OnSpecta Reduces Software Test Time from Days to Hours

DEEP LEARNING ACCELERATION NEEDS ITS OWN AUTOMATION

Customer Details
OnSpecta, Inc.
http://www.onspecta.com/

Founders
Indra Mohan
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Challenge
Needed a faster way to deploy and test releases into new environments to validate atop chipsets.

Solution
The Agile Stacks platform automates and scales the variations of test environments for chipsets thus giving credible results and benchmarks.

Background

The Artificial Intelligence (AI) industry has a big problem - deep learning AI is very computationally intensive. The costs can be very high. Some autonomous vehicle companies spend over a hundred million dollars a year on hardware for the data centers.

OnSpecta provides a software solution to this issue. Their DLS product accelerates x86 AI workloads. DLS cuts the cost of hardware by up to 90 percent. Memory usage and power consumption are also reduced.

OnSpecta also simplifies deployment. A neural network may be trained in the cloud on GPUs but is later deployed across a variety of hardware - for instance, an x86 CPU, an ARM chip, or a customized AI chipset. OnSpecta's software works with all of these and more, making deployment much easier and smoother.

DLS optimizes trained networks to their deployment environment. It does this with no loss of accuracy and no need for retraining. It seamlessly works with major frameworks like TensorFlow and Caffe.

"So, the best way to describe what we do is "VMware™ for deep learning". It's a piece of infrastructure software that sits in between standard frameworks developers use and the underlying hardware... we accelerate and simplify deployment process." – Victor Jakubiuk, Co-Founder and CTO at OnSpecta

Challenges

OnSpecta's customers use many different hardware and software configurations. Each new configuration requires slight changes to the software for it to run properly. And the software must pass validation testing, and baseline the benchmark metrics. Modifying and testing the software manually was taking too long. The process was labor intensive and costly.

Sales to new customers were significantly delayed by the testing and validation process. OnSpecta needed to speed up the product release cycle to better service their clients and reduce their costs.

Another issue - they needed to streamline their DevOps process. One Engineer was dedicated to managing the Jenkins software used to build, test, and deploy OnSpecta's software. Good Engineers hate being Jenkins administrators. So, aside from the labor cost, OnSpecta ran the risk of losing a good Engineer that would rather be doing something else.

There were also issues with manually scaling Jenkins as the company hired more Engineers. OnSpecta hires chipset Engineers. They didn't have the right skills to put the infrastructure in place to make Jenkins easy to scale.

Results

OnSpecta can now deploy, redeploy, breakdown then redeploy new environments quickly. The Agile Stacks platform fully automates the steps from planning to deployment of their software stack. What used to take engineers days to build now takes just minutes.

This makes it possible to close sales quickly by not having to wait days for an Engineer to test a software and chipset combination. Instead, the Engineer can spin up a software template to install on a piece of hardware and have it tested in a matter of hours. OnSpecta's customers are seeing a lot of value from this quick turnaround.

Also, they reduced the engineering hours by 25 percent. For OnSpecta this amounts to one Full Time Engineer. In the San Francisco Bay area this amounts to over $200k a year in savings. And they no longer have to risk burning out a good Engineer on administrative activities.

"We had a 25% improvement in terms of time. This freed up the engineers to continue developing." – Indra Mohan, CEO and Co-Founder at OnSpecta

No knowledge of Kubernetes is required by OnSpecta's Engineers. And there are no longer issues with scaling the system as they grow the company and hire more Engineers. This has really simplified the DevOps process and made it much easier to grow the company.

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