

**Quantum**<sup>®</sup>

# Quantum Smart NVRs

Next-Generation NVRs Delivering Lower Cost and Complexity

**INFOBRIEF**





# CONTENTS

Introduction .....3

Why Do We Need a "Smart NVR?" .....3

What is Quantum's "Smart NVR?" .....5

Summary .....7



## Introduction

Quantum designed the Smart NVR to help security and surveillance professionals address the challenges in modern security and surveillance environments. These challenges include increasing camera counts, higher camera resolutions, longer video retention times and cyber security threats. All of these must be addressed while controlling costs and making efficient use of budgets and resources.

The Quantum Smart NVR is a next generation platform that provides a flexible, efficient, and secure appliance for capturing and storing video. The Smart NVR has the software and performance to run additional security applications on the same platform with video management systems (VMS). The result is a simple solution that uses less hardware, lowers costs, and increases security.

This InfoBrief describes how the features and benefits of Quantum's Smart NVR will help security and surveillance professionals.

## Why Do We Need a “Smart NVR?”

Current systems that run and store video surveillance range from small network video recorders (NVRs) to large-scale enterprise storage area networks (SANs) and network attached storage (NAS) systems to hyperconverged infrastructure (HCI).

NVRs have been the standard solution for surveillance recording and storage since we entered the digital era. NVRs are a good solution for small to mid-sized camera count environments with minimal or no growth, limited budgets, and no requirements to maximize uptime or video



protection. NVRs are sized (and priced) well for these organizations. Unfortunately, if the organization outgrows their NVR environment, their only options are to add more NVRs or replace everything with a larger system. Both options disrupt the video recording process, put recorded video at risk, and can add unwanted complexity and costs. Forklift upgrades typically add more costs, and adding more NVRs, though simple in concept, require more costs to purchase, maintain, update, and manage. Most traditional NVRs do not incorporate protection against failures of the most vulnerable components. Those NVRs will stop recording and lose video on the failure of a fan, a power supply or a single disk drive.

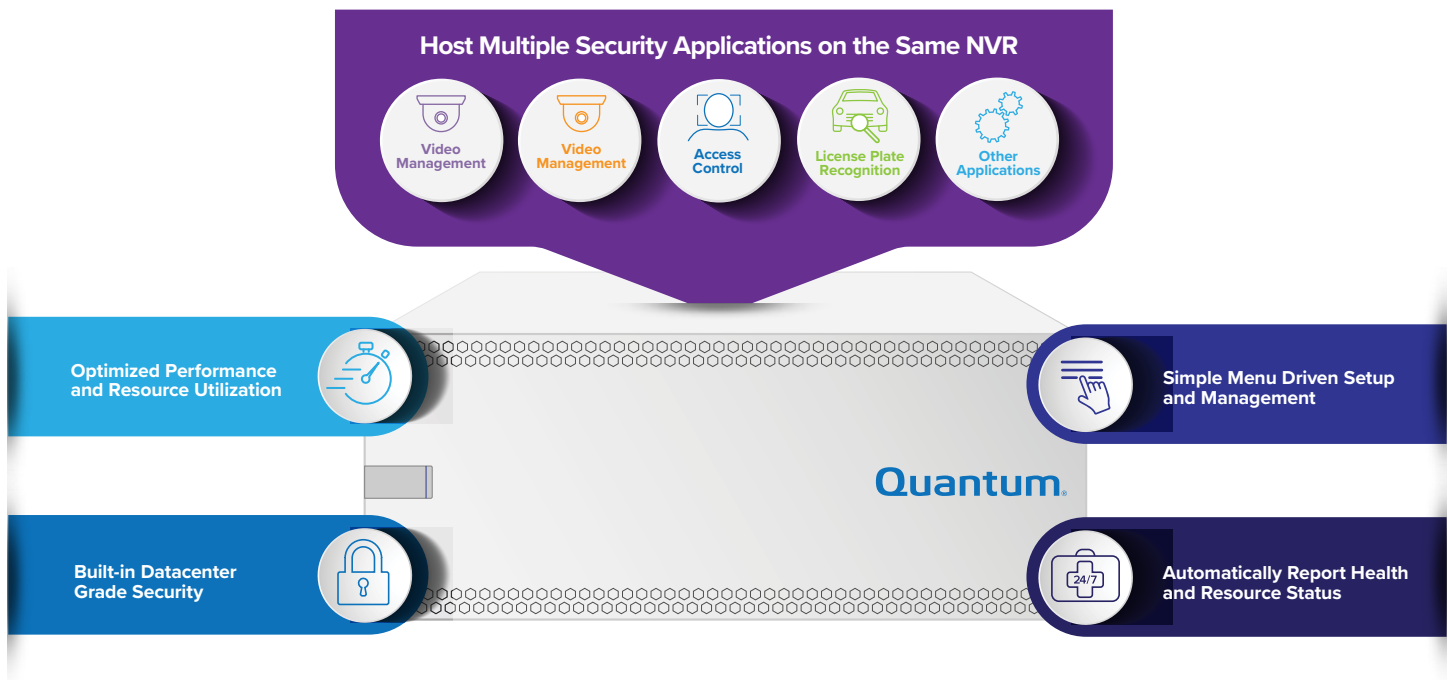
If the NVR stops operating, the video already captured and stored on that NVR is not accessible, creating issues for immediate incident response. Lastly, NVRs are limited to running just the VMS recorder, the hardware's resources cannot be leveraged to run other applications as has been common in data centers since almost the turn of the century.

SAN and NAS systems are datacenter solutions typically used by Information Technologies (IT) departments for general purpose storage. These systems are typically scalable, can have sufficient performance, and have available redundancy features which may allow for the loss of multiple disk drives or even multiple storage nodes. They tend to be complex and expensive though, often requiring dedicated IT personnel to run them. Most importantly, SAN/NAS solutions are designed for the requirements of general-purpose IT storage, not the non-stop data flow from video surveillance cameras. This can lead to dropped frames, and loss of video.

Hyperconverged Infrastructure (HCI) is a solution common in data centers due to it being simpler to deploy, manage, and scale. It also delivers much higher hardware efficiencies and utilization, so it drives down hardware footprint and related costs. It collapses servers, storage, and networking into a modular appliance that scales by adding more nodes. HCI typically fits better in mid to large-sized camera count and storage capacity environments that have zero tolerance for downtime and lost access to video.

What if there is a solution that has the best qualities of all these options, without the negatives, yet still possesses the simple setup and deployment of the common NVR?

- A solution that handles not only your VMS application, but all your other security applications (access control, visitor management, intrusion, etc.), reducing the number of dedicated single-purpose servers required.
- A solution that can run multiple VMS applications on the same server.
- A solution that is simple to install, simple to configure and simple to use. One that doesn't require a training class or a PhD in computer science to run.
- A solution that uses every bit of your hardware's compute and storage performance.
- A solution that offers the ability to scale, without having to purchase a stack of servers.
- A solution that can use your existing server hardware or new server hardware that you, your integrator, or Quantum provides.
- A solution with the performance and capacity needed by mid-size and larger security systems.
- A solution that protects your video from unauthorized access, malicious activity, and the spread of ransomware.
- A solution that monitors and reports on its own health to predict failures before they happen.



## What is Quantum's "Smart NVR?"

Quantum's Smart NVR provides a flexible, efficient, and secure solution to capture and store video plus run other security applications. It incorporates Quantum's USP (Unified Surveillance Platform) software in a single server configuration that gets the highest resource utilization out of your server hardware, without adding complexity.

**Consolidated:** USP software on the Smart NVR creates the ideal platform to install video management software, as well as other security applications. Combining applications on a single system increases efficiency and decreases complexity, providing more performance for less money.

**Optimized:** USP is optimized for video surveillance workloads and environments. The software is designed to be simple to install, simple to configure and simple to maintain. The Smart NVR is managed through simple point and click interfaces allowing you to go from opening the shipping box to recording cameras in minutes.

**Hardened and Secure:** Special care has been taken to create the most secure infrastructure platform for video surveillance. Four layers of security are available starting from the camera traffic and system administration layer to user access to firewalls between users, to securing the core video and other data.

**Flexible:** Quantum's Smart NVR is available as a turnkey appliance of hardware and software or as software only, licensed as a subscription, to install on existing or new servers that you supply.

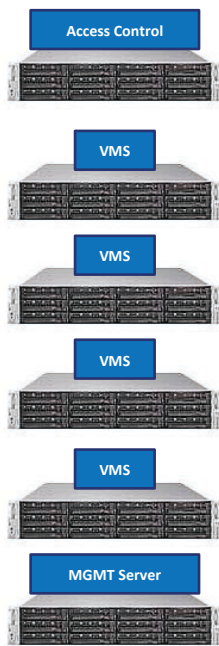
The advantages of purchasing the Smart NVR as a Quantum appliance include:

- Enterprise-level resilience
- Redundant high-performance boot drives
- Multiple network connections for performance and redundancy
- Redundant hot-swap fans
- Redundant hot-swap power supplies
- Hot-swap disk drives protected by RAID6 (or multiple RAID6 sets) – allowing you to continue recording and accessing your video, even with the failure of multiple disk drives

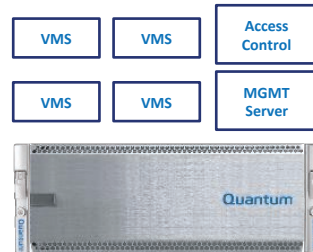
Note: USP is also offered for larger environments that need even more resilience as a multi-server, clustered configuration. Please contact your Quantum sales team for more details.

The main advantages of the Quantum Smart NVR are:

- Performance: Run multiple VMS recorders/archivers to use all available hardware performance
- Efficiency: Host other security applications on same server
  - o Access Control, Visitor Management, VMS Management application, VMS Recording application, Physical Security Monitoring application, Building Control application
  - o Host VMS from multiple vendors on the same server
- Value: Less hardware equals less complexity, lower hardware, and lower support costs
- Simplicity: Pre-loaded, menu-driven setup and management
  - o From unpacking to adding cameras in a few minutes
  - o Quickly configure and run multiple applications
- Flexibility: Use Quantum, System Integrator, or a customer supplied server
- Health: Built-in predictive health and resource utilization monitoring, alert system including email home, and monitor your system from anywhere (anywhere with an internet connection)
- Hardened and Secure: built in IT security best practices
  - o Enterprise Grade Security
- Choice: Servers from 2U/3 drive to dense 4U/60 drive
  - o Capacities from a few TBs to over 1 PB
  - o Support over 1000 cameras on a single server



**Conventional NVRs**



**Quantum Smart NVRs**

## Savings:

- Server Cost
- Server Maintenance Costs
- Power
- Cooling
- On-going Management

Quantum Smart NVRs drive cost savings through consolidation

## Summary

If you are a Systems Integrator and have been using NVRs to meet your client's needs, a Quantum Smart NVR presents an opportunity to increase the value you provide your clients while at the same time simplifying your solution designs and deployments and increasing the services you are able to offer.

If you are responsible for physical security in your organization, Quantum Smart NVRs provide a means to lower infrastructure and on-going operational costs and ensure your physical security infrastructure is hardened and secure.

For more information on Quantum storage and server solutions for video surveillance and physical security visit [www.quantum.com](http://www.quantum.com).





# Quantum®

Quantum technology, software, and services provide the solutions that today's organizations need to make video and other unstructured data smarter – so their data works for them and not the other way around. With over 40 years of innovation, Quantum's end-to-end platform is uniquely equipped to orchestrate, protect, and enrich data across its lifecycle, providing enhanced intelligence and actionable insights. Leading organizations in cloud services, entertainment, government, research, education, transportation, and enterprise IT trust Quantum to bring their data to life, because data makes life better, safer, and smarter. Quantum is listed on Nasdaq (QMCO) and the Russell 2000® Index. For more information visit [www.quantum.com](http://www.quantum.com).

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