Top Defence Company Goes All In For Nutanix To Deliver Modern Cloud Native Apps

About Rafael

Industry: Defense
Geo: Global
Website: https://www.rafael.co.il/
Applications:

- Military Intelligence, Surveillance, and Reconnaissance

- Image capture and processing

- Object and file storage

- Databases

Products:
- AHV Virtualization

- Files Storage

- Nutanix Cloud Infrastructure (NCI)

- Nutanix Database Service (NDB)

- Objects Storage

- Prism

Solutions:
- Business Critical and Enterprise Apps

- Databases & DBaaS

Ready to get Hands-On?

(Take a Test Drive)

Unified Management And Rapid Support Across Complete Stack Of Industry Standard Technologies Are Key Differentiators

To facilitate migration of its specialist military products to a cloud native architecture, Rafael Defense Systems needed to move from a legacy infrastructure to a more scalable hyperconverged platform. Comprehensive support for Kubernetes and other industry standard cloud native technologies were necessary prerequisites, but so too was unified management and rapid single source support across the complete hardware/software stack to meet the demands of this unique and challenging market.

Key Results

Complete cloud native stack
Full support for cloud native development plans with a comprehensive stack of industry standard products and services hosted on the highly scalable Nutanix Cloud Platform.

Unified management
Complete and very flexible Software Defined Datacentre solution with single integrated console for management of core tools and services.

Full and responsive support
Single point of contact for rapid problem solving across entire solution to meet unique demands of specialist military marketplace.

> **Nutanix does a lot more than tick all the technology boxes needed to build a scalable software defined datacentre for our next generation containerised applications. It also gives us the tools to better build, secure and manage those apps and, more importantly, the confidence that comes from knowing we can keep them working in challenging battlefield conditions no matter what happens.**
>
> **– Aleksei Pikovski,**
> Devops Manager, Rafael Defense Systems

CHALLENGE

As a leading developer of ISR (Intelligence, Surveillance, and Reconnaissance) applications, Rafael Advanced Defense Systems has to be at the cutting edge of IT to meet the needs of its demanding, mostly military, customers. Implemented as complete Software Defined Data Centre solutions, however, the supporting technologies and platforms need also to be robust, easy to manage and quick to fix when problems arise. So, when Rafael's DevOps team proposed moving to a cloud native architecture - based on Kubernetes microservices and other Open Source technologies - it made sense to seek out a vendor able to embrace every aspect of that approach. More than that, the company wanted a partner able to provide comprehensive and responsive support in line with the ethos of this very customer-focused organisation. As Aleksei Pikovski, Devops Manager, Rafael Defense Systems, explains:
"The infrastructure we were looking for needed to do more than just support cloud native technologies. It also had to be secure and quick to update as well as highly available and easy to manage, preferably from a single interface, and across all the component products and services. More than that we have to provide customers with rapid support and problem solving in often challenging environments so we were looking for a vendor with a similar willingness to own problems and get things done."

SOLUTION

Nutanix more than met that brief with Rafael choosing hyperconverged Nutanix Cloud Platform clusters hosted on HPE hardware able to accommodate Nvidia GPUs to accelerate the real-time image analysis and exploitation tasks at the heart of its products. The company also decided to migrate to the AHV hypervisor included as part of the Cloud Platform software stack, enabling Pikovski and the team (and their eventual customers) to manage both physical and virtual resources from the unified Nutanix Prism Pro interface.
With an eye very much on the need for a single point of support, the company also specified the Nutanix Kubernetes Engine (NKE) which provides tools for turnkey provisioning, operation and lifecycle management of Kubernetes projects thus enabling them to deploy production-ready Kubernetes clusters in only a few clicks. Similarly, NKE enables customers to automate the creation and deployment of those clusters for high availability as well as automate and manage all of the processes involved through simple, streamlined, workflows.
Beyond that, Rafael specified that any databases used by its apps should be delivered via the Nutanix Database Service (NDB), a highly efficient Database as a Service solution offering database management at scale. Added to which it chose Nutanix Object Storage for image storage, Nutanix Files to store other content and Nutanix Flow for advanced network management and security, thereby completing a very comprehensive line-up of Nutanix products and technologies.
Some might be concerned about this single vendor approach, but not Pikovski.
"There's no danger of vendor lock-in," he explains. "The products and technologies are all industry standard and largely Open Source based, with Nutanix going for the vanilla implementations which makes them very portable and easily replaced should we have the need. Likewise when it comes to hardware, its industry standard so we're not locked into the one manufacturer. Plus we have the huge advantage of only having to deal with one vendor when things go wrong, which is a must-have when it comes to meeting the needs of the military who expect problems to be fixed quickly, first time, every time."

OUTCOMES

Following a successful proof of concept trial Pikovski and the team at Rafael moved swiftly to replace the company's legacy datacentre platforms with Nutanix clusters, migrate existing VMware VMs to AHV then configure all the additional products and services. There were no major issues, thereby enabling the DevOps team to push ahead to develop and release its new containerised applications to be delivered in the form of complete software defined datacentre solutions.

"There were the inevitable hiccups to start with but, overall, it went very smoothly," commented Pikovski, "and once it was all working it was incredible the difference, especially when it comes to management and support. No matter what the task, it can all be done from the same Prism Pro console which makes everything so much easier. Plus we no longer have to second guess who to call when problems arise or be passed from one team to another. It's just Nutanix every time and we know whoever answers will take complete ownership. And, if they can't fix it, they'll find someone who can and won't close the job until it's fully resolved."

Good to go

Some three years since the initial migration the Rafael DevOps team have taken full advantage of the new infrastructure to push ahead with development and release of the first of its next generation containerised applications. That has meant having to further scale and add to the Nutanix infrastructure to meet processing demand and install additional clusters to cope with new requirements, all without any issues or downtime.

Moreover, there has also been a lot of interest in the new applications already with the first customer deployment ready to be rolled out in the coming weeks.

"The first customer install will be when we get to see how well the Nutanix solution performs in what could be a very challenging real life situation," commented Pikovski. "Given how well it's done so far, however, I'm confident everything will work as expected and, with Nutanix support never more than a call away, we'll be able to take any teething troubles in our stride."

NEXT STEPS

Looking further ahead, Pikovski and the team have no plans to change the current setup except to add more capacity when and where required and consider new technologies as released.

"Nutanix has an excellent roadmap for the future which is fully in line with what we want to do," he comments. "Not only in terms of technology but commitment to excellence in customer support which underpins both our businesses and is something we've been fortunate to experience firsthand. I can't fault it."

Learn more at www.nutanix.com