



CASE STUDY

Italy’s National Institute of Geophysics and Volcanology Consolidates Backup Operations with the Help of Western Digital and QSAN

Leading Storage Solution Provider Leverages Western Digital Ultrastar® Data60 Storage Platform to help customer



**ISTITUTO NAZIONALE
DI GEOFISICA E VULCANOLOGIA**

“The installation and configuration of our QSAN with Western Digital storage solution, was completed with great efficiency and thoroughness by QSAN service partner Storelink Srl in Italy.”

- Name – Title or Department – INGV

About INGV

The National Institute of Geophysics and Volcanology, known as INGV, is the Italian research institute responsible for the study of geophysical and volcanological phenomena and the management of the respective national monitoring networks for seismic and volcanic phenomena.

The INGV has become one of the largest European research institutions in the field of Earth Sciences and carries out scientific research in the fields of geophysics and geochemistry, seismology, volcanology and space meteorology.

In addition, the INGV’s Roma 1 department carries out basic and applied research from the laboratory to the field, and performs data acquisition and modeling of large datasets. They also perform data collection during earthquake, volcano and environmental emergencies.

Their Challenge

The Roma 1 dept. of National Institute of Geophysics and Volcanology needed to consolidate data protection for different research and emergency groups in a single high-capacity repository that could offer high-density data storage, flexibility and support for various access protocols and cloud backup capabilities.

The Solution

To address these challenges, the INGV turned to trusted service partner Storelink Srl in Italy. Storelink designed a solution that combined QSAN XCubeNXT unified storage with Western Digital Ultrastar Data60 Storage Platform to enable the INGV to meet capacity, flexibility and performance needs without busting the budget. This joint solution delivers solid performance, is easy to scale on demand without using excessive number of rack units and provides a highly reliable storage solution based on a totally redundant architecture. Furthermore, QSAN’s support for a large number of access protocols and their cloudsync feature facilitated the institution's activity in consolidating the backups of the various departments, granting at the same time a high level of security thanks to QSM operating system, based on ZFS.

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Western Digital Ultrastar Data60 Storage Platform

40+ Years of Storage Design Experience

Storelink evaluated a large number of JBOD platforms from a variety of vendors. However, the problem with conventional dense disk shelves is that they frequently suffer from performance degradation due to induced vibration from adjacent drives. They also have over heating issues as the cooling air passing over successive rows of drives loses effectiveness as it gets heated up along the airflow path.

With decades of experience designing both devices and platforms side-by-side, Western Digital has seen and overcome these issues with a set of technologies developed based on a holistic view of devices, platform and their interactions. The first two of these innovative technologies are IsoVibe™ and ArcticFlow™.

Patented IsoVibe, vibration isolation technology, uses precise cuts in the baseboard to provide a suspension for the drives in the chassis, isolating them from transmitted vibration and isolating each drives vibration from the rest of the enclosure. The result is that consistent performance is maintained, even when all the drives are working hard. Innovative ArcticFlow thermal zone cooling technology, introduces cool air into the center of the chassis which helps drives operate at lower and more consistent temperatures than conventional systems. This results in cooler drive operation, lower fan speeds, reduced vibration, lower power consumption, quieter operation and ultimately higher reliability.

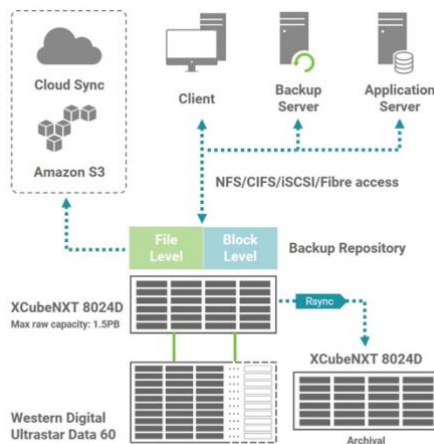
Benefits

By pairing Western Digital and QSAN Storelink was able to provide increased density, strong performance and extreme flexibility in a simple and affordable solution. INGV has realized the following benefits:

- **Reduced total cost of ownership (TCO):** The combined Western Digital with QSAN solution has substantially reduced INGV's storage costs, including both capital expenditures and operating costs for power, colocation, and maintenance.
- **Simplified operations:** By standardizing on Western Digital Ultrastar platforms, INGV has made its storage infrastructure much easier to manage, maintain and scale in the future when needed.
- **Improved long-term reliability:** By leveraging Western Digital's patented technologies, INGV benefits from Western Digital's rich history of innovation to provide rock-solid reliability at scale and under demanding performance requirements.

Conclusion

Designing an entirely new approach to storing and protecting vast amounts of geophysical and volcanological data required Storelink to combine game changing storage technology with a highly reliable, high performance storage platform to affordably store a nearly infinite amount of data. The combined solution from QSAN and Western Digital has dramatically changed the economics of protecting large amounts of geophysical and volcanological data while delivering incredible performance, efficiency and reliability that can help give your business a competitive edge.



Western Digital w/ QSAN Solution Architecture

Western Digital

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