

?? 18, 2007 ??? sunchiahome

??? NAS/SAN ??,?????? Storage ???,?????? NAS/SAN ??????.??? Storage ????? 3 ?.

DAS (Direct Attached Storage)

???????????????????? DAS ,?? Floppy , Hard Disk(IDE / SATA / SCSI / SAS / SSD) ,Tape , CD / DVD /Blue Ray Disk.

???? : IBM / Fujitsu / Hitachi / Seagate / Toshiba / WD

NAS(Network-attached storage)

??? NAS,?????????????????????.???????(File based)?????????.?????? windows ???,???? licence ??????.????????????? NAS
???? Linux ??????????,????????? samba(? Linux ???????(?????)?????) ?????????????????? NAS.??????????,??????????????????
NAS ??????.?????????.

???? : NetApp / FalconStor

????????????????? **FreeNAS**

??? Linux ?? samba ?????? NAS **RHEL5 - Samba**

SAN (Storage area Network)

??? SAN (Storage area Network),?????????????(Raw Device),???????? NAS ??????????.?????? Server ???????,? Server ?
?????????????.????????????????????? serve ?????????,?????????????.??? SAN ?????????,???? 1G,10Gb ??(????????? iSCSI ???,???
TOE:TCP/IP offload engine,???????????????????????? CPU ?????)???,????????????,????????????????????(???????? 2G,4Gb,????
-850 mm,??-1310 mm),???????? iSCSI(Internet SCSI),????????????????? SAN,??? IP-SAN.

???? : EMC / NetApp / FalconStor

Initiator ??? "?????" ?????, Target ??? "?????" ?????.

Fiber SAN:

?? IBM DS3400 : IBM DS3400 ?? SAN ,???? IBM ??????,??? Host ? logical Drive ???,Server ????? SAN ?????
Lun(Logical Unit Number) Disk.

IP SAN:

??? IP-SAN ? iSCSI / FCoE / FCP / AoE

1.iSCSI (Internet SCSI):

iSCSI ??? SAN????? SAN????????? Server ??????.???????? SAN ?????????????? iSCSI(Internet SCSI)?? IP-based ?????????
?.????????????????????.

2.FCoE

3.FCP

4.AoE:

AoE ?????? Brantley Coile Company (<http://www.coraid.com/>) ??????????????????.AoE ? IP SAN ??????,????????
iSCSI ?????????????? Raw device ??????????????.

??:

SAN - ??? "LUN"

?? SCSI RAID ??? SCSI HD ??????????(LUN),SCSI ??????????????????????.?? RAID ?????????? SAN (Fiber / iSCSI) ??

Fiber

Fiber - ?????

????(MMF, Multi Mode Fiber)/????(SMF, Single Mode Fiber)

Fiber - Throughput

Fiber ????????? 8/10

Fiber - Tranreciver ???

Tranreciver ????????? "transmitter-receiver" ????????????????? transmitter ? receiver .

Fiber - WWN FC ????????

????? MAC Address(48bits) ??????.???????????? WWN

Fiber - Fiber (10GBASE-R)

10GBASE-SR / 10GBASE-LR / 10GBASE-LRM

note:

TOE (Transport Offload Engine)

<http://taiwan.cnet.com/enterprise/press/0,2000062927,20041021,00.htm>

RDMA (Remote Direct Memory Access)

<http://taiwan.cnet.com/news/hardware/0,2000064553,20085066,00.htm>

<http://taiwan.cnet.com/news/hardware/0,2000064553,20073749,00.htm>