



**Hewlett Packard
Enterprise**

**HPE Storage
solutions for SQL
Server**

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TME, HPE Storage



#HPEMSFT

Top challenges for SQL Server infrastructure

There is always an HPE Storage solution suits your environment!



Lost nights and weekends

How can we spend less time on endless firefighting, troubleshooting, and maintenance?



Cost of rapid data growth

Did you know that data copies now consume more space than production data?

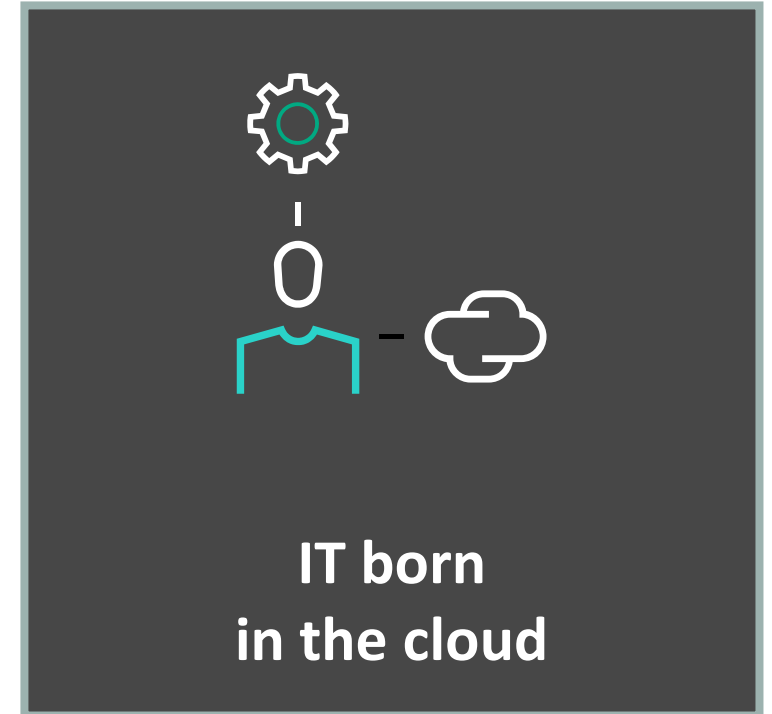


Need for faster innovation

How can we deliver new applications and ideas to market faster?

Different infrastructure and storage consumption patterns

– There is always an HPE Storage solution suits your environment!



HPE Storage solutions for SQL Server

There is always an HPE Storage solution suits your environment!

Worry-free SQL Server infrastructure with AI for the data center

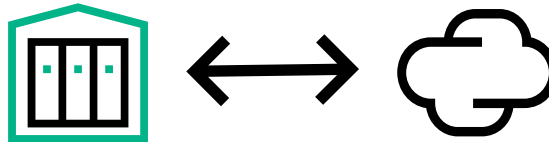


Consistent performance with predictive flash

99.9999%

guaranteed availability from storage

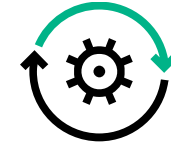
Fast, efficient SQL Server copy data management for hybrid cloud



Popular use cases

- Data protection
- Business continuity
- Development and testing
- Reporting, analytics, audit, security, patches and updates, and more...

DevOps and cloud ready



System automation



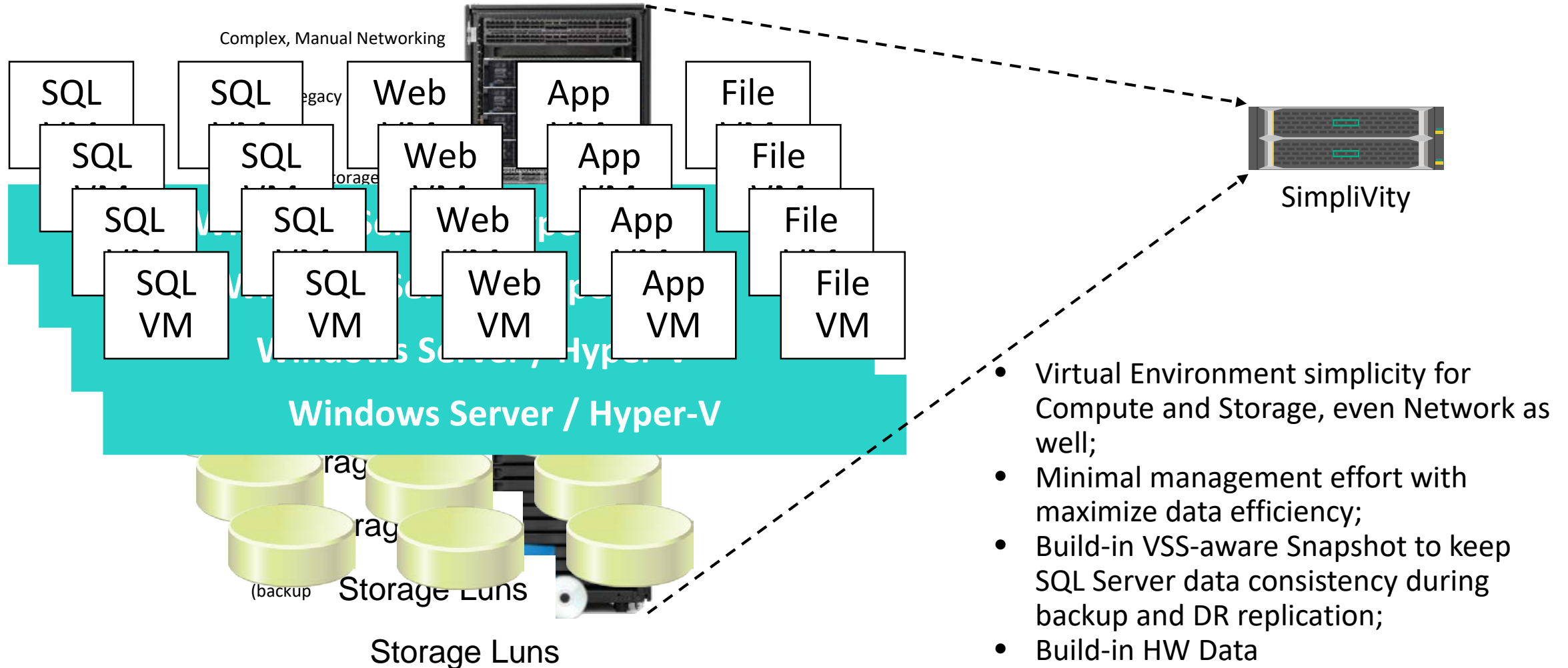
Container platforms



Container types

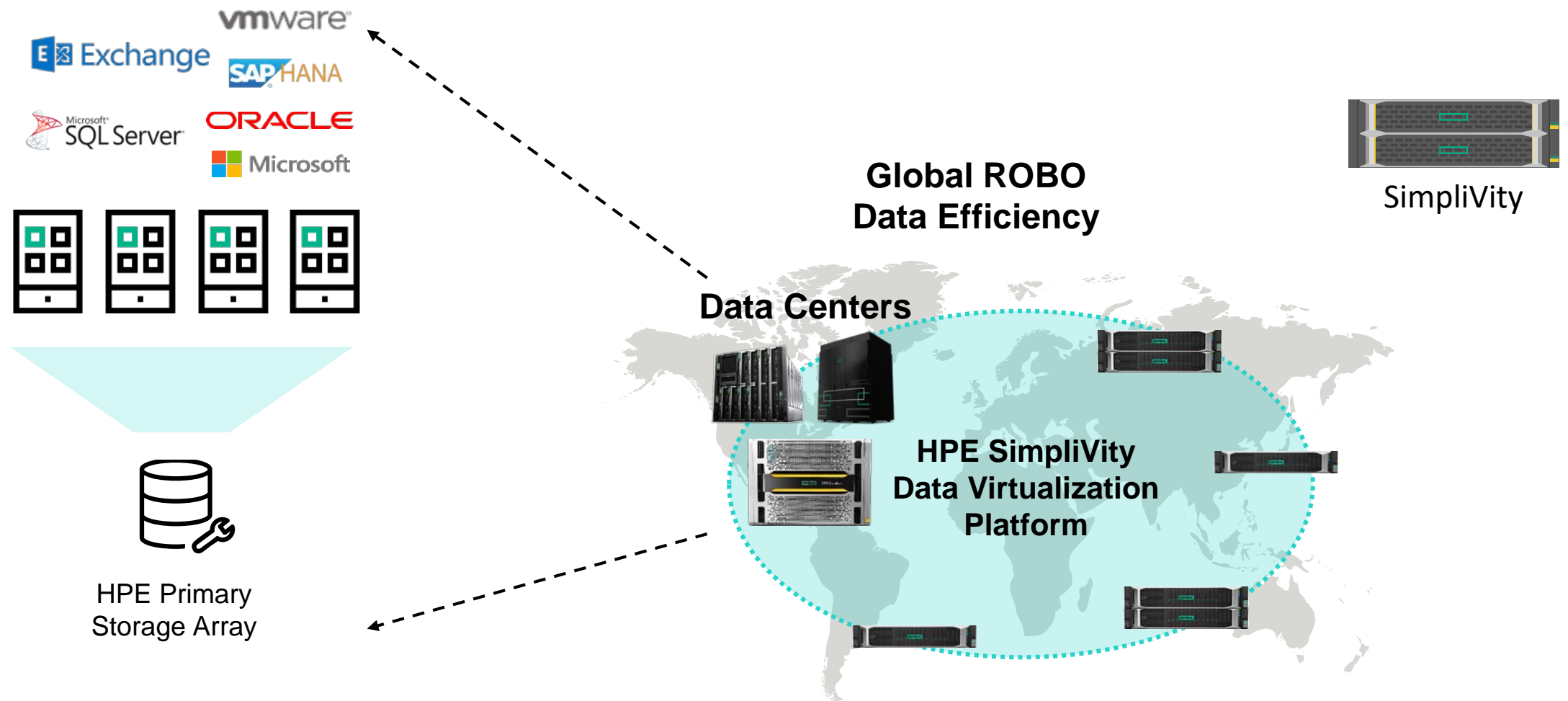


A simple SQL Server in a department or ROBO

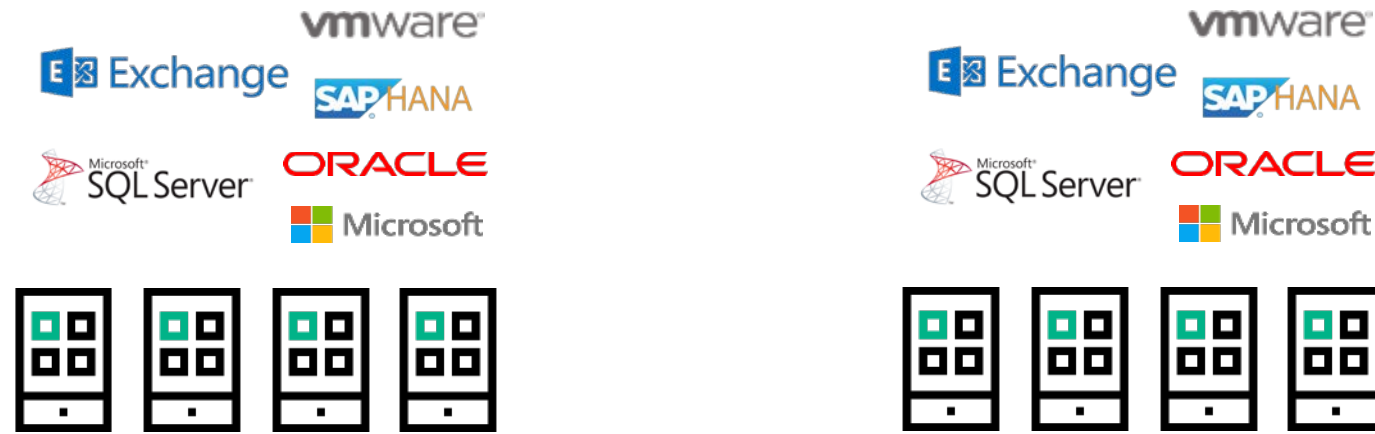


- Virtual Environment simplicity for Compute and Storage, even Network as well;
- Minimal management effort with maximize data efficiency;
- Build-in VSS-aware Snapshot to keep SQL Server data consistency during backup and DR replication;
- Build-in HW Data Deduplication/Compress to keep Windows/SQL maximum compatibility;

SQL Servers in Data Centers



HPE Storage solutions for SQL Server @ on-premise DC



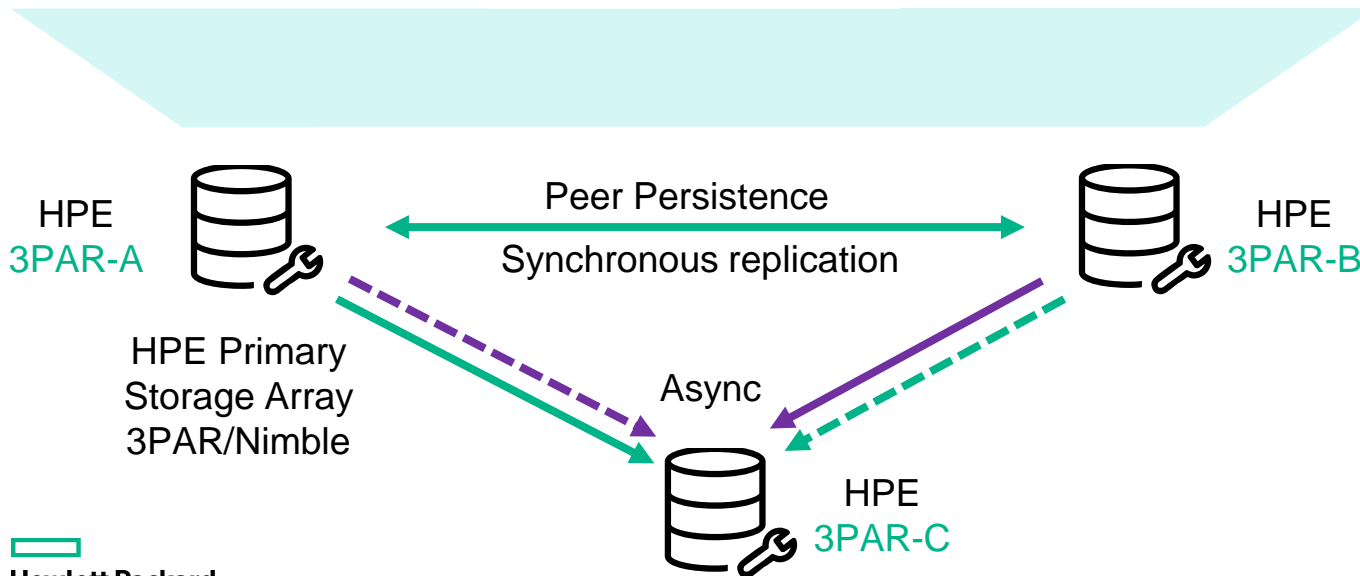
- All Flash-optimized
- Predictive
- Tier-1 with 6*9s;
- Full PowerShell script-able

Peer Persistence

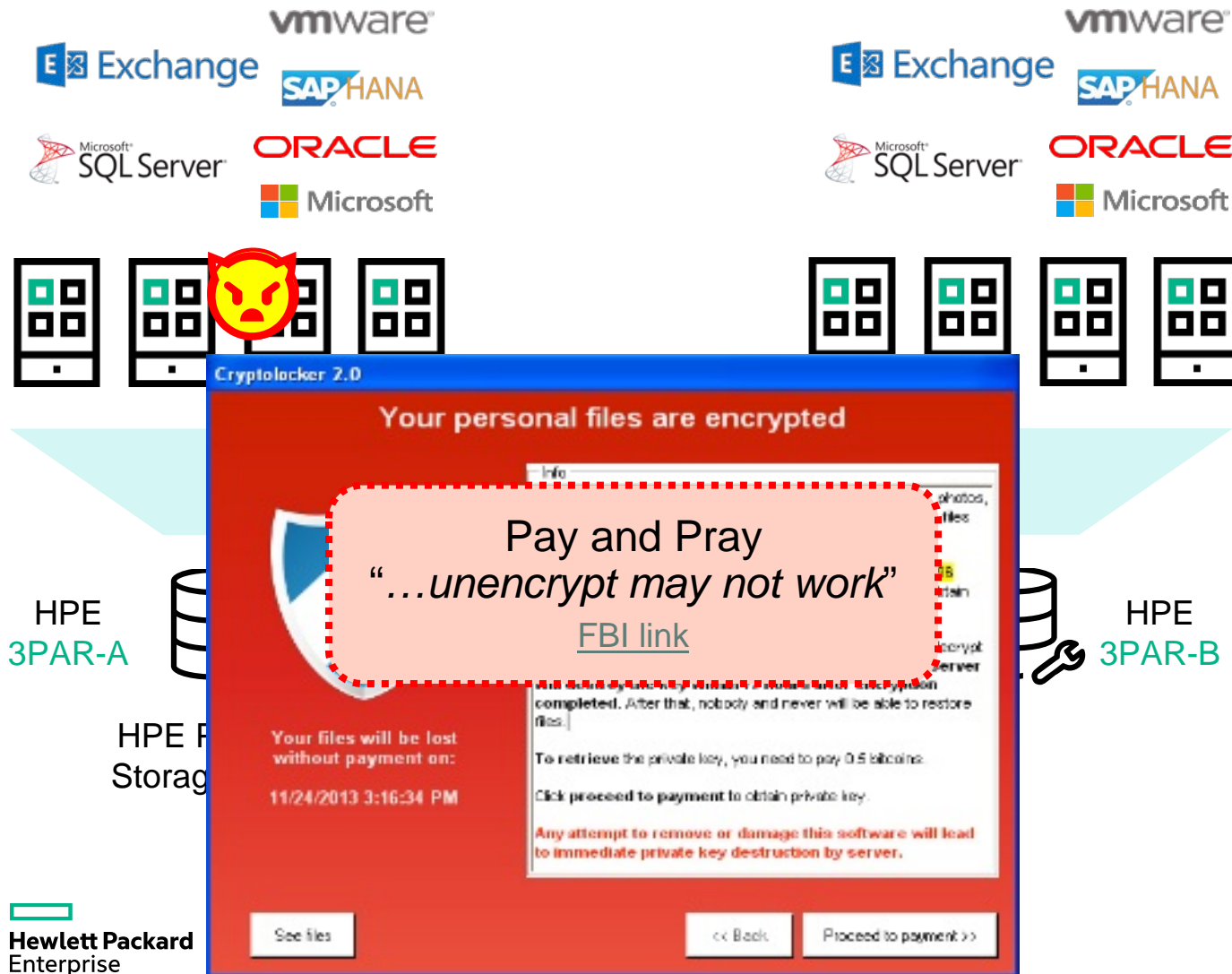
- RPO + RTO = 0
- High Availability across metro distances
- Automatic Transparent Failover

Peer Persistence + 3DC

- Concurrent metro-distance synchronous copy and continental distance asynchronous copy for a single volume



HA+DR with Peer Persistence + 3DC, anything else?



- All Flash-optimized
- Predictive
- Tier-1 with 6*9s;
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Peer Persistence

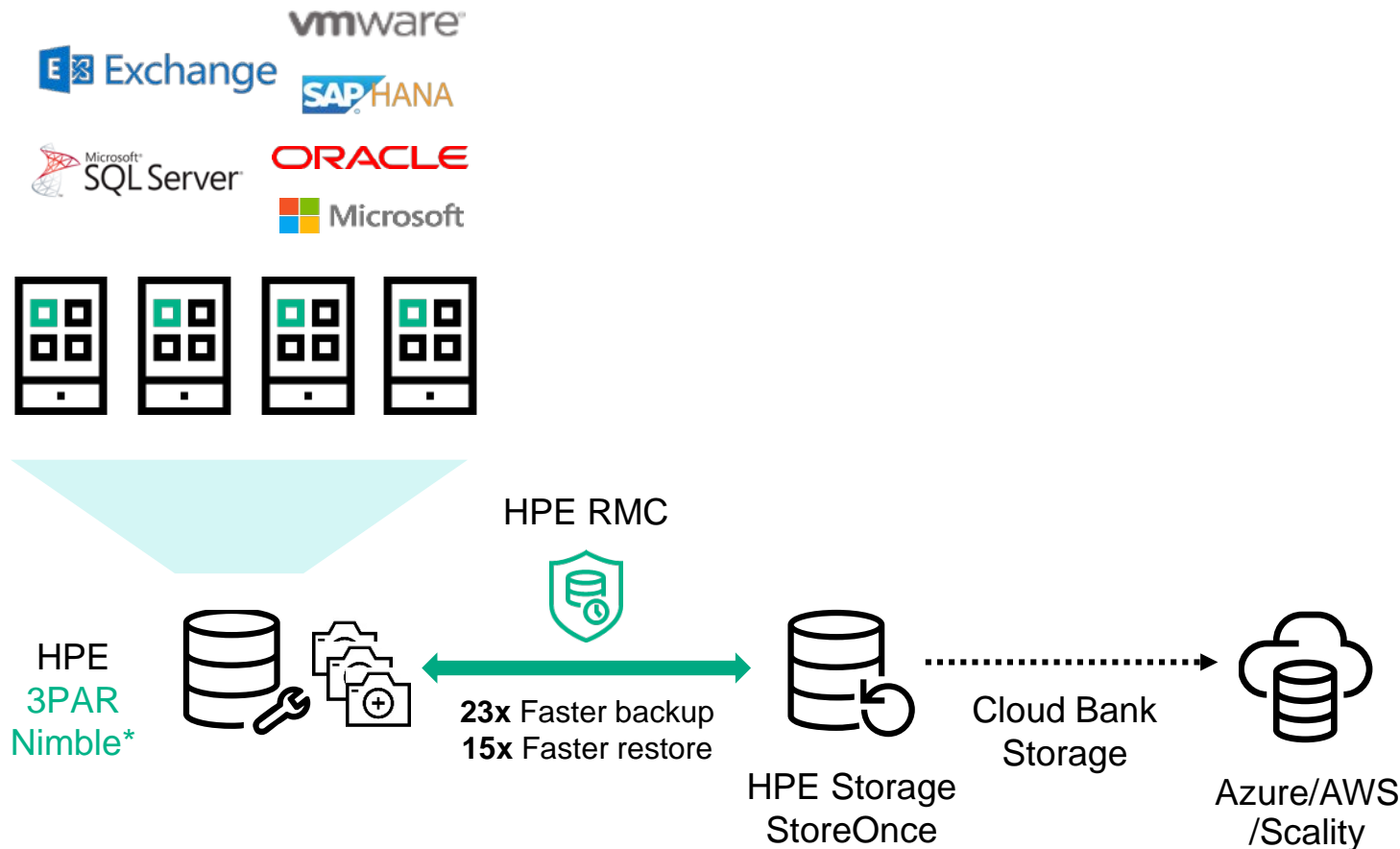
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Peer Persistence + 3DC

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A backup plan is always required and should be executed!

HPE unique RMC-S “Flash to Cloud” Data Protection

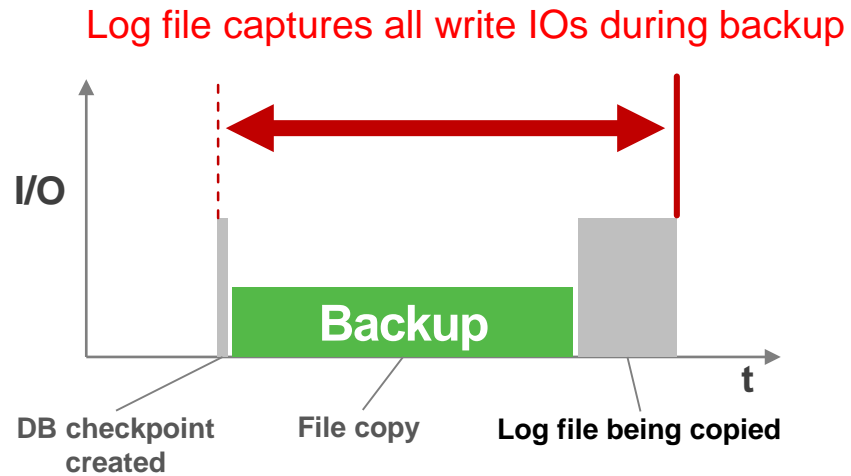


HPE RMC-S

- Application managed data protection
- Protecting workloads at the speed of flash - **23x** faster backup, **15x** faster restore by Express Protect/Restore
- Backup with zero impact to DB servers, comparing to nomrla SQL Backup will typically impacts DB transactions/sec by 5x (from Evaluator Group testing)
- Copy Data Management not only to local Backup Appliance but also to Public/Private Cloud in Dedupe/Compression/Encrypted format;
- Minimal cost and complexity – backup *direct* from 3PAR to StoreOnce
- Protects both physical and virtualized SQL Servers;

Is SQL Server Backup always slow?

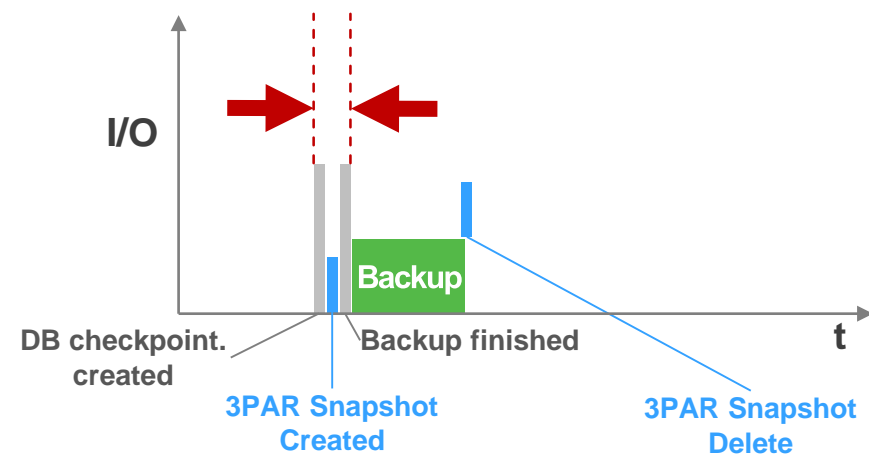
Traditional SQL Backup



- Heavy load on storage during backup
- The backup window will be long
- During restore, after DB files restored, the log files has to be restored/replayed again, affecting RTO;

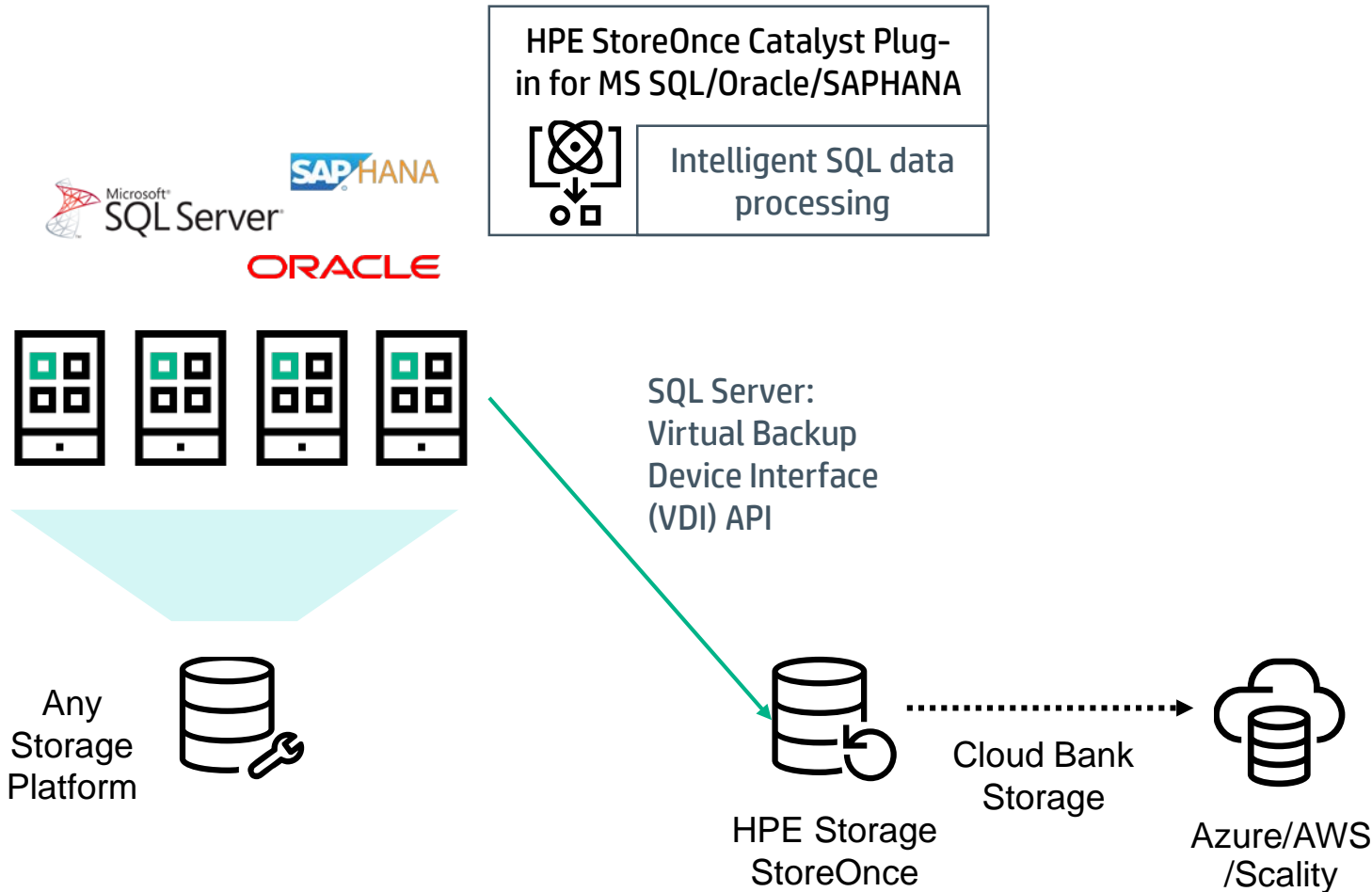
Backup with HPE RMC-S

From SQL server POV, backup window $\rightarrow 0$



- Minimum load on storage during backup with Express Protect
- SQL Server log files to be copied almost Zero
- During restore, barely no log replay;

Backup Solutions for other storage platforms



HPE Catalyst Plugin for MS SQL Server

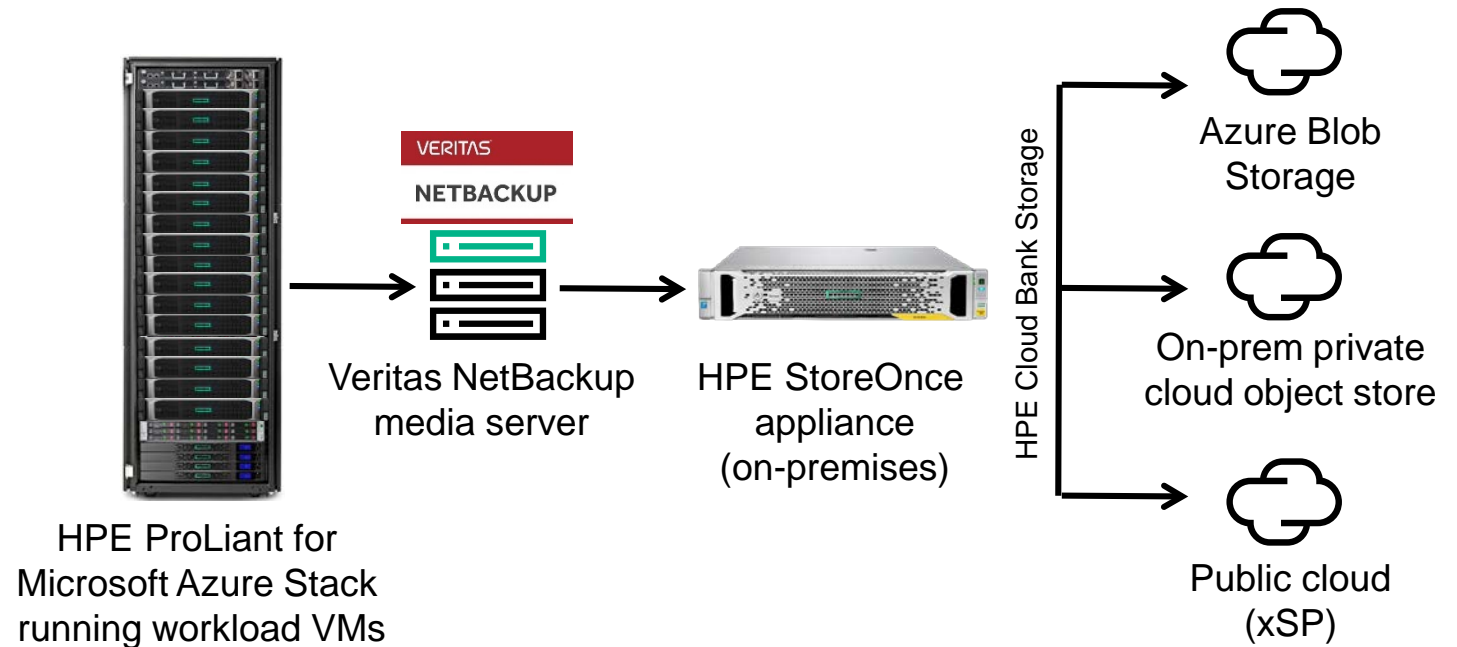
- Application managed data protection
- Copy Data Management not only to local Backup Appliance but also to Public/Private Cloud in Dedupe/Compression/Encrypted format;
- Minimal cost and complexity – No extra license required except HPE StoreOnce Backup Appliance with Catalyst license

Enabling off-premises data protection for Azure Stack

HPE Cloud Bank Storage and Azure Blob Storage

Key benefits

- Wide choice of cloud deployments
- Cost-effective and high performance with long-term retention
- Reliable disaster recovery using off-site backup data copies without having to invest in off-site facilities





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Questions?
Thank you!