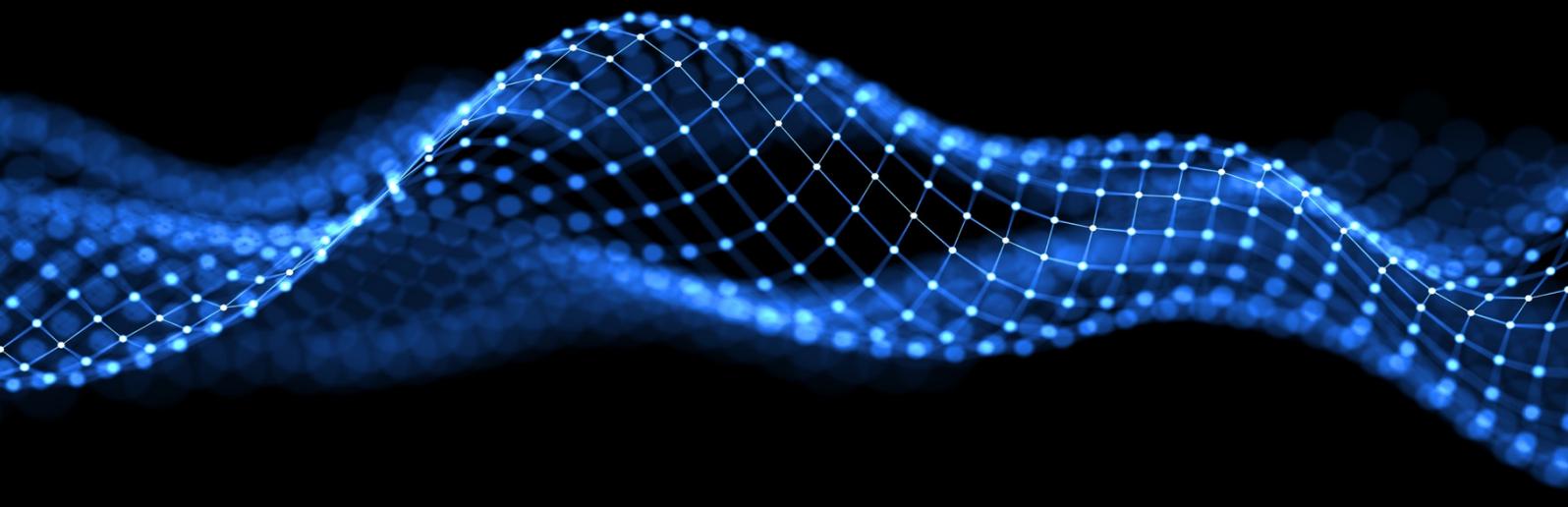


HYCU



PRODUCT BRIEF

The Architect's View



HYCU is a software-only backup solution, specifically written to support the Nutanix Enterprise Cloud platform. The product has been developed by HCYU Inc, an organisation with 20+ years' experience in developing backup products. HYCU installs as a virtual machine on Nutanix and with administration credentials, can be backing up data within a few minutes. As a solution for HCI, HYCU could fit well into environments that need multiple isolated deployments, such as service providers and DevOps teams.

Background

Data protection is essential in any IT organisation and the way in which we back up our data has gone through a number of changes over recent years. Server virtualisation introduced the need to rethink the way in which backup was achieved, because hardware resources such as networking were shared, rather than dedicated to individual virtual machines.

In the virtualisation transition, applications moved from data stored on shared SAN to virtual machine files. In virtual environments, it made sense to back up the files of the VM rather than through the network connection of the virtual machine. To make this process easier, hypervisor vendors introduced changed block tracking (CBT) and APIs to simplify the backup process. This provided a feed of data that could be used to reconstruct a VM image or recover individual files.

Hyper-converged infrastructure (HCI) platforms have a different implementation of storage. Where server virtualisation generally had continued to use shared SAN storage, HCI distributes data across nodes in a scale-out cluster and looks to eliminate all other pieces of infrastructure. This means that HCI backup needs to be able to take into consideration both the dispersed nature of data being backed up and reduce the need to deploy additional non-HCI hardware.

What is HYCU?

HYCU is a software-based data protection solution from HYCU, Inc, an independent company owned by the Comtrade Group. HYCU, Inc has a long history (20+ years) of developing data protection software for OEM partners. The company is headquartered in Boston, with development centres in eastern Europe.

HYCU has been specifically developed to provide data protection for Nutanix hyper-converged infrastructure, whether running the native AHV hypervisor or VMware ESXi. The HYCU software is supplied as a software image that can be deployed manually or using platform automation tools like Nutanix Calm. Production data to be backed up is made available through APIs provided by Nutanix which expose access to the virtual machine inventory and a changed data stream of a Nutanix cluster.

Why HCI?

Why should HCI backup be different? One major goal of HCI is to eliminate the need for silos of technology, in particular separate skills in virtualisation, storage and server administration. Therefore, deploying another set of hardware to manage backup means retaining two environments. In a software-defined world, HCI is merely the underlying hardware to support software features, so it makes sense to deploy everything onto a single set of hardware appliances.

The only possible consideration to this is in following good backup practice. To mitigate against hardware and site failure, backups should be both separate from primary systems and have a copy stored in a geographically separate location. This could be achieved using either a dedicated storage appliance (such as an NFS server) or the public cloud.

Why HYCU?

HYCU is a pure software-based backup solution. The software deploys onto the HCI platform itself and integrates with the Nutanix cluster to take data directly from Nutanix snapshots. Backup is taken in the most efficient way possible – using metadata and changed content.

As a software product, HYCU can be deployed automatically. This creates the ability to deploy multiple HYCU instances, for individual projects or in a service provider environment where each customer needs an isolated data protection solution.

HYCU backup data is self-referencing and so could be written to an archive (like S3) to be retrieved weeks or months later if required.

Reference Information

Further details on HYCU can be found in the following Architecting IT blog posts:

- [Validating HYCU deployment By the Numbers](#) (published 3 May 2018)
- [Comtrade Software Becomes HYCU and releases HYCU 3.0](#) (published 16 April 2018)
- [Why HCI Data Protection is Different](#) (published 24 April 2018)

Information on HYCU Inc, and HYCU the product can be found at the [HYCU website](#).

Market Positioning

As a purely software play, HYCU competes more closely with products such as Veeam and Arcserve rather than the appliance-based models such as Rubrik and Cohesity. The product is also squarely focused on Nutanix, although there is no technical reason why other platforms and hypervisors can't be supported. In fact, as HYCU deploys onto vCenter on Nutanix, the technical aspects are already in place.

Caveats

HYCU Inc has a history of writing data protection software and a large team of developers already in place. However, at this stage, the product is narrowly focused on Nutanix and predicated on only backing up virtual instances on the Nutanix platform. For customers who have this as a requirement, HYCU is well suited. Obviously, customers with large, complex environments will find HYCU unsuitable due to the current narrow levels of support. A key challenge for the company (and a measure of success) will be in how quickly new platforms and applications can be supported by the solution.

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