Challenges
- Increasing requirements to store more data for longer periods of time
- Keeping pace with explosive data growth with a flat or shrinking IT budget
- Storage Area Networks that are complex, expensive and unwieldy to manage

Highlights
- Makes SAN storage expansion simple, scalable and affordable
- Expands data storage capacity with minimum rack space consumption
- A leading price-capacity ratio storage solution for capacity-hungry applications
- Integrated best-of-breed storage solution significantly reduces the budget

Solution
The combined solution of QSAN XCubeSAN storage with Western Digital Ultrastar Hybrid Storage Platforms makes it easy to meet capacity and performance needs without busting the budget. This joint solution delivers great performance for a wide range of applications, as well as making data storage and archiving simple and affordable.

Addressing Fast Growing Data and Insufficient Space Challenge
As enterprises increasingly rely on digitalization, modern applications such as real-time communications, high-end images, streaming videos and analytics are driving explosive data growth. In addition, video surveillance is gaining popularity across the world and has become a strategic source of intelligence, information and insight for businesses of all kinds. Legacy SAN/NAS storage models can't keep pace with the huge amounts of unstructured data businesses now collect. As more data is generated, the challenges and complexities of effectively and efficiently storing that data can be very challenging.

Winning Partnership Delivers An Expansion Solution with Extreme Density and Flexibility
Western Digital is proud to partner with QSAN Technology, Inc., a leading storage technology designer and manufacturer. Combining the QSAN XCubeSAN with Western Digital Ultrastar Hybrid Storage Platforms, delivers a solution to meet today's rapid data growth challenges and ensures that our joint customers receive a highly competitive expansion solution.

Western Digital Ultrastar Data60 and Data102 Hybrid Storage Platforms combine excellent density, strong performance and flexible capacity in a simple, affordable solution. Up to 4 units may be daisy-chained to provide QSAN XCubeSAN with up to 8PB of total raw capacity when using forthcoming Ultrastar 20TB SMR HDDs. Ultrastar Hybrid Storage Platforms provide the flexibility to specify the HDD and SSD combinations for balancing capacity, performance and cost.

<table>
<thead>
<tr>
<th>Ultrastar Data60</th>
<th>Ultrastar Data102</th>
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<tbody>
<tr>
<td>Up to 60 Ultrastar HDDs (SAS or SATA)</td>
<td>Up to 102 Ultrastar HDDs (SAS or SATA)</td>
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<tr>
<td>Scale up to 1.2PB raw capacity in 4U</td>
<td>Scale up to 2.0PB raw capacity in 4U</td>
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<td>Hybrid support for data acceleration tier with SSDs (SAS or SATA) in up to 24 drive slots</td>
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<td>Dual-port SAS for high availability or single-port SATA for lower cost</td>
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<td>Enterprise-grade redundant and hot-swappable PSUs, I/O modules, and fans</td>
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1 One terabyte (TB) is equal to one trillion bytes and one petabyte (PB) is equal to one thousand terabytes. Actual user capacity may be less due to operating environment.
The Industry's Best JBOD Storage

Direct-attached data storage repositories don’t have to be complicated, but you wouldn’t know it looking at other solutions on the market. Many high-capacity storage enclosures include features and performance that enterprises rarely need, with a price tag to match. Others offer simple JBOD storage—but keep costs down by skimping on components, manufacturing, and warranties.

Western Digital Ultrastar platforms provide a simple, affordable storage solution for QSAN environments that features Western Digital innovations, like patented IsoVibe™ vibration isolation technology to ensure consistent performance, and ArcticFlow™ thermal zone cooling, which reduces power consumption, improves reliability, and lowers TCO.

Western Digital and QSAN Together Deliver the Perfect SAN Solution for Superior, High Capacity

QSAN XCubeSAN with Western Digital Ultrastar hybrid storage platforms deliver a highly-reliable, flexible and cost-effective storage solution. Through adding disk drives and capacity, QSAN also provides a multitude of enterprise features to make storage applications more efficient, including SSD read-write cache (QCache), auto tiering (QTiering), snapshot (QSnap), local volume clone (QClone), and features to improve data acceleration and protection.

QSAN XCubeSAN with Ultrastar hybrid storage platforms helps you to expand existing capacity and tailor HDD and SSD combinations to balance performance and reduce costs. Western Digital and QSAN join forces to serve target markets and help our clients to achieve business growth while maintaining profitability.

Ultrastar Data102 and Ultrastar Data60 Storage Platforms

IsoVibe™ Vibration Isolation Technology

Precise cuts in the baseboard provide a suspension for the drives in the chassis, isolating them from transmitted vibration. The result is that consistent performance is maintained, even when all the drivers are working hard.

ArcticFlow™ Thermal Zone Cooling Technology

By Introducing cool air into the center of the chassis, drives operate at lower and more consistent temperatures than conventional systems. This results in lower fan speeds, reduced vibration, lower power consumption, quieter operation and ultimately higher reliability.