# Recover Faster with Shadowbase Solutions

## Upgrade from RDF to Shadowbase software to achieve higher availability, faster recovery, and more advanced features



- Dramatically improve failover and recovery time
- Enable higher availability architectures, including Active / Active
- Avoid risk of using a ***Mature*** product: HPE declared RDF "Mature" product state in 2018, meaning no future enhancements
- Support replicating data between HPE Nonstop and other platforms and databases

**Many Nonstop customers, including some of the largest BASE24 environments in the world, have already upgraded from RDF to Shadowbase software.**

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*European payment processor reduces failover time by 90% via upgrading from RDF to Shadowbase*

*Major UK bank upgrades its BASE24™ environment from RDF to Shadowbase using Shadowbase Zero Downtime Migration*

## Customer example

### European bank improves recovery time by 75%

A regional European bank runs BASE24™ ATM and POS services for its customers. With its RDF-based Disaster Recovery (DR) environment, the bank had an in-depth failover procedure which required many time-consuming, manual steps that were susceptible to human errors.

After evaluating its options, the bank chose to upgrade to a Shadowbase Sizzling-Hot-Takeover (SZT) architecture to automate failover detection and recovery, greatly expediting the recovery process. The Shadowbase SZT architecture provides a faster RTO (recovery time objective) than a traditional RDF Active / Passive DR architecture and is a stepping stone for the bank's strategic initiative towards *even better* Active / Active availability architectures.

With its new Shadowbase Sizzling-Hot-Takeover architecture, the bank was able to streamline its failover and recovery process, and improved recovery time by 75%. Upgrading from the ***Mature*** RDF product to an actively supported and enhanced Shadowbase replication solution also provided key stakeholders with long-term confidence in the DR process.

## Shadowbase Technical Advantages

| Requirement | RDF | Shadowbase |
|---|---|---|
| **Roadmap** | • ***Mature*** product (since 2018)<br>• No planned enhancements | • *Active* product<br>• Many enhancements planned |
| **Application availability architectures** | • Active/Passive | • Active/Passive<br>• Active/Near-Active<br>• Active/Active |
| **Network connectivity** | • Expand only | • Expand<br>• TCP/IP |
| **Replication method** | • Log-shipping and *Quasi-Physical* I/O replication with interim COMMITs<br>• Does not maintain transactional integrity or file/table data consistency during replication | • Logical BEGIN TX to COMMIT TX data consistency during replication<br>• Maintains transaction integrity |
| **Target system and databases** | • DB read-only during replication<br>• Does not maintain transactional integrity during replication<br>• Locked against writing (during replication)<br>• Nonstop to Nonstop only<br>• Requires the target DB schema and structure to be an exact match to the source DB | • DB fully accessible during replication<br>• Maintains transactional integrity<br>• Supports replicating data from Nonstop to Nonstop and Nonstop to/from off-platform DBs and environments<br>• Supports data transformation<br>• Allows a heterogeneous target DB – especially useful for online repartitioning, ZDMs, and more |
| **Reporting, querying, and data analytics** | • Index/alternate key information replicated separately from base file/table data ***(causes the infamous broken file "error 59")***<br>• Materializes and exposes aborted transactional data during replication (does not preserve correct data isolation and locking)<br>• Data is *not reliable* and is *not accurate* for reporting, querying, and data analytics | • Index/alternate key information automatically managed by target side file system ***(no "error 59")***<br>• Does not materialize or expose aborted transactional data during replication (preserves correct data isolation & locking)<br>• Data *is reliable and accurate* for reporting, querying, and data analytics |
| **Zero Data Loss** | • RDF/ZLT (Zero Lost Transactions)<br>• ***Mature*** product<br>• Requires expensive XP ARRAYs<br>• Distance limitations (e.g., 50km)<br>• No new features planned | • Newly released Zero Data Loss (ZDL)<br>• Does not require XP ARRAYs or specialized hardware<br>• No distance limitations<br>• Robust roadmap |

## RDF to Shadowbase Product Mapping

| Requirement | RDF* | Shadowbase* |
|---|---|---|
| **Asynchronous uni-directional replication** | • BE165AC – Uni-directional replication | • BE441AC – Shadowbase basic uni-directional replication<br>**Strongly recommended add-ons:**<br>• BE445AC – Shadowbase Compare (for target system Data Validation)<br>• BE446AC – Shadowbase Essentials |
| **Asynchronous bi-directional replication** | • Not available | • BE442AL – Shadowbase advanced, bi-directional replication |
| **RDF SDR (SQL DDL Replicator)** | • BE168AC - SDR add-on to RDF | • BE446AC – Shadowbase Essentials Bundle: DCR – DDL Command Replication for Enscribe FUP and SQL/MP SQLCI utility commands |
| **RDF/ZLT** | • BE173AC– Uni-directional split mirror implementation to avoid losing transaction data | • BE450AL – Shadowbase Zero Data Loss (ZDL) |
| **RDF DOLOCKSTEP** | • Bundled with base RDF product | • Shadowbase DoLockStep is bundled with Shadowbase ZDL (BE450AL) |

***Note: Check the HPE Software Products Management List (SPML) for the latest SKUs**

**Contact Gravic or your HPE Nonstop sales team for more information**

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**Shadowbase is HPE's strategic *go-forward* data replication solution**

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