

Bull Direct



Bull's monthly newsletter

EDITORIAL

On track for openness and convergence



Today, information technology is entering a new cycle of innovation and transformation. I don't intend to reiterate the far-reaching impact that the Internet is having on the on-going transformation of information systems and our way of life. Rather, I would like to

highlight the latest undercurrent created by the convergence of information technologies and telecommunications, which will inevitably reshape the whole business landscape. Voice-over-IP (VoIP) is just one example of this convergence. And at Bull we intend to build on our partnerships with major operators and our own expertise in these technologies to grow our business in this area.

The second trend is the increasing power of open solutions, and, in particular, Open Source: which has indeed been driven by the Internet and is now making rapid inroads in all sectors. Our major customers, who recently joined us at our annual high-level conference in Cannes, confirmed the reality of this phenomenon. In this month's Bull Direct (and next month too), we hear from some of those customers. In this edition, you can read two particularly eloquent pieces: from Daniel Verwaerde of the CEA (French Atomic Energy Authority) and Janick Taillandier from the Paris transport company RATP. Their comments confirm just how strategic these new technologies and methodologies are becoming to all kinds of organizations. We really are at the dawning of a new paradigm that will turn the IT industry upside-down, starting with software itself. This is a particularly important trend for Bull, given that the strategic positioning of the company is the opening of information systems, as underlined by our corporate signature - Architect of an Open World™.

I firmly believe that Bull is in total alignment with these major trends in the marketplace; and as a result, we are well prepared to support your business and the projects that are most vital to your future development.

Didier Lamouche,
Chairman and Chief Executive Officer

CONTENT

p.4/Hot topics: "High Performance Computing: a major challenge for Europe" by Daniel Verwaerde (CEA) and "Open Source: a pragmatic choice" by Janick Taillandier (RATP)

p.6/Business News: Uruguay's social security system, Poland's Ministry of Education and Science, Broadway Management (USA), OSG (The Netherlands)

p.9/Expert voice: "Partitioning and virtualization" by Pierre Fumery, Head of Bull's Linux Competence Centre

p.11/Solutions: StoreWay, AccessMaster 7.01

p.13/Events - p.17/What's new

EXECUTIVE OPINION

Yves Véret,
General Manager, Defense, Emerging Markets and Strategy

Economic Intelligence: staying ahead of the game

For some years now, Economic Intelligence has been becoming increasingly important within business, central and local government. This acceleration is due both to the globalization of the economy and the availability over the Internet of ever greater amounts of information.

The main objectives of Economic Intelligence are:

- To identify the best opportunities for the growth and development of economic activity
- To increase understanding of markets and competition, as

well as of how they are changing, no matter how rapid that change may be

- To help protect national and corporate assets, be they economic, social or cultural.

(Continued on page 2)

BUSINESS NEWS

Bull's expertise, working at the heart of Uruguay's social security system

Bull has been working with the Uruguayan social security system for many years, and in 2006 this successful collaboration continues.

Banco de Previsión Social del Uruguay (BPS) (main institute of the Uruguayan social security system) is the body responsible for planning, coordinating and managing social security for 90% of people in Uruguay. BPS has 4,300 employees, 84 branches and manages some 55% of the State's

entire budget and 14% of the GIP (Gross Interior Product).

The BPR project

Towards the end of the 1990s, Uruguay embarked on a program of social security reform that would involve updating BPS' IT systems.

(Continued on page 6)

EXECUTIVE OPINION (CONTINUED PAGE 1)**A global background of instability**

Globalization of the economy is causing the majority of developed countries (Europe, the United States, Japan) to experience increased competition in their home markets due to the growing scarcity of raw materials and the appearance on the scene of new economic players offering to produce goods at much lower cost. At the same time it offers these same countries the chance to widen their market horizons or zones of influence to include new geographic areas such as China, India, South-East Asia, Russia and Eastern Europe, Latin America, South Africa, the Middle East and North Africa on condition that they take on board the needs for sustainable development and technology transfer.

What are the consequences for business?

This new trend means that small to medium-sized companies and larger businesses alike are faced with continuous, insidious and silent paradigm shifts. As a result, they need to constantly adapt their

processes, organization structures, management approaches and strategic alliances. Every month, around the globe, new competitors appear as if from nowhere and new regulations come into force. How can they be effectively identified? And how can companies protect themselves?

At the outset, Economic Intelligence was really a defense mechanism: inward looking and concerned with protecting national interests. But today it has moved forward to be a far more dynamic approach, focused on "the control and protection of the strategic information that is most useful to decision makers".

An organization's ability to collect, analyze and share strategic information is what gives it a competitive advantage in the conquest of new markets or in defending its market share. Implementing a rigorous policy of security for strategic information internally will protect the organization from any attack that may harm its business activities.

Knowledge as a decisive advantage

So knowledge has become a real weapon in the conquest of new markets: hence the advent of the term "Knowledge Warfare" in some countries. Knowledge gathering is focused around various monitoring and early warning systems within the company or organization, such as:

- Strategy monitoring
- Competitor monitoring
- Technology monitoring.

Essentially oriented towards open sources of information (Internet, the press) these systems gather more and more information and continue to tie up more and more analysts. But the results are usually not widely distributed or shared by the various functions. The belief that the more information you can keep to yourself, the more power you have, often leads to a highly destructive bunker mentality that gets in the way of any

useful processing of the information. Conversely, distributing the information in a controlled way throughout the organization enables it to be effectively appropriated and enriched by tapping into individuals' implicit knowledge. And this, in turn, increases the probability that even the weakest early warning signals will be picked up.

Combining early warning systems and collaborative working tools within new-generation business intelligence portals or managerial "control panels" is likely to encourage the early detection of opportunities and risks, and so engage people actively in choosing scenarios or deciding on the best way to implement projects.

Bull and Economic Intelligence

Capitalizing on its capabilities and expertise in technology innovation and systems integration, Bull has decided to develop an Economic Intelligence solution in its Defense, Emerging Markets and Strategy business unit. The company's specialists define and deliver collaborative analysis platforms for processing open sources of heterogeneous information. To this end, Bull has formed a number of partnerships with European specialist software suppliers of solutions for textual research and analysis, and the indexing of images or sounds. In order to correlate the information that has been collected with company-specific data, these platforms are integrated within existing information systems and distributed to the various players for validation, enhancement or decision-making.

These kinds of collaborative analysis platforms take full advantage of the parallel architecture and processing power of Bull servers. When deployed alongside appropriate data storage solutions, they offer excellent performance when it comes to indexing and searching on vast amounts of information.

Collaborative working is a key factor in the performance of Economic Intelligence. From the very start, the inventory of data to be

(concluded page 3)

EXECUTIVE OPINION (CONTINUED)

collected and the list of information sources to be monitored must be the subject of a group decision, taking into account all the necessary parameters. To achieve this, Bull's consultants recommend the "Group Working Laboratories" solution, from our partner RGA Systems. This is based on a completely computerized methodology that encourages the commitment of those involved and drastically reduces the number of meetings required.

Solutions for analyzing, visualizing and projecting multimedia data onto image walls can be provided to complement the range of Economic Intelligence solutions. They assist with the comprehension of complex systems, and increase the capacity for scenario simulation within decision support control panels.

In parallel to this, requirements for user authentication and securing data exchanges increase in direct relation to how sensitive the information in question is. So "user

profiles" can be further refined by granting time-limited access rights for specific purposes, enabling secure access to the information, guaranteed by both the information provider and the customer. Encryption solutions complete the range of security measures used to protect the information.

Numerous technical challenges to be overcome

The performance of any Economic Intelligence system depends on how well it can integrate technology innovations when it comes to the processing of information. This is why search engines — that enable Web pages in text format to be found using keywords — are now gradually being used much more widely to find multimedia data in other formats (images and sounds), as well as to search for corporate data, whether it is stored centrally or on employees' workstations.

Against this backdrop, Bull is involved in a

number of R&D projects looking at how semantics can be incorporated as part of the search process: in other words, how to take the 'sense' of something into account. When it comes to the storage and processing of multimedia data, the main areas for development involve greater parallel processing and the new generation of multimedia database management systems.

Bull's information systems offerings for Economic Intelligence give its customers the opportunity to implement secure, open solutions, based on trusted software, implementing the best available technologies. To support the further development of these solutions, the Bull Institute has decided to set up an Economic Intelligence think tank, led by Admiral Pierre Lacoste. The group brings together a large number of economics specialists from the public and private sectors, as well as from universities and research institutes in France.

HOT TOPICS

Interview with Daniel Verwaerde, Director of the nuclear weapons at the French Atomic Energy Authority (CEA), responsible for digital simulation and information technology for the French nuclear deterrent.

High Performance Computing: a major challenge for Europe



In 2005, the United States laid claim to the top five places in the Top 500 league of supercomputers. The 2006 listing will be published shortly. So will

Europe have caught up, or at least have started to work towards redressing the balance?

It is true that Europe is falling behind to an alarming degree. Public and private players alike need to invest and develop synergies as a matter of urgency; it is our future that hangs in the balance. HPC is a strategic issue that no major nation can ignore, and the USA is taking the lead by devoting considerable sums to this area. Japan, India, and China are also making substantial investments, with a view to controlling the whole technology value chain for the latter. HPC is essential because it enables the progress of scientific and technical research in every area: from electronics, aeronautical engineering and climatology, to biology and environmental science. And it brings as many benefits in terms of social progress as does for the economy and industry.

With the spread of globalization, the speed of development is today more crucial than ever for business. Digital simulation, accelerated by the emergence of open supercomputers, enables us to design and develop new products more quickly, and very competitively. In every area of research, it is taking on a more important role in comparison to the more costly and time-consuming traditional experimental methods. In 2006, we are in the middle of the teraflop era, and the next few years will see us enter the era of the petaflop. Will Europe be ready to take on these challenges? Two areas are urgently in need of a concerted effort. We need to: Help communities with developing code Enhance Europe's capabilities when it comes to technological innovation. Bull, as the only totally European IT maker, is best placed to be at the heart of the development of the new generation of supercomputers and future software platforms.

Accelerating co-operation between players is the only way to regain lost ground in scientific research, the main driver of future competitive positioning and employment in this part of the world. This is an issue of strategic importance as much for the scientific community as for business: and it deserves significant commitment both from the industrial players in Europe and from government at every level.

Does the Teratec science park represent a move on the part of the CEA to bring together those involved in computer simulation?

Two years ago, the CEA/DAM decided to create Teratec to share the outputs from its defense program and give the scientific and business community the benefit of its experience and computing resources. The aim was to drive forward the scientific computing industry to as high a level as possible by developing synergies between defense, industry and research around major collaborative projects.

The CEA's current processing power of 7 teraflops will be increased to 60 teraflops with the TERA-10 supercomputer delivered by Bull. In early 2007, that will rise once again to 100 teraflops. Teratec's partners include major businesses such as Bull, CS (Communication & Systems), Dassault Aviation, EDF, SNECMA and Turboméca; public and privately-run research centers

including the Ecole Centrale de Paris, ENS Cachan, the IFP (French Petroleum Institute), the French National Telecoms Institute at Evry and the University of Versailles-St Quentin; start-up companies such as Distène and Numtech; and the local authorities that are playing host to Teratec.

With the creation by the French government of its "pôles de compétitivité", Teratec has become a focal point of the System@tic center of excellence in Ile-de-France, which is designed to ensure that the region is at the forefront of research and development in the design, development and control of complex systems. One of the first projects is the FAME2 project, led by Bull, with the aim of adapting a new generation of servers to HPC, so they can process massive volumes of information, by the start of 2008. This will enable the construction of extremely powerful supercomputers of several petaflops.

The rewards to business from the synergies between defense, industry and research are immediately clear for all to see. But this is just the start. Our warnings about how Europe has fallen behind when it comes to HPC have begun to bear fruit at the national and European levels. The implementation of large-scale computing centers — including, of course, our own — drawing on a powerful industrial infrastructure, will enable us to make phenomenal technological advances.

The CEA, a major player in technology research in France and worldwide

The CEA is a publicly owned technology research body operating in three main areas: energy, technologies for information and health, and defense, drawing on its wealth of excellence in fundamental research. As a major player in the research arena in Europe, internationally renowned for its expertise, the CEA is developing a considerable number of collaborations with international partners.

TERA-10, Europe's most powerful supercomputer and one of the largest in the world

As part of its simulation program — and following an international tender which featured 278 separate criteria in its specification — the CEA chose Bull to provide its new-generation supercomputer. Bull, who delivered TERA-10 last December a few days ahead of the extremely tight deadline, was chosen for the power and scalability of its technological offerings based on standard components, its in-depth knowledge of Open Source and its expertise in high-performance computing (HPC) and complex IT infrastructures. TERA-10 consists of a cluster of 602 Bull NovaScale servers, of which 544 are dedicated to data computing. With nearly 9,000 Intel® Itanium® 2 processors, this giant of the IT world provides computing capacity in excess of 50 teraflops and 30 terabytes of core memory.

HOT TOPICS (CONTINUED)

Interview with Janick Taillandier,
Information Systems & Telecommunications Director of RATP (the Paris urban transport authority)

Open Source: a pragmatic choice

In the transport sector, as in other areas of public services, the current trend is towards increased competition in the marketplace. Does this new environment have an impact on RATP's information systems?

RATP is going through profound changes, just as fast as the landscape around us. Firstly, we have to satisfy the new requirements imposed by STIF, the regional public transport authority, responsible for Paris, the Ile-de-France and the surrounding region. Under the authority of the President of the Regional Council, STIF is responsible for co-ordinating the business activities of RATP, SNCF and the 90 or so operators within the "Optile" network and defines the general operating conditions for public transport in the Ile-de-France. Secondly, an European regulation governing public transport passenger services states that they will need to be opened up to competition.

So we are preparing ourselves to become a company that can compete effectively at the European level: ready to face the competition and start establishing ourselves in other French regions and European cities. Innovation will be the main driver for our ongoing development. Technology will enable our people and business activities to evolve: the main business driver from now on will be more about servicing our relationships with customers. And of course what we expect from our information system is that it will be an engine of this transformation: not only enabling us to provide new services, but also helping us enhance existing ones (for example, video surveillance).

You have chosen Open Source for many of your applications? Why is this?

Because it works! In 1995, we launched our first Internet site built using Open Source components, because we were working with a tight budget; it worked well that year, coping with peaks of more than 100,000 hits a day. Using the same technology, we now handle 1,500 hits a second!

Open Source software is often simpler than commercial ones that are enriched with sophisticated functionality which we don't necessarily need. This means they are more easily controllable. At RATP, we work within relatively long timeframes, and that's why we need a stable portfolio of software capable of evolving in line with our needs, not those of software vendors trying to meet their profit target. Using Open Source components, we are far more the masters of our own IT architectures and their cycles of evolution.

I would just add that Linux is running on a large number of servers that are relatively inexpensive. Moving from Unix to Linux is relatively simple for our developers, and so our investment in people and skills is preserved. This also enables us to rationalize our heterogeneous range of servers. Another decisive factor: a certain number of technologies no longer represent a significant cost to us, and this is vitally important to us as we seek to gear up our customer service policies.

What is your current implementation strategy?

We are installing Linux on mid-range servers, including on our mission-critical sys-

tems. We will not be using it for the time being on PCs or high-end systems.

Since the start of 2000, we have developed core business and technical applications using Open Source components, such as real-time passenger information systems on station platforms, front-office ticket sales and income management, as well as the central technical control system. Maintenance support tools for buses and trams are under development. We never make radical changes all at once, but prefer to capitalize on our experience and progress step by step towards installing real-time systems (for example, kiosks) and applications handling very large volumes of data.

Information systems are key drivers for improving performance and efficiency in any organization, because they are at the heart of its operation. For a multitude of reasons, Open Source software provides effective and inexpensive tools that enable us to control the development of our systems with complete independence. Finally, the young developers we are currently hiring all know Linux and Open Source: and that's an important point. Our strategy is very pragmatic.



Created in 1949, RATP is a public services organization providing nearly 80% of public transport in the Ile-de-France region.

It manages four networks: buses, underground trains (the Metro), Regional trains (the 'RER') and trams. RATP has a turnover of 3.4 billion and employs more than 44,000 people, transporting nine million passengers every day, of which 4.7 million travel on the Metro.

Spread across 12 sites throughout the Ile-de-France, RATP's information system features some 500 applications, 300 servers (running under AIX, HP-UX and Solaris), a number of Oracle databases and a park of around 15,000 PCs. It consists on the one hand of the corporate systems handling financial applications (accounts, human resources, purchasing, sales & legal services, maintenance, business intelligence), and on the other hand, the 'passenger' systems running services to customers, such as ticket sales, CRM, on-board services, passenger information and security (people, spaces and assets). Open Source software is gradually being used to meet more and more of the requirements for core business applications.

Bull is one of RATP's key partners when it comes to technical infrastructures, particularly via the referencing of Unix servers, storage/SAN infrastructures and JOnAS application servers.

BUSINESS NEWS (CONTINUED PAGE 1)

Bull's expertise, working at the heart of Uruguay's social security system

Bull has been working with the Uruguayan social security system for many years, and in 2006 this successful collaboration continues.

Banco de Previsión Social del Uruguay (BPS) (main institute of the Uruguayan social security system) is the body responsible for planning, coordinating and managing social security for 90% of people in Uruguay. BPS has 4,300 employees, 84 branches and manages some 55% of the State's entire budget and 14% of the GIP (Gross Interior Product).

The BPR project

Towards the end of the 1990s, Uruguay embarked on a program of social security reform that would involve updating BPS' IT systems. So at the end of 1998, BPS itself put out invitations to tender for: the management and co-ordination of its internal processes (known as BPR or Business Process Reengineering); the development and implementation of the corresponding IT infrastructure (hardware and software); and outsourcing of the new IT installations. Bull was chosen, from amongst other integrators including IBM and the SONDA-TILSOR consortium, to take on responsibility for this US\$23 million, three-year program. Thanks to its new information system, BPS was able to achieve significant savings each month.

After five years, BPS was carrying out 40 million transactions a month and managing ten different databases, representing a loading of some 900GB and 1,400 concurrent users.

BPS was so happy with the quality of the products and services supplied by Bull – not to mention the commitment and expertise demonstrated by the Bull teams both during the initial three-year IT renewal project and the following four years of outsourcing and support – that it decided to renew the contract for 2006. So the successful collaboration between BPS and Bull on this project is now in its eighth year and has totaled US\$35 million to date.

Six NovaScale machines for data management

In 2004, BPS chose six NovaScale servers based on Intel, Itanium® 2 processors to manage its databases.

Initially, BPS replaced its production architecture managed by four 18-CPU PowerPC servers with two eight-CPU NovaScale 5080 Itanium 2 machines. These servers run under Windows 2003 EE, and form a two-node cluster served by a 10 Terabyte storage unity managed by Oracle 9i within a SAN configuration, as the two machines are located at different sites. This migration has been achieved by Bull's engineers in cooperation with BPS teams early 2005.

This enabled BPS to considerably reduce its processor licensing costs, while at the same time improving its processing and administration capabilities and cutting processing times. The servers also offer high availability facilities.

Following on from the success of this migration, BPS decided to replace its development and data warehouse architecture, which consisted of one four-CPU PowerPC server and four EXPRESS5800 servers, with two NovaScale 4040 machines, each with four CPUs and running under Windows 2003 EE. These two additional clusters on the SAN are also installed at separate sites and benefit from high availability functions.

In parallel, BPS acquired an architecture proof-of-concept platform, managed by Bull, consisting of two two-CPU NovaScale 4020 machines, each with 8GB RAM.

The 'Citizens minimum income' project: development and outsourcing

Six months after the migration of the main "Social security provisions" systems to NovaScale platforms, the new political

authorities in Uruguay decided to launch a National Emergency Plan, including specific founding for the "Ingreso Ciudadano" or "Citizens minimum income" project, designed to help disadvantaged families.

With no existing public sector body in place to deliver the new initiative, BPS was chosen to deliver the program because of its reliable administrative management, well-established infrastructure, and the quality and flexibility of the application systems it uses (developed by Bull). This latest challenge involved putting in place a way of paying the new benefits, with a number of additional factors to take into account, in a matter of days.

Beyond its managing capabilities as well as its staff and executive commitment, two key strengths enabled BPS to meet the challenge: the flexibility of the applications developed by Bull in a multi-tier, component-based architecture; and Bull's MOSIC methodology which was applied to the development, outsourcing and project management activities and helped reduce the risks associated with the change. Two months after the Emergency Plan was announced, BPS was providing this vital new financial support to almost 16,000 underprivileged Uruguayan families, without affecting its service quality or jeopardizing the payment of other benefits; 80 000 families are now included in the Plan.

"The National Emergency Plan was implemented extremely quickly, because it was responding to extremely tough requirements for success. The significant processing capacity of our systems, excellent teamwork and experience acquired on the earlier projects were major factors that contributed to this achievement. With this innovative solution, we have gained both in quality and service performance, as we have shown that we are able to meet unexpected requirements with greater agility and efficiency." said BPS executives.

BUSINESS NEWS (CONTINUED)

Poland's Ministry of Education and Science has selected Bull to modernize the country's schools

Following many years of successful co-operation between Bull Poland and various different organizations in the Polish public sector, including the Ministry of Finance, the Ministry of Labor and the Ministry of Justice, the Polish government has once again demonstrated its trust in Bull for one of its most strategic projects. Poland's Ministry of Education and Science has selected Bull to implement its nationwide project to equip schools with Internet-enabled classrooms.

As well as giving Bull the opportunity to play a decisive role in the country's school modernization program, this project is an invaluable springboard for future IT opportunities in Poland. The overall budget for this project is nearly 14 million, and it is being co-funded by the European Union (EU).

A nationwide strategic project

Internet availability in schools has become a top priority for Polish governments in recent years. Thanks to the promise of partial funding from the EU, the Ministry of Education has been able to prepare for a widespread roll-out of

resources across the whole country. In 2005, the customer announced a number of projects designed to equip approximately 8,000 schools with the necessary LAN components and Internet connections.

In a two-stage tender process under Public Procurement Law, Bull formed a consortium with a Polish company, ABG Ster-Projekt SA (with Bull heading the consortium), and put in a very competitive proposal in November 2005. After several counter-offers from the competition and an arbitration process, the contract with Bull was finally signed in April 2006, almost six months after the

tender was announced.

Under the scope of the contract, Bull will implement a large-scale roll-out project delivering Internet infrastructure for 1,100 schools in the Eastern part of the country, providing 15,000 PCs, 1,100 servers, 1,100 printers, 1,100 scanners, 1,100 notebooks and other office equipment. Bull will install the LAN network and cabling in every school and establish the necessary Internet connections.

In the run-up to delivering the equipment, Bull will train around 2,000 teachers in the technology and methodology central to the project. Bull will also provide project management services to support the overall implementation.

Despite the vast scope of this project, Bull has committed to fulfill the contract within just a few months — an exceptionally fast implementation lead-time for a nationwide project of this kind.

Bull GCOS 7 Intel® based server and SQL*XT provide concrete solution for Broadway Management's future IT needs

Broadway Management Services, a division of EFCO Corporation, has ordered a new Bull GCOS 7 system (Diane) with Bull's SQL*XT eXtended Technology relational data base solution. Broadway Management Services provides administrative services including accounting, human resources, and information technology to EFCO, which is a world leader in concrete forming systems and solutions.

EFCO, headquartered in Des Moines Iowa, is a 75-year old company that specializes in developing innovative solutions for the concrete forming industry. EFCO's solutions are used in bridges, dams, tunnels, power plants, residential, and major industrial and commercial projects throughout North and South America, Asia and Europe. EFCO boasts the world's largest steel form manufacturing plant and has a strategically located form distribution network with 15 District Offices in 10 Countries.

Broadway Management Services has been a Bull GCOS 7 user for many years and uses the system to drive their core business operations at EFCO. According to Joe Solem, Legacy Systems

and Migration Manager for Broadway Management, "From the point of where we sign a contract with a customer, all the way through engineering, manufacturing, distribution, invoicing, and so forth is what we use our primary TDS (Transaction Driven System) system for, which runs on GCOS 7. We also use the GCOS 7 system for the normal applications that most IT departments do like payroll."

As Solem stated, the new Bull GCOS 7 server fits Broadway Management's IT strategy for the future: "We have been working for several years to come up with a plan to move into the open systems world and a relational database capability with either Microsoft's SQL Server or

Oracle. The primary reason for this is really business driven. In most industries today, and not just in the concrete or construction industry, decisions need to be made faster. And in order to make what you hope is the correct or intelligent decision, you need the data to back it up. So for us to change the data we collect into information so that the managers can make the decisions to react faster, we decided to go to a relational world."

"We looked at a number of options, including other vendors and outsourcing, but at the end of the day, we were still emulating the Bull system. We decided that the new Diane with Bull's SQL*XT was potentially a long-term solution, since it would not only suit the needs of EFCO and Broadway Management today, but well into the future without doing a forklift upgrade."

(concluded page 8)

BUSINESS NEWS (CONTINUED)

Bull's SQL *XT solution allows GCOS 7 applications to access and manipulate data from a relational data base (either Oracle or SQL Server) using the SQL language. As Solem said, "Bull's SQL*XT technology will allow us to share information between our GCOS 7 core business application (TDS) and Windows applications, so our managers can make real-

*time decisions and serve our customer better. Bull's demonstration of its SQL*XT solution helped convince us we were making the right decision for our business."*

According to Solem, there was also another big benefit of the new system, "Because batch processing on the new

GCOS 7 "Diane" server is 3 to 4 times faster, we also expect to reduce our night operations from 8 to 3 hours freeing the system to support users for a longer day. While this was not our primary motivation in making the purchase, it certainly helped!"

OSG chose Bull's WiseGuard, SafeKit and AccessMaster SAM Web solutions for its security

Onderwijs Service Groep (OSG) provides services and facilities management to educational institutions, from its 14 offices spread around the Netherlands.

Last year OSG began a rigorous overhaul of its infrastructure. Part of this program involved transferring a Novell-based network and Web access infrastructure to Active Directory and Windows 2003. User friendliness and security of their own application environments and data are essential for OSG's 5,000 customers and 1,000 internal users.

An important reason why the company chose Bull is that, with the help of WiseGuard, OSG's internal users can now access their 10 to 15 applications (running in Windows®, Citrix® and Unix® environments) through a Single Sign-On (SSO) process. The fast and easy installation of the WiseGuard solution and user-friendly interface of the WiseGuard wizard quickly convinced

OSG architects and software developers that Bull has the right solution for OSG. In addition, AccessMaster SAM Web is used in conjunction with Vasco Digipass tokens (One Time Password) to provide very strong user authentication, access control and single sign-on on underlying Web and Citrix applications. The creation of a dual-location recovery set-up using Bull Evidian's SafeKit technology will ensure the high availability required from OSG's Web portal.

EXPERT VOICE

Pierre Fumery, Head of Bull's Linux Competence Centre

Partitioning and virtualization: key technologies for server consolidation on Intel environments



Pierre Fumery has made a substantial contribution to the development, in Bull's R&D arm, of AIX® partitioning and virtualization technologies (and notably to the WLM manager) in partnership with IBM, and then under Linux with XenSource. Today, he is head of Bull's Linux® Competence Centre.

Historically, three major approaches have succeeded one another in server architecture:

- Centralization, with mainframes
- Distributed IT, with the advent of client-server

Thirdly, something of a return to centralization, coincident with the development of Internet technologies.

Today, this trend is still on the increase with the fourth IT revolution that is currently taking shape: that of the open systems world, supported by the advances in interoperability, and de facto, industry standards.

These changes are bringing thoughts of how to approach consolidation to the forefront of IT directors' concerns.

Today, two technologies are key to the implementation of new-generation consolidations: partitioning and virtualization.

Bull has been heavily involved in these technological innovations, not only in Linux, but also for Windows and the GCOS server environments.

What are the respective advantages of these technologies on Intel-based environments? What are their limitations? In what scenario or set of circumstances should they be used? This article provides a brief overview of best practice, and trends for the future.

Two key consolidation technologies: partitioning and virtualization

In an open world, how well organizations adapt to change is becoming a decisive factor in maintaining competitive advantage. This trend makes heavy demands on information systems, and notably on the data center. An organization can only be as flexible as its information systems. Nonetheless, a multiplicity

of systems and disparate applications deployed over the years, built in silos using heterogeneous technologies, often translates into a highly complex operating platform.

Capitalizing on the latest generations of standard hardware, and new technologies, rationalization and consolidation strategies are therefore appearing high on the list of IT Directors' current priorities.

There are two complementary approaches to consolidation, each of them with specific advantages and capable of adapting to different scenarios: partitioning and virtualization.

Partitioning: dividing the server into distinct machines

The first approach is partitioning, which can be either physical (PPAR) or logical (LPAR).

- **Physical partitioning (PPAR)** ensures total isolation at hardware and electrical level. Using this approach, a large server is effectively transformed into several smaller independent servers. This option is available on the NovaScale servers, for example, which permit distinctions to be made between Linux, Windows or GCOS partitions. This means PPAR is extremely effective where several different operating systems need to be used in parallel, while ensuring a high degree of isolation at hardware level. This is a very powerful solution. The advantage is that you achieve independent servers within a single machine, with a single administration console. On the down side, there is no dynamic optimization of resources between partitions, as a function of changes in workload.

- **Logical partitioning (LPAR)** is achieved solely by using software applications, at the operating system or firmware level (a layer providing the operating system with the vision of the appropriate physical resources, and so enabling more effective isolation). An LPAR at operating system level is a good solution, for example, when the

requirement is to consolidate the loading of several applications and a database. The main benefits here are the performance improvements that can be achieved because only one operating system needs to be managed, while at the same time the resources assigned to each requirement are isolated. One could, for example, assign three CPUs to an application server and five to the database, all in a highly optimized way, in conjunction with the operating system scheduler.

This kind of solution is now available with Bull's newly-launched Dynamic Domain For Applications (DDFA) for NovaScale: the first Linux solution offering the equivalent of the kind of container technologies available for Unix® technologies (Solaris®, HP-UX®). DDFA is particularly suited to the large NUMA (Non-Uniform Memory Access) servers comprising 8 to 16 CPUs. It intelligently optimizes the choice of CPUs to ensure maximum availability while adapting the number of CPUs dynamically as a function of the current loading for each domain.

These partitioning technologies are both powerful and highly effective when it comes to dividing an integral number of resources (processors, etc) on large-scale servers. On the other hand, they have limitations when it comes to achieving a finer distribution by assigning more granular percentages of resources to a higher number of applications, for example for servers that have to manage a large number of applications. It is at this level that virtualization technologies come in, of which there are two major types.

Virtualization: Towards complete virtualization of the notion of "a server"

The first technology is that of simple load virtualization on a single operating system. This is the approach offered by an application such as SWsoft Virtuozzo for Linux on NovaScale: there is only one operating system, but each application "thinks" that it is operating on its own dedicated system, with its own IP

(concluded page 10)

EXPERT VOICE (CONTINUED)

address, its percentage of CPU and memory. For a simple approach to application consolidation (J2EE applications or Web servers, for example) this solution is very effective, with optimum performance and ease of implementation.

To reinforce the independence of each partition, one might want to run an operating system on independent virtual machines. This involves more advanced mechanisms. Powerful such solutions are beginning to appear in standard Intel environments. Up to now, only software solutions that emulate firmware have been available: VMware and Microsoft Virtual Server. The launch in mid-2006, of Intel's VT technologies (Virtual Technology, formerly known as "Vanderpool") now opens up new horizons, both on Itanium and x86 platforms. These will effectively enable virtualization to be managed at processor level, and will provide tools for creating virtual processors in firmware, hypervisor administration, and opens up the prospect of combined control of hardware, firmware and software. These technologies will enable future versions of VMware (rewritten to take advantage of these hardware technologies), but above all the new Open Source Xen solution (supported by Bull and the majority of manufacturers) - to achieve a significant leap forward in performance and security, combining the best of virtualization technologies within a totally standard environment!

This is an area in which Bull has considerable involvement through its contributions to Xen within XenSource; particularly in the area of multiprocessor administration. These technologies will be integrated within Novell SuSE Linux (SLES 10, mid-

2006) and Red Hat's Linux (RHEL 5, end 2006 or start of 2007).

Each individual user needs to choose between these technologies in order to achieve the operational configuration that best meets their needs, depending on their application infrastructure.

Partitioning, HA: future technologies in view

Above and beyond these developments, what is the outlook? Historically, Linux has moved away from virtualization towards partitioning. This is not surprising given that Linux players have always tried to be universal from the outset, even if the VT technologies of founders like Intel today enable them to extend their range of solutions by relying more closely on the hardware specifics of standard devices.

As regards the future, there are likely to be three main trends:

Resurgent interest in logical partitioning. Virtualization is not suitable for every context. It is a very interesting technology, but one that consumes a lot of resources (several parallel operating systems, etc). There are cases where logical partitioning at application level is more effective. Hence the new developments in this area, like DDFA.

A major R&D drive to reinforce high availability, notably from players like Bull, for which this aspect is essential. For example, this involves reinforcing functionality intrinsic to the Linux kernel. These developments are progressively integrated in large distributions such as RHEL (Red Hat) and SLES (Novell/SuSE)

The development of administration tools and "Vmotion" type technologies that enable the migration of an instance of application execution - in a virtual machine - from one server to another (available on VMware, this technology will be available on Xen with version 3).

of architectures like grid computing and metafile systems, that new technologies will enable those who wish to do so to move eventually over to the recentralized meta-system, the components of which will be distributed, but which will offer a unified approach to administration and view of the system.

On the other hand, what we know today as recentralization is quite different from what it was, even in the more recent past. Users no longer want to know exactly what is where: they do, however, want to administer services, not items of hardware. The daily business of administration has, in this way, moved away from the world of the users to a very narrow world of specialized administrators.

There are two main alternatives when it comes to implementing these architectures:

- Blade/rack server farms
- Large-scale servers that can themselves be put into a grid formation

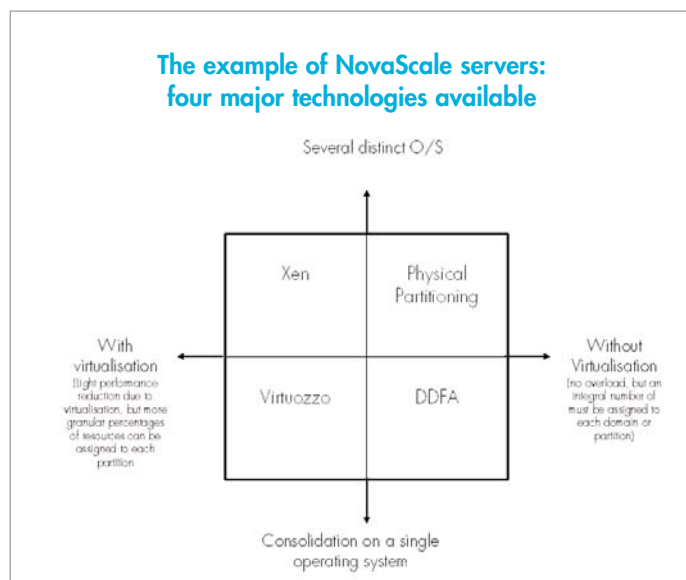
There are notable differences between these two approaches: blade servers offer the simplicity that suits some distributed, easily parallelizable, applications, while large-scale servers offer clear advantages in terms of flexibility (due mainly to partitioning and virtualization) and of RAS (Reliability, Availability, Serviceability), which make it undeniably the back-office solution of choice; but which also open up new horizons for its successful middle office utilization.

As is often the case, it is essential to recognize that the constraints are not so much technological as human: in the wake of the distributed IT era, it is often the case that users will look askance at having to abandon "their" server and depend on centralized server resources!

Partitioning and virtualization technologies, which at the end of the day can in fact preserve a distinct "identity" for every virtual "server", offer an interesting alternative...

Further information can be obtained from Bull's consolidation white paper, due to appear in the third quarter of 2006.

Bull also proposes an advanced virtualization solution under AIX® environment.



A contribution to the convergence towards recentralized "meta-systems"?

We can see in the development of virtualization, with the advent

SOLUTIONS

StoreWay new storage solutions help reduce your TCO

StoreWay cuts your operating costs and achieves smoother operating continuity for your business with Virtuo 4.6, which virtualizes your tape library resources

To meet the challenges of heterogeneous infrastructures, IT managers often rely on multiple backup solutions, and in the process miss out on benefits that could otherwise be gained by consolidating and optimizing the investments they have already made. To meet this challenge, Bull has developed Virtuo, a new-generation storage solution that virtualizes a tape library resource and its associated data drives, and is designed specifically to:

- Enable shared access to backup devices in any environment
- Optimize existing resources
- Secure the backup and restore processes between a number of sites.
- Virtuo significantly improves overall business continuity by:
 - Making data backup and restore operations operate in parallel
 - Accelerating information flow in the event of company-critical data restore operations
 - Automating data migration by applying a simple set of rules for utilization.

Version 4.6 of Virtuo expands disk cache capacity, supports new libraries and drives, integrates an ACSLS agent option, and provides new rules for how long data needs to be stored. This is a truly unique solution, which not only guarantees that your return on investment and operating costs are optimized, but also ensures more effective business continuity.

StoreWay meets unified storage requirements

Bull has also announced that FC connectivity support for Windows, Linux and AIX servers is now available, featuring the following functionality:

- **StoreWay Multipath for AIX®** provides automated and extended Multipath services (including HACMP & ARF support) for IBM P-Series and Bull Escala servers, regardless of the type of storage bay installed.

- **SnapVault** enables centralized backup to disk for Network Appliance environments while allowing the user to select which data is to be saved, as well as the frequency and retention period for these backups.

- **SnapLock** enables a Network Appliance bay to be used for Write-Once Read-Many (WORM) operations to help organizations ensure compliance with new data archiving regulations.

- **FlexClone** (re-recordable Writeable snapshots). This option enables read-only snapshots to be converted to writeable status. A FlexClone data segment can be separated from the original data mass, in the process creating a copy that is totally independent of the original, ensuring increased availability of the original data.

In launching these new storage products Bull is committed to providing customers with archiving solutions that meet the ongoing requirement to reduce the cost of ownership and operating a storage infrastructure.

StoreWay now includes EMC Centera providing fixed content and extended archiving storage solutions

Many organizations are faced with the challenge of administering and managing access to an ever-growing bank of data that will never be modified, but which has to be archived in accordance with external regulations or for use in developing new business ventures. To meet these needs, Bull has added EMC Centera™ to its StoreWay product family. This networked storage system is designed specifically for storing fixed content data so it can be accessed simply and speedily. This is the first solution to offer on-line availability, with long-term retention capacity and a guarantee of authenticity, for this ever-growing data category. Centera can be integrated with any application developed in house or supplied by one of our numerous partners offering bespoke solutions, and is aimed at businesses needing to store an ever greater quantity of fixed content data.

Centera greatly simplifies the administration, sharing and global protection of

fixed content repositories; this means organizations can exploit this data using traditional off-line methods to generate new sources of revenue, take greater control of enterprise-wide business processes, and offer improved levels of customer service.

Bull will offer systems integration services for Centera, calling on the services of experts in handling information flows, as well as its wide-ranging capabilities in installation and maintenance.

StoreWay combines 4 Gb/sec performance, the security of RAID 6 and functionality until now only available from high-end products with new Fibre Channel Storage Bays

StoreWay FDA 1500 & 2500 are new-generation storage bays offering:

- 4Gb/sec host connectivity
- 60 & 120 FC or SATA disk capacity
- RAID 0/1/5/10/50 & 6 (tolerating the simultaneous breakdown of up to two disks).

Capacity and performance are allied with flexibility and best possible availability for Windows®, Linux®, AIX®, HP-UX® and Solaris® environments.

The software environment stands out from the competition by offering, even at entry level, extended local replication functionality, the capacity to take twice the number of LUN snapshots and the possibility of reallocating disk resources independently of RAID groups. In addition, the FDA 2500 supports synchronous, semi-synchronous or asynchronous remote replication functions.

The entire range benefits from a three-year on-site guarantee (next-day service). The StoreWay FDA range offers the best TCO on the market, due to the low initial outlay and its ability to substantially reduce your overall operating costs.

SOLUTIONS (CONTINUED)

Bull Evidian introduces AccessMaster 7.0.1, a new release of its modular and integrated Identity and Access Management software suite

By bringing in a new Approval Workflow module, by increasing the number of supported applications and by introducing Password Synchronization functions, AccessMaster 7.01 improves the deployment of identity-based policies.

Its new Approval Workflow module notably enhances the automation and control of access-right management and user-registration. Thanks to a function-based approach, it offers end-user self-

service requests, efficient approval authority strings and e-mail notification. Approval Workflow also integrates graphical and intuitive interfaces for workflow process definitions, generation of Web forms, and recording of tasks and processes. Last but not least, it provides a powerful time management function for workflow processes and delegation.

The new release also reinforces the deployment of Identity-based policies, thanks to a larger number of applications. A new generic SQL connector

enables its Provisioning Manager module to offer a single administration point for any SQL Database. In addition, Provisioning Manager increases user efficiency and help-desk-cost savings. For organizations or sites in which administrators cannot deploy an SSO engine on stations, a Web interface allows the synchronization of application passwords.

More information on AccessMaster:
www.evidian.com/fr/security/index.php

EVENTS

Intel's Enterprise Race Ahead European roadshow in June

With thousands of Itanium® Montecito already operational on its NovaScale servers, Bull is leading the pack of IT makers worldwide having endorsed the most powerful Intel processor. Bull is involved in Intel's Enterprise Race Ahead events and will demonstrate

Montecito chips running on its NovaScale servers. The main cities where Bull will be present include:

- 2 juin à Munich, Germany

Bull will demonstrate the innovative QlikTech business intelligence solution running on a NovaScale server under

Windows with the new Montecito processors.

- 7 juin in le Castelet, France
- 13 juin in London, UK, Hyde Park
- 21 juin in Madrid, Spain, National Institute of Aerospace Technology.

June 13-14, Deauville

CUBE (Bull European User Group)

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

During the second day dedicated to "**Open Source and cost control**", key IT decision-makers, most notably from the country's Department of State Modern-

ization and Sysload, 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.

June 13-15, Paris Expo

European Mobility exhibition

Only open to the trade, the 2nd European Mobility exhibition will bring together all kinds of organizations working to promote public transport, and more particularly, sustainable transport solutions: urban transport, inter-urban transport, regional transport, railways. Authorities responsible for transport, ope-

rators, manufacturers, and service providers will all be exhibiting their know-how and innovations. In all, 200 exhibitors will be there to meet the 15,000 visitors expected. This year, two urban transport networks will be featured under the spotlight: Prague and Berlin.

Bull, as exhibitor at this event, will be

pleased to welcome visitors on its **stand (B3)** for a presentation of Heures, its integrated urban transport management solution.

For more information:

www.transportspublics-expo.com

June 15-16, Gare du Midi, Biarritz, France

@Thos: 15th Hospital Communications Technology days

Bull is taking part in the 15th Hospital Communications Technology days, this year focusing on "**The use and expansion of ICT in the hospital environment**", including:

- Regulatory news
- Document management and archiving

- Multimedia in the hospital
- Security

On June 16, **Bull Evidian** will be one of the speakers on the theme "**How to break down the barriers of information systems in healthcare centers and open them up to the outside world?**"



For more information and to register for the event:

www.athos.asso.fr/newsletter/annonce1_JN06.htm

EVENTS (CONTINUED)

June 20-21, Rome

InfoSecurity & Storage Expo

Following InfoSecurity Expo in Madrid and Brussels in March, then London in April, Bull will be demonstrating its Identity, Access and SSO management solutions in Rome at the InfoSecurity & Storage Expo that will take place on June 20-21, at the Sheraton Hotel & Conference Center.

The Bull's Security Competence Center in Italy is accredited by the National Security Authority (ANS), and by the Security Evaluation Lab (LVS) as Center of Valuation (CE.VA.), to make audits in compliance with Common Criteria (EAL4 level) and ITSEC (E3 level) international standards.

Combining its expertise in security services with Bull Evidian security solutions, Bull Italy is positioned as one of the leading players in the IT security sector. Bull's participation at the event will include two speeches:

- During the plenary session on **June 20**, Michele Bianco, Director of Security Competence Center & CE.VA./LVS will present Bull's point of view concerning **the current situation and possible future developments for Italy regarding ICT security and data protection in the Public Administration**.

- During the plenary session on **June 21**, Telecom Italia will present its ISO17799



certified security management system and Bull's role in implementing its Access Master identity and access solution.

Bull's Security Competence Center consultants and experts will be pleased to welcome you at our stand, and to demonstrate both the AccessMaster and WiseGuard, an effective Single Sign-On authentication solution.

June 21, Paris

Teratec 2006 seminar

Bull is sponsoring Teratec 2006, due to take place on June 21 at the Ecole Centrale in Paris, designed to provide an overview of high performance computer simulation in France and Europe: a major issue when it comes to the future competitive positioning of manufacturers. Bull, as the only European IT manufacturer, is the main cohesive force behind the ecosystem that is developing around Teratec

and the System@tic pôle de compétitivité (see Bull Direct issue n° 3) the objectives of which are to accelerate research and development efforts in design, implementation and control of complex systems.

- **Yves Bamberger**, Director of EDF's Research & Development will talk on **"Simulation and decision-making"**.

- **Claude Camozzi**, Director of Platform Strategy at Bull will present the **FAME2**

program, the objective of which is to adapt a new generation of servers for High-Performance Computing and handling very large data volumes by the year 2008 (see Bull Direct issue n° 1).

- **Jean-François Lavignon**, Director of HPC solutions at Bull, will take part in the round table discussion on **"Responding to the challenge of computer simulation in France and Europe"**.

OpenFabrics Alliance

Sponsored by Bull, the CEA and Intel, the OpenFabrics Alliance 2006 Paris Conference will be held on June 22-23, 2006.

The OpenFabrics Alliance invites everyone interested in learning about InfiniBand and Remote Direct Memory Access (RDMA) over Ethernet (iWARP) technologies to enjoy Paris in June. You will learn what you can do with these

technologies now, and what is planned for the future. Meet the developers, CTOs and product managers face-to-face and learn about:

- Strategies to improve server performance utilizing InfiniBand and RDMA;

- How the OpenFabrics Enterprise Distribution (OFED) will change Grid and cluster computing and direct storage connections;

- How InfiniBand can outperform Fibre Channel or iSCSI for enterprise storage;

- How to achieve 2x the performance at one-fifth the cost of 10 Gb/s Ethernet for clusters;

For more information and on-line registration:

<http://openfabrics.org/conference/june2006paris>

EVENTS (CONTINUED)

June 27-28, London, The Brewery

Open Source Business Conference (OSBC)

Jean-Pierre Laisné, Chairman of the ObjectWeb Consortium and Bull Open Source initiative Manager, will hold a Keynote at OSBC Europe on "**Open Source: A New Industry Strategy**". First European version of the successful

US OSBC, the OSBC is designed for IT business executives (buyers and vendors), venture capitalists, lawyers, and other decision-makers tasked with developing businesses that leverage open source software. The conference explores the legal,

investment, vendor and customer risks, rewards, and opportunities linked to Open Source software.

More information:

www.osbc-uk.com/default.asp?url=for-delegats

June 27-30, Dresden in Germany

ISC (International Supercomputing Conference)

The 21st edition of the ISC will be held at the Dresden International Conference 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).

The main themes of the event will be HPC applications in industry and healthcare, and the challenges of HPC benchmarking. In addition, China's growing role in the HPC market will be put under the spotlight. Two very interesting discussion panels are planned, focusing on two key subjects: "**Petaflops Computing in the US and in Japan**" and "**Acquisition and**

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

The organizers of ISC 2006 have put together an ambitious program, featuring some high-quality speakers including Jack Dongarra from the University of Tennessee who is one of the world's recognized experts in supercomputer benchmarking.

On 27 June, ahead of the main conference program, three tutorial sessions will be led by world-renowned experts, on: "**Blades – Basics, Innovations and**

Usability for HPC"; "**Focusing and Introducing New Benchmark Initiatives**"; and "**Software Tools to Support Programming and Optimization on HPC Systems**".

Bull, as a sponsor of ISC 2006, will be present on **stand number B27/B29** and will showcase the very new version of its NovaScale servers and HPC solutions.

More information:

www.supercomp.de



EVENTS (CONTINUED)

June 29- July 01, Brussels

WCE 2006 – World Customs Exhibition: “Safer trade through technology”

The WCE (World Customs Exhibition) organized by the WCO (World Customs Organization) will take place in Brussels, alongside the annual Sessions of the WCO Council, the Organization's highest decision-making body, which involves 169 Member Governments. According to Michel Danet, Secretary General of the WCO: “Safer trade through technology is a particularly significant theme as the international Customs community increases its efforts to secure and facilitate trade on the one hand, and Customs administrations re-examine their role as they move from traditional gatekeeper to 21st century information manager on the other hand. In this respect, no doubt that technology plays a pivotal role in this new emerging Customs environment which emphasizes the importance

of security while promoting the facilitated movement of goods across the globe.” Source: <http://events.wcoomd.org>

After our presence at the WCO IT Conference in Bangalore in April, where we presented our e-biscus solution to a number of Customs, **Bull is sponsor of WCE**. A new opportunity to exhibit its e-biscus open and flexible solution for Customs, which facilitates the legal commerce through fraud detection, fast clearance and efficient enforcement as well as its Tariff offerings. Our experts would be delighted to welcome you on our stand (# 6).

Bull has gained worldwide recognition in the public sector for its expertise, in particular in 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; Ireland and Morocco have also selected Bull's Customs solutions to modernize their system.

Established in 1952 as the Customs Cooperation Council, the WCO is an independent intergovernmental body whose mission is to enhance the effectiveness and efficiency of Customs administrations. With 169 Member Governments, it is the only intergovernmental worldwide organization competent in Customs matters.

October 18-20, Issy-les-Moulineaux, France

World eGov Forum

Bull is sponsor of the World eGov Forum which will be held in October at Issy-les-Moulineaux, France. It will represent a unique opportunity to showcase both the role and the impact of Information and Communication Technologies (ICT) in the public sphere; to present public e-services and citizens' opinions to all types of publics. **South Korea will be the guest of honor of the Forum**. Approximately 30 countries will participate in various conferences. Three plenary sessions, four conference

themes and around 20 simultaneous round table discussions are organized around the central question: **Which connected society do we need?**

E-inclusion: the real challenge to build the connected society that we want
E-government as a strong issue of the governments transformation
Re-invent democracy at the age of information: to a participatory democracy?

For more information:

www.worldegovforum.com

Mark your calendar!
À noter dans votre agenda!

FORUM MONDIAL DE LA DÉMOCRATIE ET DE L'ADMINISTRATION ÉLECTRONIQUES
WORLD E-GOV FORUM

October 18, 19 & 20, 2006
Issy les Moulineaux (Paris-France)
18, 19 et 20 octobre 2006

Which connected society do we need?
Quelle société connectée voulons nous ?

- Elected officials, civil servants, administrations, local government
Partagez les bonnes pratiques à travers le monde
- Experts, consultants, specialists
Échangez avec les universitaires, les chercheurs et les visionnaires au niveau local et mondial
- Businesses, consulting agencies
Meet e-Government project leaders and the final decision makers
- e-Gov lovers
Join the largest e-government think tank in the world
- Elected officials, civil servants, administrations, local government
Partagez les bonnes pratiques à travers le monde
- Experts, consultants, specialists
Échangez avec les universitaires, les chercheurs et les visionnaires au niveau local et mondial
- Industriels, cabinets de conseils
Rencontrez les porteurs de projet et ceux de l'ordre de la e-gouvernement
- Militants
Rejoignez le plus grand think tank mondial de l'e-gouvernement

Guest of Honor: The Country of Korea
Pays invité d'honneur: Corée du Sud

www.worldegovforum.com

UNITAR

WHAT'S NEW

Bull opens a Services Center in Marseille, dedicated to application development using new technologies

As part of the development of its Open Source business activities, Bull has announced the opening of a Services Center providing access to experts in systems architecture, development and integration. Through the Center, Bull is also offering its customers direct access to a wide range of tools and professional resources to help them with the development and support of projects using Open Source components.

Close collaboration with Bull's R&D and Product Engineering teams means the company can offer:

- High level support (levels 3 and 4, particularly for Open Source software)
- An in-depth understanding and experience of large-scale development projects — taking a professional, structured approach — combined with unique expertise in the scoping of systems
- Implementation of open and complex infrastructures.

At the heart of this initiative is NovaForge™, a shared industrial tool

based on tried and tested methodologies in secure, distributed development. These techniques are used by Bull's R&D team on some of the largest distributed development programs, such as worldwide collaborations with Open Source application development communities.

Jean-Pierre Barbéris, General Manager of Bull's Services and Solutions business commented: *"The Services Center established by Bull at the Château-Gombert science park in Marseille is an important resource which forms an integral part of our strategy to ensure that we deliver ever more professional and structured services. We will increase staffing levels at the Center to several dozen engineers during 2006, building on the skills within our existing teams and recruiting locally. Offering total security for major development work in new technologies is the center's key function, and one of the Center's main aims will be to contribute to expansion of the local economy. The Marseille services center is destined to serve all market sectors, and strengthen our presence in Provence-Alpes-Côte d'Azur, a*

region that is already home to Bull's R&D center dedicated to developing local authority applications with our Coriolis/Libre-CT offerings."

Being open means being available to listen to customers

For Bull, being open means above all listening to our customers and integrating the best interoperable, standard and scalable tools. In fact, Bull is one of the first manufacturers to opt for an approach that combines industry standards and open systems. In 2002, Bull was a co-founder of ObjectWeb, which is now the world's leading Open Source middleware consortium, before launching NovaScale, its new generation of multi-server environments in 2003. Also that year, Bull joined in the development of OSDL (Open Source Development Labs): remaining an active member to this day and contributing in parallel to supporting Linux® on Intel processor-based platforms. As a result, Bull has won widespread recognition in High Performance Computing (HPC).

Bull attains Gold Certified Partner status in Microsoft Partner Program

Bull attained the Gold Certified Partner status in the Microsoft Partner Program with a competency in OEM Hardware Solutions.

Bull's expertise in Microsoft technologies

Partners that attain the OEM Hardware Solutions Competency are recognized for their expertise in delivering high-quality hardware solutions and are provided with information and tools needed to expand their market opportunities and maintain a competitive advantage in the industry. These solutions, hosted on Bull NovaScale 64-bit servers, have passed the "Designed for Windows" Logo test. They are certified by Microsoft and sup-

ported by Bull to ensure full customer satisfaction.

"Partners that acquire the OEM Hardware Solutions Competency have demonstrated expertise and have a track record of building high-quality hardware solutions that are designed and configured with the Microsoft technologies according to customer needs and supported to ensure customer satisfaction," said Kurt Kolb, vice president of Worldwide System Builder Channel and License Compliance at Microsoft. *"These partners are able to closely engage with Microsoft and have access to specialized resources to help them meet and even surpass customer expectations."*

"We are extremely pleased to have attained Microsoft Gold Certification in the OEM Hardware Solutions competency" said Stéphane Delivré, Vice President Group Business Operations, Bull. *"As customers expand and upgrade their information technology assets, there is a demand for high-quality hardware solutions, built, configured, and optimized to run under a Microsoft environment. Bull will continue enhancing the reliability and performance of its NovaScale server offerings, allowing our customers to expand their market opportunities and maintain a competitive advantage in their industry."*

