

Mainframe Virtual Vaults - The Next Generation of DR Center Services

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Discussion Topics

- What is a Virtual Tape Vault?
- Use Cases
- Authorized Disaster Recovery Centers
- Vault+-as-a-Service
- About PSR
- 7 Tiers of Disaster Recovery
- Customer Example
- Summary

What is a Virtual Tape Vault?

- A secure, virtual tape, remote replication storage target
- 1 or more 2U remote appliances located at internal or 3rd party DR or colocation sites
- Includes Remote Inventory Auditing capability for tape VOLSERs
- Use Cases:
 - 3rd site
 - Out of Region
 - 2nd site for Disaster Recovery
 - Migration Tool



Use Case: 3rd Copy

Production Site

Mainframe

Luminex MVT



Disaster Recovery Site

Luminex MVT

Mainframe



Vaulting Site

Campus ■

Metro ■

Out of Region ■



Luminex MVT Vault

Use Case: 2nd Copy

Production Site

Mainframe

Luminex MVT



Vaulting Site

- Campus
- Metro
- Out of Region



Luminex MVT Vault

Authorized Disaster Recovery Centers

Configuration with MVT Vault+



ADRC

Customer A Production Site



MVTi



MVT Vault+
(Customer A)

Customer B Production Site



MVTi



MVT Vault+
(Customer B)

Customer C Production Site



MVTi



MVT Vault+
(Customer C)

Mainframe connectivity is only established during recovery or testing events



ADRC activates licensing on demand for DR tests and events



How is it Different from Other Mainframe Physical Tape Vaults (Example: Iron Mountain)?

- The last copy of data is more current vs. PTAM (tape shipping via trucks)
- Data is immediately available via WAN
- Physical tapes are not subject to being lost or stolen
- No ongoing cost for tape media, shipping or storage
- Customers can avoid the risk of data inaccessibility due to driving conditions



How is it Different from Mainframe Virtual Tape Products from Other Major Vendors?

- Size: 2U (rackmountable and portable if required)
- Price: A fraction of the cost
- Activated On-Demand



Vault+-as-a-Service for Disaster Recovery



- Only available via Luminex ADRCs as a service
- ADRCs install, maintain and manage it for DR tests and events
- All hardware needed (including HBA & FICON) is pre-installed
- Bandwidth can be a dedicated connection or a secure VPN/Internet connection at minimal cost

PSR: Authorized DR Center for Vault+

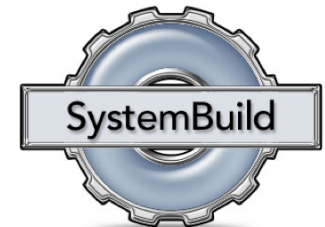


- Every PSR customer operates System Z
 - z/OS, z/VM, z/VSE – Supported, Back Leveled, all Sizes
- Highly skilled and experienced PSR technical and sales staff
 - We focus on operating systems and all Z attached Infrastructure
- Centralized technical approach and remote support allow PSR to operate anywhere in the US
- Primary Data Center in Boston with 7 Mainframes and opening 2nd data center in Chattanooga, primarily for DR backup using Luminex Vault+
- In 2014, PSR was awarded the IBM Beacon Award



PSR Offerings

- Service Plan
 - Retainer based systems programming for z/OS, z/VM and z/VSE and all ISV software products
- SystemBuild
 - Fixed price software upgrade for Z systems including all 3rd party
 - Upgrade is performed at PSR and the customer tests the system at PSR prior to implementation at their site
- Disaster Recovery
 - Mainframe DR service for SMB type customers
 - No Open systems but customer may place equipment at PSR
 - Now offering DR to our hosted and z Cloud customers at 2nd data center
- ServerAssure
 - Pre-Staging and Pre-testing of new IBM mainframes at PSR
 - Customer performs a full acceptance test at PSR
 - PSR is the only IBM Business Partner to offer this service

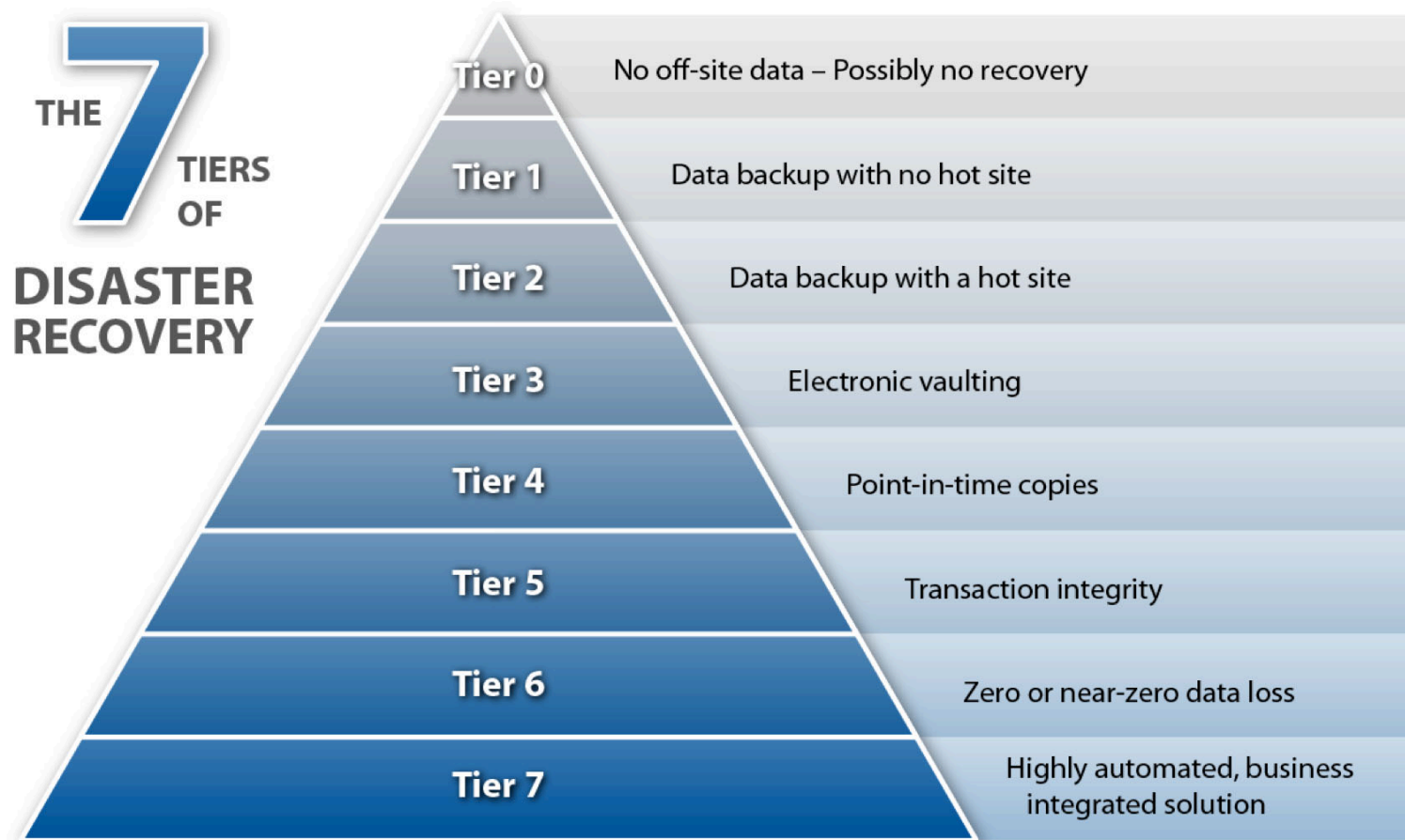


PSR Offerings

- PSR Hosting
 - Infrastructure offering for clients to house their own CPU at PSR and use our data center resources
 - Customer owned mainframes can be production or DR
- PSR z Cloud
 - Hosting of customer production environments using PSR owned and shared mainframe
 - Key differentiator: the customer maintains their own production control making this infrastructure as a service
- NEW OFFERING: PSR Vault+ Bundle Offering
 - Hosting of Luminex MVT or MVT Vault
 - Dedicated Internet Bandwidth at PSR – typically 100 MBPS
 - Customer provides encrypted router for Secure VPN connection
 - Also utilize their existing internet pipe for outbound replication to PSR
 - Implementation of MVT at PSR and customer
 - 36 Months of Support
 - Single bottom line price
 - Optional DR subscription or if in existing DR agreement elsewhere PSR will cut tapes for them to bring to DR as needed



7 Tiers of Disaster Recovery



Customer Example: MVT Vault+ Bundle

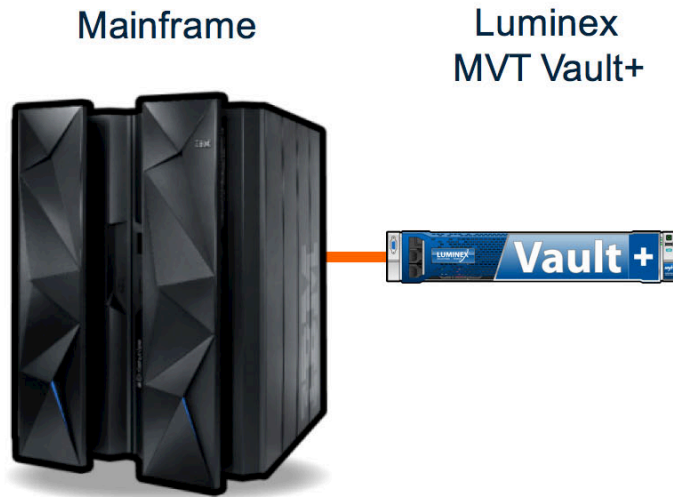


Large State University

- PSR Hosting a new zBC12 at PSR
- MVT at existing production site used to migrate off STK and then replicate to PSR
- MVT later moved to PSR and now temporarily replicating back to customer for target
- The target MVT Vault will be sent to PSR's Southeast site for final DR
- PSR bundled the MVT into their overall price/agreement

Customer Example: Tape Migration

PSR Boston



Customer Site



Customer Example: Initial Replication

PSR Boston

Mainframe



Luminex
MVT Vault+



Luminex
MVT 110i



Customer Site

Mainframe



STK Library
(decommissioned)

Customer Example: Reverse Replication

PSR Boston

Mainframe



Luminex
MVT 110i



Luminex
MVT Vault+



Customer Site

Mainframe



Customer Example: Final Configuration

PSR Boston

Mainframe



Luminex
MVT 110i



Customer Site

Mainframe
(decommissioned)



PSR Chattanooga

Mainframe



Luminex
MVT Vault+



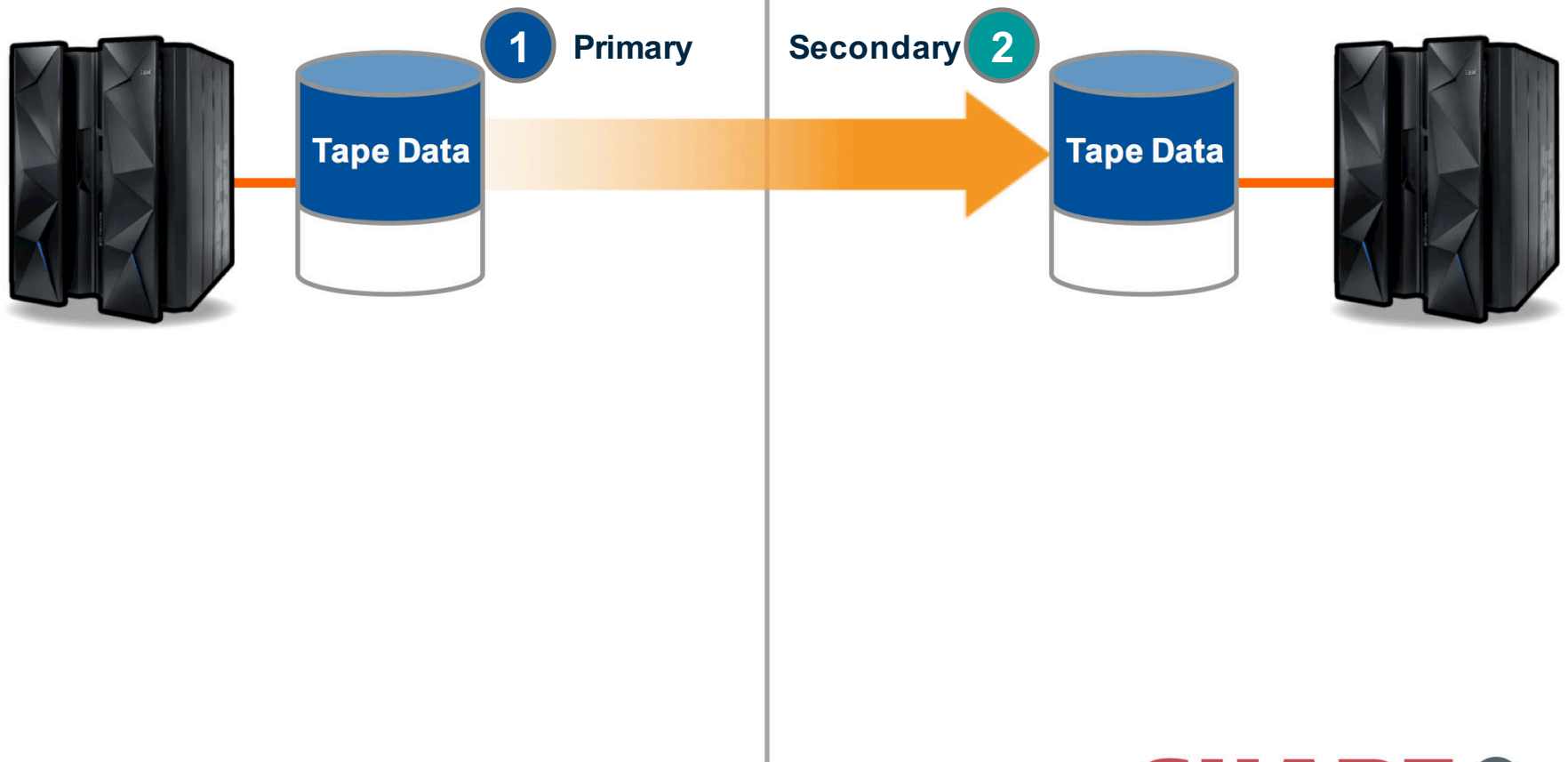
Push Button DR Testing

Replication During Normal Operations

Site A

Replication to Secondary
Site or DR Site

Site B



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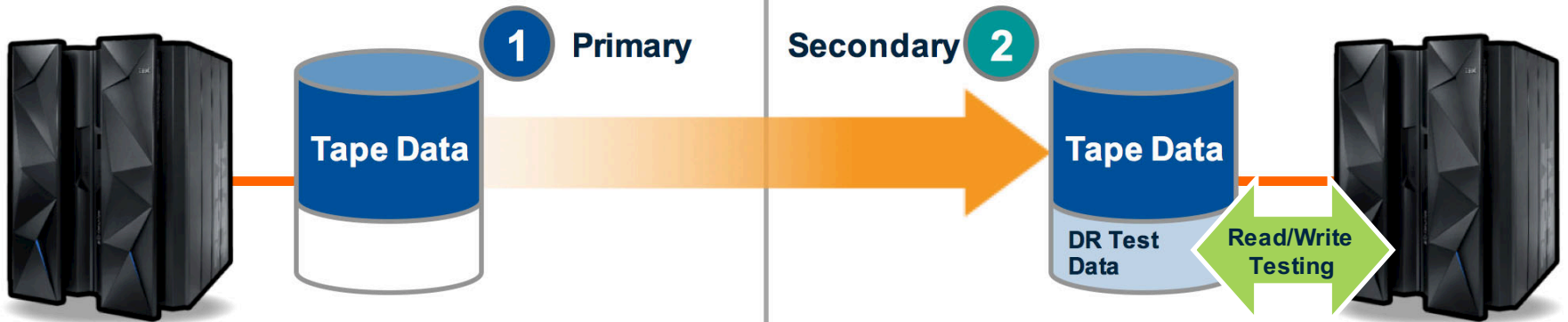
Push Button DR Testing

Replication During DR Testing

Site A

Replication to Secondary Site or DR Site continues uninterrupted

Site B



Space efficient clone of Tape Data is created for read/write testing; original Tape Data remains untouched



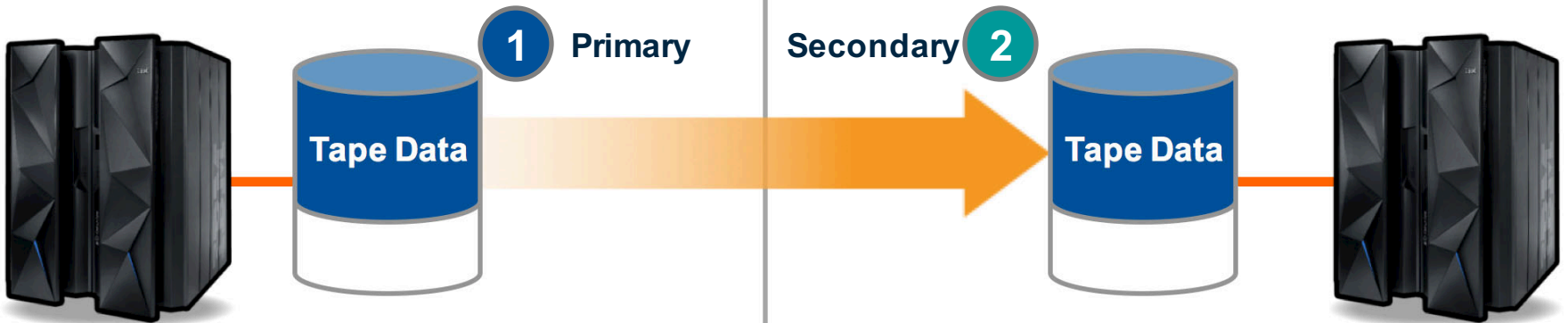
Push Button DR Testing

After DR Testing is Completed

Site A

Replication to Secondary Site or DR Site continues uninterrupted

Site B

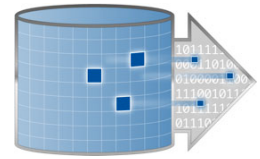


DR Test Data is purged

Optionally, DR Test Data can be automatically replicated back to Site A for auditing purposes

Vault+ Offers the Same DR Capability as the MVTi

- Simplicity and ease of use
- DR tests during continuous replication between Production and DR sites
- Luminex Replication
- Replication monitoring
- Push Button DR



Summary: Vault+-as-a-Service

Available through ADRCs, such as PSR

- Smaller footprint
- Secure
- More cost effective
- Inventory audit capability
- Replication monitoring
- Immediately accessible



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