

## Storage NAS vs. SAN

### Overview

#### Network Attached Storage (NAS)

The NAS device is a network attached appliance that consists of one or more hard drives used for basic file storage. The NAS is limited to its own hardware, which is in most cases not upgradeable. Entry level lower cost solution.

#### Storage Area Network (SAN)

The SAN is a network attached device that consists of multiple hard drives used for more advanced storage. The SAN is scalable and can be upgraded.

All businesses have in common an ever growing need for data storage. Small business networks can connect a NAS to their LAN for basic file storage. While medium and enterprise businesses may require many terabytes of centralized high speed storage operations. Where installing an army of NAS's is not a practical option, instead business install a single SAN containing high-performance disk arrays to provide the needed scalability and performance.

- NAS provides file-based data storage services to other devices on the network. Although it may technically be possible to run other software on a NAS unit, it is not designed to be a general purpose server. For example, NAS units usually do not have a keyboard or display, and are controlled and configured over the network, often using a browser.
- The NAS unit is designed for smaller business applications. For example, If the NAS is occupied with too many users, too many I/O operations, or CPU processing power that is too demanding, the NAS reaches its limitations.
- SAN's support advanced features like snap shot. The snap shot is essential a real time clone of the production server that is great for quick restores and the snap shot is portable.
- With the SAN business can have multiple virtual servers running on the SAN. Operating systems stored on the SAN are bootable where OS booting on the NAS is not recommended.
- SAN's require specialized knowledge and training to configure and support.



### Key Benefits

- *It is easier to share files with NAS*
- *Reduced Server I/O Bottlenecks - Using a SAN / NAS allows CPU cycles to be dedicated to handling application requests, resulting in improved client response time.*
- *The NAS is a file level storage solution where the SAN is a more advanced block level storage solution*
- *SAN's are ideal for Business Continuity and Disaster Recovery planning.*
- *The SAN is ideal for business that are moving to or have Virtualization in place*

### Why IES Group?

IES Group has over a decade of experience implementing complex IT Solutions empowering quick real time information based decisions.

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### At a Glance

- *SAN—Powered by an operating system optimized for file I/O activity, file serving performance is greater than that of a general purpose server, which is designed to perform a multitude of functions.*
- *According to Dataquest over 60% of server failures are caused by storage related problems.*