



IBM Enterprise Mainframe Tape Solutions

TS7700 Grid Overview

SHARE in Orlando – Mainframe Virtual Tape Replication

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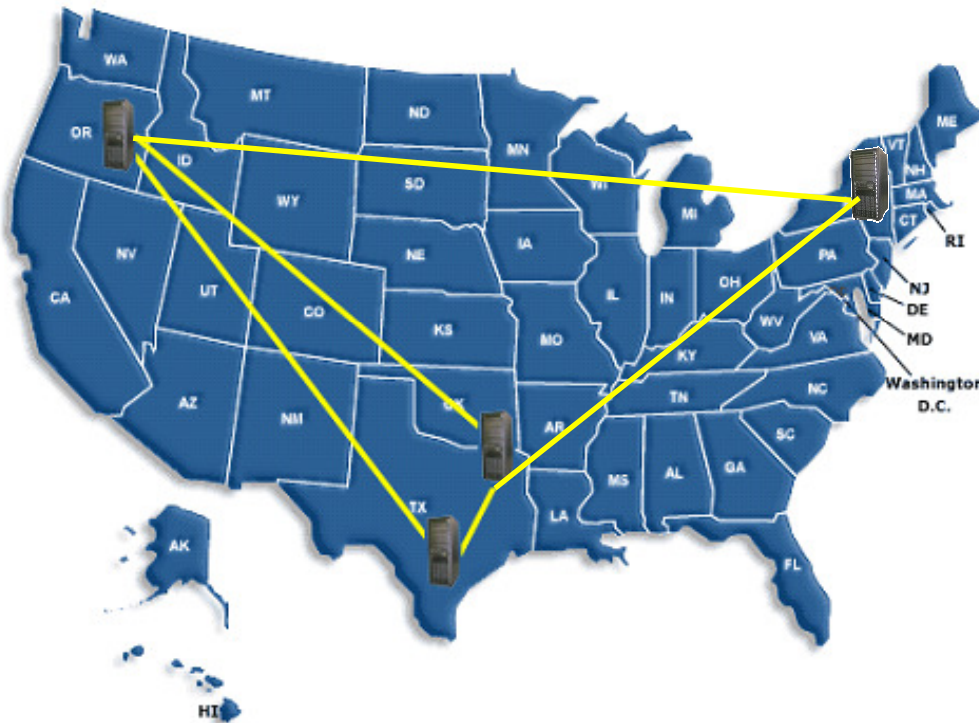


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TS7700 Grid Solutions

- **WAN interconnected TS7700s form a Grid configuration**



Optimized for Recoverability and Automatic Failback

- **Each TS7700 provides**
 - ▶ An Enterprise level Power7 pSeries
 - ▶ 256 independent virtual devices
 - ▶ 1536 total devices all having equal and automatic access to all data (6-way)
 - ▶ 4 - 4Gb FICON Channels
 - ▶ Optional support of back end tape attach
- **Interconnect is standard TCP/IP using dual or quad 1Gb links, or dual 10Gb links**
 - ▶ Supports 1000s of miles of separation
- **Transparently replicate to one or more peers**
 - ▶ Policy control for location of copies and how copies are made
 - ▶ Does not utilize disk based replication
- **Can be configured for disaster recovery and/or higher availability environments**
 - ▶ One to six site configurations
 - ▶ Add/Remove clusters for transparent data center migrations

TS7700 Grid Solutions



■ There are no primary or secondary clusters in a grid

- ▶ Each TS7700 cluster is an equal participant in the grid
- ▶ Each TS7700 can be both a source and/or target for any volume in the grid
- ▶ Independent of where a volume is created or replicated, all clusters can access all volumes
 - Any instance of the same volume (original or replica) can be accessed from any cluster's devices without manual intervention.
 - TCP/IP can be used as an embedded channel extender to access remote content

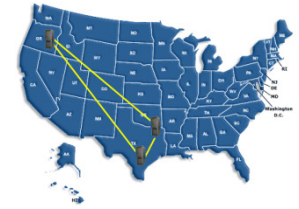
■ DFSMS OAM Managed Library

- ▶ Seamless integration with standard z/OS applications
- ▶ Leverages OAM library management native to z/OS
 - Library states, health, monitoring, console commands and tight integration with allocations

■ Volume granular DFSMS policy management

- ▶ Seamless integration with DFSMS policies through ACS routines at volume granularity
- ▶ For example, independent of volume range, scratch pool, host or cluster connectivity point, a volume can easily be replicated to one or more peers
- ▶ Policy managed volume characteristics such as Logical WORM are mirrored across all clusters

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■ Automatic disaster recovery

- ▶ Any cluster can concurrently access any volume before an outage
- ▶ The ability to access any volume after an outage is equally easy
 - Only requirement is that a copy be available within any of the remaining clusters
 - If the devices are not already online, simply vary them on and go!
- ▶ Any updates during the outage are automatically reconciled when the downed cluster returns
- ▶ Switching production back to the original cluster(s) is just as easy

■ Disaster Recovery testing simplified

- ▶ With concurrent access to all volume from any cluster, both production and DR testing can occur in parallel while production replication continues

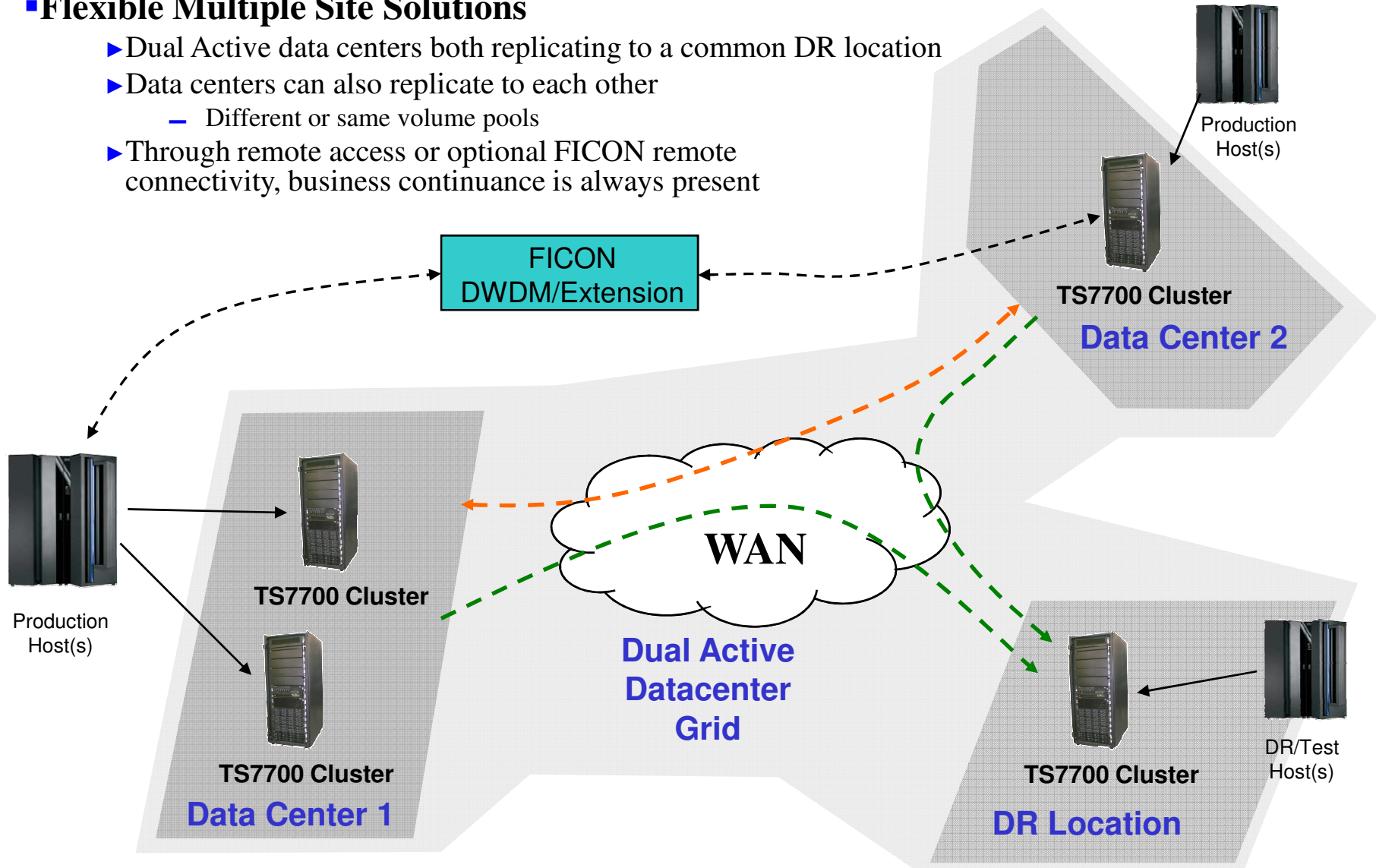
■ All clusters have real-time awareness of consistency

- ▶ All clusters are informed prior to host updates. This eliminates any ambiguity of surfacing stale data at a peer location prior to or after an outage.
- ▶ In the event of an outage, all available clusters can access any previously replicated copies anywhere within the grid and know immediately if they are valid
- ▶ Each cluster requiring a copy can utilize any peer for its source. This means there is no need for a primary node push style of replication.

TS7700 Grid Solutions

Flexible Multiple Site Solutions

- ▶ Dual Active data centers both replicating to a common DR location
- ▶ Data centers can also replicate to each other
 - Different or same volume pools
- ▶ Through remote access or optional FICON remote connectivity, business continuance is always present



Thank You

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