



IDC ExpertROI® SPOTLIGHT

Global Media and Entertainment Company Uses IBM Cloud for Skytap Solutions to Deliver More Cost-Effective, Functional, and Timely Application Releases

Sponsored by: Skytap Inc.

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October 2017

Overview

A major media and entertainment company with global operations based in North America relies on a diverse range of software applications to meet its business needs in its highly competitive industry. To retain its competitive edge, the company recognized that it had to improve the time to market and quality of the software serving its business units. To accomplish this, the company is pursuing a DevOps strategy in the context of an organizationwide, cloud-first strategy.

An IT manager in the DevOps division of the media and entertainment company explained that the company set its DevOps strategy in motion in early 2015 but still found that friction within its IT environment slowed its application development efforts. He cited a lack of sufficient pre-production environments for the company's development and testing processes as a primary constraint keeping the company's DevOps and application development teams from timely delivery of the highest-quality software possible.

To supplement and enable its application development environment, the company chose to use IBM Cloud for Skytap Solutions (ICSS), an OEM solution from IBM based on Skytap's cloud service. ICSS enables users to import existing virtualized applications or build new applications in the cloud. The customer explained that the company, which integrated ICSS with its existing IBM UrbanCode Build and Deploy suite, has made strong strides with its overall development platform with ICSS. He reported that the company has substantially increased testing coverage, sped up testing cycles, and reduced the incidence of errors affecting releases. The IT manager said: ICSS "has empowered our IT team to really keep up with the business."

With ICSS, application development activities are much more efficient and cost effective, regression testing cycles require far less time, and more thorough testing means new releases have fewer bugs

Business Value Highlights

Organization: Media and entertainment company

Location: North America

Challenge: Support a cost-effective and agile development environment in conjunction with DevOps and cloud-first strategies

Solution: IBM Cloud for Skytap Solutions

Three-Year Benefits:

- ROI of 793%
- Payback period of 4 months

Other Benefits:

- 64% lower cost to build out VMs
- 95% less staff time on regression testing
- 75% less time spent remedying release issues
- 80% less time to implement change to releases

requiring IT staff time to identify, contain, and remedy. Further, the company can provide resources for application development and deployment (including virtual machines [VMs], application components, data, and network resources) as a single unit at the click of a button, enabling line-of-business users and saving IT staff time with each use.

Based on several interviews, IDC found that the company is realizing significant value from its ICSS deployment through improved developer productivity levels, IT staff time savings, and reduced IT infrastructure costs. IDC projects that on average, these benefits will have a value of \$2.5 million per year (\$7.5 million in total over three years), which would yield a three-year ROI of 793%.

Implementation

Like many organizations, the company found itself at a crossroads several years ago regarding its software development efforts. Most importantly, its existing processes and infrastructure were yielding neither the speed nor the quality of development its business requires.

To address these challenges, the company initiated a DevOps strategy in early 2015 to support a cloud-first directive across its organization. Per the customer, the company expected its DevOps strategy to fundamentally enable its development efforts: "We wanted to prevent development from being over time and over budget. We also wanted to improve quality of code and develop apps faster and more efficiently while reducing costs. Also, very importantly, we wanted to empower IT to respond to ever-changing business requirements more effectively."

The IT manager personally understood the need for more efficient development processes; his team was responsible for running a regression testing suite for one of the company's largest applications. The suite had around 1,000 test cases that needed to be run daily, but the team relied on development resources, including compute, that didn't have the capacity or agility to support its volume of application releases. This resulted in a slow, inefficient, and linear testing process that took weeks or even months.

Before deploying ICSS, the company was using a software tool to automate application development and deployment. The IT manager termed this a "manumatic" approach in that a button had to be clicked to execute an automatic build or deployment. He described the tool as helpful but said that it failed to bring down the cost of development or address software errors or other issues that can negatively impact development projects.

To ramp up its DevOps efforts, the company began discussions with IBM and Skytap in 2015 and conducted a proof-of-concept test in early 2016 with 60 SVMs (an SVM is a unit of resource consumption). The IT manager commented: "We wanted to set up infrastructure quickly, build any flavor of Windows or Linux VM we needed, and set up any environment or template at the click of a button. ICSS gave us the power and flexibility to do this."

Based on positive early experiences, the company extended its ICSS environment in March 2017 with the purchase of 500 SVMs. The ICSS environment is now primarily used by the company's DevOps and application development teams but also supports other users who require compute resources. The impact of ICSS has been clear across the company and the IT manager commented: "With ICSS, our development teams now have seamless access to the resources they need – whenever they need them – by being able to immediately provision cloud environments." He further described ICSS as "one of our signature tools and a core component of our DevOps strategy."

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Benefits

ICSS has made the media and entertainment company's development processes more agile and effective. The company can now carry out testing for releases earlier and more consistently across the software development life cycle. This has helped the company improve code quality by orders of magnitude. Per the customer: "Without ICSS, we would never have been able to achieve these levels of quality and enterprise-grade consistency across multiple business units and applications." Further, ICSS has helped the company make its application development efforts more cost effective while better serving the business. The IT manager noted: "ICSS has saved us time and money. We're pushing fixes to production rapidly, and our development teams can innovate faster than ever."

The customer explained that, before ICSS, the company's development efforts often faced a bottleneck because its development and testing environment was neither sufficiently robust nor agile. He said: "We needed a way to quickly build out development and testing environments. Despite our 'manumatic' approach, relying on our team to constantly deliver VMs and development resources for us was slow, costly, and not scalable." He explained his company's objectives with ICSS: "We want to be sure that our most important applications have teams taking full advantage of the capabilities we offer – all applications have high unit test coverage [and] automated regressive testing and meet quality standards before production deployment. We have to have confidence in the release before it deploys – ideally, releases into production should be nonevents."

For the customer, one of the most important benefits of using ICSS is the ability to set up pre-production cloud versions or on-premises environments on demand. This provides the company with the ability to test different operating systems. This not only helps the company make testing activities more efficient and effective but also provides a much-needed bridge for migrating on-premises applications to the cloud.

The customer explained that, before ICSS, his team worked on a cadence of regression testing for releases of more than 100 applications over about six weeks. This left the team spending too much time carrying out regression testing instead of working on other, more valuable activities. Now, with ICSS, these teams can instantly spin up 50 environments from a saved template and run their test cases in parallel across the environments. Regression testing that used to take weeks or months is now completed in hours. Staff now spend a few hours on testing instead of nearly two full days per release, reducing the total time spent on regression testing by about 95%. He said, "The regression testing process used to take about two months, and we've reduced it to hours with ICSS. Once testing is complete, we simply suspend the environment so we're not paying for resources not in use."

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Further, the company has leveraged ICSS to improve code quality. Despite best efforts, releases were affected by bugs too often before deploying ICSS. The customer explained that it has increased the percentage of releases without impactful bugs from 60% to 90% with ICSS. Releases affected by bugs often necessitate employee intervention to identify and remedy bugs, which required setting aside staff time for each release (20-30 hours per release on average) to handle them if needed. Further, the customer explained that the ICSS solution gives developers instant feedback on application performance. "We can do a nightly build to see if there were issues resulting in unexpected problems with other systems," he said. "This immediate feedback prevents problems from creeping into releases and possibly getting into production."

The customer described the advantage of identifying these bugs and errors earlier with ICSS: "It's much better to mitigate those errors and problems in development cycle and mitigate those costs." He provided an example of where the media and entertainment company had previously experienced an issue making a change to an application, which caused downstream business issues.

ICSS is also helping the company better serve its lines of business and, ultimately, customers by enabling the buildout of pre-production environments at the click of a button. With this capability, the company can incorporate changes requested by its business units into its releases faster, speeding time to market for new functionality. The company can also bundle more changes in each release due to the increased confidence in the process, which provides the company's applications with additional functionality.

In addition, development and testing teams now have full control over their ICSS environments. With a single click, these environments can be spun up or down, cloned, suspended, saved as templates, and shared between teams for faster bug remediation. Per the customer: "There's an enormous amount of power we can incorporate into our workflow with ICSS." For example, the company now offers self-service capabilities to its DevOps and other development teams and certain line-of-business users. This avoids IT staff time costs of about \$1,000 per buildout, which the customer must do roughly 600 times per year.

The customer summed up the value of ICSS for his company: "The use cases with ICSS are endless. I feel every business unit may have a unique use case. The bottom line, though, is the ease and power of building out environments to support our testing and release activities at the click of a button."

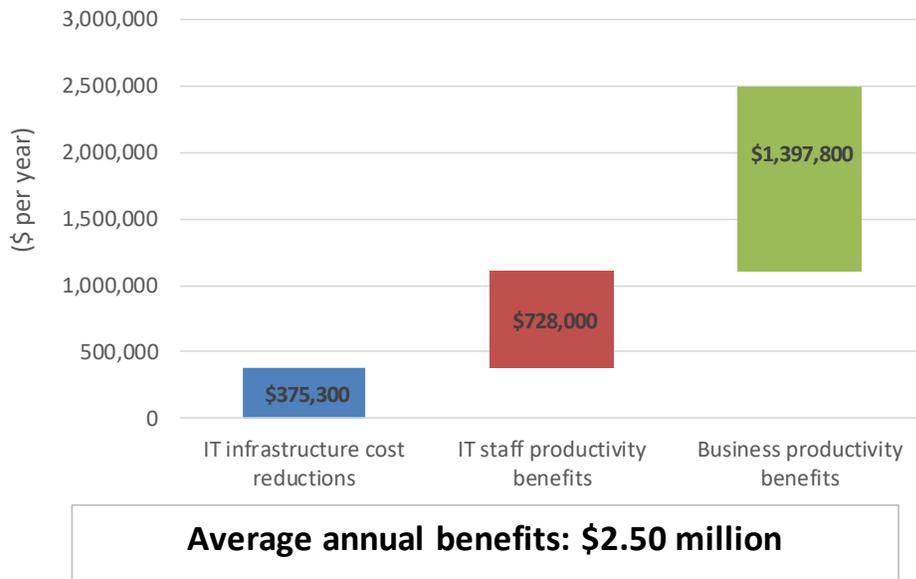
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Quantifying the Benefits

By conducting several interviews with the media and entertainment company, IDC was able to quantify the benefits the organization is realizing from its ICSS deployment. IDC projects that over three years, the annual average value of higher development-related productivity, IT staff time savings, and reduced IT-related costs will be \$2.5 million (see Figure 1).

FIGURE 1

Average Annual Benefits



Source: IDC, 2017

Cost Efficiencies

By using cloud-based ICSS, the company needs no additional datacenter infrastructure, meaning that it has saved on these up-front costs, as well as costs for running physical and virtual servers on-premises. More specifically, automated deployment of VMs and development resources on the ICSS platform saves the company about 10 hours of staff time handling each deployment. With hundreds of such environments deployed each year, the company is saving hundreds of thousands of dollars per year and benefiting from providing capacity with ICSS at almost two-thirds (64%) lower cost.

IDC projects that by avoiding the cost of building out an average of around 600 environments per year at \$1,000 in staff time cost per environment, the company will save \$375,300 a year over three years compared with the cost of ICSS.

IT Staff Time Savings

With ICSS, the company has improved code quality significantly because it can complete more robust, timely regression testing and can provide development teams more agile infrastructure resources. As a result, the company is testing releases faster and experiencing fewer problems and outages with each release. With ICSS, the company has improved the percentage of releases without bugs or other issues from 60% to 90%, thereby reducing the frequency of impacted releases by 75%. For each release with a bug or an error, the company must devote significant staff time – an average of 20-30 hours of staff time – to identifying, containing, and remedying the issue, in addition to potentially delaying the release. With the number of releases requiring this additional support falling from around 400 to 100 per year with ICSS, thereby saving 20-30 hours of staff time about 300 times per year, IDC

projects that the company will save IT staff time worth an annual average of \$728,000 over three years.

Higher Business Productivity in the Form of More Effective DevOps and Application Development

With ICSS, DevOps and application development teams at the company can incorporate changes requested by business units into releases faster and bundle more changes in each release because of the increased confidence in the process. ICSS enables the delivery of changes more quickly by allowing the buildout of a pre-production environment at the click of a button, enabling significantly faster completion of regression testing for releases, critical for a company running constant sprint cycles for more than 1,000 total releases per year. This not only saves significant staff time in carrying out these testing activities but also provides the company with the agility it needs in its development environment to better meet demand from lines of business and, ultimately, its customers.

On a per-release basis, the customer is saving almost two days of staff time in carrying out regression testing with ICSS. Across more than 1,000 releases per year, this adds up to significant staff time savings that can be reinvested in working on other activities. IDC puts the value of these testing efficiencies and business-related benefits at an annual average of \$1.40 million over three years.

Return on Investment

IDC projects that over three years, the company will achieve discounted benefits worth \$5.99 million based on a discounted investment of \$0.67 million. For the company, this would result in a three-year ROI of 793% on its investment in ICSS, with breakeven occurring in four months (see Table 1).

TABLE 1

Three-Year ROI Analysis

Benefit (discounted)	\$5.99 million
Investment (discounted)	\$0.67 million
Net present value (NPV)	\$5.32 million
Return on investment (ROI)	793%
Payback period	4 months
Discount rate	12%

Source: IDC, 2017

IDC conducted several interviews with the customer to understand its investment in and use of ICSS. IDC used these interviews to gather the information needed to quantify the benefits and investment associated with the company's use of ICSS and created an ROI analysis from the results.

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

- Measure the financial benefits directly resulting from the solution, including decreased IT infrastructure costs and higher IT staff and user productivity since deployment. For this study, IDC calculated financial benefits in three areas per the following methodology:
 - **Cost savings** are calculated based on the difference between the cost of provisioning deployment environments using the customer's previous approach and the cost of provisioning deployment environments using ICSS on an annualized basis.
 - Key inputs include assumed cost of roughly \$1,000 per deployment environment using the previous approach, and around 600 deployments per year.
 - **IT staff time savings** are calculated based on the difference between the number of incident management and compute team members required to address bugs in releases using the customer's previous approach and the number of incident management and compute team members required to address bugs in releases using ICSS. Key inputs include assumed time savings of roughly 20-30 hours per release affected by a bug or other issue; the percentage of more than 1,000 releases per year affected by bugs has gone from around 40% before ICSS to 10% with ICSS.
 - **Higher business/developer productivity** is calculated based on saving approximately two days of staff time per more than 1,000 releases per year for handling regression testing while reducing the total calendar time needed for regression testing from around six weeks to hours.
- Ascertain the total investment.
- Project the investment and benefit over three years and calculate the ROI and payback period. The ROI is the three-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, which is IDC's standard discount rate assumption for Business Value studies.

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