HY590.45
Modern Topics in Scalable Storage Systems

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Petal: Client view

- LFS (Petal Client)
- NT FS (Petal Client)
- PC FS (Petal Client)
- BSD FFS (Petal Client)

Scalable Network

Petal

A virtual disk

/dev/vdisk11
/dev/vdisk2
/dev/vdisk3
/dev/vdisk4
/dev/vdisk5
Goals of Petal

• Tolerate and recover from any component failure

• Geographically distribute to tolerate site failures

• Transparently reconfigure to expand, balance load

• Dynamically balance load

• Fast and efficient support for backups and recovery
Physical structure
Server modules
Virtual to physical mapping

\[ \langle \text{vdiskID, offset} \rangle \rightarrow \langle \text{serverID, diskID, diskOffset} \rangle \]