IDC ExpertROI® SPOTLIGHT

SAHMRI Consolidates Disparate IT Environments and Increases IT Agility with Red Hat Cloud Infrastructure

Sponsored by: Red Hat

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April 2016

Overview

The South Australian Health and Medical Research Institute (SAHMRI) is an independent health and medical research institute focused on the prevention, treatment, and diagnosis of a diverse spectrum of health issues including chronic disease, obesity, cardiovascular disease, diabetes, and mental health. Headquartered in Adelaide, South Australia, SAHMRI has a staff of 600 employees and a network of approximately 3,000 professionals at universities and research institutions around the world that are dependent on SAHMRI for providing the infrastructure to carry out their research and analysis.

SAHMRI's mandate is to execute groundbreaking health and medical research through an environment of collaboration. In the execution of its mandate, SAHMRI has embraced technology as a catalyst of paramount importance. An organization such as SAHMRI requires scalable, agile, and cost-efficient infrastructure to support its numerous applications and the work of its vast network of professionals. As part of its strategy to enhance its technology-related infrastructure, SAHMRI recently invested in Red Hat Cloud Infrastructure as the basis for a private cloud that supports its users and operations.

Until last year, SAHMRI outsourced its IT infrastructure operations to several managed service providers. According to Adam Nye, Senior Systems Engineer at SAHMRI, this managed services model was unable to adequately or cost effectively support SAHMRI's research operations. Adam cited the lack of flexibility, disparate requirements and procedures by division, high cost of ownership, and slow response time as factors that led SAHMRI to bring its IT infrastructure in-house and on a single vendor's platform. According to Adam, SAHMRI has deployed four Red Hat Cloud Infrastructure components — Red Hat CloudForms, Red Hat Satellite, Red Hat Enterprise Virtualization, and Red Hat OpenStack Platform — with an eye toward building a private cloud platform that moves it in the direction of a services-based model.

Adam reported that the Red Hat Cloud Infrastructure offering has provided SAHMRI with the scalability and agility that its IT services needed. With Red Hat Cloud Infrastructure in place, SAHMRI has developed self-service capabilities that enable users to self-provision services in a matter of minutes or hours rather

> ### Business Value Highlights
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> **Organization:** SAHMRI
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> **Location:** Adelaide, Australia
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> **Challenge:** Consolidate disparate IT infrastructure and IT silos onto a single IT platform and gain IT agility to support operational growth
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> **Solution:** Red Hat Cloud Infrastructure
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> **Five-Year Cumulative Benefits:**
> - A$1.66 million in business benefits
> - ROI of 469%
> - Payback in three months
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> **Other Benefits:**
> - 99% less staff time provisioning services overall
> - 79% faster fulfillment of provisioning requests
> - Reallocating time of two IT staff members

than go through a drawn-out request process, which used to require substantial IT staff time and meant that IT services could not match the speed of research operations. In addition, Adam noted that SAHMRI's IT staff has become more efficient, thanks to having a single console with Red Hat Satellite to manage its entire Red Hat Cloud Infrastructure environment. Adam also reported that SAHMRI has been able to reduce certain licensing costs by consolidating on Red Hat Cloud Infrastructure and limiting licensing-related cost inefficiencies, while purchasing the suite of Red Hat Cloud Infrastructure products is less expensive than purchasing technology from multiple vendors.

To quantify the benefits of SAHMRI's use of Red Hat Cloud Infrastructure, IDC asked Adam questions about his organization's business and technology operations before and after the deployment of Red Hat Cloud Infrastructure. Based on the data collected during the interviews, IDC estimates that SAHMRI will achieve total business benefits of A$1.66 million over five years through its use of Red Hat Cloud Infrastructure, resulting in a five-year return on investment (ROI) of 469%, and will break even on its Red Hat Cloud Infrastructure investment in about three months.

Implementation

Adam explained that he joined SAHMRI with the charge of reevaluating how it provides IT services. He noted that SAHMRI was experiencing inefficiencies related to its use of a mix of service providers and vendors and knew that it needed to move toward a more private cloud-like, services-based model for delivering IT services to its demanding and disparate user base. As Adam noted, "We were keen to get a single platform where we could manage disparate technologies, and our goal was to find a technology that we could use to manage those disparate environments and eventually collapse them down."

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Because SAHMRI is a nonprofit organization, cost was a critical factor in the vendor selection process. Adam mentioned that SAHMRI evaluated several cloud infrastructure vendors, but the ability to consolidate disparate environments onto a single platform in a cost-efficient manner was a key factor in SAHMRI's selection of Red Hat. Adam also said that SAHMRI found the ability to build a service catalogue on the Red Hat Cloud Infrastructure platform where staff and researchers would have the ability to provision virtual machines and applications with minimal or no effort to be particularly compelling.

SAHMRI began its implementation of Red Hat Cloud Infrastructure in 2014. It chose to deploy four Red Hat Cloud Infrastructure components: Red Hat CloudForms (a management orchestration tool), Red Hat Satellite (configuration management tool), Red Hat Enterprise Virtualization, and Red Hat OpenStack Platform. Adam articulated that the actual implementation required minimal effort, with his team needing about 10 business days to install and configure the underlying infrastructure and facilities. SAHMRI did not require the help of third-party consultants for its Red Hat Cloud Infrastructure deployment. However, Red Hat professionals helped SAHMRI execute its infrastructure strategy and assisted in the implementation at no additional cost, which Adam said was invaluable to his team in executing the transition to in-house managed private cloud with Red Hat Cloud Infrastructure.

The first workloads running on Red Hat Cloud Infrastructure went live in September 2014. As of February 2016, almost all SAHMRI's infrastructure is supported by Red Hat Cloud Infrastructure, including minimal instances of solutions from other vendors. SAHMRI plans to transition workloads operating on the solutions of these other vendors to the Red Hat environment as well in the near future.

Benefits

SAHMRI has leveraged Red Hat Cloud Infrastructure to consolidate disparate environments on a single IT platform that is managed by its own IT staff. In other words, it has moved from a model of providing IT services based on relying on external parties and multiple vendors to an Red Hat Cloud Infrastructure-based private cloud model that has enabled it to serve its users and operations with agile and scalable IT services supported by in-house IT staff. According to Adam, this migration to Red Hat Cloud Infrastructure has brought substantial benefits to his organization. Since moving to Red Hat Cloud Infrastructure, SAHMRI has facilitated self-service capabilities for its employees and made its core IT staff more efficient, all while reducing its total cost of providing IT services.

Adam explained that SAHMRI has benefited in particular from the reduction in staff time and effort required to provision and deliver services to users with Red Hat Cloud Infrastructure. He credited Red Hat CloudForms with helping SAHMRI's IT team offer self-service provisioning capabilities and Red Hat Satellite with the ease of managing the provisioning process. According to Adam, the process for provisioning services to users before the move to Red Hat Cloud Infrastructure was time intensive and inefficient. Each provisioning request required the submission of a ticket and then around a day or two of IT staff work to handle workflows and to spin up the virtual machine(s) needed to support the service. Adam noted that this approach was inefficient for both SAHMRI's IT infrastructure team, which was spending substantial amounts of time handling these provisioning requests, and for researchers, who often had to wait for IT services to be delivered to carry out their work.

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Adam highlighted the positive impact that Red Hat Cloud Infrastructure has had on SAHMRI's immediate staff and its network of health professionals and researchers. According to Adam, Red Hat Cloud Infrastructure's self-service capabilities for provisioning and managing applications have provided substantial efficiencies: "With Red Hat Cloud Infrastructure, we've empowered staff to make changes in a flexible manner and according to their work hours without having to engage with IT. Given that we have researchers across the world — the researchers don't have to sit around and wait for IT to provision resources." Red Hat Cloud Infrastructure has helped SAHMRI's staff and global network of professionals execute their mandate by utilizing technology to deliver health-related research and diagnoses in an efficient and flexible environment. Adam noted that this is especially important for researchers working on time-limited grants. Adam noted, "What we're able to do with Red Hat Cloud Infrastructure is offer pre-canned services, which provides users great functionality and helps us limit the time needed for our IT infrastructure team to carry out these types of requests."

Further, since the implementation of Red Hat Cloud Infrastructure, SAHMRI has been able to reallocate the time of IT staff members who were previously focused on multiple vendor technologies. Adam mentioned that ongoing management and maintenance of the consolidated Red Hat Cloud Infrastructure environment has been relatively seamless, enabling IT staff time to be reallocated to otherwise support business operations. SAHMRI has also saved on IT staff time for the purpose of annual technology infrastructure capacity planning, thanks to the ease of generating reports in its consolidated Red Hat Cloud Infrastructure environment.

Beyond IT and user efficiencies related to provisioning and managing the IT environment, Adam noted that SAHMRI can now more easily scale its infrastructure up and down with Red Hat Cloud Infrastructure. He said this capability is important because in recent years SAHMRI has experienced substantial growth in the number of employees and users it must support. Further, because SAHMRI has moved to the open source Red Hat platform, it no longer faces vendor "lock-in" and has minimized licensing costs as a restraint as it extends its IT infrastructure to meet demands placed on its operations. According to Adam, this has helped ensure that SAHMRI's IT services support both users and business operations with the flexibility that they require.
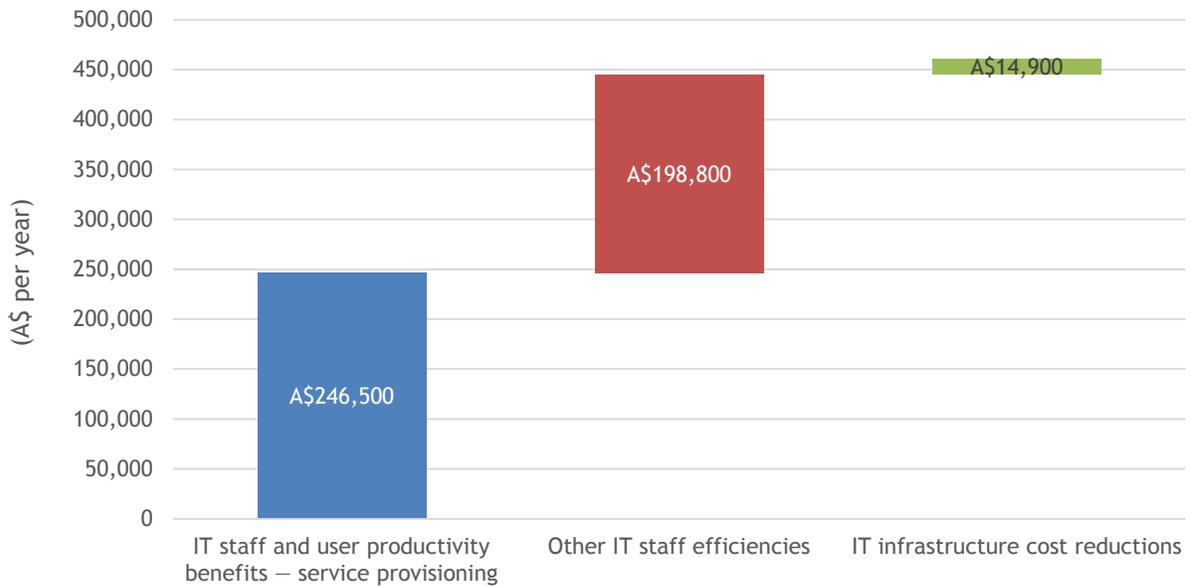
SAHMRI has leveraged Red Hat Cloud Infrastructure to create a cost-effective IT environment, including reducing the cost of IT operations. Prior to the Red Hat Cloud Infrastructure implementation, SAHMRI's applications were running on several environments with licensing costs associated with each of these vendors. By consolidating disparate environments with Red Hat Cloud Infrastructure, SAHMRI has increased the efficiency of its hardware use by running applications on a single platform.

Quantifying the Benefits

From the interviews with Adam, IDC quantified the staff time savings, productivity gains, and infrastructure-related cost savings that SAHMRI is achieving through its deployment of Red Hat Cloud Infrastructure. IDC puts the value of these benefits at an average of A$460,200 per year over five years (see Figure 1).

FIGURE 1

Average Annual Benefits

Total annual benefits: A$460,200

Source: IDC, 2016

IT Staff and User Productivity Benefits — Service Provisioning

SAHMRI has increased the productivity levels of its IT staff with Red Hat Cloud Infrastructure by minimizing the amount of time spent taking and carrying out requests to provision services and infrastructure resources. These efficiencies have also enabled SAHMRI's employees and users because they no longer need to wait hours or even days to access services or infrastructure required to do their jobs, although IDC has not quantified these user-related benefits for the purposes of this study. IDC puts the value of IT staff time savings related to such provisioning requests at an annual average of A$246,500 over five years.

Before consolidating on Red Hat Cloud Infrastructure, SAHMRI received an average of about 15 requests for provisioning per week from users, and each request took IT staff an average of 12 hours to address. With Red Hat Cloud Infrastructure's self-service capabilities, SAHMRI's IT staff on average now receives about one request to create a new provisioning template every two weeks, and only two and a half hours of effort is required to address a request on average. Therefore, the implementation of Red Hat Cloud Infrastructure has enabled SAHMRI to reallocate substantial staff time that was previously spent addressing requests related to provisioning.

Other IT Staff Efficiencies

IT staff responsible for maintaining and administering SAHMRI's IT environment have also benefited from efficiencies attributable to Red Hat Cloud Infrastructure. In particular, Red Hat has empowered SAHMRI with a consolidated cloud infrastructure platform and through efficiencies from having a single pane of glass to manage its IT environment. As a result, SAHMRI has been able to reallocate the time of two full-time IT staff members who previously focused on maintaining and managing the IT infrastructure. In addition, the SAHMRI IT staff has saved time in generating assessment reports for annual capacity planning; the process requires only 30 minutes now rather than a full week. Adam mentioned that "reports are of a quality that can be fed directly to management, and in fact, management has the ability to generate reports without any or minimal assistance from the IT department." IDC projects that these efficiencies for SAHMRI's IT staff will have an average value of A$198,800 per year over five years in time savings and higher productivity.

IT Infrastructure Cost Reductions

SAHMRI has saved infrastructure-related costs by migrating disparate environments onto a single platform with Red Hat Cloud Infrastructure – in particular, the cost of licensing. Prior to moving to Red Hat Cloud Infrastructure, SAHMRI incurred A$60,000 per year in licensing costs, which was payable to several managed service providers. Opting to develop an in-house cloud infrastructure with Red Hat Cloud Infrastructure has enabled SAHMRI to spend A$45,000 per year, thereby saving nearly A$15,000 annually.

Return on Investment

IDC projects that SAHMRI will achieve benefits worth almost A$1.66 million over five years as a result of deploying Red Hat Cloud Infrastructure while making an investment of A$291,200. This will result in a five-year ROI of 469%, with the health and medical research institute breaking even on its investment in three months (see Table 1).

TABLE 1

Five-Year ROI Analysis

Benefit (discounted)	A$1.66 million
Investment (discounted)	A$0.29 million
Net present value (NPV)	A$1.37 million
Return on investment (ROI)	469%
Payback period	3 months
Discount rate	12%

Source: IDC, 2016

IDC conducted several interviews with Adam to understand the impact of Red Hat Cloud Infrastructure on SAHMRI's operations and business. IDC used these interviews to gather the information needed to quantify the benefits and investment associated with the company's use of Red Hat Cloud Infrastructure and created an ROI analysis from the results.

IDC calculates the ROI and payback period in a three-step process:

1. Measure the financial benefits directly resulting from the solution, including decreased IT infrastructure costs, increased IT staff productivity, and operations cost reductions since deployment.
2. Ascertain the total investment.
3. Project the investment and benefit over five years and calculate the ROI and payback period. The ROI is the five-year net present value (NPV) divided by the investment. Payback period (expressed in months) is the time required to pay back the initial investment and establish a positive cash flow. To account for the time value of money, IDC bases the ROI and payback period calculations on a 12% discounted cash flow.

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