

# Bull Direct



Bull's monthly newsletter

## EDITORIAL

### Security, guaranteeing sovereignty and integrity



Today, the security of an organization's information patrimony is no longer a question, but an imperative. A company's security policy embodies the strategic vision at the heart of the business and its relationships with the outside world, as well as the

financial markets' appreciation of how it is managing risk. Nevertheless, it remains a major challenge for the majority of IT departments, because there is still so much left to be done.

Bull delivers strategic IT security projects for major organizations, including some of the most sensitive in the world such as SERPRO in Brazil, for whom we are supplying a border crossing control solution featuring biometric comparators. As 'Architect of an Open World', Bull has always accorded IT security a crucial place in its range of offerings, particularly through Evidian, our subsidiary which is the European leader in identity and access management. We have decided to further strengthen our portfolio of solutions in this critical area for our customers' integrity and business sovereignty, with the launch of a number of initiatives.

We have recently concluded a new industrial partnership with NEC, who have invested €10 million in Bull Evidian; a major milestone in the development of our subsidiary, including Asia. This alliance follows on from the acquisition of Enatel, enabling us to launch today a new generation of enterprise single sign-on software products, with our WiseGuard solution, featuring authentication tools such as smartcards and biometrics. Finally, we are also launching the TrustWay PPS secure personalized key: a particularly innovative high-end solution for users in sensitive businesses such as defense, industry and banking.

Because there is no delegation of responsibilities without control, you can't free up your information systems without a security policy that doesn't hold your business back. A key economic and social challenge, IT security has never been closer to the heart of Bull's business strategy and quest for innovation. You can rest assured that our experts will be able to give you all the support you require in your most critical projects.

Didier Lamouche, Chairman and Chief Executive Officer

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## EXECUTIVE OPINION

Jean-François Leprince-Ringuet,  
General Manager, Bull Telecommunications and Media

### Bull in "telecoms": an innovative, agile and robust industrial partner

It's always been hard to predict evolutions in the telecoms industry: Internet, GSM, GPRS, 3G, VoIP, 'Triple Play', fixed-mobile convergence, IMS, ISP, mobile 'pure player' technology, integrated operators, MVNOs.

The combined evolution of technology, industry regulation and the changing needs of both residential and business customers have continued to throw up many surprises, whether they involve

new service offerings for existing markets or developing business in new domains which push operators towards the worlds of media or value-added services.

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## BUSINESS NEWS

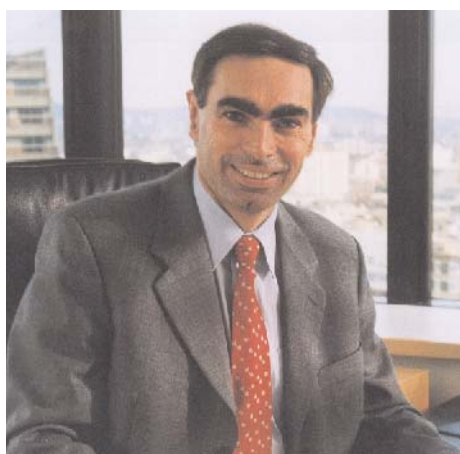
### Bull updates Belgian Federal Justice Ministry's IT infrastructure dedicated to tracking judicial cases

Bull has been chosen by the Belgian Federal Justice Ministry to implement a new information systems infrastructure – including servers, databases and associated services – dedicated to monitoring and tracking the progress of legal cases.

Bull's involvement follows on from the implementation of the Ministry's 'Phenix' program, designed to equip the judicial authorities with high-performance information and communication tools enabling magistrates to process computerized case files more consistently and more quickly than in the past.

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## EXECUTIVE OPINION (CONTINUED PAGE 1)



But what does this all mean to a supplier like Bull, who works for both telecoms and media customers? There is one constant we can provide in the middle of all this continual upheaval: to be an engine for innovation, while at the same time delivering “carrier grade” solutions.

So – at the risk of surprising some people – I want to explain why I believe that Bull is in a very good position to be that very “innovative, agile and robust industrial partner”. And here’s why:

- **Bull is a manufacturer.** This ‘industrial’ mindset as a manufacturer has been part of our DNA for more than 80 years. And when we delivered Europe’s most powerful supercomputer to the French Atomic Energy Authority (CEA), this once again demonstrated Bull’s mastery of complex industrial projects, demanding the highest possible skill levels and technology expertise.
- **Bull’s strategy – as “Architect of an Open World”** – is to be a systems integrator for complex, heterogeneous, flexible and secure infrastructures. This approach begins, of course, with IT infrastructure, but applies equally well to the telecoms sector, at a time when telecoms infrastructures are being built around IP-type infrastructures which take

their inspiration from the world of computing. Bull’s expertise in operator networks has been built up over many years, for example, as a result of implementing SS7 signaling equipment within major operators’ networks and more recently with the development of interfaces, such as SS7/IP gateways. These kinds of skills are highly appropriate when it comes to working with partners – especially telecoms equipment suppliers such as Thomson/Cirpack, Juniper and AudioCodes – on infrastructure implementation and integration with operators’ networks and information systems.

- **Bull is an innovator,** having invested heavily from the start in the area of IP infrastructures, whilst also observing that an ecosystem of innovative companies – including Cirpack (the supplier of Softswitch), Highdeal (billing systems) and StreamWIDE (multi-media messaging) – is currently emerging in France (doubtless because the country was one of the most advanced markets for telecoms services worldwide). As a result, Bull has developed partnerships with these key businesses and has become an “innovative integrator”, successfully delivering projects involving products from all three companies.
- **Bull is a robust business.** Our manufacturing know-how means we develop applications with all the characteristics of “carrier grade” solutions. To use an analogy, Bull can change an aircraft engine in mid flight! And of course, they offer the total reliability that is so essential to every network operator.
- **And finally, Bull is agile** because it comes from the IT world, where, as we all know, speed is often the prime motivator over others, but the difficulty has always been to be (or to remain) robust. That’s especially true when it comes to

developing services platforms, which demand an in-depth understanding of operators’ networks and their information systems, as well as the ability to manage often highly complex projects.

So here you have it, a brief resume of why Bull is growing so strongly in this sector not only in France, but in the rest of Europe, in Africa, in South America.

And finally, to further accelerate that growth, Bull recently acquired AMG.net – a company based in the Polish cities of Warsaw and Lodz – for its excellent skills in this area. Amongst other projects, AMG.net has developed the Orange and TP portal in Poland, and offers significant expertise in software packages such as Volantis (content management for mobile operators) and ATG (e-commerce solutions). The acquisition will strengthen Bull’s presence in the rapidly growing Central European market. This investment also underlines Bull’s commitment to be a leading supplier in the telecoms sector: being that innovative, agile and robust industrial partner, and proving it!

## HOT TOPICS

**Point of view on the modernization of the State, of Jean-Pierre Barbéris, General Manager, Bull Services and Solutions, done with the magazine "Cités Numériques"**



## "Keeping people informed, training them and supporting them through the change is essential to modernize the State"

*When it comes to large-scale public sector projects, shouldn't we learn the lessons from the setbacks encountered during the implementation of the Carte Vitale (the French national health entitlement card), to avoid making the same mistakes twice?*

The implementation of the Carte Vitale is an excellent case in point. Today, no-one any longer questions its usefulness, practicality, ease of use or the cost savings it has brought about. Nevertheless, all this has taken almost a decade to achieve. We're talking about projects which involve tens of millions of users and take a very long time to implement. In parallel, we've seen that the system loading increases gradually and slowly until you get to about 50% of the flows. Once you've got past that point, there is a snowball effect which rapidly accelerates the deployment.

*So do you believe that it will take ten years to introduce the electronic version of the French National Identity Card?*

It will have to be faster than that! When the Carte Vitale was introduced, there was no Internet, no interconnected networks, and no real culture of technology. Nevertheless, we must not forget the problem of change management, whether for electronic National Identity Cards or single electronic patient records (DMP in French). Effective change management is a vital element that is too often neglected. Keeping people informed, training them and supporting them through the change is essential for public sector bodies, the professionals involved and users alike. If the new rules are not properly explained and, above all, if public sector staff feels sidelined by the introduction of new technologies, you'll come up against significant obstacles. In modernizing the State, this is one issue that it is absolutely vital to take into account, and I am still not sure that enough value is being attached to it.

*There is a lot of debate about the protection of individual civil liberties. What is your feeling about these kinds of questions?*

In France, we are very sensitive to everything involving civil liberties, sometimes even despite the costs to the taxpayer – we need to find technological and technical answers to some of these questions. I find it very interesting to learn from what our neighbors in Belgium have achieved. When it comes to identity management, they have a traceability system that is triggered as soon as any change is made to an individual's registration. More generally, when it comes to security, it's no longer enough to have an effective strong-box: you need to think about data access tools and alarms. No system can provide guarantees against disclosure. But if those who manipulate know that they will be identified, then...

*Are you in favor of the use of digital fingerprints, the biometric identifier chosen by the French Interior Ministry?*

Digital fingerprint technology is at least proven, so it is natural that this has been chosen. More recent technologies – such as iris recognition and facial recognition – do exist, but there are some technical and financial difficulties with them. I believe that a phased approach is needed, with a gradual improvement of the biometric elements. Don't forget that these new digital cards will have a limited lifespan. So it will be possible to integrate new elements in later generations. And finally, don't forget that the increasing ubiquity of biometrics, particularly on PCs, will encourage public acceptance.

*Don't you think that it would have been better to bring together the passport and the National Identity Card for this implementation?*

Separating passports and National Identity Cards is a reasonable idea. With

electronic cards, we have set in motion an interesting modernization program and it is important to think about the long-term evolutions and uses, and not look to do everything at once. As I've already indicated, it is essential to change organizations in quite a fundamental way. But it is also important to deliver the initial phase and use that to improve public sector services and launch new electronic services, although there should be no expectation of an immediate return on investment.

*That question of return on investment: has it held the project back?*

Early on some people believed that it would be possible to fund the new cards by the inclusion of third-party services. It soon became clear that this approach was unrealistic, for a number of different reasons. Firstly, building the infrastructure needed to implement the program is the responsibility of the State. And services can only operate when there is a critical mass of electronic cards in circulation, which will take several years. It is perfectly reasonable for the State to want to make the greatest possible savings. Nevertheless, I think we should take inspiration from the cost savings achieved as a result of the Copernic e-tax project, rather than look for third-party funding.

*What do you think of the solution that has been chosen for the implementation of this new card, namely a public-private partnership (PPP), as for the single electronic patient record?*

Once again, the implementation of the Carte Vitale sheds light on the situation. That helped us to recognize the difficulty of delegating responsibility for public services. Also, it seems to me to be preferable to replace that approach with a PPP, because it gives all the parties involved greater flexibility when it comes to adapting the proposed plan for the solution to the reality of the market.

*(concluded page 4)*

**HOT TOPICS (CONTINUED)**

*When it comes to the single electronic patient record, you are in favor of using an existing personal identification number, rather than creating a new one? Why?*

It's a key point. If you create a new personal identification number, that means you also have to create a new database. That represents a data acquisition cost of between 10 and 30 for each new subscriber. In parallel, using existing data, particularly that provided by the national health insurance scheme (l'Assurance maladie) to fill out the electronic patient record provides a good opportunity to verify that data. Of course, there would be a certain percentage of errors, but it would also be an opportunity to correct them. Add to that the extent of the risks of medical conditions being inadvertently induced by a doctor or healthcare worker, or by medical treatment or diagnostic procedures – because of lack of communication between different medical practitioners or files – which results in thousands of deaths every year. Is it really

worth being too scrupulous about protecting individual freedoms if thousands of people are dying each year as a consequence? Obviously not: but it takes a lot of political courage to explain that. What's more, I believe that creating a new identification number, risks delaying the implementation of the project by several years.

*Apart from the National Identity Card and DMP (single electronic patient record), where else do you foresee advances?*

The biggest advances will be made in the area of databases, especially in healthcare and in the area of infrastructures: State-sponsored initiatives with significant budgets, but which also, I believe, encourage economic growth. Nevertheless, people's mind-sets need to change. Just look what has happened with the taxation system in France. It was quite revolutionary to decide that people would no longer have to submit documentary evidence with their tax returns. The tax

authorities are now operating under the principle of trust. That's where the real revolution is taking place, much more in terms of changing hearts and minds than computing technology.

*What elements are still missing to ensure that these various initiatives are successful?*

As I indicated before, effective change management amongst healthcare professionals is one very important element that needs to be put in place. In parallel, I'm a great believer in trials at a local level. The single electronic patient record will be a particularly interesting catalyst, accelerating computerization in hospitals. It is absolutely essential to carry out pilot implementations as quickly as possible, to find out about all the different issues on the ground. In actual fact, the level of development of computerized records varies widely. I believe that it's important to get going quickly, and we will gradually find new ways of using the system as it develops.

## Bull and NEC sign new industrial partnership agreement in IT security

**Agreement strengthens Bull Evidian's Identity and Access Management (IAM) offerings, and provides new momentum in Europe, Asia and USA. Following on from its announcement on 26 September 2005, Bull has confirmed the implementation of the first phase of a new industrial partnership in IT systems security between NEC and Bull Evidian.**

The partnership represents a major milestone in the development of Evidian, a subsidiary of Bull and one of the keystones of the Group's security solutions offering. Evidian has established itself as a seminal player in the European IT security software market and currently has a strong presence in two main areas: identity and access management (IAM), and quality-of-service management for systems and networks, with some major customer references in both cases.

The partnership with NEC will enable Evidian to strengthen its ability to invest in technology and commercial, particularly in the rapidly expanding IAM area where

Evidian itself grew by 60% in 2005. It will notably enable Evidian to strengthen its presence in Europe, the USA and Asia, building on NEC's strong presence in these regions where the Japanese group is a recognized player in IT security, both for mobile and fixed computing applications.

NEC's contribution to the partnership consists on the one hand of a 3 million euros investment in the equity of Bull Evidian – giving NEC an 8% stake in the company – and on the other hand of a second investment of some 7 million euros in the form of five-year maturity convertible bonds, designed to support Bull Evidian's international development plans. The conversion of these bonds will be linked to Bull Evidian's operational performance in 2007-2008, and after conversion they would give NEC an overall stake in Bull Evidian not exceeding 20%.

Reciprocal technology agreements will also enable NEC and Evidian to jointly

enhance their portfolio of IAM solutions and products, to deliver the very best in technology to their respective customers.

An essential foundation of IT security, over the past few years, IAM has established itself as a rapidly growing area. Linked with corporate directories and PKI infrastructures, it is one of the cornerstones of the new-generation of service-oriented and 'Web services' architectures. In addition, it is one of the few areas of security capable of delivering positive return on investment, in terms of regulatory compliance, improved user productivity and reduced management costs.

In this area, Evidian has chosen to develop an integrated and modular solution, which offers an independent first step towards a SSO (single sign-on) system, or responds to the most complex access management requirements in Web/J2EE or provisioning environments. This approach, demonstrated by the IAM NOW > program launched last year by Evidian, enables organizations to advance at their own pace, step by step, while achieving rapid ROI.

**BUSINESS NEWS (CONTINUED PAGE 1)**

## Bull updates Belgian Federal Justice Ministry's IT infrastructure dedicated to tracking judicial cases

**Bull has been chosen by the Belgian Federal Justice Ministry to implement a new information systems infrastructure – including servers, databases and associated services – dedicated to monitoring and tracking the progress of legal cases.**

Bull's involvement follows on from the implementation of the Ministry's 'Phenix' program, designed to equip the judicial authorities with high-performance information and communication tools enabling magistrates to process computerized case files more consistently and more quickly than in the past. Eventually, some 20,000 users, including all the judiciary as well as duly authorized external users, will be connected to the system.

"We chose Bull to supply the infrastructure for our program because of their recognized expertise in integrating complex systems and deploying highly secure IT infrastructures. Their good understanding of our needs and translation of those requirements into their proposed solution and associated services were determining factors in our decision" said Alain Bourlet, Chairman of the Management Board of the Federal Justice Service.

The contract, valued at 8 million euros, involves designing and implementing the system architecture, as well as operating it in the initial phase. Bull will be responsible for integrating and optimizing the latest version of Oracle (10g RAC ASM) clustered for databases, as well as the integration and implementation of application servers and a portal, while migrating the Ministry's various existing messaging systems to the Oracle Collaboration Suite system.

The new architecture will be based on:

- Two high-end Escala PL3250 servers running under AIX 5.3, each equipped with 16 processors and the capacity to grow to 32 processors, in a high-availability cluster configuration to manage the Oracle databases
- Eight Escala PL1650 servers, each capable of hosting up to 16 processors, to act as application, portal and messaging servers
- 20 Terabytes of storage capacity, which can eventually be extended to 50 Terabytes, running on EMC systems, as well as Storagetek libraries for archiving.

"We are extremely proud to be able to count the Federal Justice Ministry among

our major customers. Our understanding of the challenges faced by the public sector and our expertise in information systems architecture enabled us to respond to the full spectrum of the Ministry's requirements on this very large-scale project. We proposed a global solution building on our unique approach to IT architecture consultancy and our expertise – unrivalled in Europe – both in infrastructure and systems integration," explained William Van Malderen, General Manager of Bull Belgium.

Bull is working in close collaboration with its partner NRB to supply all the installation, security research, training and support services needed to guarantee 24/7 availability of the new infrastructure. Bull's local support services and its 'high-availability', AIX® and Oracle centers of expertise, based in Grenoble, combined with NRB's operational services are all being made available to support the contract.

The first phase, of this two-year project is due to go into operation from July 2006.

## Bull is modernizing Bulgarian customs' ITMS (Integrated Tariff Management System) to comply with EU requirements

**Bull has gained worldwide recognition in the public sector for its expertise, in particular in the modernization of IT infrastructures, on-line business processes, re-engineering of fiscal systems and aligning customs systems to new international demands.**

For several years now, Bull has been involved in developing customs solutions in several European countries during their preparation for EU accession: supporting the implementation of EU requirements\*. These countries include Bulgaria, Cyprus, the Czech Republic, Hungary, Lithuania, Malta, Poland, Romania and Turkey.

Bulgaria is actively preparing for EU accession, and the Bulgarian government's main objective is to be ready for this. At the beginning of 2005, the

Bulgarian Ministry of Finance launched an international call for tender for the "Computerization of the Bulgarian customs authority, for adoption of the information systems standards and practices of the European Union" with the Customs Agency was the key beneficiary. Bull was selected to develop and enhance their national and European Integrated Tariff Management System and other reference data in relation to the DG TAXUD requirements and EU practices, and to ensure interoperability with EU customs systems.

In Bulgaria, Bull is also working on a systems integration project for the National Revenue Agency (NRA), and has recently won the competition to implement a new information systems project for the National Health Insurance Fund.

"Our modernization program is one of the most challenging for our country. Connecting our system to all the European systems is crucial for both the EU and Bulgaria since we will be one of the Community's external borders. EU experts came early March for the first tests and expressed their satisfaction at the progress achieved on the project, which was ahead of schedule. The Bull team is delivering the complete solution

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**BUSINESS NEWS (CONTINUED)**

within budget and to a high level of quality. We have particularly praised their faultless involvement in the project," said Georgi Grigorov, Deputy Director of the Bulgarian Customs Agency.

"We are very proud to count the Bulgarian Ministry of Finance and the Customs Agency amongst our customers. Bull has been chosen by eight of the ten countries that joined the European Union in 2004, for the modernization of their Tariff systems. Our expertise and fully secured solutions based on open standards are the best guarantee for Bulgarian customs to comply with EU interoperability requirements, increase revenue and strengthen national sovereignty," declared Jimmy Char, General Manager of Bull Bulgaria.

**Providing experience, expertise and tools to modernize tariff and related systems, making them fully interoperable with EU systems**

Whatever the customs regime or the complexity of the regulations involved, Bull's Customs Declaration Processing Systems and Integrated Tariff Management Systems allow the Customs Authorities to deal in real time with all declarations, thus bringing fluidity and efficiency to the customs clearance process.

For years, Bull has been applying its ability to manage complex IT integration projects and its expertise in the Tariff systems which fulfill EU interconnectivity requirements. This system is capable of interfacing with EU Tariff systems as well as national Declaration Processing Systems

(DPSs). Compliant with best practices, these Web-oriented solutions based on open standards enable automation, control and interoperability. At each iteration, Bull is delivering technical and functional prototypes for test and training purposes to the Customs Agency.

*\* As part of the pre-accession process, the EU has required the customs authorities in the candidates countries to have fully implemented the Community Tariff Management regulations, integrated with the local ITMS (Integrated Tariff Management Systems), one year prior to the accession; and to be fully operational and ready for testing six months prior to the accession date.*

## Globus chooses Bull servers running Linux

**The migration of a business-critical application on Bull EXPRESS5800 servers, running Linux SUSE, has improved productivity at supermarket chain Globus and resulted in a drastic reduction in its IT costs.**

**G**lobus, the privately-owned chain of supermarkets, has over 20,000 employees, 35 distribution depots across Germany and the Czech Republic and generates annual revenues in excess of 4 billion. As an independent company in a globalized world, Globus is, and always has been, subject to enormous cost and competitive pressures. It was one of the earlier adopters of IT solutions. At the heart of Globus' IT is a constantly evolving merchandise management system, which manages over 100,000 items a day and in excess of 80 million

contacts with customers every year.

Problems associated with using heterogeneous operating systems were resolved in the medium term by adopting Novell SUSE Linux. Today, in excess of 100 Bull EXPRESS5800 servers are ensuring noticeably improved productivity and availability for Globus. They are particularly valuable in the company's larger branches, where redundant systems guarantee almost 100% availability.

"For a company like Globus, which targets over 80 million customers a year in its supermarkets, it is vital that we have

an IT infrastructure delivering high availability and productivity to rely on," explained Franz Herter, IT Director at Globus SB-Märkte. "It was envisaged that around 100 new servers would be distributed around numerous decentralized sites. In the tendering process, which pitted renowned suppliers against each other, the Bull EXPRESS5800 server proved to be the best in terms of its price/performance ratio. Bull's Linux services, support and expertise were decisive factors for us," confirmed Franz Herter, "We have established a lasting and very fruitful partnership with Bull. We know that we can call on them in any situation and they will deliver just the right kind of support." he added.

## Mutualité Sociale Agricole (MSA) chooses Bull to supply the majority of its IT infrastructure

**MSA, the second largest social insurance provider in France, covers all types of social protection (health, family services, services for the elderly, subscriptions) for those involved in the agricultural industry (farmers, agricultural workers and companies): a total of over 4 million people.**

**M**SA's business represents almost 30 billion euros worth of services. MSA has used Bull Escala large-scale servers for its main production applications

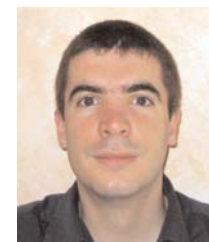
running under AIX® for a number of years. In February 2006, MSA made the decision to work with Bull over the next three years not only on its AIX® servers,

but also its Intel-based servers and data storage solutions across all six of its production centers. As a result, Bull is very proud to be the supplier of the vast majority of MSA's IT infrastructure.

## EXPERT VOICE

Florent Benoit, Systems Architect and Developer, Bull R&D

## With EasyBeans: the simplest way to benefit from the power of Java EE 5.0!



In this article Florent, who manages the EasyBeans project hosted by ObjectWeb, details the biggest challenges in the evolution of Enterprise Java Beans (EJB) and Bull/ObjectWeb's contribution: EasyBeans.

Having first appeared about eight years ago, J2EE technology has now established itself as an essential industry standard in major business application development. A powerful yet complex technology, its use has nevertheless tended to be confined to developers "in the know". So until now, many companies haven't hesitated to use lightweight components such as Spring, Struts or Apache's Hivemind. They also have recourse to Hibernate or to replace J2EE services JDO systems (Apache's OJB) of database interfaces. With the next version to come on stream – Java EE 5.0 – J2EE is moving towards delivering significant solutions to these constraints and finally simplifying the deployment of distributed components, or Enterprise Java Beans (EJBs). Bull and the ObjectWeb consortium are playing their part in developing the J2EE specification, via the Java Community Process (JCP), and have decided to develop an initial, extremely open implementation of the new EJB3 specification, EasyBeans, in Open Source. The aim is to enable J2EE developers to increase the speed of projects and offer developers using other environments the opportunity to find out about all the power and openness offered by J2EE – with or without an application server – as simply as possible.

Today, the majority of major enterprise applications are moving towards being interoperable and centralized. In order to facilitate their development, implementation and operation, they are increasingly being brought together using application servers or application frameworks, which offer a robust technical infrastructure that enables IT departments to concentrate their efforts on the business functionality. The leading application servers on the market use J2EE technology (Java world),

but other competing frameworks are available such as Microsoft's .Net technology, Zope with the Python language and Ruby On Rails, not forgetting the PHP language.

### J2EE: the standard platform for large-scale distributed applications

Nearly a decade after it was first developed, J2EE technology has now claimed the position as the industry standard: interoperable, standardized, supported by a majority of software publishers, it is particularly well suited to robust, distributed transactional applications. The main advantage of J2EE servers is their multi-platform architecture, linked to the use of the Java development language. The J2EE platform also enables applications to be ported from one server to another. What's more, the entire application life cycle is covered, from development to assembly, implementation and administration.

The J2EE architecture is made up of a number of different parts. The business part and the database interface ('persistence') is developed on the server using EJBs (distributed transactional components), whose specification ensures the transactional integrity of the data being accessed, ACID properties (Atomic, Consistent, Isolation, and Durable) and the presentation part with Servlets/Java Server Pages (JSPs), which generate the HTML code that is posted on Web browsers (thin clients). There are also 'thick clients' with a much richer interface, but which require client-side libraries.

EJB components can support a variety of tasks, such as verifying a credit on an account, calculating a VAT rate or accessing a database of tariffs. They are designed to be portable and reusable on any kind of Java application server. In production, EJBs are executed in 'containers' managed by application servers. These containers perform the technical tasks and communications between EJBs, enabling developers to focus their efforts on the functional aspects of the code.

### The limitations of J2EE: complexity

Although Java and J2EE have been extre-

mely successful for a number of years – because they offer such a powerful solution for critical distributed applications – these technologies are nevertheless seen as complex and reserved only for experienced developers. One example is the creation of an EJB. Up to and including version 1.4 of J2EE, in order to create a business object or EJB, it was necessary to write XML files (a standard file and a specific file for each application server), as well as several classes and Java interfaces. And EJBs did not offer any simple mechanisms for accessing relational data and holding it in memory. Which is why a major development effort was required, holding back the widespread adoption of this sub-set of the J2EE specification, although a number of additional tools did start to appear that simplified the life of J2EE developers, such as XDoclet [<http://www.xdoclet.org>] for more rapid creation of EJBs and Hibernate [<http://www.hibernate.org>] to simplify persistence.

So until now, many organizations have chosen to use a pure Java framework to replace complex J2EE services. They substitute lightweight containers such as Spring, Struts or Apache's Hivemind for EJBs, and also use persistence systems such as Hibernate or JDOs (Apache's OJB for example).

### Java EE 5 and EJB3: a much simpler approach to development

The forthcoming version of J2EE – Java EE 5.0 – has been designed to respond to these constraints and at last simplify the process of implementing EJBs. Thanks to the use of meta-data, the code is directly annotated without needed to pass through an external (XML) file. For example, to define an EJB the class declaration would be prefixed with '@Stateless' if it is a stateless EJB. Deployment descriptors (XML) become obsolete, even though they are still supported. Persistence will involve all Java objects and will be just as easy to build thanks to the new annotation concept introduced as part of Java 5. In particular, EJB3s will offer a persistence model very like that used by

**EXPERT VOICE (CONTINUED)**

Hibernate. This involves using standard objects or POJOs (Plain Old Java Objects). A basic object is created, values are attached to it, and finally – to make it persistent – it is sent to another object charged with managing persistence, known as an EntityManager: entityManager.persist (entityBean); and the object is then stored in a database. The EJB3 specification is in the last stage of being finalized; the official version is due to be launched at the annual JavaOne 2006 conference, being held this year in May. To implement the draft specification and enable developers to use it to simplify their developments, so far only proprietary or semi-proprietary solutions have appeared on the market in the last few months: Oracle EJB3 and JBoss EJB3.

**EasyBeans: the first true Open Source implementation of EJB3**

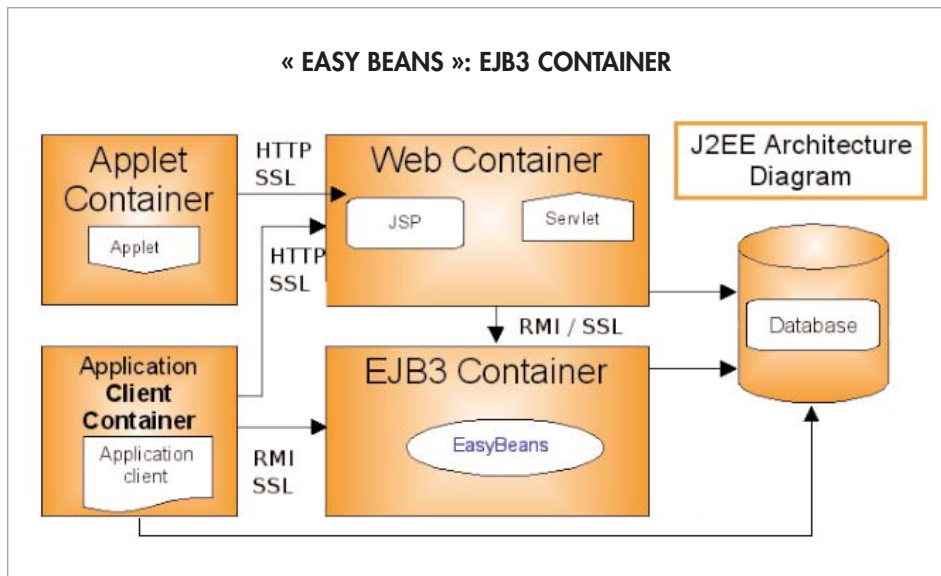
Having been involved in developing the J2EE specification (formerly Java EE) via the Java Community Process (JCP), and now that the EJB3 specification has been stabilized, Bull and ObjectWeb have decided to develop the first Open Source implementation of EJB3: EasyBeans [<http://www.easybeans.org>].

EasyBeans is the first truly open-source implementation of the EJB3.0 container. It is designed to interface with third-party solutions to ensure persistence, such as ObjectWeb's own Speedo and Hibernate. Other implementations of the persistence element will be able to embed in EasyBeans (for example OpenJPA, which BEA has provided in Open Source format), with the EJB3 specification defining an API for exchanges between the two components (the container and the persistence provider).

EasyBeans has been specifically designed to be easy to use, to speed up development but also make it simple and modular, in response to the growing demand for lightweight containers.

**An advanced technique: bytecode injection**

One advanced technique used intensively by EasyBeans is "bytecode injection". In the Java language, the source code of an object class is transformed into a .class file during compilation. This file contains the instruction set (the bytecode) that the interpreter (JVM or Java Virtual Machine) will interpret and run. With the bytecode



injection technique, it is possible to manipulate the object's bytecode and so add to, modify or delete class attributes or methods, or even generate an entire class. This delivers much better performance than having to create a Java source file and then compile it, because you're directly modifying the object. Apart from the performance considerations, this also enables greater dynamism (because there is no pre-implementation phase to carry out), but is also totally transparent to the user. This bytecode modification has been enabled with the assistance of ObjectWeb's ASM project [<http://asm.objectweb.org>]. An example is shown on page 9.

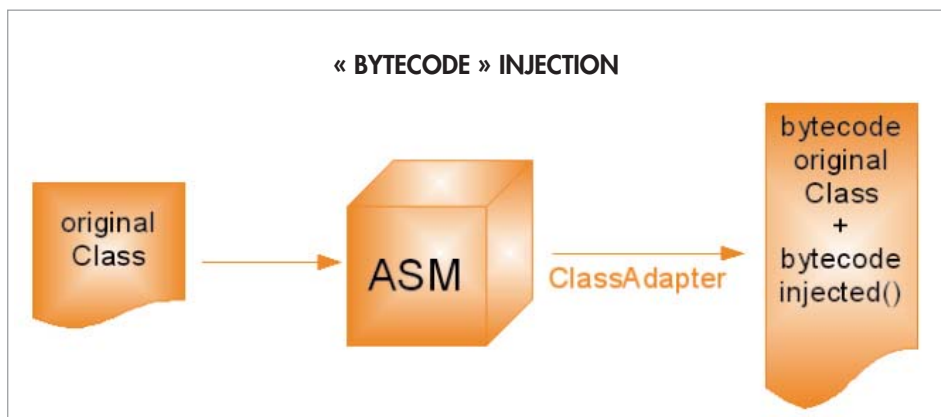
**A simple response to facilitate Java developments, with or without an application server**

By implementing a stabilized version of the new EJB3 specification, EasyBeans should rekindle some interest in using EJBs, as it offers developers a way to create their distributed transactional

applications that is both very simple and very powerful.

Naturally, EasyBeans is integrated into and available as part of the JOnAS application server, hosted by ObjectWeb and to which Bull is the major contributor. But it is also possible to use EasyBeans directly for more lightweight, standalone applications or those using partial J2EE servers such as Tomcat [<http://tomcat.apache.org>] (integration with Tomcat will be available within the next few weeks).

So EasyBeans offers J2EE developers the chance to speed up their projects, and allows other developers to discover all the power and openness of J2EE for the first time.



**EXPERT VOICE (CONTINUED)**

A complete explanatory guide is available on line:

<http://www.easybeans.org/GettingStarted/GettingStarted.html>,

as well as a user and developer guide enabling contributions to be made to the project.

**The best way to find out more about EJB3 is to download EasyBeans and find out for yourself just how easy it is to use for development.**

- Project URL:

<http://www.easybeans.org>

- Downloads:

<http://www.easybeans.org/download.html>

- Documentation:

<http://wiki.easybeans.objectweb.org/xwiki/bin/Main/Documentation>

**Using bytecode manipulation: a concrete example**

With EJB3s, one of the new features is 'dependency injection'. The bean requests the container that will run it to inject dependencies. Injecting a dependency involves initializing the attributes of a class with objects that access external resources such as databases or transactions. Before, the bean itself would have had to search for the resource.

An example of injection is the declaration of a variable enabling access to a particular database. This variable is of the Java `javax.sql.DataSource` type. All that's needed is to add an annotation to an attribute in the EJB3 code, and the container will then know that it has to inject the dependency.

For example: `@Resource(name="database") private DataSource dataSource.`

With the annotation being `@Resource`.

So via the ASM tool, EasyBeans injects a new method into the bean, called for example `injectByEasyBeans()`, and that method initializes the `DataSource`-type object. For every annotation that requires the injection of a dependency, an instruction is added to the method generated by EasyBeans. So the container only has to instantiate the object and then call the `injectByEasyBeans()` method, and the bean will have all its attributes initialized. And no Java file has been generated, the object supplied by the developer having been directly modified: with all this being totally transparent to the user.

## SOLUTIONS

## New large Bull NovaScale servers increases IT infrastructure flexibility and simplifies overall deployment

**Bull renews its range of large NovaScale servers while launching the NovaScale® 5005 Series. Compact and modular, they provide a high level of flexibility to ease the deployment of complex IT infrastructures.**

Their high scalability enables a tight adaptation of server infrastructures, thus bringing important cost reductions. The combination of physical partitioning and virtualisation software makes the NovaScale® servers uniquely flexible to use and enables users to fully optimize the resources installed.

The NovaScale® 5005 servers are built using modular blocks that can rapidly be combined within a single cabinet to pro-

vide SMP (Symmetrical Multi-Processing) servers from 2 to 32 sockets (namely 2 to 32 processors mono or dual core). They have been designed to host several generations of Intel® Itanium® 2 processors, thus leveraging customer investment. They will support the "Montecito" generation processor, for which Bull has gained a unique expertise with the deployment of the largest supercomputer in Europe.

Through its expertise in both open and

large systems, Bull has developed innovative technologies that bring the Linux environment new functionalities, traditionally reserved for legacy systems, in particular to reinforce availability of critical applications; to improve overall service quality with Dynamic Domains for Applications solution; to accelerate back-up and restore operations of the servers in the Linux environment with "System Backup & Restore" and to simplify back-up of heterogeneous environments with StoreWay OpenSave.

*NovaScale 5005 servers are available since March 2006.*

## New record for NovaScale

**Announced at CeBIT: the Bull NovaScale Blade 2320 has delivered the best available performance per watt in the industry.**

The NovaScale Blade 2320 server is designed for the consolidation of hundreds of servers in space-constrained environments, offering reduced cost of ownership with advanced network virtua-

lization and storage simplifying manageability and bringing low management costs.

Bull NovaScale Blade 2320 features makes it the ideal platform for large enterprises which need to concentrate hundreds of servers in thermally-sensitive and space-constrained environments - such as Financial institutions or Telecom providers.

The new NovaScale Blade 2320 is based on the dual-core Low Voltage Intel® Xeon® technology. It benefits from of lower thermal design power, using Enhanced Intel Demand-based switching (DBS) technology. The NovaScale Blade 2320 requires minimal cooling, and generates low heat.

## Bull unveils new "usage patterns" to speed up and secure the implementation of complete solutions.

**Based on NovaScale servers and services delivered by the Competence Centers, these solutions are optimized at the Bull's R&D Centers, so they can be fully operational in live environments within extremely tight timescales.**

The first areas covered by these usage patterns include the replacement of application servers by JOnAS, the consolidations of Oracle database and the

implementation of business intelligence solutions using SQL Server 2005.

The great advantage of these usage patterns is that they offer a highly pragmatic

approach, enabling customers to rapidly target the areas where they can reap benefits from, whilst also having a very clear picture of the resources they need to deploy, and the tools and methods to use. Quite simply: an approach to implementing new infrastructures that combines speed, simplicity and cost-reduction.

**SOLUTIONS (CONTINUED)**

## WiseGuard 3G: Bull Evidian launches the 3<sup>rd</sup> generation of Single Sign-On solutions

By embedding business security in the user workstation, Evidian – Bull's subsidiary focused on security software products – combines all the advantages of the first two generations of SSO (Single Sign-On) to enhance security, productivity and regulatory compliance, with rapid return on investment (ROI).

Today, the growing risks from cyber-vandalism, fraud, industrial espionage, and the development of regulatory regimes such as Sarbanes-Oxley, Bâle II and LCNE are generating greatly renewed interest in enterprise single sign-on (E-SSO) solutions that both reinforce and simplify user security. Current solutions have certain limitations when it comes to integration with existing business processes and detailed security administration. With its new offering, WiseGuard 3G, Bull Evidian overcomes these constraints, while also delivering rapid ROI.

**WiseGuard 3G, the key innovation: an advanced security control desk**

With its new Extended Manager component, WiseGuard 3G offers a graphical, intuitive distributed security control desk. Based on a RBM (Role Based Management) model, Extended Manager provi-

des sophisticated administration tools which enable the SSO to be finely tuned to the realities of key business processes (delegated authority, multiple accounts for individual users, different means of authentication depending on the sensitivity of each application in terms of security, fine grain access control) and administrative requirements (from the most decentralized to the most federal approaches to management). In addition, Extended Manager provides powerful analysis and reporting tools for auditors, essential to guarantee and provide evidence of regulatory compliance.

**A simple response to security and productivity challenges**

Capitalizing on Bull Evidian experience and innovations in E-SSO, as well as know-how from the start-up company Enatel acquired in September 2005,

WiseGuard plugs the gap between traditional SSO tools and corporate business policies. Most notably, it combines the administrative capabilities of first generation SSO with the flexibility of second-generation tools, to deliver a veritable third generation SSO solution which enables organizations to achieve the balance between security and user friendliness which matches their own business needs as closely as possible.

*"With existing SSO solutions, implementation often runs up against significant business constraints,"* explains Evidian's General Manager Hassan Maad. *"With WiseGuard 3G, we can now offer organizations the first flexible E-SSO solution that enables full implementation of security and regulatory compliance, without the need for compromises. That's a key business advantage at a time when regulatory developments have forced effective security to become an essential condition of good business performance!"*

**For more information:**

<http://www.evidian.com/security/wiseguard/index.htm>

## TrustWay PPS, mobile security in your hands

With its TrustWay PPS\* 2 solution, Bull is launching the new generation of USB key that at last ensures the security of mobile workstations.

From strong authentication to Wi-Fi access, from data protection to Internet telephony, the security of laptop computers is a major challenge for managers and employees working in sensitive roles who need to be mobile while at the same time ensuring the security of the information they hold. Until now the market only offered a disparate range of specialized solutions or products with limited capabilities or inadequate security protection to meet these needs. But now Bull is offering the first universal, personal high-security device – TrustWay PPS – providing a timely response to this growing challenge.

**The first universal USB security key for every kind of use**

The TrustWay PPS USB key is both easy to use and universal, having been developed as a result of work in the defense sector to respond to the full range of mobile workstation security requirements.

The PPS key is simply inserted into a USB port, to immediately secure the laptop or workstation. The user identifies him or herself by entering a PIN number, read by a device built into the key. TrustWay PPS features a dedicated cryptographic processor, developed by Bull in France, which handles all the key management, encoding and decoding, and signature

operations required by the user, including:

- Strong authentication for all types of applications (and secure password storage)
- Encryption of one or several hard drive partitions
- 1 GB key memory capacity, with integral encryption enabling totally secure storage of data and software
- IPsec VPN tunnel providing all types of connectivity (Wi-Fi, ADSL, etc.)
- Secure data transfer from one PC to another
- Electronic signature
- Encrypted VoIP and secure e-mail messaging

*(continued on page 12)*

## SOLUTIONS (CONTINUED)

- ... with all applications conforming to industry standards (PKCS#11 or MS-CAPI).

*"Against a backdrop of increasingly lively competition and globalization, we all need a secure, universal way to transfer, exchange and protect our data –*

*whether for personal or business use," confirms Alain Filée, Director of the TrustWay Business Unit at Bull. "With TrustWay PPS, we offer public and private sector organizations a universal, high performance way to secure mobile workstations, with the benefit of technologies developed for the defense market-*

*place. A single PPS key provides the ultimate, simple response against theft, pirating and intrusion."*

### For more information:

<http://www.bull.com/trustway/pps.html>

\* PPS : Personal Protection System

## Securing nomad networks

**Bull offers a mobile solution for securing temporary networks on construction sites, at exhibitions, in vehicles; in fact, any sites not eligible for ADSL services.**

By integrating its Mobile Access Point (MAP) platform as part of a global solution All@Way, Bull allows its customers to implement local area 'nomad' networks with access to company Intranets or Extranets wherever ADSL services are not available.

The solution allows remote, standalone and nomadic devices – including PC networks, IP cameras, etc, to make the connection, without the need for a costly and cumbersome wired infrastructure. Connections are secure, universal and can be remotely administered. They utilize the latest GPRS, EDGE and 3G technologies, and enable devices to remain connected to the enterprise and the outside world for minimal investment.

MAP (Mobile Access Point) is an access server connected to high bandwidth 3G mobile networks (EDGE, supported GPRS), which also enables the connection to be shared by the local network.

All@Way is a comprehensive remote security, administration and supervision solution for the fleet of MAP high bandwidth mobile access servers.

### Multiple application examples

#### • Temporary locations

Connected to a mobile network, the All@Way solution enables temporary secondary networks to be implemented locally, for example on construction sites, for exhibitions or other events, and on all sites not eligible for ADSL services. In addition, because it can support the connection of ATMs and other banking services devices, it enables cash points, ticketing machines and electronic payment terminals to be installed temporarily,

for example at an exhibition. Bull implements the devices in a secure environment, without the need for a fixed infrastructure.

#### • Backup for remote connections

If the main link should break down, the MAP high bandwidth mobile access server and All@Way solution can provide continuous connectivity to guarantee operational availability of strategic applications, remotely.

#### • Video surveillance and remote video

The solution also enables the connection of video IP cameras. The MAP server manages the transmission of real-time images to a control point, where they can be processed or monitored (for surveillance, behavioral analysis, alarms, etc.). The solution can be implemented in vehicles such as buses, at remote sites or at events.

## 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, March 21-23 and Brussels, March 22-23, Bull Evidian will be showing its

Identity, Access and SSO management solutions at:

- InfoSecurity Europe, April 25-27, London, Grand Hall Olympia <http://www.infosec.co.uk/>

- InfoSecurity Italy, June 20-21, Roma, Sheraton Roma Hotel <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 (machine and storage), High Availability and custo-

mer testimonials.

After Paris on March 16th, where over 60 French-speaking customers and partners came to share the latest Escala solutions and technological evolutions, the next meetings will take place in:

- Germany: May 4
- Belgium: May 10

- Luxemburg: May 11
- UK: May 16
- Austria and Italy: end of May.

### To reserve a place:

contact your local Bull representative or Anne Charlet ([anne.charlet@bull.net](mailto:anne.charlet@bull.net) or 33.1.30 80 31 12).

From Mars 29 to June 14

## GCOS 7 Tour of France

This road show allows GCOS 7 customers from French regions or other French-speaking countries to find out about the latest advances in the GCOS 7 family, which includes the new Bull NovaScale 7000 servers. The 'Tour' features presentations from Bull experts and customer case studies. There will be a

particular focus on bringing people up to date on the implementation strategy for the latest generation GCOS 7 mainframes within open architectures, and in Windows, Linux and Open Source environments, and consolidation of multiple applications.

After Saumur, end of March:

- Aix-en-Provence: April 5
- Paris: May 16
- Annecy: May 31.

### For more information:

contact Alain Aussedat ([alain.aussedat@bull.net](mailto:alain.aussedat@bull.net))

From May 2-5

## Bull's Summit 2006 Customer Conference, Phoenix

Bull's annual Summit 2006 conference will be held in Phoenix, Arizona (U.S.) from May 2-5.

The 2006 program will include:

- Keynote address by Michel Lepert, Vice President of Bull Products & Systems Division, Bull
- Customer presentations on recent implementations of new Bull products and systems, including NovaScale, Diane, Media Server, Escala/AIX
- A Gartner Group presentation:

"What's ahead in IT and how to balance long-term strategic IT goals with the need for rapid results"

- A Microsoft presentation: "How SQL Server 2005 can help your organization make faster and more data-driven decisions"
- A look at Intel's vision of a global networked world
- A Special Public Sector Session: Justice and Public Safety solutions from Microsoft

- A presentation by the Open Source Development Lab (OSDL) on the deployment of Linux in enterprise-level computing
- A presentation of our partner Gallagher & Robertson on how to "Open up your legacy systems and integrate with the future".

### For more information or to Register for Summit 2006:

<http://www.bull.com/us/>

## EVENTS (CONTINUED)

10-11 May 2006, Nice, Acropolis Congress Center

6<sup>th</sup> 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, Security.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.



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).

EDF, 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 May 16 to 19, Paris

## 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 application on the Siemens booth.

**EVENTS (CONTINUED)****18 May 2006, Paris Region, Etiolles****Congress of the French National Association of Local Authority General Secretaries and General Managers (SNSGDGCT)**

**B**ull is taking part in the SNSGDGCT's regional meeting for Ile-de-France (Paris area), which takes place on 18 May at the Golf d'Etiolles, from 9:00am. The day is organized around six workshops, culminating at 7:00pm with a round-table discussion, chaired by Michel Namura, Regional administrator and the

forum's Executive Representative for the management of towns and regional councils.

Bull experts are involved in two sessions:

- **Guy Huau**, a Senior Consultant in Regional Authorities and e-Government will take part in the workshop on **"e-Government: at 11:15am"**

- **Olivier Herbaut**, Director of Local Authority Markets, will participate in the closing round-table debate, **at 7:00pm, on the theme: "Towards the personalization of services for local authority workers and citizens"**.

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

**T**he 22<sup>nd</sup> 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)**

**T**he 21<sup>st</sup> 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

## Innovation taking off

**SYSTEM@TIC PARIS-REGION is a competitive cluster\* aimed at making the Ile de France one of the few regions with a worldwide profile in terms of designing, building and harnessing complex systems.**

Following the launch of various projects, including Num@tec Automotive (automotive transport), Usine Numérique (digital factory), Usine Logicielle (software factory) and IOLS (infrastructures and software tools for simulation), in March SYSTEM@TIC PARIS-REGION launched the FAME2 program. The aim of FAME2 is to adapt a new generation of HPC (High-Performance Computing) servers capable of processing huge volumes of data, by 2008. This new generation of machines will enable the construction of extremely powerful supercomputers, delivering several PetaFLOPS (million billion operations per second, Floating Point operations). The FAME2 project will particularly focus on defining the hardware architecture

and optimizing the Linux® kernel in an environment with several tens of thousands of processors. It will enable the validity of the chosen concepts to be demonstrated with the help of a prototype ahead of the manufacturing phase. The program also involves validating all the base software, libraries and optimization tools specifically required to implement simulation or information gathering applications using very large-scale databases (more than 50 Terabytes) in a multi-media, multi-lingual environment applicable both to life sciences and physical sciences.

The main players involved in the projects include major manufacturers and research laboratories, universities and SMEs: Bull, CAPS entreprise, the French

Atomic Energy Authority (CEA), Dassault-Aviation, the Ecole Centrale de Paris, ILOG, the French National Petroleum Institute, the National Telecommunications Institute (INT at Evry), NewPhenix, Resonate MP4, the University of Evry and the University of Versailles Saint-Quentin. FAME2 has also been given the support of the French Industry Ministry and Yvelines Council, the local authority for the area hosting the project.

**To find out more, visit:**

[www.systematic-paris-region.org](http://www.systematic-paris-region.org)  
Or contact Claude Camozzi,  
the FAME project coordinator  
([claudc.camozzi@bull.net](mailto:claudc.camozzi@bull.net))

*\* Aimed at leveraging synergies, the competitive clusters combine on a geographic area, public and private research centers working together on innovative projects.*

## Bull and SAS strengthen their partnership in business intelligence for ERP environments

**SAS, global leader in business intelligence (BI) systems, and Bull are further strengthening their partnership with a new offering destined for the implementation of advanced BI solutions for ERP (Enterprise Resource Planning) environments. The new partnership applies in Europe.**

Building on the two companies' respective expertise in complex infrastructures and BI solutions, Bull and SAS will enable organizations to improve their business performance and strategic management using data collected from an ERP system.

A number of major customers have already decided to implement SAS®9 with direct access to an ERP, with the aim of controlling their business more effectively or introducing data mining. This is seen as a particularly effective approach when processing large volumes of data.

So, Bull and SAS have, for example, worked together to develop a benchmark for Electricité de France (EDF) which has enabled this very large company to optimize response times of its global infrastructure by a factor of 10 and to validate its solution, initially used for some 170,000 business customers and eventually by three million customers.

*"The quality and performance of SAS solutions running on Bull servers enables very large volumes of data to be processed, enabling us to optimize our marketing programs and control our activities in*

*the business marketplace more effectively,"* underlined Philippe Fattersack, Project Manager in the CRM Analysis Department of EDF's Commercial Division.

In the area of BI and ERP systems, Bull capitalizes on the expertise of its consultants in France and elsewhere in Europe, and has also established SAS and SAP centers of excellence, which are charged with defining and specifying architectures. These centers also get involved in the implementation and optimization of applications running on Bull NovaScale, Escala and EXPRESS5800 servers. Bull experts work in close collaboration with SAS's support and R&D teams.