

## Advance and Leading Technology

**DDS** uses the iSCSI technology to enable diskless working environment for client PC, eliminating the need for a local hard disk in each client PC, which gives more benefits over local hard disk. Each client PC will access all the data needed from the **DDS** server, including OS, games, applications, movies, and music.

The important breakthrough with this technology is a centralized management, a centralized storage, and a centralized maintenance on the hard disk in the **DDS** server system. At the same time, **DDS** maintains full compatibility over local hard disk. OS, games and application will run normally in each client PC without any compatibility issue or interruption. Client hardware like CPU, graphic card, sound card, RAM, all will work normally under diskless Client PCs without any special configurations on the Client PCs. **DDS** also uses a high performance RAID0 hard disk and virtually all clients PC will be able to enjoy the performance offered by RAID0 without the expensive cost to setup RAID0 in each client PC.

**DDS** is highly suitable for Cybercafés because **DDS** can have constant performance even for over a long period of operation time (even if the Cybercafés is open for 24 hours a day, 7 days a week). Many local Cybercafés are now using **DDS** and the Cybercafés business operations are still running at top notch up until now. This is an important advantage over other Cybercafés solutions which are using unreliable technology that were developed in a short period of time. Such unreliable Cybercafés solutions often leads to system crash, hang, data corruption, slow performance, inefficient ways of updating system software or games, difficulty to maintain Client PCs conditions. Many of this 3rd party solution will be supersede by **DDS**, as **DDS** is able to perform all the same task but with unquestionable stability.

## Advantages of DDS over a normal local hard disk-based Cybercafés.

**DDS** offers data backup, and data restoration functions. This will greatly reduce the time and cost due to human errors, virus infections, system failures, data deletion, spyware infections and data errors due to corruption. This too lightens technician's work load and improves system uptime.

A typical Cybercafé always has 5%-10% number of PCs that is not operational, usually due to hard disk failure, data corruption or hard disk bad sectors. They are often labeled "Under maintenance" or "Broken" which wouldn't benefit the Cybercafé owner.

By using **DDS**, this kind of problem can now be avoided. Just a simple reboot and the PC will be up and running again just like new. Since the Client PCs does not contain a local hard disk, any abnormal shutdown or reboot won't cause any hard disk data corruption that would render it unbootable/unstable.

To make a difference in LAN games and 3D game, it all depends heavily on the processing speed from CPU, graphic card processing speed and hard disk read/write speed as we all know. **DDS** uses a high performance RAID0 hard disk and virtually all clients PC will be able to enjoy the performance offered by RAID0 without the expensive cost to setup RAID0 in each client PC. **DDS** is able to cache frequently used data and transfer it over the network quickly. This improves client performance and reduces the CPU usage needed to read/write local hard disk.

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## DDS time/cost comparison with Traditional PC Setup (100 PCs First Year)

Traditional PC setup:

| Task                      | Install Master Disk | Clone                          | Time   | Man Power | Note   |
|---------------------------|---------------------|--------------------------------|--------|-----------|--|
| <b>First Installation</b> | 5h +                | (1h * 99 PCs) =                | 104h   | 1         | Master disk installation(5h) / Clone to 99 PCs   |
| <b>Network Setting</b>    |                     | (0.5h * 100 PCs) =             | 50h    | 1         | Network configuration on each PC   |
| <b>Games Update/Year</b>  | 100 times           | (0.5h * 100 PCs X 100 times) = | 5000h  | 1         | 100 times per year (0.5h per update)   |
| <b>Miscellaneous</b>      | 100 times           | (0.5h * 100 PCs * 100 times) = | 5000h  | 1         | Disable, re-enable protection software, troubleshooting unstable games/software, or system errors. |
| <b>Total Time</b>         |                     |                                | 10154h |           | Initial setup and 1st year maintenance time  |

NOTE: All hours showed on the chart above are only estimations.

Initial setup and 1st year maintenance time on normal PC system with local hard disk take a total time of 10154 hours (or 423 days, or 14 months) to perform. Even if the estimation is halved, meaning 5077 hours (or 211 days, or 7 months), the workload is still way too much and inefficient. If games are not updated in time, system errors are not solved, this will only give customers a bad image of the Cybercafe. Customers will not visit the Cybercafe if the games are not updated and errors always occurs when they are using the Client PCs. Naturally, customer will then move on to nearby Cybercafe that provides latest games and a more stable system.

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**DDS system setup:**

| Task                      | Time               |   |      | Man Power | Note   |
|---------------------------|--------------------|---|------|-----------|--|
|                           |                    | = |      |           |  |
| <b>First Installation</b> | 1h + 1h            | = | 2h   | 1         | Install <b>DDS</b> client software on the client hard disk and ghost the master disk to <b>DDS</b> server RAID disk. |
| <b>Network Setting</b>    | 1h * 1 PC          | = | 1h   | 1         | Configure network on a client PC in Super Workstation mode.  |
| <b>Games Update/Year</b>  | 100 updates * 0.5h | = | 50h  | 1         | Performed 120 games/application update, each taking 0.5h.  |
| <b>Miscellaneous</b>      | 100 times * 0.5h   | = | 50h  | 1         | Troubleshooting games/software, system errors.   |
| <b>Total Time</b>         |                    |   | 103h |           | Initial setup on a client PC and 1st year maintenance  |

NOTE: All hours showed on the chart above are only estimations.

By using **DDS**, the initial setup on a client PC and 1st year maintenance will only take 103 hours. From this, we can conclude that the workload for a Cybercafe technician has been significantly reduced. Which also means the technician can now focus more on hardware problems like mouse, keyboards, PSUs which cannot be avoided rather than spending too much time on software issues. Other than that, the Cybercafe that uses **DDS** will be opening for business much sooner than the others, taking over the market and building up customer base earlier than competitors. In short, the huge amount of time and cost saved by deploying **DDS** over conventional local hard disk has proven to be more efficient and efficient is the way that any kind of business would like to run on.

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