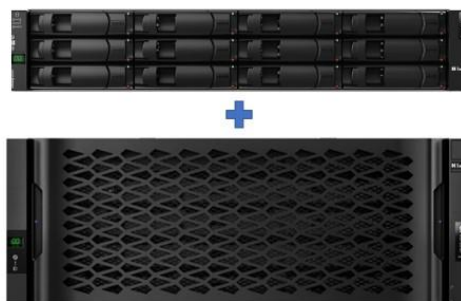Lenovo DE-Series Storage

Simplify and Scale Your Video Surveillance with Lenovo DE Series

Consolidate distributed local and network video storage onto a centralized, enterprise-class system

The Background

Whether you're adding cameras, upgrading your infrastructure to support higher resolution video, expanding your solution across multiple sites, or adding intelligent real-time/post-capture analytics, the storage layer needs to handle increased performance and capacity requirements with minimal management overhead. As video resolution and retention requirements increase, media content is growing rapidly in volume and size, driving the need for enterprise-class, easy-to-use video storage solutions.
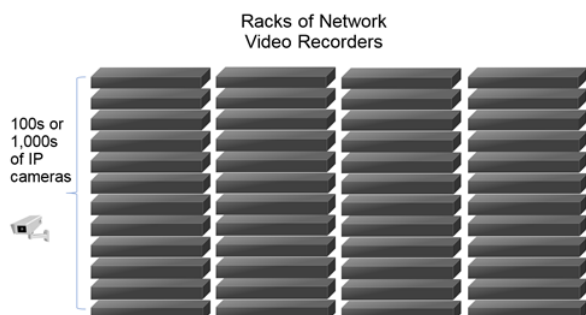
The Challenge

The standard practice of purchasing standalone digital video recorder (DVR) and network video recorder (NVR) solutions creates a management challenge over time and multiplies the cost and complexity associated with many operating systems, software instances, and associated licensing.

Low-cost white-box storage systems are prone to breakdowns and outages. Having more devices creates more potential points of failure. If the effectiveness of your security system requires 100% availability, downtime or data loss can be catastrophic.

Speed is also crucial to video surveillance: if your storage can't keep up with your video, you could drop frames and lose data—particularly footage critical to addressing an incident in real time or collecting crime evidence. DVR- and NVR-based infrastructures are limited in their ability to perform sitewide video analytics, preventing you from getting the most value out of your video data.

Figure 1) Standalone NVR proliferation.

The Solution

To simplify today's strenuous, fast-growing surveillance data storage workloads, companies are implementing centralized storage architectures on enterprise-class storage technologies. The storage area network (SAN) approach is common, delivering the levels of performance needed to consolidate any number of NVRs into a single, powerful storage repository.

ThinkSystm DE Series Video Surveillance Storage solutions enable you to consolidate disparate and distributed video storage onto a centralized, enterprise-class system. ThinkSystem DE Series systems offer modular, true pay-as-you-go scalability in a high-density, small-footprint device that simplifies management and reduces power, space, and cooling requirements. A single DE Series system can support thousands of cameras. Combined with leading video management software, ThinkSystem DE Series offers superior benefits to meet the security surveillance challenges of data retrieval, retention, and capture by delivering unprecedented capacity, speed, and durability.

Incremental Scalability

ThinkSystem DE Series storage is designed to scale seamlessly and incrementally from 200 to 200,000 cameras. Our modular architecture offers a building-block approach so that you can start with the capacity you need today and add single or multiple drives as your needs evolve. The DE Series linear "hot add" capability gives you the freedom to add drives by using Dynamic Disk Pools (DDP) technology. DDP dynamically rebalances data across all the drives in the pool when drives are added or removed, allowing you to grow your storage as your security needs dictate, with zero downtime.

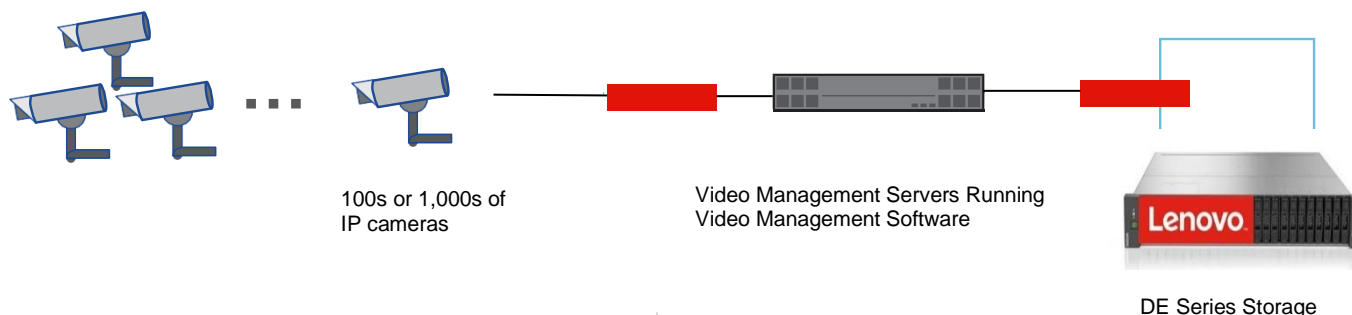ThinkSystem

Low-touch Management

You don't need serious IT skills to manage Lenovo storage systems. DE Series, with its "call-home" support capabilities, is much easier to support than complex file-system storage deployments. An intuitive web-based interface enables you to manage your video storage and to see the health status of every drive. And because your storage is now consolidated, you no longer have to deal with managing a growing number of distributed DVR and/or NVR devices and the complexity of collecting and replicating data from those devices. Do you want to leverage your existing NVR computing investment while improving manageability? Simply redirect your cameras and NVRs to DE Series storage and allow data to expire off existing local and NVR storage.

Unmatched Availability

ThinkSystem DE Series Video Surveillance Storage solutions are built on a fault-tolerant design that is proven to deliver greater than 99.999% availability. With no single point of failure, DE Series offers outstanding reliability. Management tasks including maintenance, configuration changes, and adding and removing drives can be performed while the storage remains online without disrupting video recording.

Most NVRs have multiple points of failure and, when they fail, recovery based on disc striping (such as traditional RAID-5 or RAID-6) can take weeks. Rebuilding usually takes place at the rate of 24 hours per terabyte, with performance reduced by approximately 40% during the system rebuild. The DDP technology enables two or more DE Series drives to fail without an outage and, if one does occur, DE Series can rebuild at 90 minutes per terabyte, enabling recovery in hours, not days or weeks.

Figure 2) A consolidated enterprise-class system using ThinkSystem DE Series storage.

Lower TCO

With the increase in high-definition cameras and longer retention times, storage typically represents 30% of the total cost of a video surveillance solution. How can you continue to grow your surveillance capabilities while optimizing your spending to reduce initial outlay and ongoing cost of ownership?

DE Series ultradense storage gives you more capacity per rack unit than white-box hardware. When combined with simplified management and reductions in maintenance, power, cooling, and space, most customers see a much lower TCO than with any other platform they have installed.

Because DE Series is so efficient and easy to use, some customers have also leveraged free space in their DE Series storage to host email or to back up data from other systems, avoiding the expense of additional storage.

With Lenovo Video Surveillance Storage solutions, you can securely manage your video data internally in your own data center for as little as $0.004 per gigabyte per month over 5 years—a savings of more than 92% over cloud-based storage.

A Foundation You Can Count On

DE Series is a proven platform with a 20-year history of development and optimization. ThinkSystem DE Series technology is found in enterprise SAN application environments that support workloads of every size, from the smallest mixed-workload environment to the world's largest computing systems. ThinkSystem DE Series storage systems use a modular architecture that offers a true pay-as- you-grow solution to address new big-video data storage requirements.

100s or 1,000s of
IP cameras

Video Management Servers Running
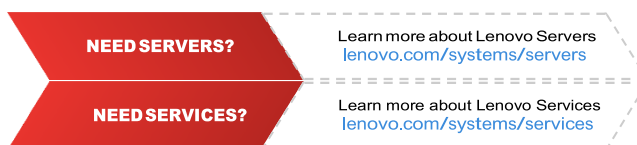Video Management Software

DE Series Storage

Why Lenovo

Lenovo is a leading provider of systems for the data center. The portfolio includes rack, tower, blade, dense, and hyperconverged systems, and provides enterprise- class performance, reliability, and security. Lenovo also offers a full range of networking, storage, software, and solutions, as well as comprehensive services that support business needs throughout the IT lifecycle.

For More Information

To learn more about the ThinkSystem DE Series storage, contact your Lenovo representative or Business Partner or visit lenovo.com/storage.

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