



## I D C C U S T O M E R S P O T L I G H T

# Telstra Improves Customer Experience with IT Automation and Virtualization

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Digital transformation has achieved an unprecedented level of importance for businesses across industries in a very short time, regardless of size and geography. Businesses that have been challenged with delivering new digital initiatives while reducing costs for existing workloads and delivering solutions faster, are finding open source to be a viable solution to address both challenges. Many enterprises that have embraced the open source-based model to deliver digital transformation are seeing clear benefits, and they continue to build on this model further. This IDC Customer Spotlight examines how Australia's leading telco, Telstra, leveraged Red Hat Virtualization solution to speed up delivery of solutions to achieve business outcomes and drive better customer experience.

## Introduction

Telstra is a leading telecommunications and technology company based in Australia and provides 17.4 million mobile services, 6.8 million fixed voice services, and 3.5 million retail fixed broadband services. Telstra's goal is to help customers improve the ways in which they live and work through connection.

One of the telco's key challenges was in delivering email services to over 3.8 million users in the Australian market from three disparate platforms, which resulted in a lack of usage transparency and inefficiencies. With the goal of boosting engagement and satisfaction, Telstra consolidated the three disparate platforms onto a single, virtualized platform environment. After a rigorous selection process, Telstra chose Synchronoss as the preferred application supplier. Further evaluation was then conducted by Telstra's platform engineers to select the operating system to meet objectives of low maintenance, easy to automate, and long-term economic viability. Red Hat emerged a distinct leader with its proven technologies.

With Red Hat's virtualization solution, Telstra was not only looking to fully automate its platform security policies but to also gain better integration with other systems such as monitoring and alarm security as well as configuration and audit management; and they were expecting to do this while

## Solution Snapshot

**Organization:** Telstra Corporation Limited



**Operational Challenge:** Telstra delivered email services to over 3.8 million users from three separate platforms

**Solution:** Red Hat Virtualization enabled the consolidation of three disparate platforms onto a single virtualized platform.

Red Hat Ansible Tower helped drive automation and transform IT operations tasks

**Project Duration:** 12 months

**Benefits:** Gained understanding of customer behavior. Improved operational efficiency by reducing customer churn by 12% and improving customer loyalty by 20%.

Automation of over 90% of IT operation tasks

Automation of alarming system (app installation and configuration) reduced to 42 hours from 1,500 hours resulting in resource saving

improving the customer experience and gaining greater understanding of their customers' usage behavior.

## **Business Challenge**

Telstra's consumer email platform was responsible for delivering consumer email services to close to 3.8 million active Telstra subscribers. These email services were delivered from three separate platforms with no single consolidated view of the customers' usage patterns. This had also resulted in poor operational efficiencies. Poor customer satisfaction from the siloed email platforms had led to the lowest NPS scores for the email and messaging division across the entire organization. Telstra's email platforms were in dire need of an overhaul to keep pace with the rapidly changing customer expectations afforded by the latest technology.

David Thodey, the then CEO of Telstra, acknowledged that Telstra needed to manage the mail platform internally instead of outsourcing it, and so approved the business case for this internal upgrade path. With that decision in early 2015 to migrate off one of its platforms, Telstra's consumer email product division found itself facing a deadline of 18 months to move from their disparate platforms, including its legacy systems, the AB&C (Address Book & Calendar) platform and the Microsoft platform, onto a single consolidated platform.

The task was complex and challenging as the platform had over 3.8 million active subscribers at the time and only 18 months to evaluate and shortlist vendors, then plan and implement the new replacement platform. Any delay would have had a significant financial impact in view of the daily financial penalty that would be imposed — after the discontinuation date with the Microsoft platform — to support the more than 2 million active subscribers on that particular platform. To add stress to the project, the new replacement product was expected to bolster Telstra's products and services offering, while creating a digital transformation platform in a cost-effective, rapid, and scalable manner.

## **The Project**

### **Planning and Selection**

To address these challenges, Telstra began the process of choosing a vendor that could support them with the right tools and services. To select the solution that would best help Telstra address its business challenges, stakeholders from technology, business and operations groups were actively involved in the vendor evaluation phase. After 6 months of carefully assessing five shortlisted vendors, Telstra decided that Red Hat's suite of products, more specifically Red Hat Virtualization (RHV), were best suited to meet its current business challenges. However, Telstra now had only 12 months to virtualize and implement a new platform. Given that time was a major constraint, there was very little time to undertake a proof of concept before the actual implementation

Red Hat's solution included Red Hat tools and technologies to virtualize and consolidate the three different email platforms to ultimately provide a single consolidated email platform. The project plan allocated just 3 months to get the new platform set up, another 3 months to get the application up and running, and the remaining 6 months to test the overall functionality of the solution, including migration of data from the existing Microsoft platform as well as migration from the legacy system onto the new platform.

### **Implementation**

The project involved implementation of two main Red Hat solutions: Red Hat Enterprise Linux (RHEL) combined with Red Hat Virtualization (RHV). An initial team of 30 people was tasked with this implementation, and the new platform had to be integrated across several of Telstra's systems —

including billing systems, OSS systems, security logs and lawful intercept. To ensure successful integration in a short duration, an additional 60 staff were brought into the project.

To accelerate the implementation process, automation was a crucial element; and to achieve the necessary level of automation, Telstra leveraged its partnership with Red Hat to identify and automate some of Red Hat's tools. As the skills required to implement the new platform were significantly different from those that were available internally, Telstra engaged Red Hat's consulting team to help Telstra's internal team familiarize themselves with the solution.

During the implementation phase, several challenges were overcome with the joint Telstra and Red Hat effort. The transformation of these disparate platforms onto a single virtualized platform was a huge success and despite the extremely tight deadlines, was achieved in the desired time frame.

Significantly, the project achieved major cost reduction goals and resulted in the desired single platform outcome. Critically, a significantly improved customer experience (UX) was delivered whilst achieving Telstra's cost reduction targets.

### ***Implementation Challenges***

Successful IT transformation is not easy, and no two transformation projects are alike. In the case of Telstra's project, the short timeframe for the project's implementation further compounded the challenges. But as every successful project has shown, often it is the overcoming of challenges that paves the way for the business to create distinct competitive differentiation.

**Resourcing:** Telstra's underestimation of the time and resources needed proved a valuable lesson.

"The key lesson learnt during implementation was primarily about resourcing," said Nicholas Moufarrege, Service Assurance Manager for Telstra's Consumer and Mobility Product Engineering Group. "Many of the resources allocated to the project were overcommitted, and they should have been assigned more time for the successful execution of this critically important project."

Besides underestimating the complexity of introducing new technology and the time needed for such an extensive project, Telstra also lacked dedicated staff experienced and skilled in the open platform.

IDC believes that as there are always competing priorities for investments and making a concerted effort to dedicate teams for any project is crucial to a project's success.

**Cultural challenges:** Running three disparate platforms meant having three separate teams across engineering and operations to manage those platforms. Historically, as within any large organization these teams operated in siloes and had minimal experience working together. The rapid pace of the project's implementation meant that development and operations teams needed to be more aligned with the project's objectives and work together towards achieving the common goal.

Organizations, irrespective of size, agree that cultural changes are the most difficult aspect of any transformation. With ongoing transformation, it is essential that the development and operations teams work as a single unit and is something that is now being actively promoted across all business units in Telstra.

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~ Nicholas Moufarrege, Service Assurance Manager, Telstra's Consumer & Mobility Product Engineering Group

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**Early adopter challenge:** The Telstra Consumer Mail project was one of the first adopters of Red Hat Satellite 6, an infrastructure management product specifically designed to manage Red Hat infrastructure. It is not unusual for an early adopter project to face some challenges. During implementation, it was discovered that the form Satellite 6 was initially supplied required modifications in order to meet Telstra's specific business demands. To overcome this challenge, Red Hat stepped up to address the issue. They established a feedback mechanism whereby the Telstra team had a direct point of contact to the Red Hat Satellite product manager and could explain the shortcomings of the product so that the Red Hat global product team could work quickly to deliver a robust solution through improvements to the application by virtue of multiple patches.

## Benefits

The implementation of a single consolidated platform was aimed at helping Telstra better understand and provide insights into their customers' usage behavior. Prior to the new platform, Telstra had little idea of their customers' usage patterns on the disparate platforms, such as when customers sent email messages, how many, and at what time. The new virtualized platform has provided Telstra with the ability to rapidly scale with the added benefits of several tasks being automated thereby improving efficiency and reducing costs. In fact, after moving from VMware to Red Hat Virtualization platform, the team saw a cost saving of between 60% and 70%.

Telstra has now spent over a year successfully using the new platform for its email delivery service and has experienced several benefits.

**Automation:** One of the key benefits of migrating to the new platform is the automation of over 90% of the tasks involved. Integrating new tools such as Red Hat Ansible Tower to help drive automation has helped transform IT operations and create system-wide automation, allowing support staff to focus on innovation instead of remedial tasks.

An example of successfully leveraging automation is the alarming systems. Without the current level of automation, the installation and configuration of applications for alarming systems would take approximately 1,500 hours — this task has been reduced to 42 hours, a 97% reduction in time and a significant reduction in terms of resources required to support and manage the systems.

**Integration with other systems:** It is not surprising to have multiple vendor products within a large telco like Telstra and a project is successful only when it has been successfully integrated across all other systems. Certification of Red Hat products with a number of major hardware vendors enabled seamless integration. Some of the teething issues involved were solved by interaction between the various product vendors without the involvement of Telstra.

**Business agility:** With the new platform, Telstra has gained a far better understanding of its customers' usage patterns as well as significant improvements in operational efficiency. Telstra's key value derived has been the improvements in customer loyalty and related net promoter score (NPS). Telstra benefited from its ability to understand its customers' behavior better and the ability to now tune the product offering to meet customers' expectations sooner. This resulted in improved business process efficiency that reduced customer churn by 12% and improved customer experience/loyalty with a NPS gain of +20%. However, Telstra believes that these are still early stages and the upgrades planned in the near term will help achieve even greater success.

## Conclusion

As Telstra continues to see success and learn from their experiences, they will choose to assimilate other platforms and corresponding processes into their organization. As for its Consumer and Mobility engineering group, to further enhance the use of the platform, they plan to build on these platforms —

in terms of security, robustness, ease of access and use, and so forth — to fully embed them into their enterprise as part of their core products and services offering.

The new platform currently boasts over 4 million active users, and there are plans for a physical upgrade in the near future. While Telstra works on risk mitigation plans, it is undeniable that these upgrades and enhancements would not be possible without the current level of automation.

**Leveraging open source communities:** The adoption of open source-based platforms has enabled Telstra to engage a large, diverse community thereby helping with the cost effectiveness of the platform. It is not often that we hear of telcos adopting open source and even when they do it is often a more conservative approach. In Telstra's case, along with the support of the Red Hat team, they also had the open source community's support and the combined support enabled them to achieve faster adoption and reskilling of resources on new tools.

**Partnership:** Despite the challenges encountered initially during the implementation, Telstra and Red Hat have now established a strong partnership, and Red Hat is now seen as far more than simply a supplier or vendor to Telstra. This partnership has enabled Telstra to factor the platform into their road maps so as to keep them fully aligned. For Red Hat, the success of a project of this scale gives them a strong reference customer and an excellent showcase of the value of virtualization and open source both within Telstra and externally.

For now, the increasing traction of open source in enterprises and the accelerating pace of digital transformation are contributing to an unstoppable momentum for open source-powered digital transformations. IDC expects this momentum to continue, with more enterprises embracing the open source-based model to engage with outside developer communities for digital transformation.

## Methodology

The project and company information contained in this document was obtained from multiple sources, including information supplied by Red Hat along with questions posed by IDC in an interview directly with Nicholas Moufarrege, Service Assurance Manager for Telstra's Consumer & Mobility Product Engineering Group, in July 2017 at the Red Hat office in Melbourne.

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