



Enhance SAP HANA HA/DR Cost-Effectively

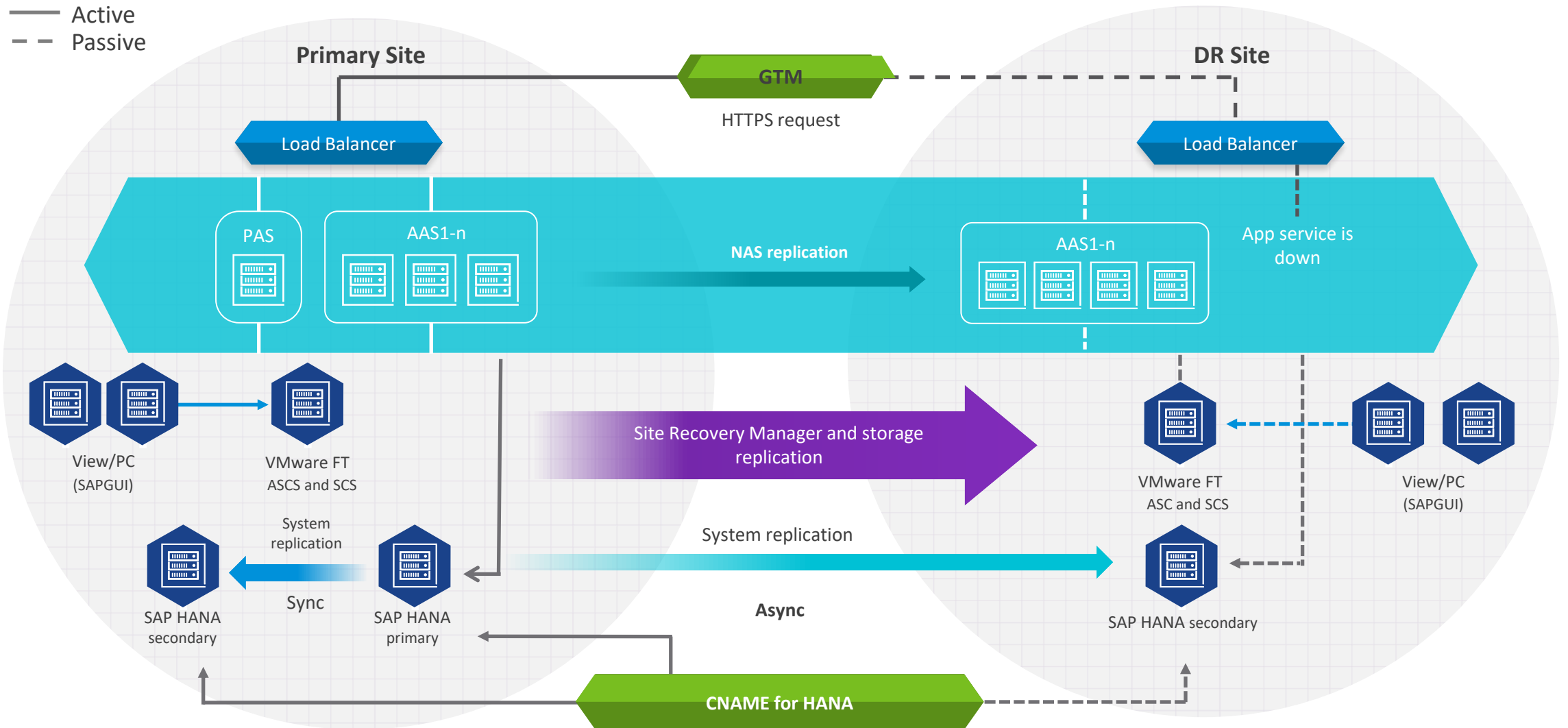
Mark Terry, SAP Infrastructure Architect, VMware Alliances

SAPinsider
Las Vegas

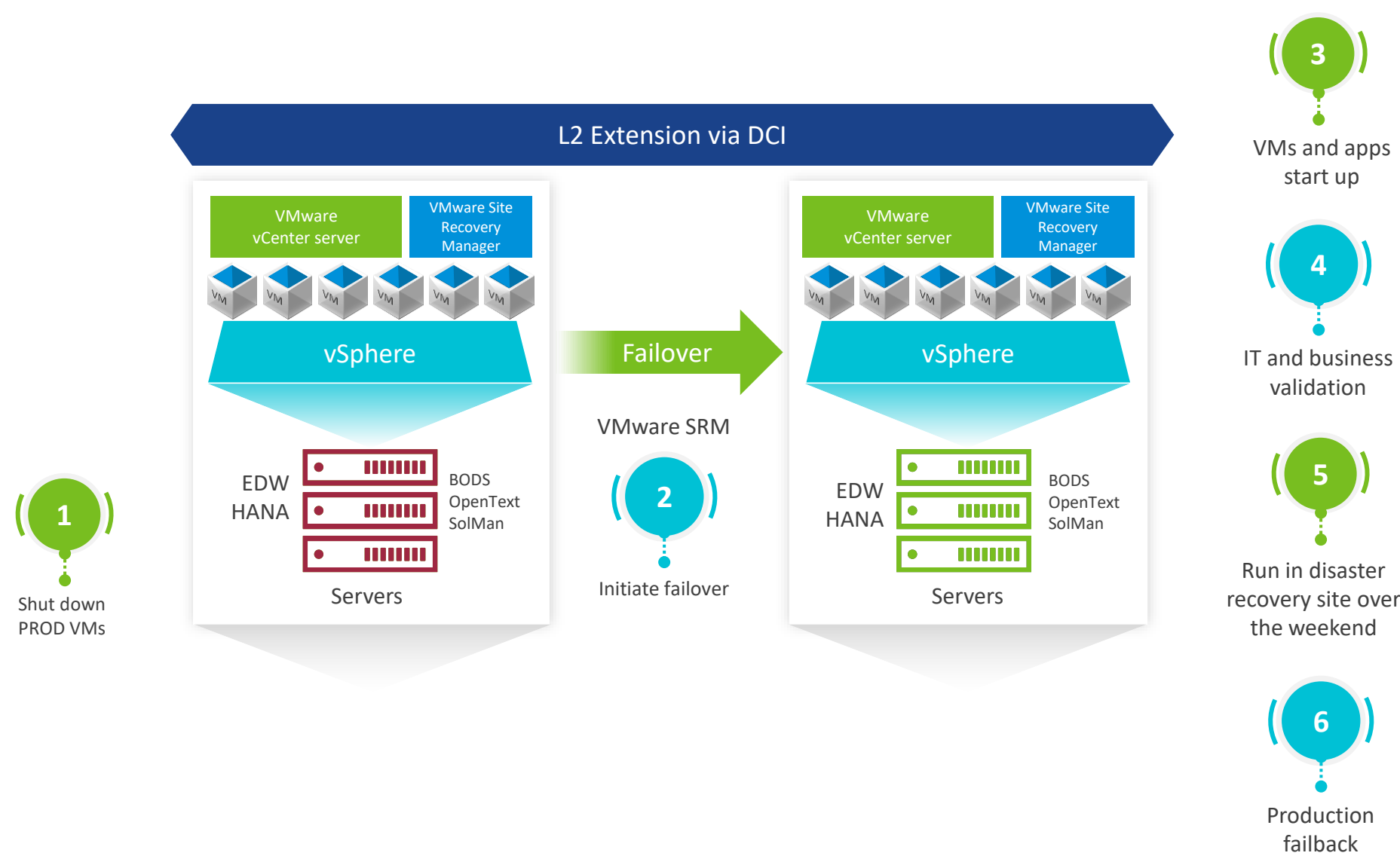
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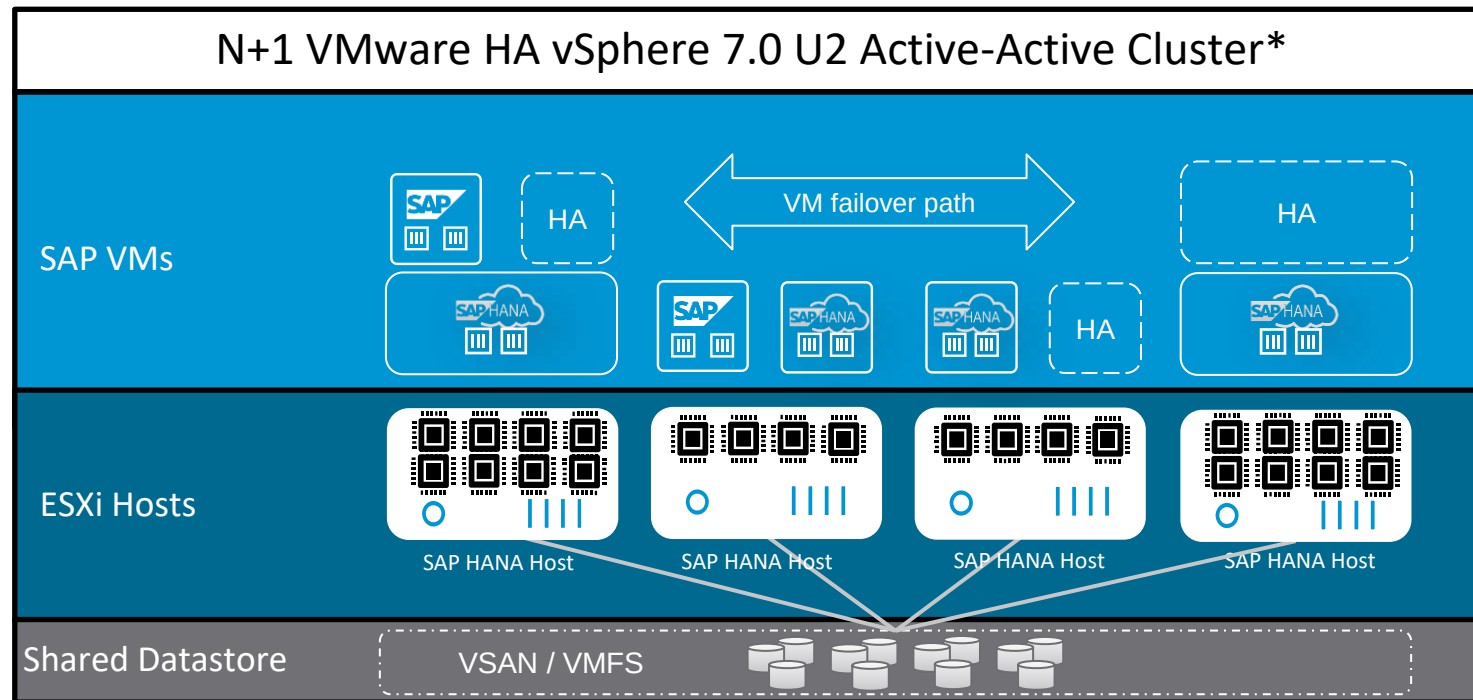
SAP Disaster Recovery – Hybrid Approach



Disaster Recovery Workflow—SRM



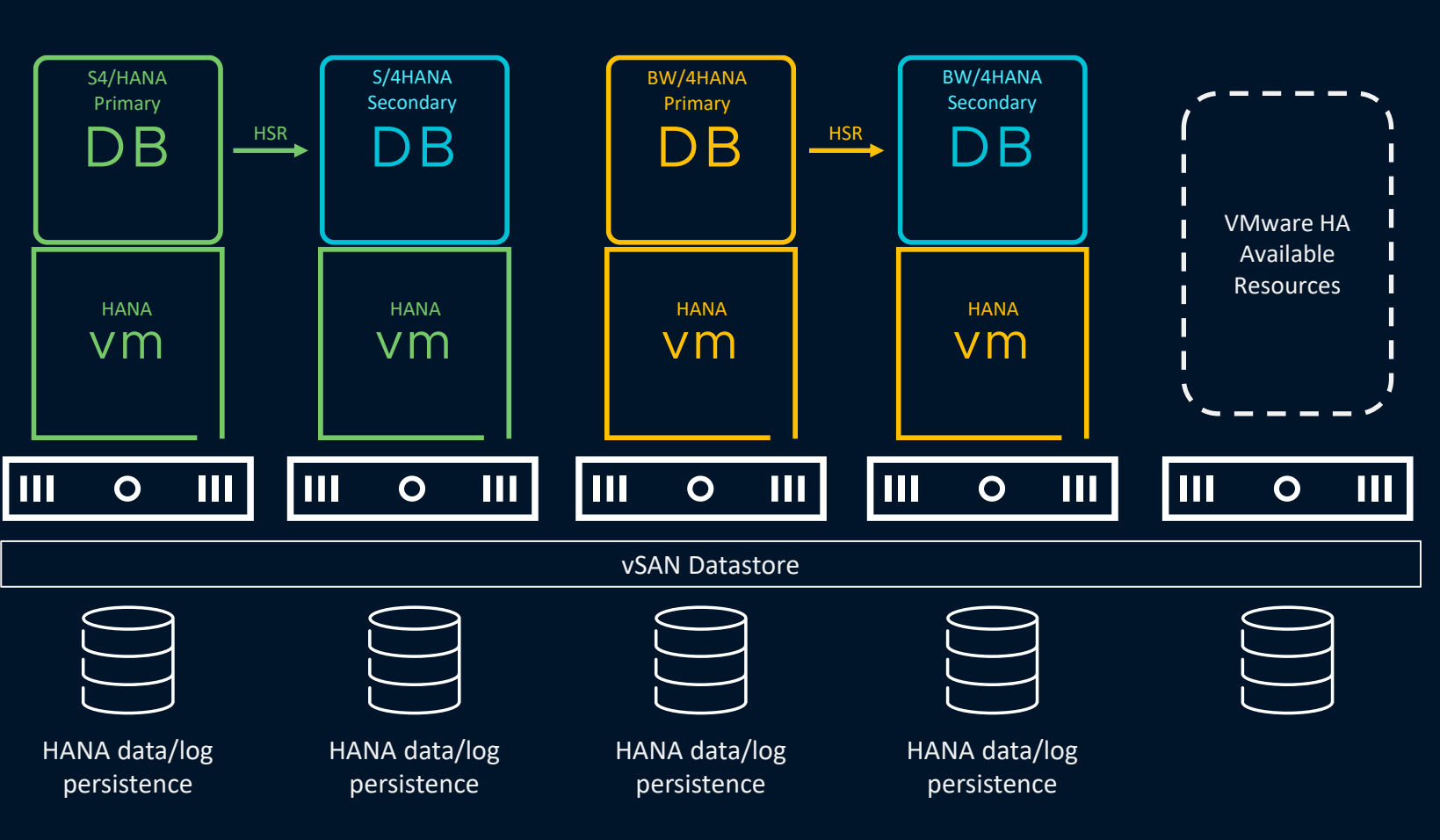
SAP HANA with VMware – HA Ready out of the Box!



*Multiple SAP HANA Systems, up to four HANA VMs per server, Active-Active Host HA Configuration

- SAP HANA on vSphere and vSAN with **one** server failure to tolerate (n+1 configuration)
- Hosts with different number of identical CPUs possible (e.g. 2- and 4-socket hosts), check with HCI vendor.
- Optional: n+n for more HA and vSAN data redundancy resources and maintenance.
- VMware HA for selected SAP HANA VMs to provide an automated crash recovery solution for OS and Host failures, HA level of 99.9% out of the box possible¹.
- Optional: SAP HANA System Replication to protect SAP HANA production VMs with very low RTO and high RPO requirements.

Cost Considerations of HANA System Replication



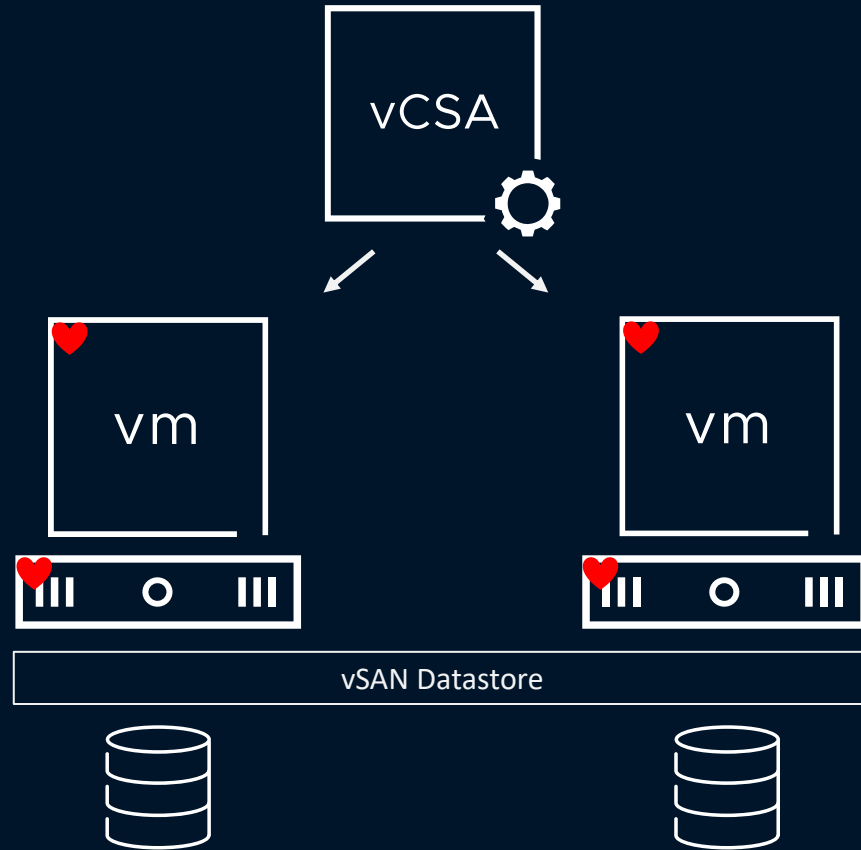
Benefit

Lowest RTO/RPO

Consideration

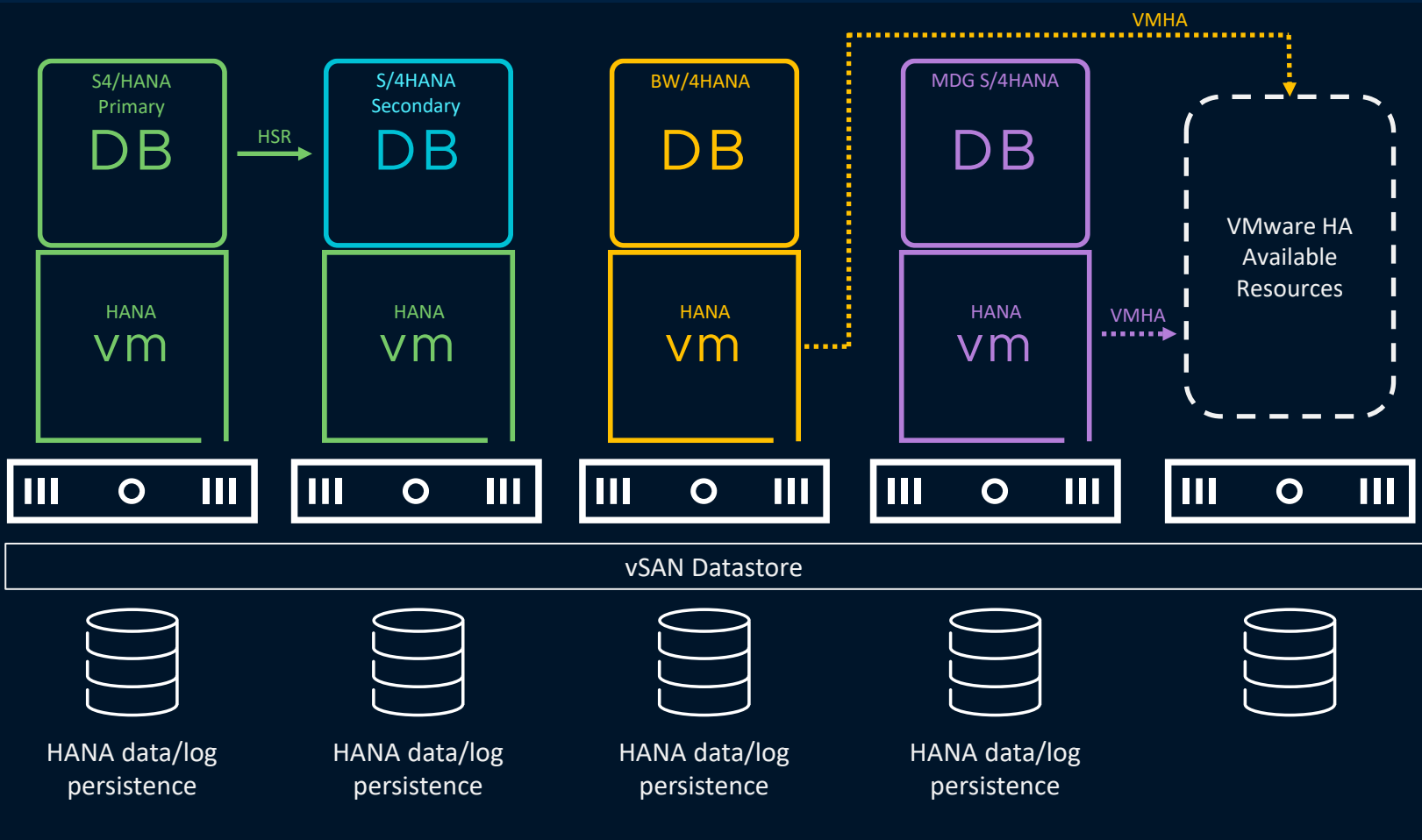
Highest compute, memory, and storage resource consumption

VMware High Availability



VMware HA provides high availability for virtual machines by pooling the virtual machines and the hosts they reside on into a cluster. Hosts in the cluster are monitored and in the event of a failure, the virtual machines on a failed host are restarted on alternate hosts.

Cost-Effective HANA HA with VMware High Availability



Outcome

VMware HA for selected HANA VMs provides automated crash recovery for OS & Host failures, yielding 99.9% availability out of the box¹.

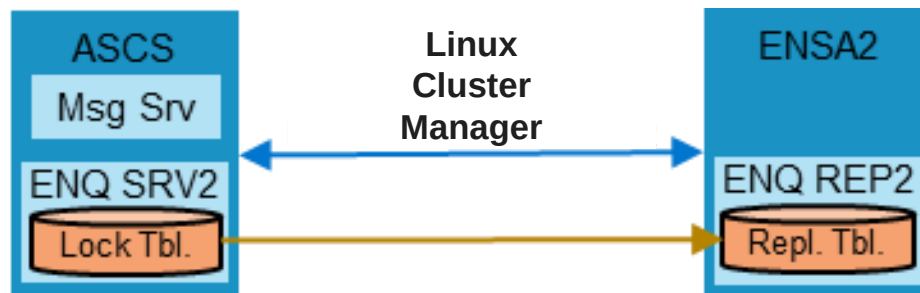
Combine with HANA Service Auto-Restart, which detects failures of HANA services and restarts them.

Benefit

HSR and VMHA combine to provide optimal, efficient use of compute, memory, and storage resources.

Eliminate SAP ASCS SPOF – VMware Fault Tolerance

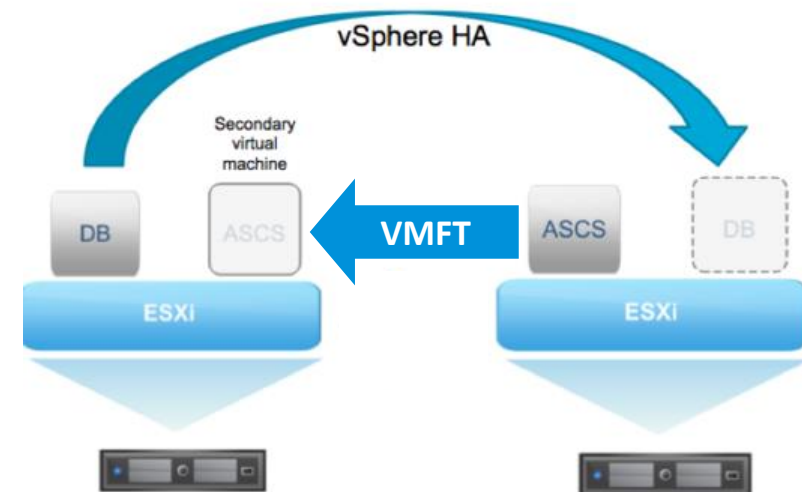
Traditional Method: ERS with a Cluster Manager



Standalone Enqueue Server, a component of Application Server ABAP, is a mechanism to ensure the high availability of the lock table and its entries.

If the ASCS fails, it can start on a separate node in the cluster via Linux Cluster Manager and VMHA, and copy the lock entries from the Enqueue Replica.

Optional Method: VMware FT for ASCS HA



VMware FT benefits

- Easy setup (6 steps to zero-downtime protection)
- Low management overhead (no cluster manager)
- Near-instantaneous nondisruptive failover
- Negligible performance impact
- Self-healing - new secondary ASCS/ERS instance VM automatically created after failover, via VMHA

Thank You

Please email any questions to Mark Terry, materry@vmware.com

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