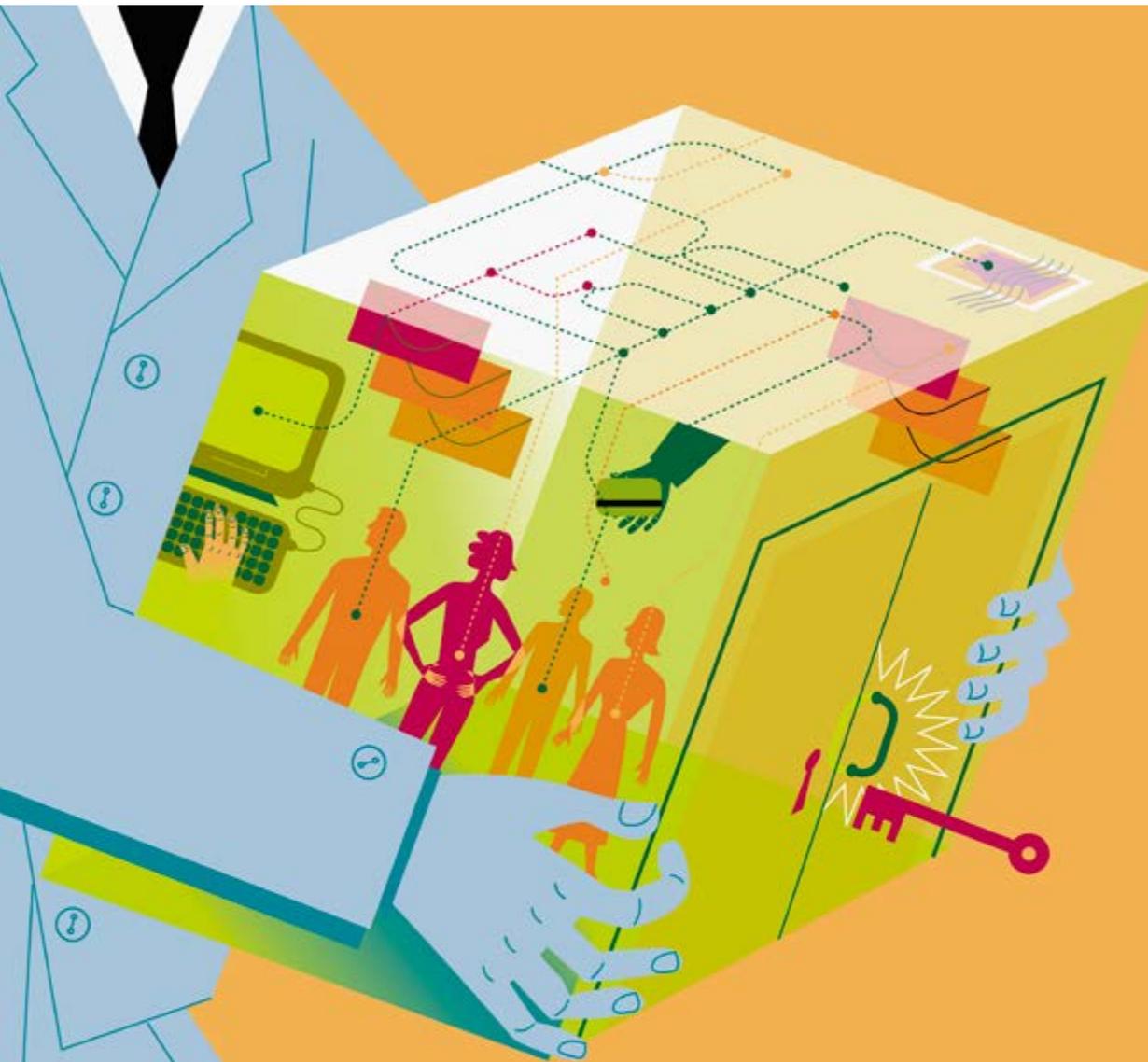


IT in Europe

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GOVERNMENTS AND legislative bodies are often accused of lagging behind developments in technology, but the European Commission's newly proposed data protection regulations are designed to get ahead of what is fast becoming one of the defining challenges of the Internet age.

Make no mistake—the new rules will affect every organisation and every IT manager in Europe.

They don't simply update and consolidate a variety of country-specific implementations of the existing EU directives. They also introduce significant new rules such as mandatory notification of data breaches.

For many organisations, data protection is something they are convinced is not a problem until the day it becomes a problem.

There are too many examples of businesses or government bodies across Europe forced through embarrassment after a high-profile data loss to introduce measures that most IT security experts would

consider no more than standard best practice. Such measures include encryption, data classification and basic information governance procedures—you can read more about the experts' advice in [our cover story](#) this month.

But, technology being what it is, even the best-prepared organisations cannot be complacent.

As if the problems of lost laptops, missing memory sticks or hacked hardware were not enough, now IT managers have extra challenges such as consumerisation, mobile working and the cloud to add to their data protection worries.

The drive to use mobile technology is unstoppable, creating millions of new devices just waiting to reveal sensitive corporate information when they are left on the train.

What's more, the demands from employees to use their own devices for accessing work applications means you can't even guarantee what those mobile computers will be or how secure they are.

And as information is increas-

ingly processed and stored in the cloud, where you may not even be sure what country your data is physically located, it's not going to be good enough to simply hope your cloud provider is taking the necessary steps to protect your data.

Allied to an increase in the risks is an increase in awareness from people across Europe. As individuals, we now know the value of our personal information and have learned the extent to which that information is stored, analysed, traded and used to sell to us.

As a result, data protection is not just about IT security or regulatory compliance—it's a risk to the reputation and brand of any organisation found to have failed in its obligations. Look at Sony, whose PlayStation Network was hacked into last year. That incident exposed the details of 100 million users, leading to reparative work running into hundreds of millions of

dollars as well as a huge hit to the company's share price.

In this month's IT in Europe, we look at the best practices and expert tips that IT managers need to know to ensure they don't follow Sony into the halls of infamy. We examine the effect of virtualisation technology on data protection and the issues that you need to consider when moving your information storage to a virtualised environment—don't forget about things like backups, archiving and business continuity planning.

Governments, legislators and consumers will no longer tolerate lax approaches to data protection any more than they would let banks leave their safes open for anyone to take our cash. Data is the new currency of the Internet age. Protect it with not only your technology but also your reputation. ■

BRYAN GLICK

Computer Weekly Editor in Chief

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PREPARING FOR THE NEW EU DATA PROTECTION REGULATION

Quick wins and long-term project ideas to prepare for the impending EU data protection regulation. By Sarb Sembhi

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IN JANUARY 2012, the European Commission announced two important pieces of legislation affecting the personal data of EU citizens: the EU data protection directive and the EU data protection regulation. Of the two, the data protection regulation will have the greater effect on most businesses that collect, hold or share data within the EU. This article will focus on the steps businesses can take to prepare for the new regulation when it comes into force.

PROPOSED REGULATION

With the EU data protection regulation, the European Commission has proposed a comprehensive reform of the current data protection rules. The reform will do away with the current set of fragmented rules, and create a single data privacy law that stretches across

Europe. It will also enable businesses to deal with a supervisory authority in just one country, rather than having to coordinate compliance efforts across individual European countries in which it does business.

The overall theme of the proposed data protection regulation conveys that all personal data should be treated fairly and transparently. The proposal states, "The specific purposes for which the data is processed should be explicit and legitimate and determined at the time of the collection of the data. The data should be adequate, relevant and limited to the minimum necessary for the purposes for which the data is processed; this requires in particular ensuring that the data collected is not excessive and that the period for which the data is stored is limited to a strict minimum."

In addition, the new regulation

will give consumers easier access to their own data, and the right to have their data deleted or “forgotten” from any systems.

Under the new regulation, businesses that suffer a serious data breach will be required to notify their supervisory authority within 24 hours, if possible. Businesses that are breached may also have to pay fines of up to 2% of their total revenues.

If the proposed data protection regulation is passed, it will become a mandatory compliance regulation throughout all of the EU. It is not yet clear when the proposed data protection regulation will become law, or if there will be changes to the regulation before it becomes law, but it is likely to come into force sometime between 2013 and 2015.

With a total of 91 articles, the proposed data protection regulation is quite extensive. James McCloskey, senior research analyst for Ontario-based Info-Tech Research Group, believes the rules planned by the European Commission could eventually be adopted in other geographies.

“The EU has driven leadership in terms of regulatory advances in legislations in other jurisdictions,” McCloskey said. “It ramps up the expectations of what it means in terms of protecting data.”

INFORMATION GOVERNANCE

To prepare for the time when the proposed data protection regulation becomes law, businesses should first ensure they are practicing good information governance.

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DIRECTIVE VS. REGULATION

THE TERMS *directive* and *regulation* have caused some confusion as they are often used interchangeably, incorrectly so. They are actually quite different and have different implications for every business engaging with EU citizens through the use of citizens' data.

When an EU directive is agreed upon, all member states must pass their own legislation to enact the content put forward. Companies in a member state that does not undertake this step are not mandated to comply with the directive. The focus of the current EU Data Protection Directive relates to criminal investigation across EU borders, so it is beyond the scope of this article.

An EU regulation applies across all member states without any member having to take further action. The focus of the current regulation is strengthening online privacy rights and boosting the digital economies of its members. The proposed data protection regulation is intended to be a comprehensive reform of the current Data Protection Act. ■

If effective information governance practices are implemented, complying with data protection legislation becomes less complex and costly.

Good information governance can only exist when a business knows what data it collects, who and where the data comes from, where it's stored, how it's stored, how it's used and what it's used for. It is also important to know all movements of data, any duplicates of data and the quality and the integrity of the data at any one time.

Having this information will enable businesses to quickly respond to questions they may be required to answer in order to be considered compliant with the data protection regulation, such as:

- Have you implemented a data classification scheme?
- Does all company data have a known data owner?
- Can you identify all the employees that access all the sensitive or personal data you hold?

QUICK WINS FOR SMBS

There are a number of steps a small or medium-sized business can do—or should be doing—that can provide a “quick win” for compliance when the regulation comes into effect.

First, determine whether the business already complies with

existing data protection regulations. If not, plan how and when it can become compliant, and document this plan.

DETERMINE WHETHER THE BUSINESS ALREADY COMPLIES WITH EXISTING DATA PROTECTION REGULATIONS. IF NOT, PLAN HOW AND WHEN IT CAN BECOME COMPLIANT, AND DOCUMENT THIS PLAN.

Review relevant documents, such as policies, procedures, standards and guidelines, and make a note about which ones will likely need to be amended.

Determine the information that must be provided to end users once the new data protection regulation is in place. For example, it may be necessary to create or update a document on users' rights as provided by the regulation, telling them how these rights can be exercised, the process to exercise these rights, and who in the company they can contact for further information.

Brief the executive board or senior management on the impending data protection regulation. They must make a commitment to support the changes that may be necessary for compliance.

If the company operates across

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several EU member states, decide upon and document which country will be the “home” country in all matters involving the data protection regulation. The company may need to communicate with a supervisory authority in the future, and the proper supervisory authority is determined by a company’s home country.

Create or review the plan to communicate a data breach incident within 24 hours to the data protection authority of the company’s home country, as well as individuals affected by the breach. Be sure to document the process that will be followed after the breach, showing what information will be communicated, how it will be communicated to affected parties, and who in the company will do the communicating.

LONG-TERM PROJECTS

Once these initial actions have been completed, consider undertaking one or more long-term projects to embark on the path toward full compliance, which will be necessary when the data protection regulation is implemented. These projects may include:

Obtaining user consent—Ensure consent is obtained from all users for all processing that is undertaken on the user data the company collects.

Managing third-party relationships—Under the new data protection regulation, it will be especially important to control the data flow

between a company and the third parties with which it works, such as suppliers, according to InfoTech Research Group’s McCloskey. “If there is a violation, that liability is going to accrue directly to your company regardless of what third party you involved,” McCloskey said. “You may have some opportunity to sue them later, but ultimately, it’s your brand and your responsibility.”

- **Anonymising data.** Remove identifying data in all cases (such as birth dates) where such data is not relevant or necessary. Anonymising may include masking or scrambling the data.

- **Implementing data protection by design and default.** This means not only retro-fitting citizen rights into existing applications, but also considering those right when designing any new processes or systems that will use citizens’ data.

- **Controlling data from on mobile devices.** Businesses today face a lot of pressure internally to support mobile devices, from executives and everyday end users alike. According to McCloskey, it’s nearly impossible for an company to manage data sent or received by these devices. McCloskey recommends putting full security controls on devices, or setting up virtual desktop environments to make the data available to users while minimising the footprint. “If you don’t deal with the proliferation and accessi-

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bility of data from these endpoints, then dealing with data protection is going to be futile," McCloskey said.

- **Move to a single identifier for each individual.** By having a single identifier, all records relating to an individual can be cross-referenced, regardless of the number of systems or applications involved. This will help when there is a need to respond to users' requests to have their data deleted or forgotten.

- **Consider encrypting data based on a separate key for each user.** Either provide the encryption key or permit users to use their own keys. Encryption systems and key management systems are becoming more powerful and easier to set up and use, although they still need to be built into the

system architecture. Also keep in mind these systems may require extra processing power and may slow down existing applications. However, the benefits of providing users with their own encryption

BY HAVING A SINGLE IDENTIFIER, ALL RECORDS RELATING TO AN INDIVIDUAL CAN BE CROSS-REFERENCED.

keys can be significant. When a user wants to exercise his or her right to data deletion, or the right to be forgotten, the user can do so simply by withdrawing the use of the key. For many people who take their privacy seriously, this is the preferred direction to follow.

SCOPE OF THE REGULATION

MULTINATIONAL COMPANIES must determine whether they must comply with the data protection regulation.

The proposed regulation states: "Any processing of personal data in the context of the activities of an establishment of a controller or a processor in the Union should be carried out in accordance with this Regulation, regardless of whether the processing itself takes place within the Union or not. Establishment implies the effective and real exercise of activity through stable arrangements. The legal form of such arrangements, whether through a branch or a subsidiary with a legal personality, is not the determining factor in this respect.

The processing of personal data of data subjects residing in the Union by a controller not established in the Union should be subject to this Regulation where the processing activities are related to the offering of goods or services to such data subjects, or to the monitoring of the behaviour of such data subjects." ■

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OUTCOME OF COMPLIANCE

Like many tasks in IT security, if the right principles are used at the outset, it is easier to do more with existing resources at a lower cost, rather than trying to retro-fit good practice later. Data is important, and personal data is even more important; it can make or break a business in today's Internet-connected world.

In many cases, personal data is the one asset group that is leading to high valuations of businesses. This is because the analysis of that existing data can lead to further up-selling, more targeted promotions, and other campaigns that will increase revenues. Therefore, wise businesses will create environments that enable them to con-

trol user data in ways that provide users with confidence to offer more personal data to the business.

The data protection regulation sets out citizens' rights with the aim of encouraging businesses to provide that environment. And while there are fines associated with non-compliance, the most important motivation to become compliant should be to achieve sound information governance practices, which ultimately lead to cost reduction and profit generation. ■

Sarb Sembhi, CISSP-ISSAP, GCIH, GAWN, is the director of consulting services at Incoming Thought. His is a past President of the London Chapter of ISACA, and the founder of its Security Advisory Group, and current Chair of the Europe and Africa Region Government & Regulatory Authority Sub-Committee.

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HOW THE EU DATA PROTECTION REGULATION WILL AFFECT THE IT CHANNEL

■ [Trustmarque partners Sophos to offer mobile device security](#)

Infrastructure and software reseller Trustmarque has formed an agreement with IT security company, Sophos, to provide a managed service to protect mobile devices, writes Linda Endersby.

■ [ExactTrak ploughs funding round into channel development](#)

Data protection start-up ExactTrak is to plough a £475,000 private funding round into channel development as it seeks to build new routes to market for its mobile workforce data protection solution, Security Guardian.

■ [Cost of data breaches continues to rise](#)

The cost of having a data breach continues to rise with negligence by employers of contractors still causing a significant proportion of the problems. ■

DATA PROTECTION IN THE VIRTUAL MACHINE ERA

Server virtualisation has introduced big changes to the backup and recovery process. It's time to review your procedures and explore options for better backup, replication and snapshots. By Mike Laverick

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IF YOU ARE set to embark on review of server virtualisation data protection options, there are a couple of areas you need to consider before approaching management with new plans.

Primarily, you have to recognise server virtualisation fundamentally challenges the old ways of protecting data.

As you probably know, virtual machines (VMs) are encapsulated into a series of discrete files called "virtual disks." These are presented to the operating system within the VM as if they were physical, but they are in fact files that reside in the virtualisation vendor's chosen file system.

As they are just files, they can be copied around the network in archive format, which introduces a whole new way of backing up without the need for in-guest backup agents. This can be extremely

advantageous because most legacy backup vendors that historically backed up physical servers charge on a per-agent licensing system. In addition, virtualisation has had a big positive influence on other data protection schemes, such as replication and snapshots.

BACKUP

It is fair to say that VM backup in the early days lacked the same granularity that legacy systems possessed. In the early days, a backup of the virtual disk was essentially a "normal" backup every day regardless of the rate of data changes taking place during business hours.

Similarly, restoring a VM from virtual disk backup often meant restoring the entire backup just to gain access to a couple of kilobytes of data. Fortunately, these limitations were overcome some time ago.

Most in the industry and community now rate VM backup as good as if not superior to the agent-based backups of yore; many vendors are able to bring a backed-up VM onto the network in a matter of minutes.

This is achieved by making the storage that acts as the backup target available across the network, thus negating the need to restore data to the original storage. Backup storage is mounted directly to production virtualisation hosts, the backup VMs registered to the system and then powered on.

After this, it's up to the administrator whether to destroy the original and use the backup copy—or simply locate the lost data in the backup VM and copy individual files back. Another method adds the backed-up virtual disk into the VM that needs files restored to it, and so lost data can be copied from, say, a temporary T drive to D data drive. None of these new methods could have been achieved without the power of virtualisation.

REPLICATION

Besides backup, another way of protecting data is to replicate VMs from one system to another, which is frequently done as part of a disaster recovery strategy. VMware, as well as other virtualisation vendors, now offers its own built-in replication technologies. Currently, these are available only if you buy into the wider DR automation tools, but it is likely

these will be decoupled from these bundles and made available independently.

Even before the virtualisation vendors got into the replication game, the third-party ecosystem was already offering replication technologies, such as Veeam Soft-

MOST IN THE INDUSTRY AND COMMUNITY NOW RATE VM BACKUP AS GOOD AS IF NOT SUPERIOR TO THE AGENT-BASED BACKUPS OF YORE.

ware's Veeam Backup & Replication and Quest Software's vReplicator. The interesting aspect of these VM-aware technologies is they are storage vendor-independent—and therefore it's possible to replicate VMs from one type of storage or storage vendor to another without worrying about incompatibilities.

That means that a business could choose to replicate data from its high-end storage from one vendor at one location to cheaper, low-end storage at another from a totally different vendor. This leaves IT administrators free to think about what really matters: how much network bandwidth they have and how that may limit the frequency of replication and affect their recovery point objectives.

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SNAPSHOTS

Of course, this doesn't mean you should forget about the data protection features your storage vendor offers you. Most have for some time had the capacity to snapshot LUNs or volumes at specified intervals. This allows the storage administrator to present the previous state of those storage units to the virtualisation host.

The big advantage of snapshots is they can be generally done at a much more frequent rate than replication alone allows for. Additionally, the functionality can be extended to all VMs regardless of their business criticality. With replication we normally have to triage the VMs, separating the wheat from the chaff to reduce the load on the network.

Storage vendor snapshots are free of network cost—with their real costs being storage wasted holding redundant copies of data should the business need to roll back to a previous copy. Fortunately, with the rise of data deduplication and policy systems that roll up out-of-date snapshot data,

this burden has been significantly reduced.

The real advantage of snapshots is that they can massively reduce restore time should you have a catastrophic error such as a LUN or volume corruption or the mass infection of VMs by a virus. With

THE BIG ADVANTAGE OF SNAPSHOTS IS THEY CAN BE GENERALLY DONE AT A MUCH MORE FREQUENT RATE THAN REPLICATION ALONE ALLOWS FOR.

the snapshot literally being minutes behind production data, you can roll back with minimal data loss and in a fraction of the time that conventional backups could provide. That's not to say that backups aren't still key to data protection -- but they can be enhanced and augmented by the use of replication and snapshots to offer the business the flexibility and choices it will demand when data loss occurs.

FACTORS TO WEIGH

Before embarking on a process of making decisions around server virtualisation data protection, you should look at your existing backup vendor and see what integration points it has to your chosen virtualisation platform. Many legacy backup vendors have now started

[Essential guide: EU Data Protection Regulation](#)

This guide lays out what the new European Data Protection Regulation means for European businesses. .

BY KAYLEIGH BATEMAN

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to offer improved integration to the virtualisation layer.

Remember that if you're new to server virtualisation, you will have

YOU SHOULD LOOK TO YOUR VIRTUALISATION VENDOR FOR ITS BUILT-IN BACKUP AND REPLICATION TECHNOLOGIES BEFORE BRINGING IN YET ANOTHER VENDOR TO MANAGE, MAINTAIN AND UPDATE.

a commitment to physical servers for some time to come, and now might not be the optimal moment to switch to a radically new method of backing up. With that said, it could be that your previous backup and data protection strategy left something to be desired and the

virtualisation project will offer a chance to question existing procedures. If that's the case, you should look to your virtualisation vendor for its built-in backup and replication technologies before bringing in yet another vendor to manage, maintain and update.

For example, the VMware vSphere platform includes a free-to-use Data Recovery appliance, which integrates directly into the main management platform (vCenter). It's a rather modest system currently—a single appliance is limited to backing up just 100 VMs (you can have multiple appliances)—but many industry experts expect that in the future it will receive major updates from VMware. ■

Mike Laverick is a VMware forum moderator and member of the London VMware User Group. He is also the man behind the virtualisation website and blog [RTFM Education](#), where he publishes free guides and utilities for VMware customers.

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FRANCE

Disclosure of personal data: the new corporate nightmare

The draft European legislation includes provisions that will likely favour defenders of privacy but will also increase the risk for legal firms. [READ THE FULL STORY](#)

The EU wants a unified regulatory framework for public procurement of cloud services in Europe

Deputy Chief Commissioner Neelie Kroes argues for a unified regulatory framework for the pooling and purchasing of public cloud services in Europe. [READ THE FULL STORY](#)



GERMANY

Privacy Officers warn of consequences of EU data protection regulation

Data protection in Europe is in need of modernisation, accord-

ing to the National Association of Data Protection Commissioner. But the recent revelations of the new draft EU data protection regulation would mean a huge setback for Germany. [READ THE FULL STORY](#)



ITALY

How to prepare for new EU rules on data protection

While still far from being approved it is better to be prepared for new taxes from the new EU regulation on data protection. Severe penalties are expected. [READ THE FULL STORY](#)

Privacy Policy, the EU is adapting to the cloud

The proposals made by the Commissioner for Justice, Viviane Reding, update the principles enshrined in the 1995 directive on the protection of personal data, to strengthen the rights of online privacy and encourage the European digital economy. [READ THE FULL STORY](#)

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INFOSTRADA TEAMS UP WITH ROAMBI, MOBILE SPORTS ANALYTICS AT OLYMPICS

New iPhone and iPad app, for the Olympics, created by mobile BI company Roambi and Dutch sports information provider Infostrada.

BY BRYAN MCKENNA

DUTCH SPORTS information provider Infostrada has teamed up with mobile BI company Roambi to create an iPhone and iPad app for the Olympics.

Philip Hennemann, founder and chief executive of Infostrada Sports, said the tie-up will showcase the possibilities of rendering statistics on mobile devices, especially the iPad, to sports executives on National Olympics Committees and other sports organisations or sponsors.

The Roambi app, which is free, includes data from a form guide to

2012, the "Virtual Medal Table", as well as data from the last four editions of the summer Olympics.

The Roambi and Infostrada visualisations will allow people to analyse countries' performances over the last four Olympics while comparing up to four nations' medal counts. The interactive analysis will forecast answers to questions such as, "Who will top the medal table in 2012" and "How does this compare to previous games?" Or, "Will Team GB do better in 2012 than in 2008?"

Infostrada's Hennemann said, in a press statement: "The combination of Roambi's data visualisations and our database has produced products which turn simple numbers into valuable information for professional and personal users. The intuitive nature of these designs will make everyone an expert during this summer's games."

In the same statement, Santiago Becerra, CEO, chairman and co-founder of Roambi underscored the

iPad's significance to the deal: "The iPad has not only changed how people access information but also how organisations engage with users and share content in a post-PC world."

The two apps are the following: a "cardex," for iPhone and iPad, which displays medal forecasts for each country and compares them with previous games using filing-cabinet style charts; and "layers," for the iPad only, which shows historical and forecasted medal counts for each country for each event.

Hennemann founded Infostrada in 1995, on the back of an idea for a fantasy cycling team, based on the Tour de France. In 1999, the company acquired and digitised Dutch football statistician John Fredrikstadt's data set as a core asset. Since then it has developed information services for the sports industry. It monetises sports rights and produces and distributes sports content for clients who include broadcasters, event organisers, sports federations, sports clubs, and media, marketing and advertising agencies.

Hennemann said the deal with Roambi will give Infostrada's sports statistics greater exposure among senior executives on the National Olympic Committees.

Up until now, Infostrada built applications solely for data mining professionals, but "the senior executives also have an information need. 'How is my nation per-

forming?' they want to know on a Monday morning," Hennemann said. And the iPad is "way better than a smartphone for such a management cockpit. Roambi was a product we were missing."

"ROAMBI WAS A PRODUCT WE WERE MISSING."

—PHILIP HENNEMANN
founder and chief executive,
Infostrada Sports

Infostrada's media clients are increasingly looking to combine data sets, internal and external, in "integrated cockpits." And their market is also growing beyond sports associations to coaches, performance managers, government officials and commercial sponsors, such as Nike and Adidas, who want to measure the return on their athletes. They want to know how many minutes a footballer wearing their kit is on the pitch, and not warming the subs bench or tweeting from the stands.

Will the apps help whet the appetite for sports statistics to American heights among European enthusiasts of the 42 Olympics sports? Hennemann's view is that Europe always plays catch-up with the US, and it will be no different in this, although US sports, such as basketball, baseball and ice hockey are "better positioned to be anal-

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ysed" than are sports more popular in Europe, such as football and rugby.

"There are less decisive stats in soccer than in baseball, it is true, but everyone is trying to get to the holy grail of soccer statistics," he said. "Four years ago it was goals and assists. Now there is more spatial stuff on who is passing to whom and tracing and tracking of players as they run their speeds and so on."

The trick, Hennemann said, is identifying what can be usefully analysed. The market has not come far with that, and the average soccer coach is still too amateurish. "Do you know that some teams practice hitting the bar for fun? How stupid is that? Surely that just conditions you to hit the bar?"

Infostrada also uses browser-based QlikView to provide information to its clients, but preferred Roambi for the iPad and iPhone in this instance, Hennemann said, describing them as complementary

technologies. But the "old days" approach of "building a complicated data warehouse first" to deliver to business intelligence applications is being superseded by these newer, more intuitive BI tools, he said.

Meanwhile, on the technology vendor side of the deal, Ali Shirnia, vice president and general manager of Roambi EMEA, said they are seeking to build on the "success with have had with other information providers, such as IMS Health.

"Roambi makes it easy for [such providers] to distribute complex content in a meaningful way to their clients."

His view is that software is needed to take the latency out of browser-based access to data on a mobile device.

"Users will not wait for data, for the network. Network operators have difficulty there, so you have to solve on the software side." ■

Brian McKenna is the site and news editor for SearchDataManagement.co.UK.

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- [SearchSAP.com's editor Todd Morrison blogs on what lessons business can learn from sports analytics](#)
- [Learn how US basketball team the Orlando Magic is using advanced analytics to better read its customers.](#) ■

VMWARE VIRTUALISATION

SEPA REAPS COST SAVINGS RUNNING ORACLE ON VMWARE

SEPA's IT team was warned of the complexities of virtualising Oracle database and apps.

BY ARCHANA VENKATRAMAN

SEPA'S IT TEAM had some concerns about virtualising Oracle database and applications using another vendor's virtualisation products. However, with strategic design, planning and testing, the team found success with VMware.

By 2011, Scottish Environmental Protection Association's (SEPA) IT team had virtualised most parts of its data centre to bring its infrastructure up to speed with growth in staff, technology and data.

In addition to virtualising its estate, it also deployed VMware Site Recovery Manager (SRM) to ensure 100% uptime.

But SEPA kept its Oracle database and applications in a physical infrastructure.

"We had invested hugely in Oracle," said Alastair Rennie, head of information services at SEPA.

The IT team knew that managing and supporting a fully virtualised infrastructure was far easier and cheaper than supporting a partially virtualised infrastructure.

"Oracle wanted us to use its own virtualisation and disaster recovery products," Rennie said. "But the cost was horrific."

With its previous history with VMware Inc.'s vSphere 4 and VMware Site Recovery Manager, SEPA virtualised Oracle using vSphere.

"We were familiar with VMware's virtualisation tools as we have used free versions of ESX for testing and development, he said. And vSphere had the features that suited our virtualisation needs," he said.

But the plan to virtualise Oracle products and run them on VMware—or any other vendor's platform—was met with skepticism.

"Everyone advised us 'don't virtualise Oracle using VMware, it won't work,'" he said.

Even the business stakeholders advised against the project as SEPA had many mission critical apps running on Oracle and could not afford to risk them. There were other challenges too, including from Oracle itself, which wasn't willing to support SEPA's database and apps that it virtualised using the VMware platform, he added.

Oracle has since extended support for customers running Oracle products on VMware.

For the IT team, however, the benefits far outweighed the challenges.

"We knew virtualising Oracle will bring prospective benefits of enhanced availability, efficiency in new application deployment and cost savings," Rennie said. And it isn't an impossible mission to run Oracle on VMware, he said.

Despite the potential lack of sup-

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port, the IT team moved forward with the project.

ORACLE ON VMWARE CHALLENGES, SOLUTIONS

SEPA developed a technical design to run Oracle on VMware vSphere 4 and started testing the environment, but it didn't work, Rennie said.

"We found out that we had SATA RAID 6 and Oracle won't work with that," he said.

"That's the crunch point for Oracle. It needs top of the range, fast high quality stuff around it to be effectively virtualised," he added.

SEPA's IT then replaced SATA RAID 6 with SAS RAID 10 and now runs Oracle on VMware vSphere 4. It also protects Oracle and all the other applications with SRM.

"We now have a fully virtualised application system and are reaping enterprise wide benefits," Rennie said.

The team has virtualised all core business systems—finance, license management, helpdesk and document management systems. It had 30 terrabytes of data virtualised on vSphere 4 and all this data is protected by SRM.

Its overall virtualisation project brought IT-specific benefits. It has a fully virtualised application system; a robust data backup, replication and disaster recovery strategy; and a virtualised storage infrastructure.

But there were wider business-level benefits too. "We got some

great cash savings," Rennie said.

The team reduced the implementation budget by approximately £180,000; it reduced the storage space by five cabinets; and consequently reduced power consumption by c20kWx2; it also achieved better than 99.98% availability and improved resiliency.

**"WE FOUND OUT THAT
WE HAD SATA RAID 6
AND ORACLE WON'T
WORK WITH THAT."**

—ALASTAIR RENNIE
head of information services,
SEPA

Once the project was complete, the team reworked its Oracle licensing agreement. SEPA now has an enterprise agreement that covers any Oracle apps that it may want to virtualise using vSphere in the future, and it worked out to be a cheaper licensing arrangement, Rennie said.

"We haven't experienced any downtime or performance issues since we started running Oracle on VMware," he added.

"Virtualising a complete Oracle instance is not complex, as long as you approach the technical design carefully and apply good principles for architecture and sizing," Rennie said. ■

Archana Venkatraman is the Site Editor of SearchVirtualDataCentre.co.UK.

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EURO 2012'S COMMUNICATIONS INFRASTRUCTURE TO BOOST FOOTBALL TECHNOLOGY

Orange and TP must deliver a communications infrastructure to ensure Euro 2012 is broadcast worldwide without glitches. Find out about the challenges.

BY JOE FERNANDEZ

WITH THE TEAMS selected and the group draws concluded, preparations for next summer's Euro 2012 football tournament are well under way in Poland and Ukraine. Technology is a big part of that process, with Orange and Telekomunikacja Polska (TP) building an IT and communications infrastructure in Poland that will support the massive data transmission necessary for the event.

Orange will provide the fixed and mobile telephone services while TP will provide the WAN infrastructure and the Internet links across all of the tournament's eight-venue estate. The solution will also include a public access Wi-Fi network across public transport and key tourist buildings, including libraries.

The challenge of managing this football technology is no small feat. TP and Orange will provide the following, amongst other services:

- 7,000 Internet and corporate-network access ports

- 1,750 fixed phone lines
- 1,425 mobile phones
- 1,300 LD monitors sourced from Sharp
- 1,000 laptops
- 1,000 TV sets also sourced from Sharp
- 150 wireless access points
- 2,500 km of optical cabling in all facilities
- Bit rate of 70 Gbps, enabling simultaneous transmission (also in HD) from 32 cameras
- 800 members of the Euro technological support team.
- Guaranteed 99.999% reliability of the systems and hardware, with the maximal permitted transmission downtime of 26 seconds a day.

The integrated wired and wireless network will provide the service of data transmissions on the basis of fibre-optical and Wi-Fi, ultimately running over a Layer 3 MPLS VPN. The central LAN will connect to two WAN routers located in Poland and Ukraine. These will be monitored around the clock to ensure the above deliverables are met and the tournament runs on schedule with minimal disruption to the teams, viewers, journalists and officials.

BUILDING SUSTAINABLE UNIFIED COMMUNICATIONS INFRASTRUCTURES

The main goal of a unified communications strategy should be to facilitate an innovative business process regardless of the commu-

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nications medium.

IT operations and security staff often struggle to get their arms around the problem of securing Voice over IP and unified communications. Knowing threats and defense strategies is essential to maintaining their premise.

Yet, successful unified communications (UC) infrastructures can be deployed via server virtualisation and reduce capital outlays and management overhead for enterprises with limited resources.

The new football technology system, which has been in development by UEFA, Orange and TP for two years, will link the host cities, stadiums and hotels with UEFA representatives and local organisational committees.

It will also support transmissions from all TV cameras in stadia to UEFA's many official broadcast partners at the International Broadcasting Centre in Warsaw.

TP is leveraging its existing experience in providing tailor-made IT and communications services, in order to help the tournament air without hindrance or intrusion.

TP president Maciej Witucki explained, "The network we have built with Orange includes advanced end-to-end solutions integrating various systems and applications. It will provide UEFA employees, journalists and commentators [with] data transmission, Internet access and voice communications (fixed, mobile, and IP) as well as help satisfy UEFA's hardware requirements."

SPORTS IT, FOOTBALL TECHNOLOGY AND COMMUNICATIONS INFRASTRUCTURE: AN EVOLVING ART

All IT eyes will be on this project and the football technology. In large part, Orange and TP will be sure to avoid the kind of communi-

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BUILDING SUSTAINABLE UNIFIED COMMUNICATIONS INFRASTRUCTURES

THE MAIN GOAL of [a unified communications strategy](#) should be to facilitate an innovative business process regardless of the communications medium.

IT operations and security staff often struggle to get their arms around the problem of securing Voice over IP (VoIP) and unified communications. Knowing [threats and defense strategies](#) is essential to maintaining their premise.

Yet, [successful unified communications \(UC\) infrastructures](#) can be deployed via server virtualisation and reduce capital outlays and management overhead for enterprises with limited resources. ■

cations interruption that occurred at the World Cup in South Africa.

In addition, the tournament is being labeled a warm-up to the London 2012 Olympic Games, for which Cisco is building a similar communications infrastructure. As such, Orange and TP will be under the highest scrutiny from the public to deliver a technological marvel for other events to rival.

UEFA Events SA CEO David Taylor has laid down stiff orders to the firms: "It is crucial we have best-in-class services from Orange and TP, our technology partner, in order to deliver the live match signals from Polish stadiums to UEFA's many broadcaster partners and then on to football fans around the world."

But Witucki remains unfazed. "We are committed to ensuring we meet all the needs of UEFA, journalists, our clients and customers of the Euro 2012 so that we can be part of the solution to help deliver an outstanding experience of the events for all viewers and fans."

Part of his confidence comes from early success in the two draws held for the tournament to date.

"We have already passed the first test, supporting the UEFA Euro 2012 qualifying draw in Warsaw in February 2010 and last week's

group draw at the Palace of Arts in Kyiv, Ukraine, when we provided communications and data transmission services for UEFA and for the media without any glitches.

"We now plan to create a special lab to simulate the interoperation

THE TOURNAMENT IS BEING LABELED A WARM-UP TO THE LONDON 2012 OLYMPIC GAMES, FOR WHICH CISCO IS BUILDING A SIMILAR COMMUNICATIONS INFRASTRUCTURE.

of the systems for the Euro 2012 team in coordination, where necessary, with the systems of UEFA's Ukrainian technology partners," he said.

It is clear that this networking challenge will be a massive task for TP and Orange, but if it runs smoothly, this new virtualised, high-tech Euro tournament could well be an example for other vendors to follow in the years to come. ■

Joe Fernandez was previously a news writer for SearchNetworking.co.UK.

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