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Virgin Mobile

BMC BladeLogic Helps Virgin Mobile Meet the IT Compliance Challenge

Geography
United Kingdom

Industry
Telecommunications

Business Need
Server management issues had Virgin Mobile looking at Data Center Automation to address application release management and configuration change control management.

Solution
Virgin Mobile chose BMC BladeLogic to address their business needs after a benchmarking exercise to prove the capabilities of the BMC BladeLogic solution.

Results
> Easily met deadline for deadline of Tibco deployment across multiple environments, saving man hours and licensing costs

> Able to establish baselines to address configuration and compliance issues

> Eliminated human error in application deployment, supporting ability to ensure continual compliance

> Application teams freed up to concentrate on their core strengths, rather than deployment efforts

> On average, application deployment time on a single server decreased from 6 hours to 30 minutes

In the highly competitive UK mobile market, Virgin Mobile is without doubt a success story. Virgin Mobile's core focus is the mass consumer pre-pay market, where customers pay just for the phone and buy their airtime in advance. In only five short years since its inception, with a customer base today of more than five million, the company has grown to become the UK's largest mobile virtual network operator (MVNO) and the country's fifth largest mobile operator.

Virgin Mobile has a highly-integrated IT environment, supporting a host of different applications ranging from CRM to bank sort code tools to credit reporting. Such a complex and diversified environment presents real challenges to Virgin Mobile. One of the challenges that the company recently addressed was automating many of its server management processes. For instance, in the past Virgin Mobile's entire application environment was managed manually and therefore, application releases were time-consuming and hard to manage. In addition, it was difficult to ensure the continuous compliance of applications to corporate build, security and configuration policies. In the event of a problem, IT had to dedicate a large amount of time and people to resolving it.

Virgin Mobile's most significant challenge to the business was the deployment of Tibco, a universal messaging solution that enables different strategic applications to communicate with one another. Connecting the different elements of the application infrastructure, the Tibco solution forms a mission-critical piece across the Virgin Mobile server environment. The key challenges the Virgin Mobile IT organization faced in deploying Tibco were the following:

> Virgin Mobile's goal was to deploy Tibco across 50 servers, but since the deployment was done manually, it had only been rolled out across 15 servers at that point. If the rollout across the additional 35 servers was not completed before the license agreement expired in six months' time, Virgin Mobile would accrue unnecessary additional re-licensing costs.

> Without an automated solution in place, Virgin Mobile faced the prospect of continuing to deploy the software manually; a time-consuming process but more importantly, a process which could not ensure configuration compliance of the server environment.

> Virgin Mobile had no real means of ensuring full control over configuration changes throughout the rollout.

In brief, without being able to rollout the Tibco software effectively within the limited time, Virgin Mobile would have incurred significant re-licensing costs.

Virgin Mobile has outsourced certain basic management functions for its servers, such as database administration and systems management at the operating systems level, to Atos Origin. Virgin Mobile manages everything in the server stack beyond the operating system, including configuration change control in these environments. As Julian Bowles, Technical Projects Program Manager for Virgin Mobile IT outlines, planned change is typically made through a structured release management process, "We typically group together releases and schedule these into our change calendar. The impact assessment of any unplanned or reactive type of

application or software release has to be measured against what we are planning to do and priorities are then agreed accordingly. Development-based work is typically consolidated into releases for target release dates. In parallel, we have operational work in terms of maintenance and problem- related fixes, for example." As part of this process, impact assessments are carried out for any change control, considering high-level metrics such as the timing of the implementation, the number of systems affected and how this fits in with the call patterns and call flows for the Call Center itself."

THE VIRGIN MOBILE IT ENVIRONMENT

The Virgin Mobile data center is based on a UNIX and Windows environment, running around 12 to 15 mainstream applications across UNIX and Windows servers. These are typically tiered applications in the CRM, finance and logistics space with a set of call center applications on top. Virgin Mobile's customer center operates on a 24x7x365 basis and therefore all the systems need to be continuously available.

AN IMPOSSIBLE HURDLE TO OVERCOME?

In order to solve its server management challenges, Virgin Mobile began evaluating Data Center Automation (DCA) solutions, focusing on three key areas:

> Application Release Management

> Configuration Change Control Management

> Policy-based automation to ensure continuous configuration compliance

The most important and most pressing of these, was the rapid deployment of Tibco software across multiple servers in the Virgin Mobile environment. Virgin Mobile utilizes the Tibco solution to provide a universal messaging layer enabling the integration of a range of strategic applications across their systems that directly support the Virgin Mobile business. Essentially, it provides the translation process for different applications to 'talk to' and understand one another. Such applications include Equifax, providing online credit reporting, and the business- critical CRM solution. The value of Tibco to Virgin Mobile cannot be underestimated; it forms the DNA of the applications infrastructure and is absolutely mission-critical.

The deployment of Tibco across this server environment would be no mean feat. Virgin Mobile had already deployed Tibco on 15 servers, but had a license for 50 servers as part of their enterprise license agreement (ELA); the requirement was to install Tibco software where it was not currently used or installed within Virgin Mobile before the license expired. If any Tibco modules were deployed after the ELA expired, Virgin Mobile would have to pay for each individual module separately; an additional and unnecessary cost as they already had the license in place. As Keith Bennett, Infrastructure Architect for Virgin Mobile IT explains, distributing software across any environment is difficult enough, but they faced a number of issues that compounded the difficulty of the challenge, "In terms of the Tibco license agreement, our deployment deadline was the end of 14 months, and we were now at the 8th month already. To manually deploy the software across our environments would have taken us approximately two to four man-months as our teams would have to be pulled from other projects to carry out the manual deployment. It was not so much the complexity of the application itself, but more the multi-component nature of it. We would have to define the logical groupings required and then push the multiple compo-nents quickly into a highly distributed environment– manually. If we didn't meet the deadline, then Virgin Mobile would have to re-license the Tibco product, incurring significant costs."

As secondary objectives, Virgin Mobile also wanted to use a DCA tool to reduce the amount of time and effort it took to build or upgrade the application environments, which was typically taking over one week. Another requirement was to compare and audit these environments as well as being able to standardize the application releases; in essence, to ensure the continual configuration compliance of these environments. Up to this point, Virgin Mobile had been using a manual solution to address all these requirements. With just six months left to application release, Virgin Mobile accelerated its standard product evaluation process for sourcing the right DCA provider. As Bennett describes, "We carried out a feature set assessment based on our requirements as well as a cost benefit analysis. Against the BMC BladeLogic solution, the investment cost, plus the savings in deployment, versus implementing the manual solution were still extremely favorable."

IN JUST A FEW DAYS…

In terms of benchmarking the product, Virgin Mobile and BMC BladeLogic carried out a standard BMC BladeLogic exercise that took three days, "BMC BladeLogic offers a scorecard approach with a benchmark set of tests which we worked through. The benchmarking exercise was valuable because it allowed us to prove the capabilities of BMC BladeLogic's solution in our environment," Bennett explains. The benchmark exercise was a success and three weeks later Virgin Mobile proceeded to purchase the BMC BladeLogic software and implementation services.

"The next step was to work with BMC BladeLogic's Professional Services team to define how we could produce configuration consistency across a number of our other core business applications to get our environment compliant. This was a key priority for us," Bennett highlights. Virgin Mobile then went through an internal Proof of Concept process with the BMC BladeLogic solution, which took around four weeks. A number of issues were tackled during this phase, enabling the rest of the Virgin Mobile team to see the capabilities of the product as Bennett details, "In the Proof of Concept phase, we packaged, configured, and parameterized our Tibco application. We used to spend between half a day to a day doing this and, using BMC BladeLogic, we have managed to configure it and deploy it across multiple environments, automatically."

With BMC BladeLogic installed and the necessary packaging and configuration work defined, the deployment of the Tibco Stack across all required servers using BMC BladeLogic was completed in just five days. The manual deployment estimate had been two to four months' effort. As Bowles emphasizes, the Proof of Concept demonstrated that Virgin Mobile needed to take a project-approach to the deployment of the BMC BladeLogic solution to maximize the investment, "Virgin Mobile had to invest the right number of people from the affected teams from the start, or we simply wouldn't be able to gain the benefits we knew the product could provide. Using the JumpStart methodology from BMC BladeLogic Professional Services group, we planned our design phase and also established a project team and a methodology for our project."

MORE BENEFITS THAN WERE IMAGINED

Besides easily meeting the deadline for the deployment of the Tibco product across multiple environments, thus saving both financial and resource costs, BMC BladeLogic enabled Virgin Mobile to meet a number of other key objectives over and above those they had already identified and provided benefits that they had simply not foreseen. The biggest of these benefits lay in the area of compliance, as Ian Chalmers, Software Control and Distribution Analyst for Virgin Mobile details, "The advantage we have now is the ability to snapshot the configurations we already have giving us a starting point as opposed to having to establish the baseline every time. Once we have this snapshot, we can always bring it back into line."

VISIBILITY AND CONTROL

The Change Management team at Virgin Mobile has also benefited from the BMC BladeLogic toolset. Often, as Chalmers explains, they faced problems with 'unapproved' (and 'unauthorized') changes taking place that they weren't aware of and didn't have a view of. With the BMC BladeLogic solution in place, the Change Management team now has visibility and control of what's actually happening in those environments.

Chalmers points out that the BMC BladeLogic solution has enabled Virgin Mobile to remove a great deal of potential for basic human error in application deployment, supporting their ability to ensure continual compliance, "The point to deploying key applications via an automated tool like BMC BladeLogic, is that it does remove a lot of potential for basic human error, particularly with configuration. In deploying Tibco for example, every module has an application code and associated configuration files. These configuration files are typically changed per environment using a manual process and the margin for human error is huge; not only is the code manually copied from one box to the other, it is easy to forget to change every single command or every single parameter that needs to be changed. With BMC BladeLogic, we can now deploy applications across multiple environments, automatically." And, as Chalmers explains, they even found a benefit of BMC BladeLogic they weren't aware existed, "BMC BladeLogic includes scripts that ensure security compliance requirements are met while allowing us to look at our UNIX boxes. This addresses the security compliance for the infrastructure layer as well as at the application layer and is extremely useful for us."

EFFECTIVE USE OF RESOURCES

Since the introduction of BMC BladeLogic, Virgin Mobile has begun redefining its IT Operational processes. One of the key benefits of this is that it allows teams the opportunity to focus on their core strengths. As Bowles explains, "Part of the overall BMC BladeLogic project is the re-definition of our processes around the development and deployment of code. With BMC BladeLogic in place, the long-term plan is to enable the automation of deployment that frees the applications teams up to deal with day-to-day issues and to concentrate on applications support."

The way in which Virgin Mobile now packages and deploys applications has changed since the introduction of BMC BladeLogic, as Bowles outlines, "From a development point of view, we can be radically versatile in the way that we use BMC BladeLogic and package our applications. We now have a faster end-to-end deployment and versatility with how we actually package applications."

The use of BMC BladeLogic in the day-to-day environment at Virgin Mobile is making a real difference. The company uses Albacs software, to maintain updates to bank sort code information. When an update arrives with the latest sort code details, this information is simply taken off the CD, packaged in BMC BladeLogic and the extra addresses are deployed across multiple environments. Although not a complex task, this is an application that changes at regular frequencies. Previously, this task would typically have taken at least two weeks, being carried out manually and deployed differently on each server. Using BMC BladeLogic, this now takes a little over two days.

TANGIBLE RESULTS AND BENEFITS

In just a very short time, BMC BladeLogic has already had a significant impact on the Virgin Mobile business and, as Bowles highlights, they foresee further benefits as they continue to roll it out, "Our time to deploy an application to a single server has reduced from 6 hours (on average) to 30 minutes, based on our experience of one application to date. We are about to bring Phase I of our BMC BladeLogic implementation to a successful conclusion, which has given us the ability to perform application auditing and compliance reporting on a number of applications, including our business-critical CRM system where this capability was not previously available. We are expecting to achieve comparable improvements in our speed of deployment as we continue to business applications."

Bowles also outlines the effect that the solution is making to the bottom line, "We anticipate that the payback on the product will be within twelve months since it has definitely provided us with quantifiable time-savings (that translate to consumed labor cost-savings) in a number of areas and it is also playing a significant role across a number of strategic components, such our middleware and integrated applications."

So what's next for Virgin Mobile and BMC BladeLogic? The challenge is by no means over according to Bowles, "The next steps in the project are to complete implementing compliance assurance across all of our key applications, to populate the configuration library with the BMC BladeLogic deployment capability, and extend its use into our technical operations management."

As Bowles summarizes, BMC BladeLogic has given Virgin Mobile the ability to really see what's happening and ensure that their environments remain continuously compliant, "We had to do a voyage of discovery to find out what was going on before we had BMC BladeLogic. Now the toolset is in place, we have defined processes with defined roles and responsibilities. Our goal is to ensure that every piece of code delivered to any Virgin Mobile application, is delivered via BMC BladeLogic.

THE IT COMPLIANCE CHALLENGE

Virgin Mobile operates a number of application environments; production, pre-production, training, test and development. Essentially, they have multiple parallel development and test streams. The development environments are mirrored into test as far as possible and pre-production and production environments then sit on top of this structure. As Bowles explains, this environment can present real challenges in terms of compliance, "We need to ensure compliance across environments; its key for us to ensure that development environment A is the same as development environment B for example, and that any changes to either are consistent."

Prior to finding a solution, if a problem arose with an application in any given environment, a manual solution was implemented at the application level, with the technical teams going in at the lowest level of code and configuration set-up and manually making inspections at the file and source code levels; a time-consuming and resource-intensive process. As Bowles explains, the highly-integrated structure of the Virgin Mobile environments, normally viewed as a great benefit, could actually hinder this process, "Each of our development and test environments are fully integrated, which means that all the applications are present in all the environments. Prior to a solution, in the event of a problem, we had situations where we had to individually inspect and assess multiple applications in multiple environments to establish a root cause. We then had to fix it and then re-deploy."

Ensuring that the environment remained continually compliant was difficult and was typically carried out on a reactive basis, as Bowles puts it, "We had a problem, so we checked compliance. We didn't have the means to establish the compliance parameters and then notice when it started to drift. And we wouldn't know it had drifted until we had a problem. In summary, we had 'limited visibility and control' over consistency across our environments and we needed to reactively investigate consistency issues when problems arose." Virgin Mobile also wanted to reduce consumed labor and the mean time to resolve; as Bowles highlights, the time and resources used to resolve a problem affecting just two systems for example could be significant, "Both the application support and development teams would typically be involved and it could take a significant number of many days to resolve."

Gerry McQuade, Operations Director, Virgin Mobile, concludes, "Virgin Mobile must be able to offer innovative products and services to its customers to compete effectively in the mobile telecommunications market. As far as our technical infrastructure is concerned, the effective maintenance and management of our development and test environments underpins our ability to respond to our customers' needs. The dynamic nature of our business means that we work on multiple new initiatives at the same time. This requires a great deal of coordination to manage parallel development streams, which is resource intensive in terms of both people and time. Reducing the effort (and therefore cost) associated with environment management can only help to improve the efficiency of our new product development processes. I believe that data center automation technology, such as BMC BladeLogic, can support Virgin Mobile to meet its objectives of consistent, efficient technical deployments within the development framework."

"We anticipate that the payback on the product will be within twelve months since it has definitely provided us with quantifiable time-savings (that translate to consumed labor cost-savings) in a number of areas and it is also playing a significant role across a number of strategic components, such our middleware and integrated applications. Our time to deploy an application to a single server has reduced from 6 hours (on average) to 30 minutes, based on our experience of one application to date."

Julian Bowles
Technical Projects Program Manager
Virgin Mobile

Key Products Used
> BMC BladeLogic Operations Manager
> BMC BladeLogic Application Release Manager

About Virgin Mobile
Virgin Mobile is the UK's leading mobile virtual network operator (MVNO) with more than four million customers. Dynamic and popular, it was the first consumer brand to enter the mobile marketplace when it opened for business in November 1999.

About BMC Software
BMC Software delivers the solutions IT needs to increase business value through better management of technology and IT processes. Our industry-leading Business Service Management solutions help you reduce cost, lower risk of business disruption, and benefit from an IT infrastructure built to support business growth and flexibility. Only BMC provides best-practice IT processes, automated technology management, and award-winning BMC Atrium technologies that offer a shared view into how IT services support business priorities. Known for enterprise solutions that span mainframe, distributed systems, and end-user devices, BMC also delivers solutions that address the unique challenges of the midsized business. Founded in 1980, BMC has offices worldwide and fiscal 2007 revenues of $1.58 billion. Activate your business with the power of IT. www.bmc.com.

BMC Software purchased BladeLogic, the leading and fastest growing data center automation company, in April 2008. The acquisition combined BMC's BSM platform with BladeLogic's award-winning solutions to create the new IT Service Automation leader.

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