Target Keyword: raid storage
Page Title: Portable RAID units - big storage in a small footprint.

RAID storage is the newest among data storage devices available to those who need a great deal of storage space and want to back up huge amounts of data at fast speeds. Portable hard disk drives and pen drives have certain inbuilt limitations as far as size and transfer speeds go – RAID (Redundant Array of Independent Disks) is much faster and offers immense storage space. What's more, RAID is a kind of disk array that is easy to install and use.

Types of RAID storage

Many kinds of RAID storage are available and you have to determine which one will best suit your needs. These drives range from the basic to the advanced models and include:

- RAID 0 - this is like a spanned volume, but it uses striping, writing data across all your drives, making read speeds fast. A negative is that in case one drive fails, you stand to lose all your data.
- RAID 1 – uses a concept that is called mirroring. It writes everything that is written on the main drive to a second drive ensuring a full back-up, with little risk of failure.
- RAID 2 – uses striping and some disks store error checking and correcting information.
- RAID 3 – uses striping and parity information with embedded error checking information.
- RAID 4 – uses large stripes making it easier to read from.
- RAID 10 – offers the best of both of the above, striping and mirror. You need at least four disks, two to stripe and two to mirror.
- RAID 5 – uses a concept called parity, storing recovery data in smaller parity bits that are spread across multiple drives. This is cheaper, but much slower and needs three to five disks.

There are many more RAID devices, each one having its pros and cons and, often, if you want to spend less you have to compromise on performance. On some RAID models you can add 2.5" or 3.5" SATA drives at a later stage to expand capacity.

Benefits of using RAID

If you have a business that needs a huge amount of storage data or even if you are a hobbyist needing storage for movies, music, and photos, and if you are continuously needing to upgrade your computer's hard disk for space, you need to back up all your work and files in a safe manner, so that your work does not

suffer in case of data loss or corruption. It is a great option for medical image storage, digital video storage, music files, photos, movies and more.

RAID storage is easy to install and use, and offers flexibility and scalability. You can even use the tray free technology in which you simply insert the drive into the sled and shut the door. With multiple terabytes of memory, you will never run out of space again and never have to suffer from irretrievable data loss.

Target Keyword: data storage devices
Page Title: The advantages of bundling hard drives with your storage purchase

Extensive work on the computer means that you need that much more space to store the data, and you know that data should always be backed up. This protects against loss of data due to corruption, bad drives, virus attacks or even hardware failure. If you don't back up your data, you are leaving yourself open to many potential problems. Often data on hard disk drives may be irretrievably lost; even if it can be recovered it will cost you a great deal in money and time, and you will be without your data until such time as it is recovered. Even if your hard disk is covered under warranty, that only means that you will get a new hard disk (or the existing one may be repaired), but the manufacturer is not responsible for data loss.

Buying all the storage together

To obviate any potential for data loss, when you are in the market for data storage devices, it always a good idea to buy all the storage you need at one time and from place. The advantages of doing this are many and include:

- Your devices will be compatible with one another and work seamlessly.
- You will be able to judge how much storage you need as your extra storage should always be much more than your laptop/desktop hard disk storage.
- You will be able to save money on the purchase.
- Your units will be configured and in a ready to use condition when you buy them.
- Reading and writing of data is done simultaneously on RAID devices.

While you may consider flash drives for limited storage or external hard disks for higher capacity storage, RAID storage is a must if you have a large amount of data. This may be the case if you need digital video storage, medical image storage, a network storage device, movies, music and photos. Often, records of large companies occupy a great deal of space and there are many sectors that need terabytes of storage.

Data storage devices like disc arrays using RAID technology offer storage in terabyte multiples, quick storage and easy backup. RAID is extremely useful when external storage does not need to be moved around and it helps protect hardware integrity as well, since portable storage devices are more prone to failure.

There are many different kinds of RAID disks available and you need to select the one which will be right for your needs. Different disks write data differently and come in varied capacities and in a range of price points. With hardware encryption and plug and play capability, RAID data storage devices are ideal back-up storage for large and small businesses.

Target Keyword: digital video storage
Page Title: Financing your RAID purchase - how a smart lease can save you money and provide more flexibility.

Digital video storage is extremely important, especially when you constantly need to back up all your important data, projects that you are working on and for future storage as well. That is why it is always better to buy more back-up storage than you think you need. RAID is a great solution, but it is not cheap. If you don't want to invest a great deal of money in RAID, or you don't have the money to pay for RAID, you have the option of leasing it.

Why rent RAID?

Sometimes leasing RAID makes good sense and not just for financial reasons. When you need to back up your data temporarily, leasing is a more financially viable option than buying. Among the benefits of renting RAID are:

- You spend the money that you can afford thanks to customized payment plans.

- You get the latest and state of the art RAID storage that you may not otherwise be able to buy.
- You are protected against obsolescence. In the digital market whatever you buy today is going to be obsolete before you know it, but thanks to leasing you can always be one step ahead.
- If you opt for a smart lease, you can include the training and installation costs in your agreement.
- If you have an existing line of credit at a bank or financial institution, leasing does not affect it negatively.
- You can even buy RAID if you so wish at a pre-determined period at a specified price.
- When you lease digital video storage you usually get hardware and software support from the company.
- Often leasing may be a tax deductible expense if it comes under operating costs, so you save on tax as well.

When leasing RAID is a sensible solution

If you are running a business or are an independent contractor, but need digital video storage back-up, you may have been using conventional methods of storage like back-up or external hard disk drives. These have their own limitations as far as space and speed are concerned. On the other hand, RAID drives offer terabytes of space and are extremely fast and offer storage for:

- Digital video footage
- Large uncompressed audio and other media files
- High resolution images
- Film and television projects
- Multi-media presentations

Digital video storage in the form of RAID enables you to select from a striped or mirrored set (or a combination). Each type of RAID storage has its own benefits and with leasing you can even experience the benefits first hand before deciding which one you want to buy. When you rent RAID you have many choices and you are not stuck with one if it does not suit your requirements.

Target Keyword: medical image storage
Page Title: Legacy units - how interfaces like SCSI and eSATA can still be a valuable part of your storage design.

Medical image storage is of utmost importance in a medical facility and it is very easy to run out of storage space, considering that stored files are large. Since there is daily ongoing work at a facility that requires medical image storage it is necessary to have sufficient storage. When you are in the market for more data storage devices you should consider SCSI and eSATA that are both reliable and reasonably priced. They can easily be used by small and medium businesses.

The Benefits of eSATA

First there was ATA, but now with Serial ATA, this kind of drive has taken a quantum leap. ESATA is a serial link that provides high transfer rates. It no longer has parallel interface issues such as drive addressability and has gotten over the limitations on the number of devices per port connection. You now need fewer wires and they can be longer, so you do not face connection problems. The connector design is improved and has easier routing with better air flow. This kind of storage offers a varied range of combinations of speed and performance and you can get the combination that will work for you at a reasonable price. The newest eSATA drives offer good performance parameters for their price. Other key points of SATA drives include:

- It is relatively cheaper.
- It offers large capacities.
- It has faster transfer rates compared to ATA.
- It needs smaller cables for better heat dissipation.
- It may not be supported by older systems.
- It offers slower transfer rates than SCSI.

The advantages of SCSI

SCSI has been around for a long time and during its history it has always improved in terms of performance and speed. However, it has always offered a parallel rather than serial interconnect and often existing motherboards did not support it because the interface to give the support was expensive. With SAS (serial attached SCSI) all these limitations have been overcome and it now offers fast speeds. Other key points of SCSI include:

- It offers high speeds.
- It can be used for a huge range of applications.
- It offers better scalability and flexibility in Arrays (RAID).
- It offers compatibility with older SCSI devices.
- It is reliable for storing and moving large amounts of data.
- It can be used for 24/7 operations.
- However, it is expensive.

Either of the drives can be used for medical image storage, depending on your budgetary constraints, your usage and the storage space and performance that

you require. You can also check with the hardware experts for advice regarding your storage needs and which kind of drive will be the best fit for your organization.

Target Keyword: network storage device
Page Title: 10Gb iSCSI - how the new standards make iSCSI an even more attractive option.

For a network storage device, the iSCSI is a much improved protocol that connects large amounts of storage to virtual servers and desktops. The higher bandwidth, 10GB Ethernet, allows for common infrastructure and LAN traffic that was earlier only available via Fibre Channel. This makes the 10GB iSCSI used over a storage area network an attractive option as it saves costs and offers a better storage environment. The high cost of storage coupled with the need for increasingly larger storage and more efficiency without having to spend a great deal of money has often been a deterrent to medium and small enterprises, but the new standards in iSCSI storage fulfill a real need.

Why use the new 10GB iSCSI as a network storage device

There are many different backup storage options available, but you either have to invest a great deal of money or need hardware and software upgrades or require more space as well. This protocol is efficient, cost-effective and easy to use and install. Additionally it offers many benefits to the users including:

- Existing servers can be consolidated to reduce use of space, power and other overhead expenses.
- Using iSCSI helps reduce losses in processing power as a single server can be used while defining multiple virtual machines.
- Interconnectivity for virtual environments is faster.
- Basic iSCSI is supported by most operating systems.
- Offers enhanced server management.
- Improved disaster recovery in the event of data loss or corruption helps in business performance.
- Offers greater capacity with a single link.
- Support for iSCSI multipath makes for better performance and reliability.
- Set up and installation can be done in as little as 20 minutes.
- The system is scalable.
- It is future proof so hardware is not likely to become obsolete fast.
- Existing network infrastructure can be used.
- Performance is comparable to Fibre Channel that is much more expensive.

Often small and medium sized businesses have inefficient direct access storage devices that are increased as need for storage increases. However, this means that storage management is difficult and often hardware may not work together. The standard iSCSI enables interoperability network storage and at a more affordable price. iSCSI uses SCSI and Ethernet that are storage and networking standards and most operating systems support iSCSI initiators. This protocol allows packets to be sent over the network thanks to point to point storage. Different platforms can thus share the same storage, improving efficiency and usability.

The iSCSI initiator can easily be connected to a network and this can use a network card; alternatively a card with a TCP offload engine can also be used. The target storage devices also implement the iSCSI protocol allowing for seamless use. All these factors make iSCSI a superior network storage device that delivers in terms of performance at a reasonable price.