

DDS

Your Total Diskless Network Solutions

DDS is a Linux based solution that uses iSCSI technology to bring an entirely new range of solutions, flexibility and cost reductions to businesses. The feature of **DDS** is a server based network where software applications and programs are held on the server, and runs on Client PCs. Therefore, Client PCs do not require a hard disk anymore. Centralizing operating system data by deploying **DDS** enables storage virtualization at the level of the local hard drive, and allows extremely fast server and desktop deployment. This makes **DDS** an ideal network management software which is suitable for Cybercafé, Education Institutions, Training Centers and Offices that deploys a network.

Until today, administrators or technical support staffs are still having frustrations when it comes to troubleshooting and maintaining a group of networked PCs. The majority of problems faced by administrator or technical support staff in a networking environment are:-

- Programs/Applications/Games/Windows Updates to all PCs
- Virus attacks and Virus removal
- Faulty hard disks replacements
- Upgrading to a bigger capacity hard disks
- Operating System Backup / Restoration
- Freeze/Unfreeze PCs when doing updates (Recovery system)
- Windows / Files Protection
- Maintaining different specification PCs
- Troubleshooting PCs
- Efficiency Methods to maintain PCs

MICHAELSOFT DDS SDN BHD (767256-K)

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Why DDS?

Listed below are some quick facts if you use **DDS**:

- **SAVE** a lot of investment cost in hard disk and future hard disk upgrade cost
- **SAVE** tons of cost on retail operating system (**DDS** uses Linux OS on its servers)
- **SAVE** monthly electricity cost
- **SAVE** investment cost in buying recovery software, recovery hardware
- **SAVE** investment cost in buying Backup/Cloning software and other Game/Software update software
- **SAVE** investment cost on Antivirus software
- **SAVE** "Time" on updating game patches, software patches and others if compare to using "go-back" or other recovery and protection software
- **SUPPORT** different specification Client PCs with different drivers (Different Motherboard, Display + Sound Card and etc)
- **SUPPORT** Multi Restore Points
- **SUPPORT** Multiple Images (able to have 10 Client PCs as Malay Language Windows, 10 as English Language Windows, 10 as Chinese Simplified Language Windows, 10 as Chinese Traditional Language Windows, 10 as Japanese Language Windows and another 10 as Russian Language Windows)
- **SUPPORT** Multi Sync between Servers
- Easy maintenance and helps you to manage multiple branches remotely, save fuel consumption on transportation
- Help keep the world **Green** by using less electricity power
- Programs/Applications/Games/Windows Update to all PCs
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- Maintaining different specification PCs

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Benefits of DDS

Free Server OS Licensing

SAVE on server Operating System license since **DDS** server utilizing "FREE" Linux OS.

Total Cost of Ownership (TCO)

SAVE on Hard Disk Drive investment and future HDD upgrading cost.

Less Maintenance, Cost & Time

SAVE cost and time since doing update on a PC means that you also updating every PCs in your network.

Help Planet Earth, go Green

SAVE our green planet by not using Hard Disk Drive, generate less heat without HDD, pay less electric bills, and travel less due to the easiness on maintaining.

No recovery software/ hardware/ backup/ cloning needed

SAVE cost as "**RUR**" feature are included in **DDS**.

Recovery Upon Reboot (RUR)

SAVE trouble as "**RUR**" feature ensures that any harm done to the client PC will be undone once client PC reboots.

DDS Multi-Driver (DMD)

"**DMD**" feature supports all kinds of Client PC's specification, able to work with different motherboards, display adapters, sound cards, webcam and etc.

DDS Multi-Image (DMI)

"**DMI**" feature enable **DDS** server to boot on multiple versions of Windows / Linux OS / Languages to support different needs.

DDS Multi-Restore (DMR)

"**DMR**" feature will create restore point for every updates done on the master hard disk.

DDS Multi-Sync (DMS)

"**DMS**" feature enables Multi Synchronizing between Servers, so it can be use to create additional servers, or just doing regular backup.

Load Balancer feature and "ZERO" Down Time

During the booting of client PCs, it automatically selects the least network load server. With 2 servers running simultaneously ensures that if situation like hardware failure on one server, second server will take over all the operations.

Immune to Virus and Trojan

With "**RUR**" feature, all client PCs will reset back to original mode hence thoroughly eliminate any virus attack and hacking.

Accelerated network performance

DDS utilize the enhancement driver transmission protocol to increase the performance of client PCs. With this feature, client PCs are performing at an incomparable speed.

DDS supports RAID technology

Supports RAID0 for high hard disk performance.

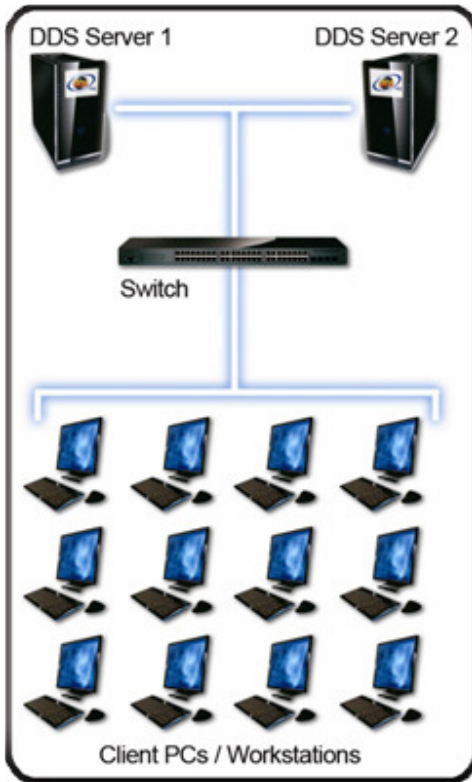
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DDS Setup

Generally, **DDS** works in a very simple way as shown on the picture on the left. There will be a set of **DDS** Servers, labeled as **DDS Server 1** and **DDS Server 2**. These 2 servers will be connected to a Switch where all the Client PCs/Workstations are connected to.

When switching on a PC or a Workstation, the PC/Workstation will boot from **DDS** Servers through the network instead of a hard disk. In short, all the data reading and writing will be performed on the servers. Logically, this may make you think "Won't this be slower?" Worry not because **DDS** utilizes an enhanced driver transmission protocol which guarantees that the PCs/Workstations are performing at an incomparable speed. A set(2) of servers are recommended to run only a total amount of 100 PCs or lesser.

For more in-depth details about **DDS**, please do [contact](#) us to learn more.

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Comparison Chart

The Chart Shows a Comparison of DDS vs Other Solutions Available in the Market.

Features / Product Brands	DDS (A)	iXXX (B)	Games Server (C)	Other Diskless Solution (D)	Recovery Card / Software (E)
CyberCafe - Software Manageability (maintenance, troubleshoot, labor time, labor cost)	5/5	4/5	4/5	4/5	2/5
Support Third Party Software (eg: install Microsoft Office, Open Office, Winamp and etc)	YES	YES	N/A	YES	N/A
Least Hardware Upgrade Cost	5/5	2/5	5/5	5/5	N/A
Client PCs Performance	5/5	3.5/5	3/5	4/5	N/A
Network Performance During Updates/Deployment	5/5	2/5	3/5	3/5	N/A
Setup Time For Existing/New Cybercafe (Complete Configuration & Installation)	5/5	2/5	2/5	3/5	N/A
Multi Driver Support (Network, Display Card, Webcam and etc)	5/5	2/5 (Only iXXXX Network Adapter)	N/A	4/5	N/A
Load Balancer Features (Zero "Down Time")	Yes	N/A	N/A	N/A	N/A
Lower Hardware Specification Requirement For Client PCs	Yes	N/A	N/A	Yes	N/A
No Hard Disks Required	Yes	N/A	N/A	Yes	N/A
Multiple Restoration Points	Yes	N/A	N/A	Yes	N/A
Supports RAID Technology	Yes	N/A	N/A	Yes	N/A
Immune To Viruses	Yes	Yes	N/A	Yes	Yes
Using FREE Linux OS	Yes	N/A	N/A	N/A	N/A
Recovery Features	Yes	Yes (with latest 3.0 version)	N/A	Yes	Yes

The chart below shows items you have to buy when not using DDS Solutions.

ITEMS	DDS	Other Solutions
Windows 2003	-	RM 2,500.00
Anti-Virus (3 Client License)	-	RM 90.00
Recovery Software (50 PCs)	-	RM 9,500.00
Maintenance Service Fee (Provided by Maintenance Company, 50 PCs per month)	-	RM 2,250.00
Hard Disk (500Gb, per Unit)	-	RM 220.00
Cloning Software	-	RM 130.00
Master HDD (with 750Gb Games Installed)	-	RM 500.00

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Hardware Specification

Server Requirement	
Server motherboard	Gigabytes DS Series, Asus, i945, i965 chipsets, P35 Chipsets, P45 Chipsets, Intel® Xeon Server Motherboard
Network Adapter	Recommend to use Intel® Pro 1000, 3COM, Dlink
Network Switches	Recommend to use Dlink/3COM (24x100Mbps+2x1000Mbps) Switch, or 1000Mbps Network Management Switch
IDE RAID Card	Recommend to use Promise TX4000 IDE Raid Card, Rocket RAID 404/454
SATA RAID Card	Recommend to use Promise TX4200/ 4300 SATA Raid Card, Rocket RAID 1640 Raid card
SATA 2 RAID Card	Recommend to use Promise TX4310 SATA Raid Card, Promise TX4 S150, the Rocket RAID 2220 Raid card
SCSI RAID Card	Recommend to use Adapter 29320, 39320, 2010S, 2130S, DELL 2610
Other SATA Controller	Recommend to use ICH7R, ICH8R, ICH9R, ICH10R, Silicon Image 3114/3124 (can use as software RAID, may not work on some brand)

Small Network Environment (Client PCs <60)	
Server Memory	2Gb memory
Game Disk	Two SATA2 hard disk, setup as RAID0 using SATA2 RAID Card or Integrated Intel® RAID provided by the Motherboard
Operating System Disk	Two SATA2 hard disk, setup as RAID0 using SATA2 RAID Card or Integrated Intel® RAID provided on the Motherboard to install Linux operating system and to store image files
Network Adapter	2 units of 1000Mbps Network Adapter, recommend Intel® Pro 1000 Network Adapter Card
RAID Card	Promise TX4310 SATA Raid Card, Promise TX4 S150 Raid Card or using Intel® Integrated RAID, example, Gigabyte's GA-EP35-DS3R's Intel® Matrix Storage Technology.
Network Switches	Switches that come with 2 * 1000Mbps Uplink port or 24 * 100 Mbps ports

Medium Network Environment (Client PCs 60 140)	
Server Memory	2Gb or 4Gb memory
Game Disk	Two SATA2 hard disk, setup as RAID0 using SATA2 RAID Card or Integrated Intel® RAID provided by the Motherboard
Operating System Disk	Two SATA2 hard disk, setup as RAID0 using SATA2 RAID Card or Integrated Intel® RAID provided on the Motherboard to install Linux operating system and to store image files
Network Adapter	2 units of 1000Mbps Network Adapter, recommend Intel® Pro 1000 Network Adapter Cards
RAID Card	Promise TX4310 SATA Raid Card, Promise TX4 S150 Raid Card or using Intel® Integrated RAID, example, Gigabyte's GA-EP35-DS3R's Intel® Matrix Storage Technology.
Network Switches	Switches come with 2*1000Mbps Uplink port and 24*1000 Mbps ports or Switches come with 1000Mbps * 24 ports

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Large Network Environment (Client PCs > 140)	
Server Memory	4G memory and above
Game Disk	Three SATA2 hard disk, setup as RAID0 using SATA2 RAID Card or Integrated Intel® RAID provided by the Motherboard (Recommend to use SCSI RAID)
Operating System Disk	Three SATA2 hard disk, setup as RAID0 using SATA2 RAID Card or Integrated Intel® RAID provided on the Motherboard to install Linux operating system and to store image files (Recommend to use SCSI RAID)
Network Adapter	2 unit 1000Mbps Network Adapter
RAID Card	Promise TX4310 SATA Raid Card, Promise TX4 S150 Raid Card or using Intel® Integrated RAID, example, Gigabyte's GA-EP35-DS3R's Intel® Matrix Storage Technology. (Recommend to use SCSI RAID)
Network Switches	Switches come with 1000Mbps * 24 ports, running pure 1000Mbps network environment

NOTE: If there are any questions regarding the requirements in the charts above, please do not hesitate to contact our Live Support for any questions or enquiries.

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