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# *Instructure: How an Education Technology Company Does Cloud*

**INSTRUCTURE IS THE MAKER OF CANVAS**, a born-in-the-cloud learning management system that, in the company's own words, "makes people smarter." Their other flagship product, Bridge, is a corporate learning platform. Today, more than 3,000 universities, school districts and institutions around the world use their products.

Kevin Blackham, Sr. Systems Architect, and Jeff Julander, Sr. Systems Administrator, both work on the operations team. "For us, cloud is everything," says Kevin. "It allows us to not worry about hardware maintenance, or managing a fleet of servers. Ultimately, it gives Instructure greater flexibility."

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## **THE CHALLENGE**

Instructure has partnered with AWS from the very beginning, and leverages many AWS services. As an educational technology company, "our workloads tend to change with the school year, so the summer months are quieter. During the semester, workloads can easily fluctuate by two or three thousand servers in a day," says Jeff. Two of the issues Instructure ran into early on were the need for better visibility and tighter cost management.

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**—JEFF JULANDER**  
Sr. Systems Administrator

# 2M

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## **THE SOLUTION**

Recognizing the need for a cloud management solution, Instructure adopted CloudHealth. “Using CloudHealth has given value on two counts: cost and visibility,” says Jeff. “It allows us to see where we could optimize spend, including optimizing Reserved Instance (RI) purchases so we’re never underutilized.”

Like many other companies relying heavily on AWS, Kevin and Jeff regularly meet with Finance to strategically analyze cloud spend. “During that discussion we ask ourselves, ‘Are there any opportunities for cost savings or better efficiency with this great product of ours?’ Through various optimization initiatives, we’ve cumulatively saved approximately 2 million dollars overall. CloudHealth is a major player in that scenario, whether it’s helping us make intelligent RI purchasing decisions, or simply making a recommendation for switching instance type,” says Jeff.

## **THE RESULTS**

Instructure sees tremendous value from the CloudHealth platform. “The reporting functionality is key,” adds Kevin. “We like to start off with a big graph showing lots of data, and then filter it down to deeper granularity and look at it from different angles.”

“My favorite report is probably the EC2 RI Optimizer, when planning RI purchases, I use it to create quotes and play with the numbers” says Jeff. “We’re starting to take advantage of the platform’s automation capabilities as well. Creating email alerts for identifying unattached EBS volumes, setting policies and the like.” They have tagging policies to identify instances that do not adhere to Instructure’s internal tagging strategy, and policies to alert on severely underutilized instances (determined by whether maximum CPU dips below a certain number for a certain period

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of time). “And we build lots of Perspectives based on tags,” adds Jeff. “I really find Perspectives to be helpful, because they let us customize our reports and filter out the noise.”

Instructure also uses New Relic and Datadog. These integrations paint an even more complete picture, with CloudHealth acting as the single pane of glass that provides a consolidated view of the company’s infrastructure, and how it’s performing against key metrics (e.g. memory and disk).

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