

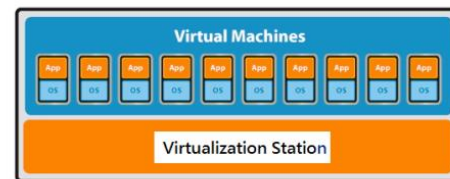
QNAP[®]

vNAS Series

*All-in-one NAS with
virtualization platform*

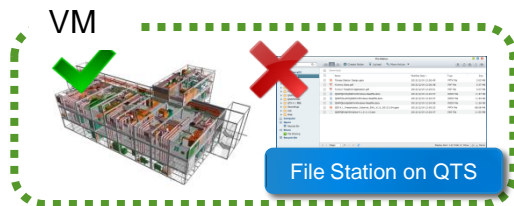


Imaging





Install Virtualization Station on a specialized Turbo NAS



Safe, efficient, bandwidth-saving



vNAS

Use vNAS series to manage advanced virtualization applications and services



- VM
- VM
- VM

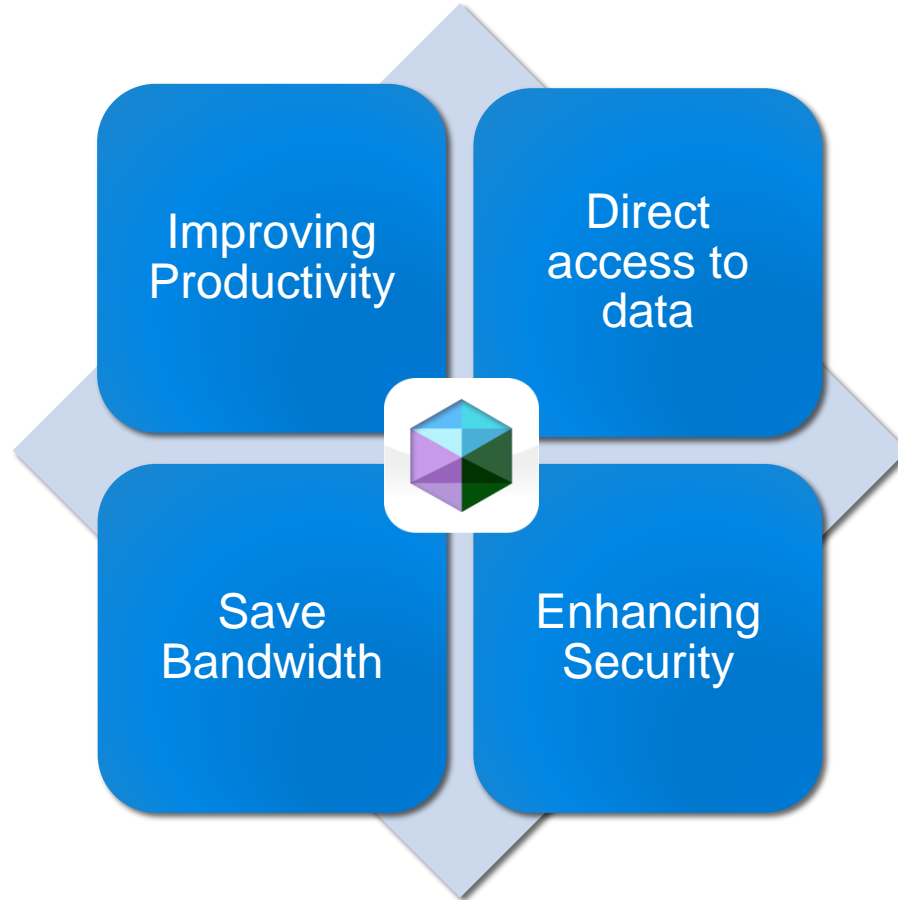
VMware ESX



Switch

Turbo NAS is virtualization-ready: VMware® vSphere™, Citrix® XenServer™, Microsoft® Hyper-V™

High-level NAS = vNAS



Improving Productivity

- Execute multiple applications on different operating systems (eg. Windows, Linux, UNIX) at the same time.



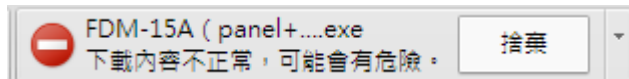
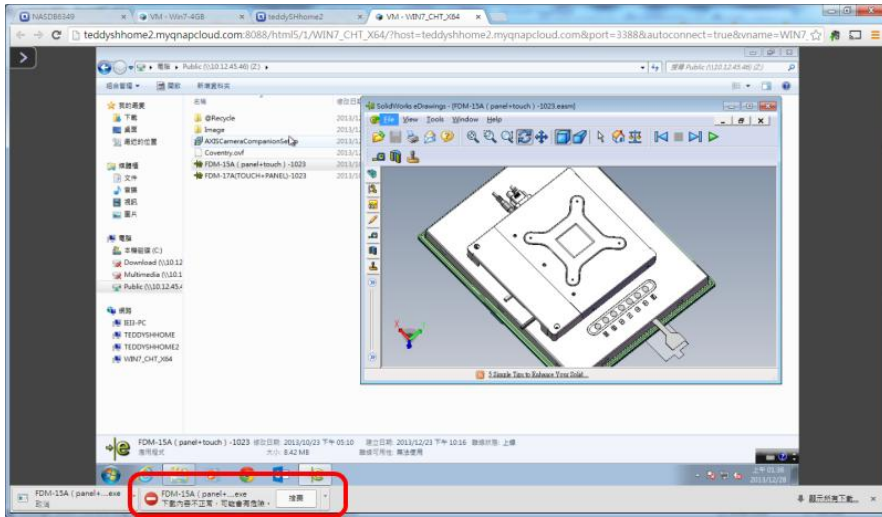
Data Visualization

- Specific file formats cannot be opened on the Turbo NAS, but vNAS makes it possible.
- vNAS features a built-in Virtualization Station that Windows, Linux, Unix OS can be installed on, allowing users to execute any supported application.



Data Visualization

- In normal cloud storage circumstances, not every file can be downloaded and read



Save Bandwidth

Local



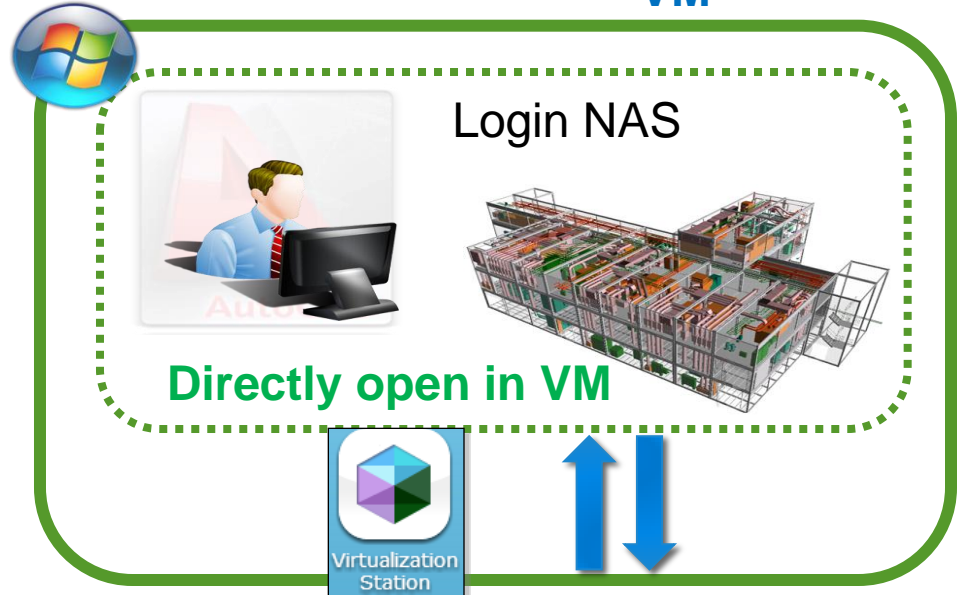
Access NAS to download file

AutoCAD

Waiting for downloading

The Local scenario shows a user at a computer with a Windows icon. The user is accessing a Network Attached Storage (NAS) to download a file. The file is identified as 'AutoCAD'. The user is shown waiting for the download to complete.

VM



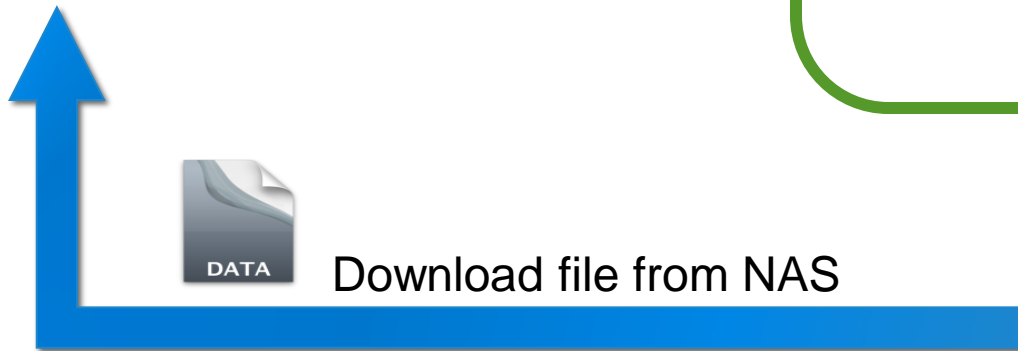
Login NAS

AutoCAD

Directly open in VM

Virtualization Station

The VM scenario shows a user at a computer with a Windows icon logging into the NAS. The file 'AutoCAD' is directly opened within the VM environment. This process is managed by 'Virtualization Station', which has bidirectional communication with the physical server.



DATA

Download file from NAS

This block illustrates the data flow from the NAS to the local user. A blue arrow points from the NAS server to a document icon labeled 'DATA', with the text 'Download file from NAS'.



Enhancing Security

- Data is always kept on the Turbo NAS, and users do not have to download it to their PC.



The trend of high-level NAS: vNAS

- Built-in Virtualization Station QPKG
 - Supports Multi-OS (Windows, Linux, Unix ...) operation on Virtualization Station
 - Centralized management for virtual machines and storage on one platform
- Operating System: QTS 4.1
- Model Names: TVS-470, TVS-670, TVS-870
- CPU : Intel Core i5 RAM : 16GB
- Maximum number of running Virtual Machines:
 - **7** * Windows 7, XP, Windows Server...etc. Virtual Machine (2GB memory for each VM)
 - **14** * Linux Fedora, CentOS, Ubuntu...etc. Virtual Machine (1GB memory for each VM)



TVS-470



TVS-670



TVS-870

Please note: the number of concurrent running VMs is subject to actual usage of RAM and running applications on VMs. Running many VMs at the same time may affect the performance of NAS.

Function Introduction

Virtual Machine and Overview

- NAS name, CPU specification, CPU & Memory usage
- A list of all VMs (virtual machines)

The screenshot displays the QNAP Virtualization Station interface. The top navigation bar shows the server name 'QKVM-870pro' and the user 'admin'. The left sidebar contains a menu with categories like 'VM MARKET', 'SERVER SETTINGS', and 'VIRTUAL MACHINES'. The main content area is divided into two sections: 'Overview' and 'Virtual Machines'.

Overview

Server Name: QKVM-870pro

of Cores: 4

of Threads: 4

Processor(s): 4 x Intel(R) Core(TM) i5-3550S CPU @ 3.00GHz

CPU Utilization: 7%

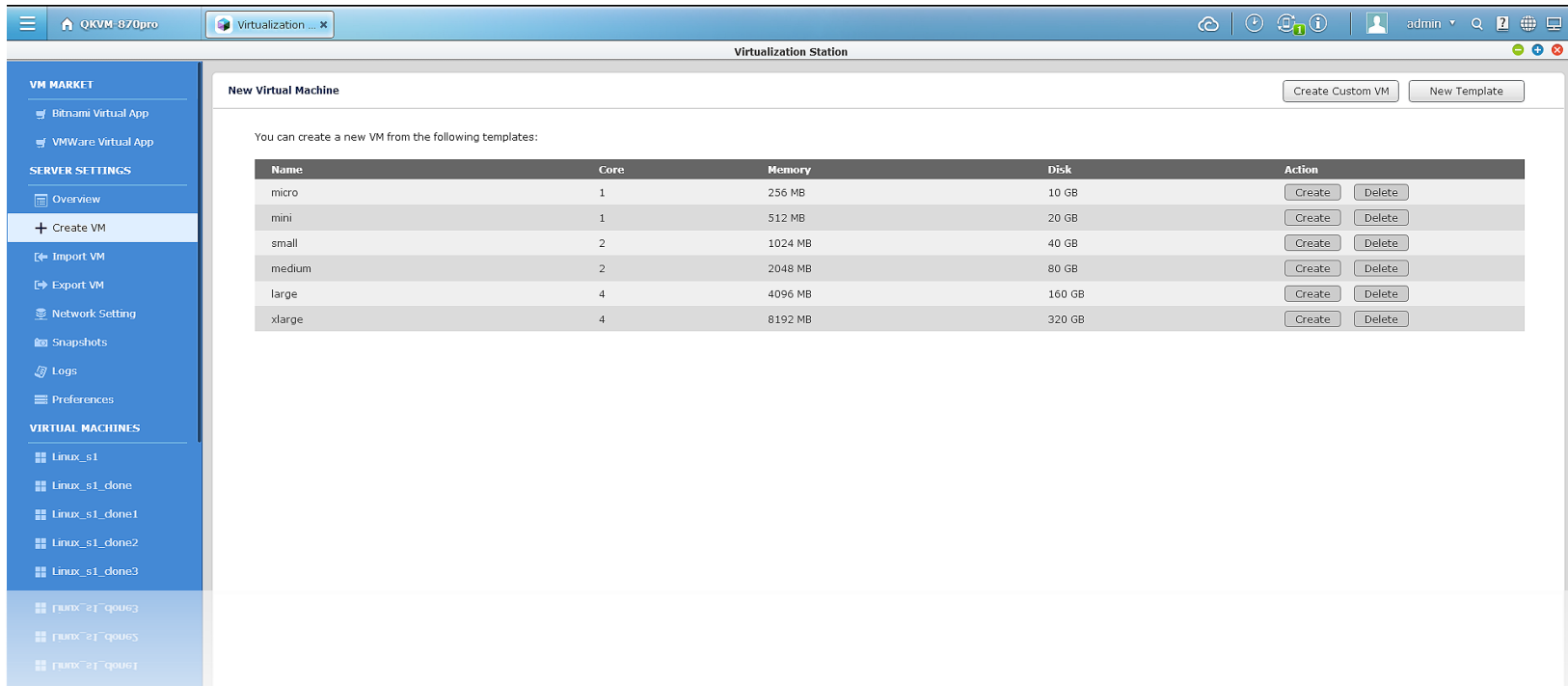
Memory (3.1 GB / 15.6 GB): 19%

Virtual Machines

Name	Status	Action
Linux_s1	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone1	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone2	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone3	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone4	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone5	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone6	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone7	Power Off	[Play] [Pause] [Power] [Refresh] [Close]
Linux_s1_clone8	Power Off	[Play] [Pause] [Power] [Refresh] [Close]

Fast virtual machine creation

- Provides several default templates for creating a virtual machine quickly (e.g. number of Cores, size of Memory)
- Centralized resource provisioning

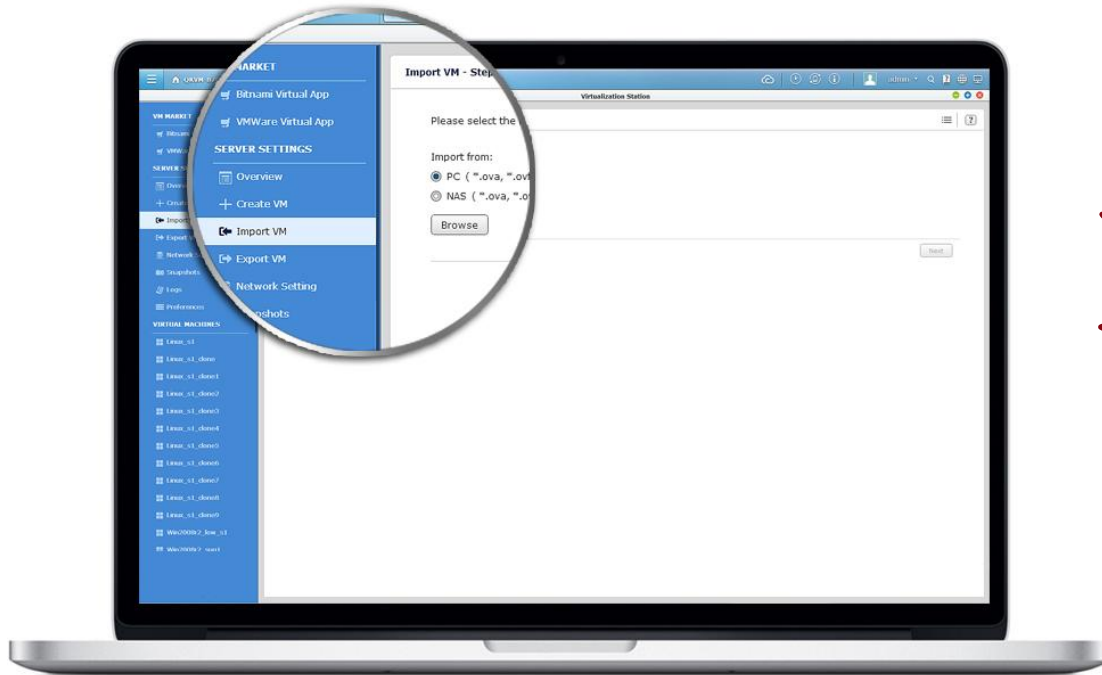


The screenshot shows the QNAP Virtualization Station interface. The top navigation bar includes the QNAP logo, the user name 'admin', and various system icons. The left sidebar contains navigation options for 'VM MARKET', 'SERVER SETTINGS', and 'VIRTUAL MACHINES'. The main content area is titled 'New Virtual Machine' and features a table of default VM templates. The table has columns for Name, Core, Memory, Disk, and Action. The Action column contains 'Create' and 'Delete' buttons for each template.

Name	Core	Memory	Disk	Action
micro	1	256 MB	10 GB	Create Delete
mini	1	512 MB	20 GB	Create Delete
small	2	1024 MB	40 GB	Create Delete
medium	2	2048 MB	80 GB	Create Delete
large	4	4096 MB	160 GB	Create Delete
xlarge	4	8192 MB	320 GB	Create Delete

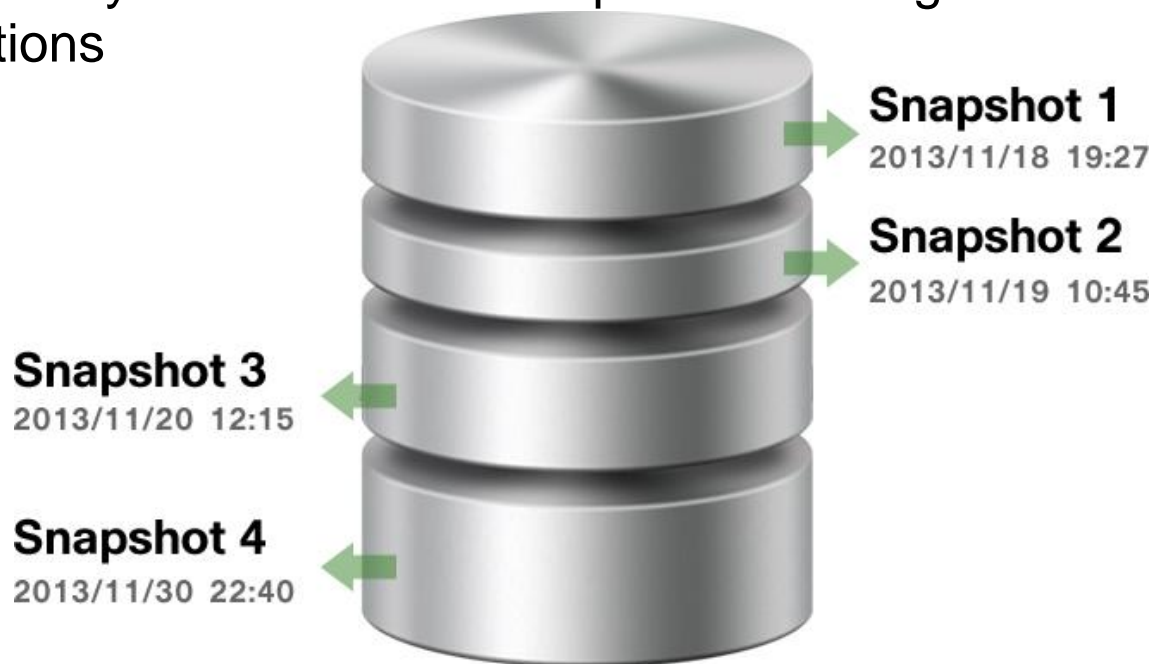
Virtual Machine Importing / Exporting

- Supports various VM formats, e.g. .ovf, .ova
- Supports VM importing & exporting to/from NAS or computers



VM Snapshot

- Snapshot for RAM of VMs and ISO of volumes
- Provides a snapshot feature to record the virtual machine system status at a point of time
- Can quickly roll back to the snapshot ensuring constant system operations



Individual network bandwidth for each virtual machine

- Configure specific VMs with dedicated Ethernet resources
- Monitor bandwidth usage for each Ethernet resource

Virtualization Station

Network Setting - Dedicated Interface

Add Dedicated | ?

Dedicated 1 | **Dedicated 2**

	Link	Speed	Dedicated
<input type="radio"/> Ethernet 1 (Default Gateway)	●	1000 Mbps	
<input checked="" type="radio"/> Ethernet 2	●	1000 Mbps	✓

Apply

Network I/O-Real-Time : Ethernet 2

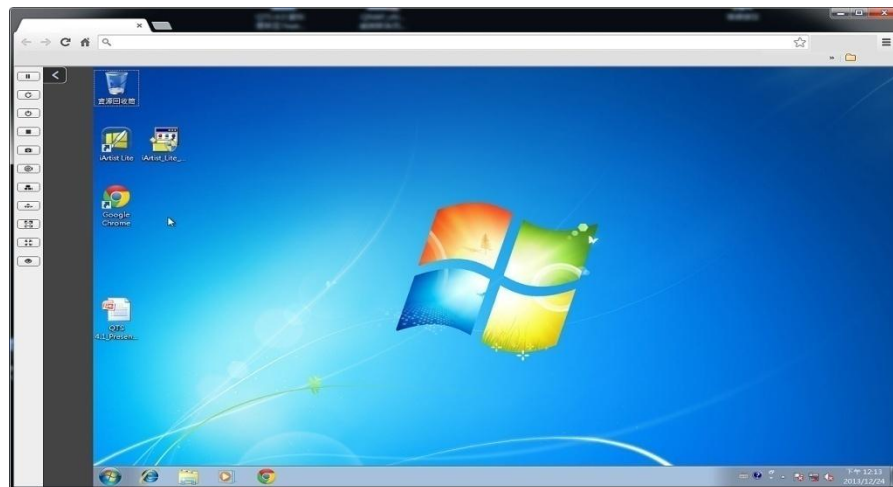
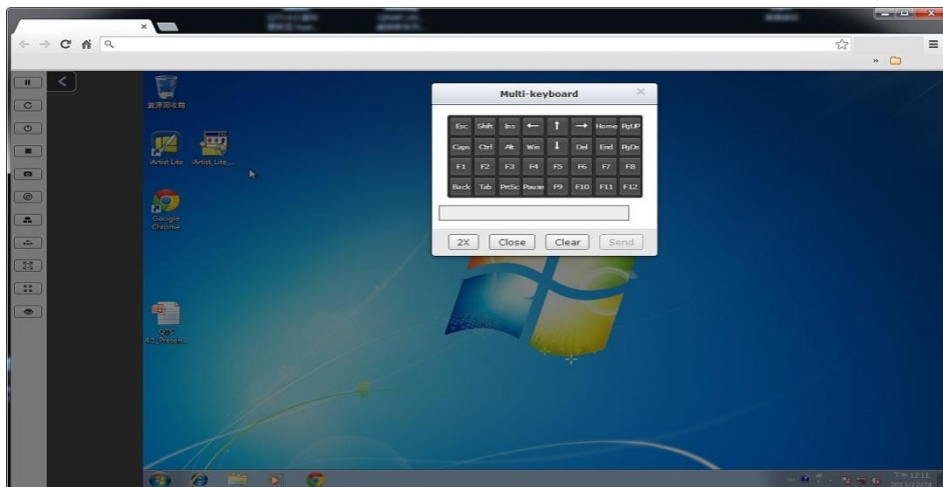
Remote desktop operations

- Shared remote administration user interface
- Use HTML5-compatible web browsers on mobile devices to remotely manage VMs on the NAS
- Web-based Thin Client does not consume hardware resources



Remote desktop operations

- Supports Function Key Combinations
- Support HTML5 autofit



UPnP Auto Configuration

- Create ports on UPnP supported devices
- Supports port forwarding of multiple NAS units

Preferences

Default Folder Console Setting **UPnP Setting**

Enable this function to allow access to your NAS from the Internet via an UPnP router.
Note: This function only works with the UPnP supported devices.

UPnP Port forwarding Enable Disable

Service Name	Ports	Protocol
Web Server	8088	TCP
Web Server (SSL)	8089	TCP
HTML5 Console	3388	TCP

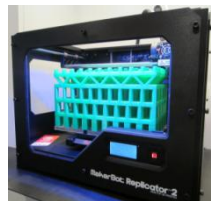
Apply

Case 1

- Internet printer server
 - Install printer drivers directly on a virtual machine's OS for increased compatibility
 - 3D printing is processed easily
 - Efficiently share and manage multiple printers over the Internet



3D Printers



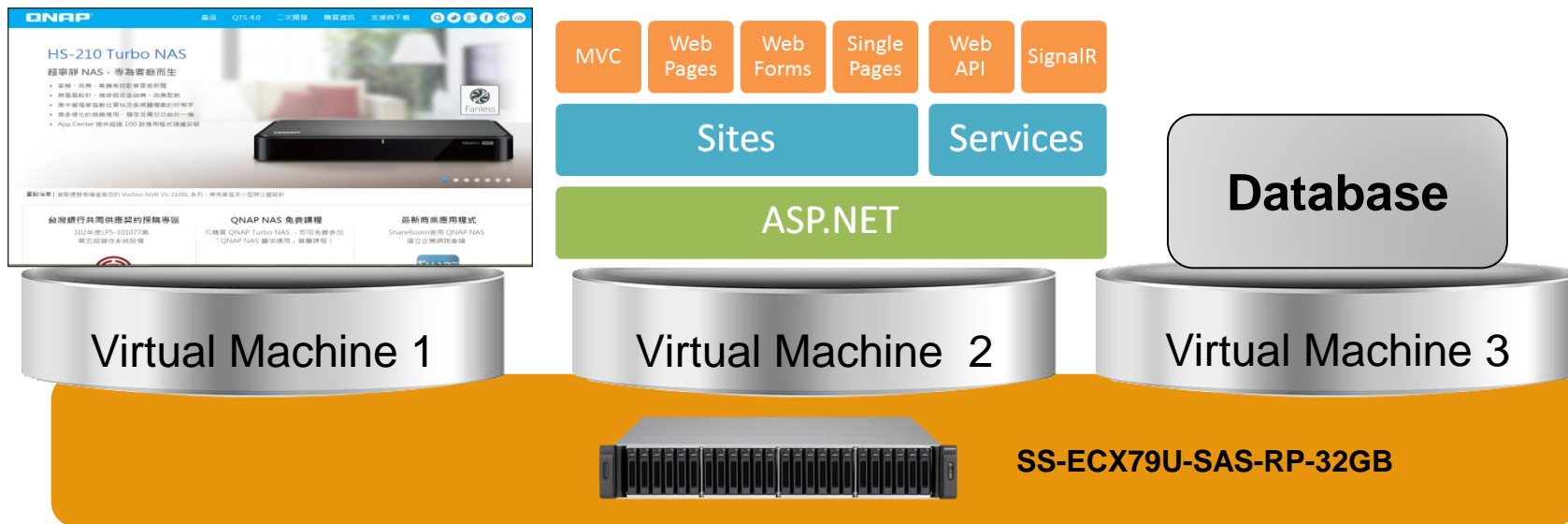
Printers (X brand)



Case 2

• IIS Web server

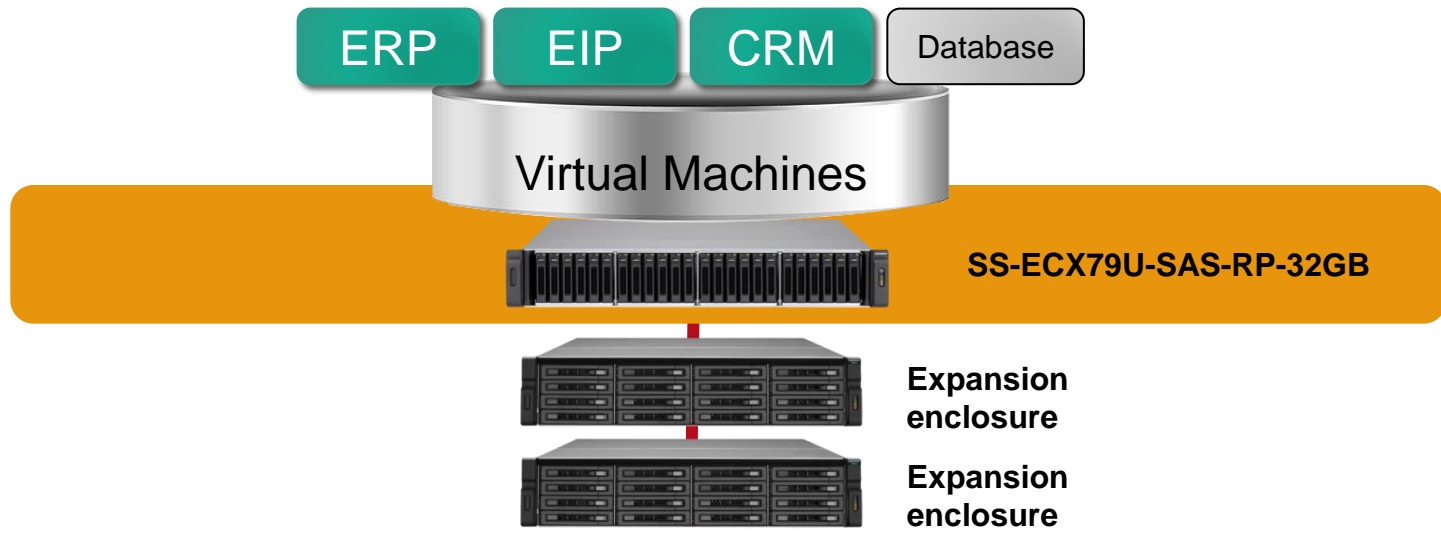
- Provides a high-speed connection & large storage capacity for web servers
- Operate existing ASP/ASPX web pages & databases on a Virtual Machine with a supported operating system



Case 3

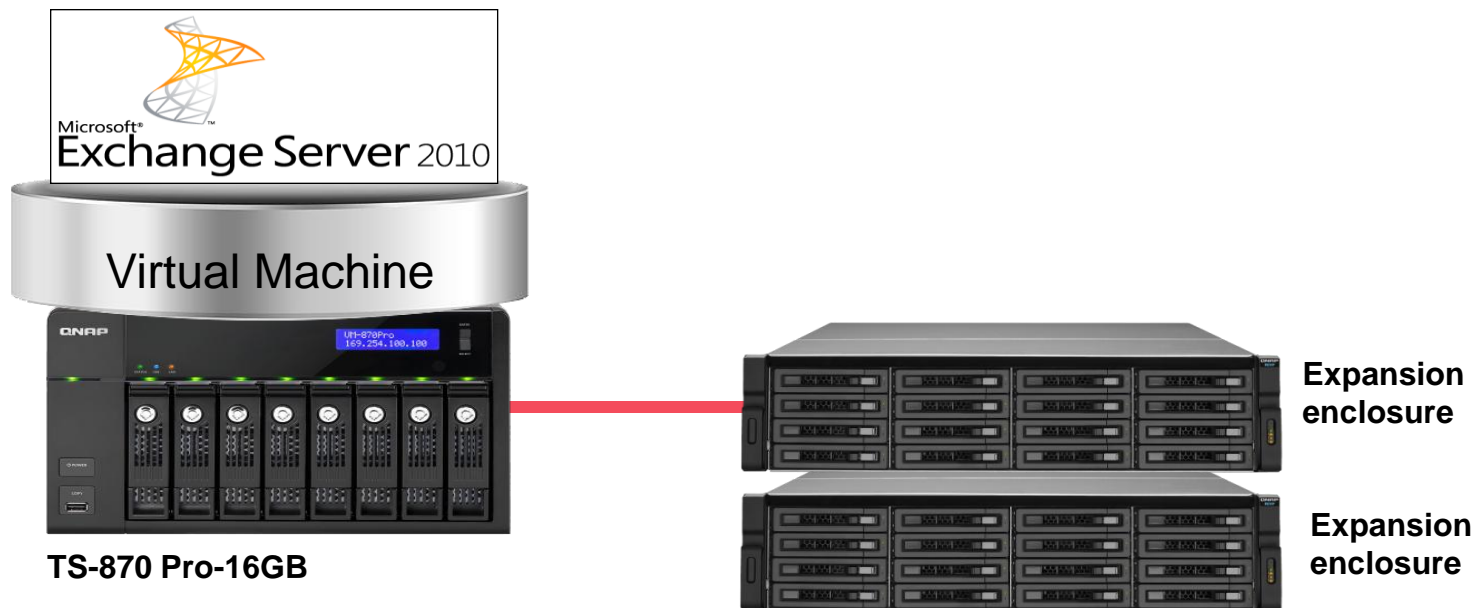
- ERP/EIP/CRM system

- High performance computing with Intel® Quad-Core Xeon™ E3-1245 v2 3.4 GHz Processor and 10 GbE network interface
- SSD Cache acceleration
- Highly reliable data protection with QNAP RAID technology
- Backup data directly to the QNAP Turbo NAS



Case 4

- Microsoft Exchange server
 - Large storage capacity for storing a vast amount of emails
 - Data backup & storage capacity expansion
 - Enter archived emails and browse instantly without downloading



Case 5

- Windows Active Directory Server
 - Manage servers on the virtual machine easily and efficiently



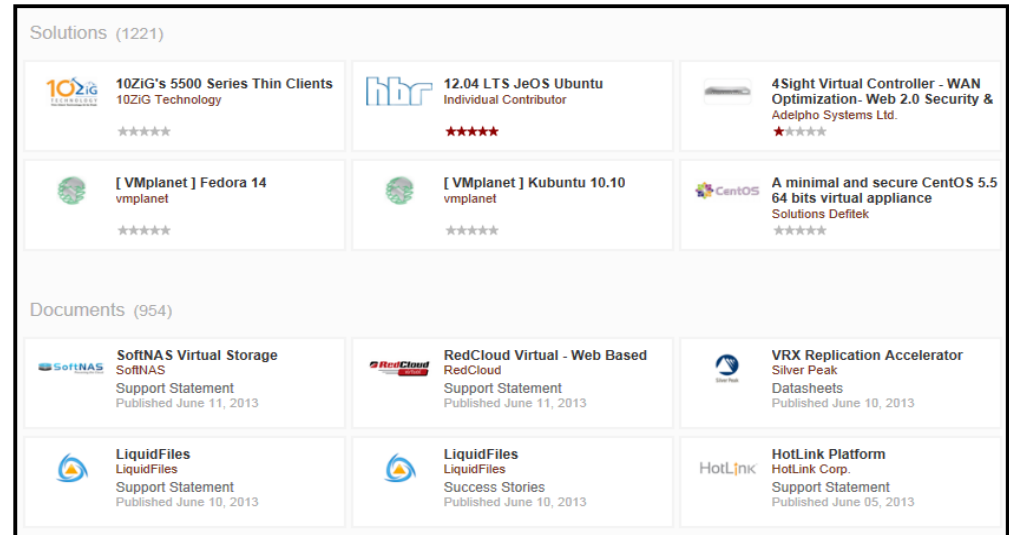
TVS-870

Download more VMs from online Store

- Build your enterprise-package of information systems easily & quickly
 - Import to Virtualization Station and instantly use applications on VMs
 - Compatible with **VMware Virtual Machines & VirtualBox Virtual Machines**
 - Online store:
 - Bitnami App store: <https://bitnami.com/stacks>
 - VMWare Marketplace: https://solutionexchange.vmware.com/store/category_groups/19



Bitnami App store



VMWare Marketplace

THANK YOU
