is SPEC's benchmark for evaluating the performance of server side Java. SPECjbb2005 evaluates the performance of server side Java by emulating a three-tier client/server system (with emphasis on the middle tier). SPECjbb2005 provides a new enhanced workload reflecting how real-world applications are designed.

For more information:

<http://www.spec.org/jbb2005/>