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TWONKY™ TECHNOLOGY:
Used in the World's Best-Rated NAS Devices for Enhanced Media Sharing Capability

Customer Profile

Most the world's leading network attached storage (NAS) manufacturers today use Lynx Technology's proven, market-leading Twonky™ technology to enable the most advanced and reliable media sharing capabilities in their consumer storage products.

This customer case study addresses the common features valued and utilized by these customers. A number of these customers (some long-term and some more recent) have the prestige of their devices being rated among the best NAS devices available today, as reviewed and reported by a variety of well-respected tech media outlets around the world.

Lynx Technology - which recently acquired the industry-leading Twonky technology from PacketVideo along with their operations in Europe and North America - partners with top NAS manufacturers to enhance the media sharing capabilities and performance of their products. This includes in-home storage as well as mobile and battery-powered NAS devices.

The Challenge

Evolution of the NAS

NAS devices have changed dramatically over the last decade. When Twonky technology was first launched in 2004, consumer NAS devices were primarily used for basic data storage and file sharing. Today, consumer NAS devices have become an integral component in the digital-intensive lifestyle of the connected home. Propelled by the continuing explosion of digital media (e.g., videos, photos, music) in recent years, today's Twonky-powered NAS devices are optimized to provide media sharing features in an efficient, reliable, and easy-to-use manner.

Best-Rated NAS Devices Use Twonky

Here is a quick look at several well-known and respected technology publications that rate the best NAS devices in the market today:

» In *CNET Magazine*'s annual rating of the Best Network Attached Storage for 2015, two of the three manufacturers on the list (Western Digital and LaCie/Seagate) use Twonky technology.

» In *PC Magazine*'s list of the 10 best NAS devices, published in June 2014, five of the devices (Seagate, Western Digital and QNAP) use Twonky technology.

» In U.K.-based *PC Advisor's* list of the 12 best NAS devices of 2015, published in May 2015, three of the five manufacturers on the list (Western Digital, QNAP, ZyXEL) use Twonky technology.

Open-Source Shortcomings

Historically, some NAS manufacturers relied upon open-source media server solutions for their devices. While seemingly cost effective and flexible, many manufacturers eventually discovered shortcomings of open-source solutions (e.g., poor or inconsistent quality, performance, lack of interoperability with other UPnP/DLNA media devices in the connected home).

Furthermore, what was initially perceived as a cost savings strategy often became a support burden for the manufacturer's internal development resources needed to ensure an acceptable level of reliability and performance. For example, there have been multiple instances in recent years when the openly available media-sharing solutions were subject to security vulnerabilities. In these situations, we have had several manufacturers contact us in order to replace open source with the Twonky Server to alleviate issues around interoperability and NAS performance.

Another key benefit of Twonky is access to an expert engineering team with a solid track record of quickly and effectively providing premium support. Such access ensures the resolution of complex integration issues, reduces the extent and volume of consumer complaints, and expedites product development activities so manufacturers can meet target product launch timelines.

Lastly, if DLNA certification is important, then open source may not be an option at all, as some of these solutions might not pass DLNA certification, at least not without significant changes to the code base.

PROTECTED DATA

Importance of Mobile Companion Applications

Beyond the need for a reliable media server solution, many NAS manufacturers today also want to provide a customized companion mobile app tailored to their product. These mobile apps can include playback of the media from the NAS to mobile and also the ability to beam media content from the NAS to connected devices such as smart TVs and popular non-DLNA media adapters such as Roku, Chromecast, and AppleTV. Lynx Technology's proven Twonky SDK provides a mobile solution for application developers to design all of the key use cases needed for today's tech-savvy media consumer. The proven interoperability of the core technology included in the Twonky SDK ensures that every NAS device and companion app will work with the widest assortment of popular connected-devices found in a consumer's connected home.

Common Business Objectives for NAS Manufacturers

» **Provide high-quality, reliable NAS devices for consumer use** - within the past year, several manufacturers using Twonky technology have also added personal cloud capability to select devices including Western Digital and Seagate.

» **Build product brand and reputation** - by providing devices that are reliable, easy to use and highly interoperable, with premium media management capabilities.

» **Minimize internal back-end development time and resources** - by partnering with Lynx Technology for proven technology and backed by top-notch support.

» **Ensure consumers can enjoy their NAS content on a broad assortment of connected media devices** - including smart TVs, tablets, smart phones, game consoles, PCs and other UPnP/DLNA devices.

The Twonky Solution

Twonky Server enables users to discover, manage, and share all the content (photos, video, music, and premium content) stored on the NAS server to any media device, at any time. It is highly flexible and is optimized for speed, efficiency, and interoperability with today's popular media devices.

Here is what manufacturers are typically looking for when they are ready to deploy the Twonky Server in their NAS device:

» **High Performance** — Twonky Server ensures high performance under all circumstances, even with large amounts of data, and ensures maximum cooperation with other software components. Consider the following:

- The latest version of Twonky 8 uses less run-time memory than version 7, which means it doesn't take as much memory away from the primary function of the NAS.

- Latest version of Twonky 8 requires very little RAM on the NAS (only 5 MB), which means more available content storage space on the NAS.

- Reduced scan time - Twonky 8 can find and index all media files more quickly, so users don't have to wait as long to see thumbnails and be able to browse their files.

- Reduced start up time, which is particularly important for portable NAS devices that are turned on and off as needed by the consumer (traditional NAS devices in the home are rarely turned off).

» **UPnP and DLNA Compliant** — Twonky has a long and impeccable history of certification compliance. Our customers appreciate that our DLNA compliance does not interfere with overall device interoperability.

» **Interoperability Promise** — Interoperability can be one of the biggest challenges facing any NAS manufacturer selling products on a global basis (Twonky is in use on millions of NAS devices throughout North America, Europe and Asia). Twonky Server delivers maximum interoperability. Over the past decade, we have concentrated significant effort and R&D to ensure that our Twonky Server works reliably with nearly every combination of content format, control point, and client.

» **Content Format Support** — This is another common challenge for many NAS manufacturers. Twonky Server supports a significant number of diverse content formats for video, music and images, ranging from comprehensive popular content formats to some of the less-common ones. Our NAS customers trust that Twonky's diverse range of content formats support translates into increased applicability and device appeal.

» **Integration Support** — Our NAS customers appreciate the first-class support they receive during an integration project, and knowing that there will likely be very little integration problems and virtually no issues that we cannot solve, quickly and efficiently.

» **Highly Respected Brand** — Twonky is a well-known and highly respected brand in the media server market. Our customers appreciate our "accumulated knowledge" (as one customer said to us recently) and our reliable, proven technology. By choosing Twonky technology, our NAS customers tell us it sends a positive quality signal to their OEM partners and industry-savvy customers.

Twonky's long track record of success (Twonky has been in the market since 2004), combined with Lynx Technology's deep expertise and global leadership in media connectivity on three continents, are clear differentiators. We maintain our commitment to focus on product innovation, proven performance, and superior customer service. This, in turn, ensures that our customers are able to deploy NAS products that can keep up with the latest technologies and changing consumer demands for expanding ways to enjoy digital media.

To learn more and to speak with a Lynx Technology staff member in your region of the world, contact us at +1 855 LYNXTEC (+1 855 596 9832) or sales@lynxtechnology.com.