AMD TECHNOLOGY AT A GLANCE:
AMD Embedded G-Series SOCs

Gongsin stores and distributes educational content for 30 million online users with QNAP NAS solution powered by AMD Embedded G-Series SOCs

QNAP storage solution leverages high performance AMD embedded processors to meet demanding I/O and reliability requirements at an affordable price point.

Throughout South Korea, over 30 million young students depend on online learning service Gongsin (www.gongsin.com) for the study materials and mentoring support they need to achieve their full academic potential. Established with the goal of providing children of low-income families with robust curricula customized for their unique needs, Gongsin makes its vast repository of educational content available to these students online at no cost.

This content repository grows larger every day, populated with all manner of digital files from documents to presentations to rich multimedia and beyond, disseminated to a massive network of users 24/7. It’s no surprise then that Gongsin requires a high performance, scalable networked storage platform to accommodate ever-increasing capacity and I/O throughput demands.

The reliability, security and data protection capabilities of Gongsin’s storage platform are paramount concerns as well. Having previously grappled with data loss resulting from a web server breach, Gongsin has first-hand experience with the frustrations caused by downtime and data integrity issues, and the impact that these lapses can have on its many users.

Perhaps most importantly, Gongsin needs all of the aforementioned storage platform features to be affordable. Heeding its charter to provide educational support to as many students as possible while keeping operational costs low, budget-consciousness is a key factor in Gongsin’s IT spending strategy.

THE SOLUTION: QNAP + AMD

Gongsin met and surpassed these requirements went it upgraded its storage platform to a TVS-463 10GbE-ready Golden Cloud Turbo vNAS network attached storage (NAS) system from QNAP Systems. Powered by AMD Embedded G-Series SOCs, QNAP’s TVS-463 NAS solutions provide the optimal balance of performance, scalability, reliability and security, at a competitive price point for SMB computing environments.
Gongsin’s TVS-463 NAS system is complemented by a newly implemented content delivery network (CDN) designed to serve data to Gongsin’s user base with higher availability, alleviating congestion on Gongsin’s network infrastructure. In combination, these systems enable efficient resource sharing and collaboration among distributed Gongsin users, with advanced real-time search and filtering options that streamline content accessibility.

**FORMULA FOR SUCCESS**

QNAP’s TVS-x63 series NAS systems are available in 4, 6 and 8 bay configurations with available capacity expansion enclosures, and feature 64-bit AMD quad-core 2.4 GHz Embedded G-Series SOC’s with 8GB/4GB of fast DDR3L-1600 RAM (upgradable to 16GB), coupled with the support of SATA 6Gb/s, 2 Gigabit LAN ports and 10GbE capability for exceptionally fast throughout. The TVS-463 edition is a powerful midrange NAS solution that delivers up to 425MB/s read and write speeds with 4 x GbE port configuration, and up to 1.481MB/s speeds with the 10GbE configuration.

Providing highly efficient hardware encryption, SSD cache acceleration, and advanced AMD Radeon™ graphics, the TVS-463 provides an affordable 10GbE unified storage solution to safeguard all of Gongsin’s stored content and handle intensive processing tasks, including rich multimedia content distribution and playback. The TVS-x63 series with AMD quad-core SOC’s delivers exceptional performance in file transfer efficiency, business and multimedia applications, while providing high-end 10GbE capabilities for budget-conscious organizations like Gongsin. High-speed 10GbE enables rapid data backup and content sharing at the network level, underpinned by AMD’s advanced G-Series SOC architecture, which afforded QNAP wide flexibility to balance I/O across the TVS-463’s supported ports at the system level.

The TVS-463 leverages the hardware-accelerated encryption engine inside the AMD G Series quad-core processor resulting in robust AES-NI encryption performance up to 691MB/s with AES 256-bit full NAS volume encryption, boosting system performance and security while ensuring the protection of all sensitive data stored within. Within the AMD G-Series SOC itself, a dedicated AMD Secure Processor protects against malicious access to sensitive data and operations at the hardware level, enabling the AMD G-Series SOC-based QNAP TVS-463 to set a robust protection perimeter for Gongsin’s web accessible content platform.

**FROM CLOUD TO CONSOLE**

Leveraging QNAP’s QvPC Technology, Gongsin’s in-house administrators can use the TVS-463 as a workstation by plugging in a keyboard, mouse, and HDMI™ monitor to directly access data stored on the system, run multiple applications on Windows®, Linux®, UNIX, and Android-based VMs, surf the web with multilingual keyboard input, watch 1080p videos with up to 71 channel audio with XBMC, and much more. This versatile, direct interface capability equips Gongsin’s staff to quickly navigate its content repository, access files and administer management tools with the ease of use of a home PC.

When using QNAP’s QvPC Technology, the onboard AMD Radeon™ HD GPU embedded inside the AMD G Series quad-core processor provides hardware accelerated transcoding performance to enable brilliant high-definition multimedia content playback in 4K Ultra HD. Gongsin’s administrators can connect the NAS system to a 4K UHD monitor via HDMI to take advantage of 4K’s impeccable image detail for increased productivity, taking advantage of a larger, crisper visual ‘workspace’ when managing virtual machines, for example.

**A SMARTER WAY**

AMD Embedded G-Series SOC’s integrate a CPU, discrete-class GPU, and an I/O controller on a single die. By reducing the footprint of a traditional three-chip platform to just one chip, design complexity is simplified through a reduction in board layers and power supply needs. This enabled QNAP to achieve aggressive form factor goals for its TVS-x63 series NAS systems while driving down overall system costs. Small-footprint, ECC-capable AMD G-Series SOC’s comprise a power-efficient platform for content-rich multimedia processing and workload processing, and are therefore well suited for a broad range of network storage system implementations from SOHO to SMB to enterprise-class.

The rich functionality and ease of use that QNAP has brought together via its AMD Embedded G-Series SOC-powered TVS-463 Golden Cloud Turbo vNAS system has equipped Gongsin to streamline its IT infrastructure and reduce administration and hardware maintenance spending. This in turn has enabled Gongsin to allocate more budget and personnel resources to where they’re needed most – helping eager young minds fulfill their greatest educational ambitions.

**ABOUT QNAP SYSTEMS INC.**

QNAP Systems, Inc., as its brand promises “Quality Network Appliance Provider”, aims to deliver cutting edge network attached storage (NAS) and network video recorder (NVR) solutions featuring ease-of-use, robust operation, large storage capacity, and trustworthy reliability. QNAP integrates technologies and designs to bring forth quality products that improve business efficiency via file sharing, virtualization applications, storage management and surveillance in business environments, as well as enrich entertainment for home users by providing a fun multimedia center experience. Headquartered in Taipei, QNAP delivers its solutions to the global market with nonstop innovation. For more information, visit www.qnap.com
ABOUT AMD
For more than 45 years AMD has driven innovation in high-performance computing, graphics, and visualization technologies — the building blocks for gaming, immersive platforms, and the datacenter. Hundreds of millions of consumers, leading Fortune 500 businesses, and cutting-edge scientific research facilities around the world rely on AMD technology daily to improve how they live, work, and play. AMD employees around the world are focused on building great products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit www.amd.com