

# Solution Brief

Hybrid Hyperconverged Infrastructure  
Video Data Solutions



## Hybrid HCI: A New Virtualized Hardware Solution

### BCD

REVOLV  
SECURITY BECOMES IT READY

*“As the use of high-megapixel cameras becomes the norm, the resulting demand for greater video data storage requirements as well as the importance of scalability will increase exponentially. REVOLV hHCI will prove to be a game-changing innovation that can solve many of the ever-evolving challenges facing security customers in the video space both today and in the years to come.”*

—Darren Giacomini, director of Advanced Systems Architecture at BCD

### Protecting safety and security businesses from data loss and system idling

The video safety and security industries are evolving, demanding different solutions to protect, access, and store important data. Managers, HR, and IT all need to be able to access video data at any given time, especially if it's on-premises. For immediate and constant data access, businesses often use traditional hyperconverged infrastructure (HCI) because of its virtualized hardware systems that can increase IT efficiency and lower costs. However, hybrid hyperconverged infrastructure (hHCI) can be even more IT and cost efficient.

Hybrid hyperconverged infrastructure (hHCI) consolidates multiple workloads and provides a new powerful option for companies who want to independently increase or scale one virtual hardware system—like storage—without increasing or scaling another. This is especially useful for security customers who need to store or scale petabytes of video data without adding compute. The BCD REVOLV solution is purpose-built with the customer in mind, with three different solution platforms available. For industries that depend on having constant access to their video data—such as healthcare and transit—this hHCI solution doesn't just optimize their storage and compute, but provides them with a safety net that gives them constant access to their data, even if a node fails.

BCD is a member of the Intel® Partner Alliance, using Intel® Xeon® Silver and Gold processors that are optimized for cloud computing, network, and storage workloads.

#### Benefits of hHCI: REVOLV

- › Low TCO
- › Independent scalability
- › Disaster recovery in minutes
- › Shared resources
- › Centralized system management
- › Purpose-built for safety and security

## Challenges: Traditional HCI

HCI is a software-based IT infrastructure that converges and virtualizes conventional hardware systems—compute and storage—onto each node. For companies that want to scale these virtualized systems, traditional HCI is effective in lowering costs and increasing IT efficiency.

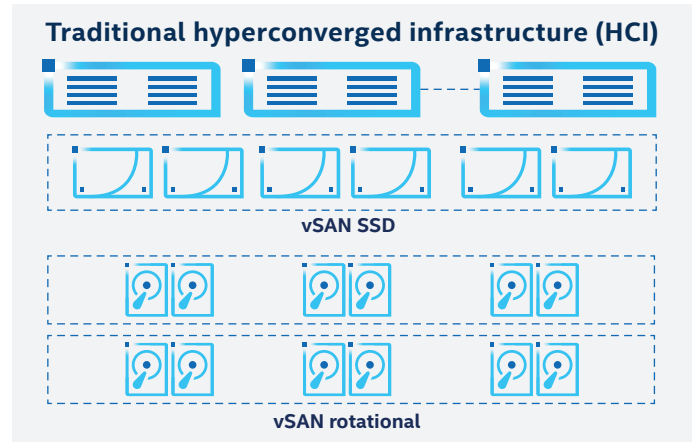
However, traditional HCI makes it difficult to consolidate workloads and increase compute and storage independently as needed, because they are all bound together at each node in a cluster. Since these systems are all merged together, scaling or increasing just one isn't possible. For example, increasing storage also requires increasing computing, which can drive up costs while leaving compute to idle, unused.

Another major obstacle that businesses encounter with traditional HCI is that if a node fails or goes offline, it reduces IT performance. This also reduces the server's spindle count—the number of I/O requests a server can manage—where the remaining nodes have to rebuild from the offline nodes.

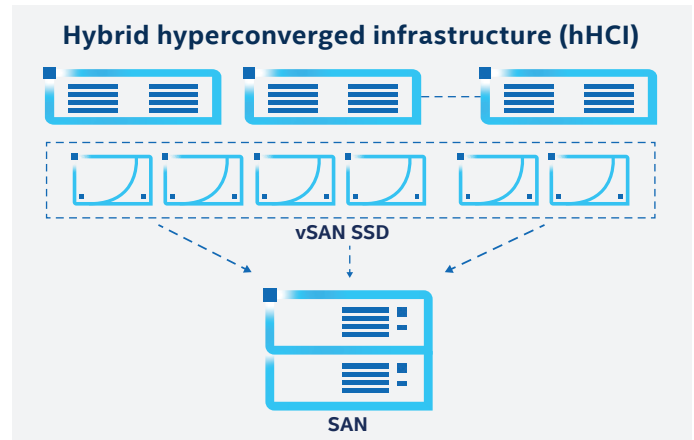
## Solution: Hybrid HCI

hHCI is a valuable and powerful option for businesses that are looking to virtualize their hardware system, help protect themselves from data loss, keep costs down, and help ensure they aren't leaving valuable systems sitting idle.

The difference from traditional HCI is that in hHCI, compute and storage are independent from each other and can be increased separately as needed. This way, for example, safety and security companies with massive amounts of video data can scale or increase their storage without also scaling or increasing their computing. This reduces hardware footprint, total cost of operations, and power requirements.



All data is stored on the physical nodes. VMs, operating systems, and databases are stored on the vSAN SSD drives, and the camera recordings are archived/stored on the vSAN rotational drives.



VMs, operating systems, and databases are stored on the vSAN SSD drives located on the physical nodes, and all camera recordings are offloaded and stored on the SAN.

## REVOLV: An hHCI video safety and security solution

Powered by BCD's Harmonize Software Suite and Intel Xeon Silver and Gold processors, REVOLV is a revolutionary hHCI solution that reduces or eliminates inefficiencies that are often presented in traditional HCI. REVOLV comes in three different solutions, DEEPSTOR Lite®, DEEPSTOR, and DEEPSTOR+. Each solution is built using servers from Dell, specialized switching from Alcatel-Lucent Enterprise, powerful SAN storage from Dell EMC, and the latest hypervisor technology from VMware.

**DEEPSTOR Lite** allows a customer to gain initial access into the virtualized environment. It includes three nodes, two ALE switches, and one SAN. DEEPSTOR Lite includes either a 12 bay, which allows for 192 TBs RAW, or an 84 bay, which allows for 1.3 PBs RAW, depending on the storage requirements. Finally, this solution can support roughly 1,500 Mbps during a failed node scenario and up to 2,000 Mbps when all nodes are online.

**DEEPSTOR** can be built depending on the end user's specifications with about four to eight nodes per cluster, two switches, and a SAN for storage. It includes four nodes that can be scaled up to 64 nodes, two ALE switches, and one SAN, including either a 12 bay or 84 bay. The DEEPSTOR solution can support roughly 2,500 to 2,700 Mbps of bandwidth during a failed node scenario.

**DEEPSTOR+** is for customers who want to add an additional SSD SAN for extra redundancy in their video storage. This solution can also potentially store the second SAN in a disaster recovery site. It includes four nodes that can be scaled up to 64 nodes, two ALE switches, and two 84 bay SANs, which are mirrored for redundancy.

## Industry impact

When discussing hHCI solutions with customers, the most important questions they should think about are, “How important is my video data?”, “What would happen if I couldn’t access my video data?”, “What would happen if I lost it and couldn’t get it back?”

In multiple industries—hospitality, healthcare, transit, and government—video data is vital. Not having access—or worse, losing it—could create drastic consequences that could impact a company for years. Hybrid HCI isn’t just a virtual storage and compute solution; it’s a safety net that allows customers to get their data back if a node fails or goes offline.

Each REVOLV solution can be scaled differently to fit each customer’s specific needs, making each platform exclusive in various industries. With every REVOLV solution, BCD analyzes customer and project needs and builds a unique solution while taking storage limits, camera count, bandwidth, VMS platform, and other requirements into consideration. Each solution is also tested before deployment, ensuring it meets the project site requirements of each customer.

## Harmonize Software Suite

REVOLV runs on powerful software that is designed with the customer in mind. Each part of the Harmonize Software Suite optimizes REVOLV, enabling customers with a platform that provides ease of management and monitoring of the entire virtualized infrastructure.

## BCD and Intel® technologies

Established in 1999 as Burgess Computer Decisions, BCD is an IP video solutions provider, identifying problems in the security industry and addressing them with innovative and purpose-built solutions.

BCD’s customer-first approach has allowed them to build a global footprint throughout the safety and security industries. Customers come to BCD for unique safety and security solutions that move asymmetrically, unlike their competitors that use vertical, IT-based solutions.

As a Titanium member of the Intel Partner Alliance, BCD consistently aligns themselves with industry leaders such as Intel, believing that Intel helps set industry standards with revolutionary innovations that aim to impact everyone on earth. BCD solutions use Intel Xeon Silver and Gold processors that are optimized for cloud computing, network, and storage workloads. With up to four-socket scalability, Intel® processors enable BCD solutions to be suitable for an expanded range of workloads.



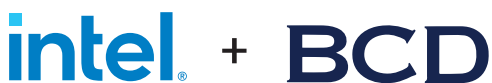
### BCD awarded Intel OEM Innovation Partner of the Year

In 2021, Intel awarded BCD with the OEM Innovation Partner of the Year for 2021. BCD was recognized for pioneering hHCI with the REVOLV platform, powered by Intel® Xeon® Scalable processors.

## Learn more

To learn more about how REVOLV can meet your unique needs and scale your video storage data efficiently, visit [bcdvideo.com/revolv](https://bcdvideo.com/revolv) or email [revolv@bcdinc.com](mailto:revolv@bcdinc.com).

For more information on Intel Xeon Scalable processors, visit [intel.com/xeon](https://intel.com/xeon).



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