HPE Shadowbase Business Continuity Solutions

Businesses with Access to Real-time Online Transactional Data Have a Competitive Advantage

The counter to this advantage is the inability to access or update current data, which carries a significant business cost, possibly measured in many thousands of dollars per second. These requirements necessitate an IT infrastructure that is continuously available.

Eliminate Unplanned Downtime

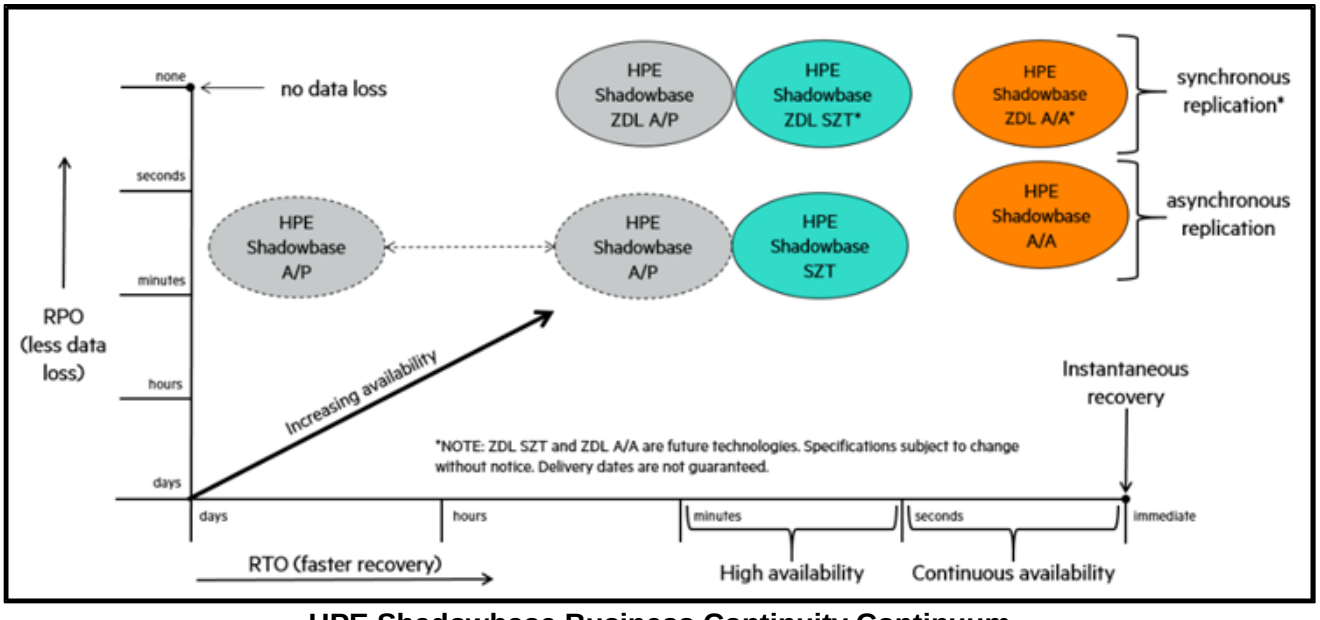
Application availability depends upon the ability of IT services to survive any fault, whether it is a server failure, a network fault, or a datacenter disaster. Data availability depends on the existence of up-to-date backup data copies, located on separate systems. Data replication is an enabling technology for achieving high or continuous availability for application services and the timely backup of important data.

Data Replication Solutions to Meet All Application Availability and Data Recoverability Needs

Deploying an **HPE Shadowbase Business Continuity** solution provides an overall return on investment by preventing prolonged periods of downtime or data loss that can cost a business thousands or even millions of dollars. HPE Shadowbase data replication solutions support low-latency, uni-directional (one-way), and bi-directional (two-way) data replication between homogeneous and heterogeneous systems and databases with scalability, selectivity, and sophisticated data transformation and mapping facilities. Often, companies will purchase HPE Shadowbase uni-directional, disaster recovery architecture, then extend its use into a more advanced business continuity architecture, and take advantage of the data and application integration capabilities for real-time business intelligence.

HPE Shadowbase Solutions Support a Range of Recovery Time Objectives (RTO) and Recovery Point Objectives (RPO)

As shown below, the availability level and the amount of data loss is shown as improving from the lower left to the upper right, while moving horizontally from an active/passive through sizzling-hot-takeover to an active/active architecture, and moving vertically from asynchronous to synchronous data replication technology. RTOs of minutes to seconds is considered *high availability*, while RTOs of seconds to sub-seconds is considered *continuous availability*.



HPE Shadowbase Business Continuity Continuum

1. Minimize Your Application Downtime with High Availability

Disaster Recovery – Replicate data from one system to another for rapid recovery after an outage

- Uni-directional data replication
  - Maintains a real-time copy of production data on a backup (passive) system(s)
- Active/passive architecture
  - One "active" system processes all transactions, another "passive" system sits idle. After a disaster, the IT team disconnects the users from the failed active system, starts up the application on the passive system, and connectsthe users to the passive system

2. Automatically Failover and Recover Applications with Sizzling-Hot-Takeover (SZT)

Active/"Almost-Active" – Replicate data from one system to another for automatic failover and recovery

- Higher Availability
  - One "active" system processes all transactions, another "almost-active" system acts as a "hot standby," the application is up and running on the "almost-active" system, however it does not process transactions
- Avoid failover faults
  - Standby availability testing is available while the production system is active
  - Failover to a known-working system

2. Evolve Existing Disaster Recovery Architectures into Extreme Availability

Active/Active – An application is running and updating on two or more systems, which back each other up

- Fully bi-directional data replication, which includes algorithms to help resolve data collisions
  - Efficiently utilizes processing power, both systems are "hot," actively processing transactions
- Sleep peacefully at night, knowing you have a *disaster tolerant* architecture
- Automatic failover and recovery

Eliminate Unplanned Downtime

HPE Shadowbase Zero Downtime Migration (ZDM) enables risk-free software and hardware upgrades while preserving application and data availability when the migration occurs.

Zero Data Loss[2]

Shadowbase Zero Data Loss (ZDL) data replication is powerful, capable of synchronous replication, where a source system's committed data is safe-stored on a backup system and is always available, even if the source system is lost.

Data Validation

It's no use having a backup copy of your data unless it's a consistent copy of the production database. **HPE Shadowbase Compare** validates that a target database matches its source to ensure this, and to help satisfy regulatory requirements. **HPE Shadowbase Repair** is a feature in Shadowbase Compare for SQL utility to assist with correcting or repairing SQL/MP or SQL/MX database discrepancies between two tables.

Database Restoration

HPE Shadowbase UNDO and REDO restores a corrupted database to a known, correct state through selective change data "roll back." Helpful reports can be generated from the undo or redo queues to aid in determining the period of corruption and the contributing sources.

Supported Databases

HPE Shadowbase software supports a wide range of homogeneous and heterogeneous platforms and databases, including Oracle, MySQL, IBM Db2®, SQL Server, Sybase, SAP Hana, Enscribe, SQL/MP, and SQL/MX, running on UNIX, Linux, Windows, and HPE NonStop Server platforms. For a complete list of supported databases, platforms, and environments, please visit: *Supported Databases and Platforms*.

Summary

HPE Shadowbase software allows enterprise users to preserve valuable data, immediately recover from an outage, manage both unplanned and planned outages (by keeping application services and data running), and leverage a variety of utilities for keeping applications online and preserving critical data. For more information, please see the Gravic white paper, *Choosing a Business Continuity Solution to Match Your Business Availability Requirements*.

[1] The Sizzling-Hot-Takeover (SZT) or Active/"Almost-Active" architecture is uni-directional at the application layer, and bi-directional at the data layer.

[2] NOTICE: Each user's experiences will vary depending on its system configuration, hardware and other software compatibility, operator capability, data integrity, user procedures, backups and verification, network integrity, third party products and services, modifications and updates to this product and others, as well as other factors. As a result, the ZDL product does not guarantee that you will not lose any data; all user warranties are provided solely in accordance with the terms of the product License Agreement. Please consult with your supplier and review our License Agreement for more information

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