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Enterprise**



HPE Shadowbase Success Stories (Use Cases)

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HPE Shadowbase Agenda

HPE Shadowbase Product Suite Overview

HPE Shadowbase Use Cases

Business Continuity

- Active/passive through active/active
- Zero downtime migration (ZDM)

Data Integration

- Data warehouse feed & big data

Application Integration

- Real-time business intelligence (RTBI)

New & Future Features

Summary & For More Information



Introduction



Paul J. Holenstein
Executive Vice President
Shadowbase Products Group
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HPE Shadowbase Product Suite Overview

HPE Shadowbase Product Suite Overview

The Shadowbase Extensible Architecture

Business Continuity & Application Availability Environments

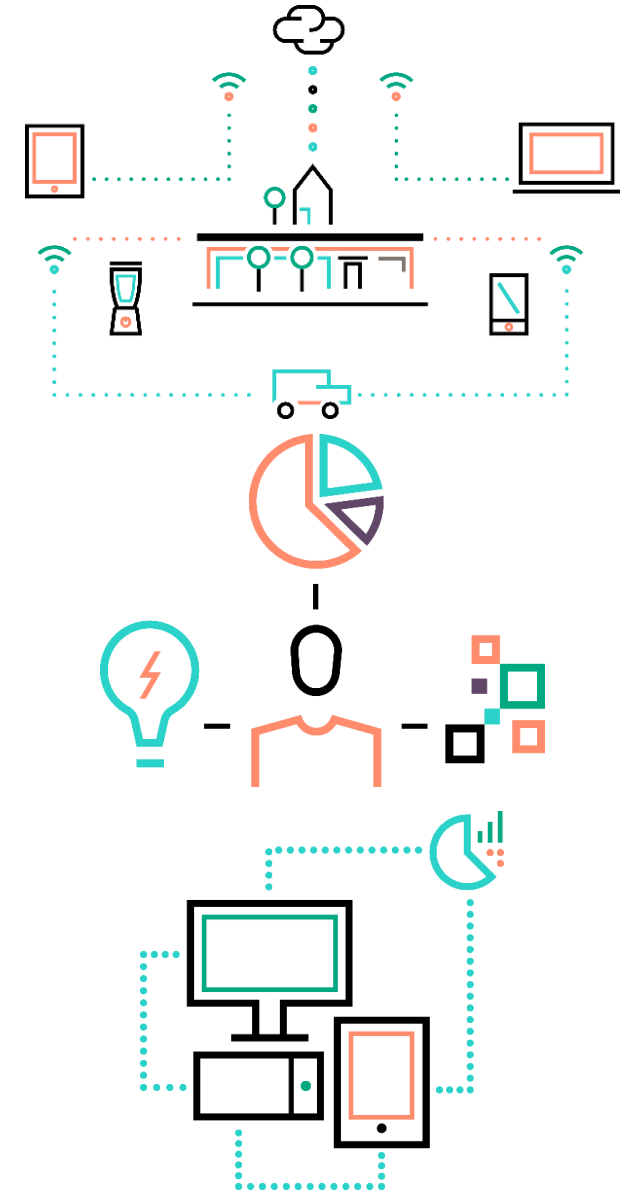
- Active/Passive Disaster Recovery
- Sizzling-Hot-Takeover (SZT)
- Active/Active Continuous Availability
- Eliminate Planned Downtime for Migrations & Upgrades (ZDM)

Data Integration & Data Synchronization

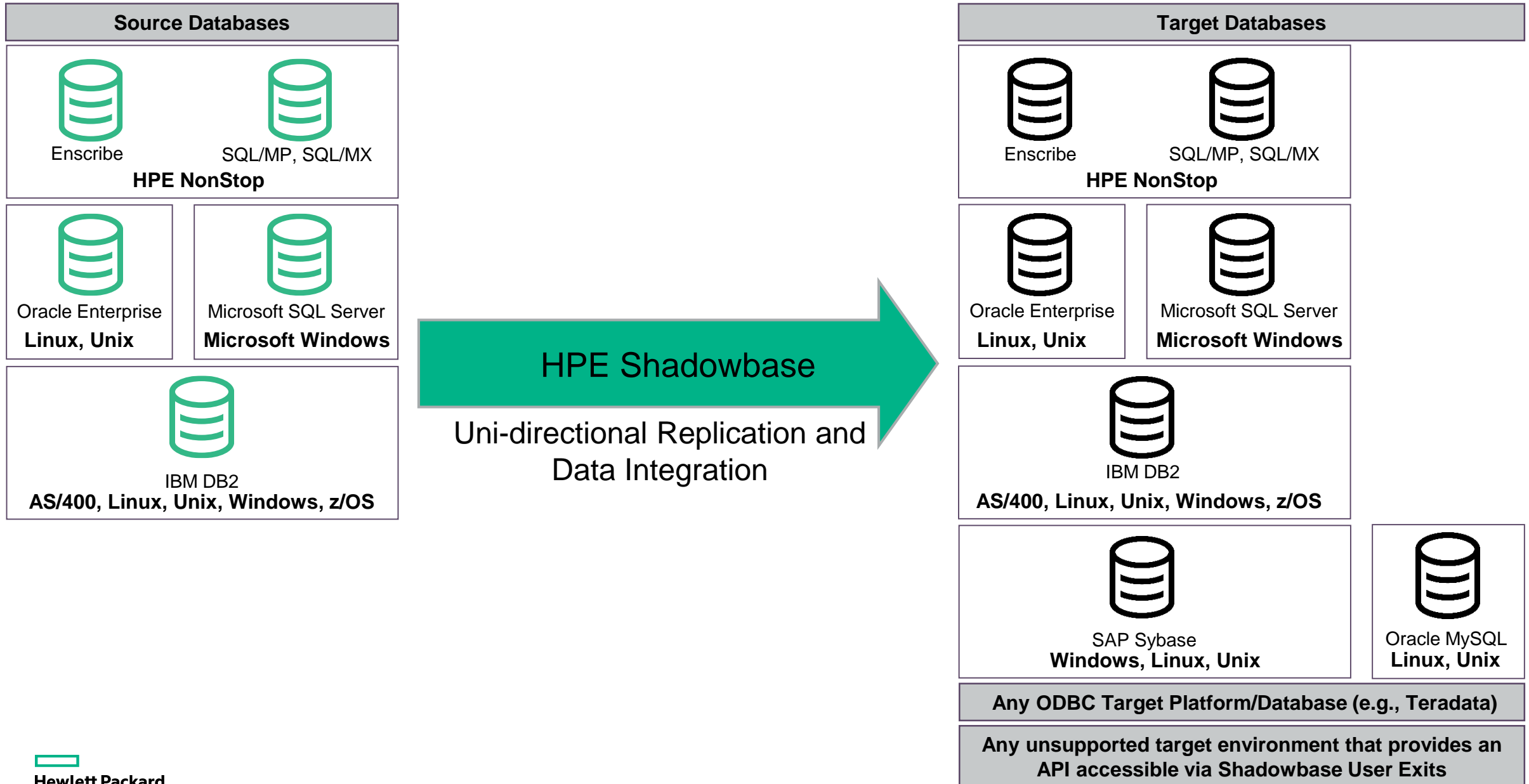
- Homogeneous & Heterogeneous Environments
- Data Transformation, Scrubbing, Filtering & Cleansing
- Extend Replication Capabilities with Embedded Application Logic

Application Integration

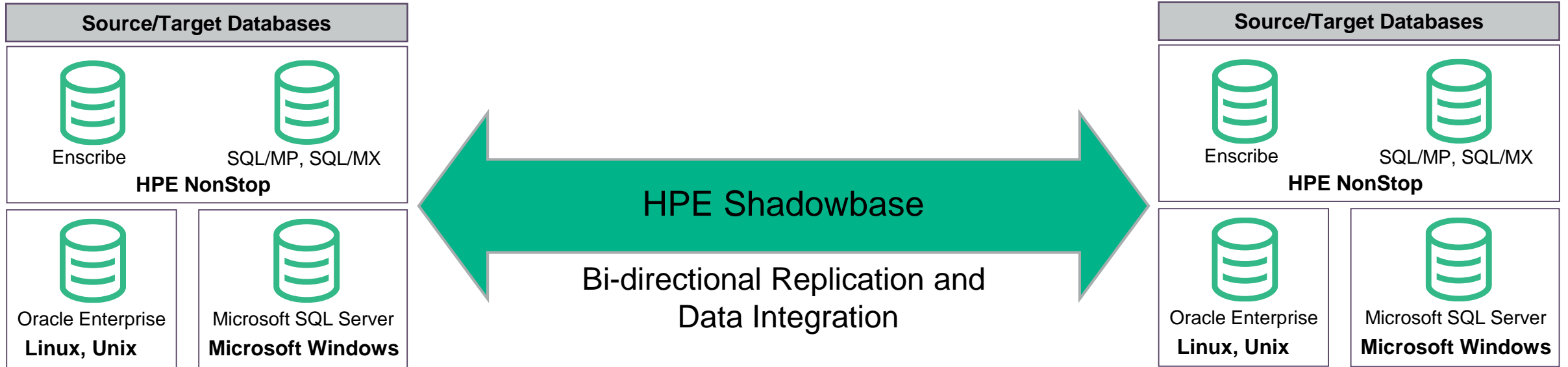
- Build *Event-Driven* Architectures
 - Process events as they occur; no more polling for needed data
- Build *Real-Time* Architectures
 - Process events when they occur; no more working with “stale” data
- Integrate Disparate Applications with no Application Code Changes
 - Integrate at the data-layer, avoiding costly adapters, middleware, and code changes



Homogeneous & Heterogeneous Uni-directional Data Replication



Homogeneous & Heterogeneous Bi-directional Data Replication





HPE Shadowbase Use Cases

Business Continuity

Credit card application availability to survive disasters

HPE Shadowbase Business Continuity – *active/passive disaster recovery*

Situation statement

- The largest U.S. processor of credit card transactions provides card management services for its customers on HPE NonStop systems

Problem statement

- The original configuration was vulnerable to failure and needed an *easy to implement and reliable* disaster recovery solution
- The customer required flexibility in the database mappings to allow for differing file/table partitioning layouts between the source and target systems



Credit card application availability to survive disasters

HPE Shadowbase Business Continuity – *active/passive disaster recovery*

Solution

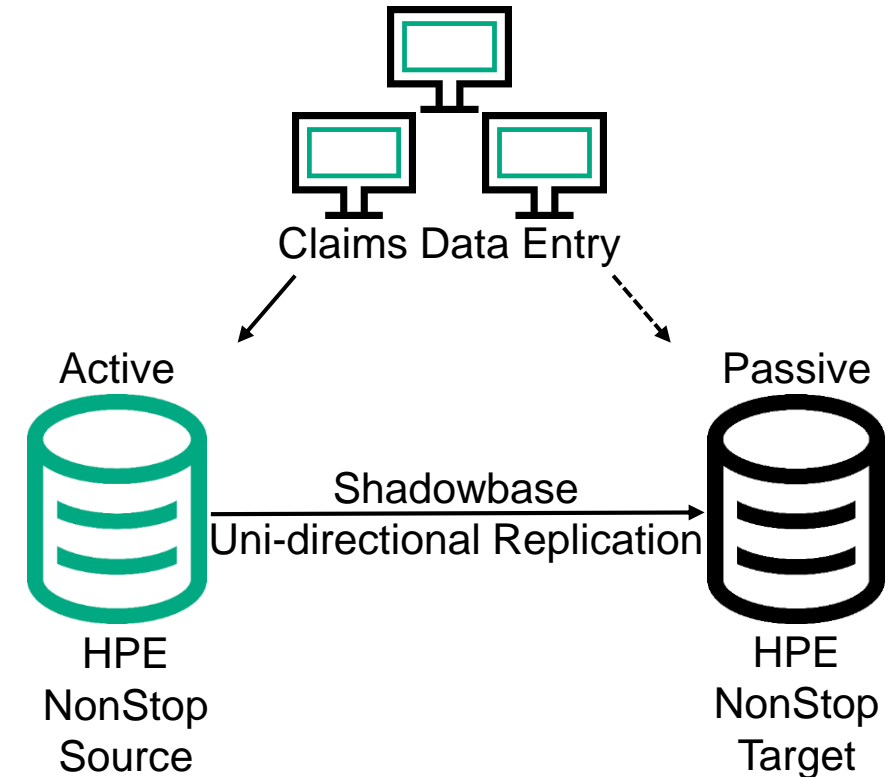
- Use HPE Shadowbase Active/Passive Business Continuity to provide uni-directional disaster recovery capability

Outcomes

- Increased availability through fast and reliable failover when disaster takes out the primary system/datacenter
- Full customer flexibility for target file/table partition and schema format and location mapping
- Customer is well-positioned to consider the more advanced business continuity architectures that HPE Shadowbase supports for their future needs, for example, Sizzling-Hot-Takeover (SZT) or Active/Active (A/A)

HPE Shadowbase products of interest

- HPE NonStop Shadowbase Basic Data Replication (BE441AC)
- HPE NonStop Shadowbase Compare (BE445AC)



Sizzling-hot-takeover (SZT) availability for island bank

HPE Shadowbase Business Continuity – *active/almost-active*

Situation statement

- An island bank runs BASE24™ for POS and ATM services on HPE NonStop servers
- The bank relied upon an untested active/passive business continuity solution for disaster recovery

Problem statement

- The bank needed to replace a legacy replication product, increase application availability, and provide a simple method for periodically testing the failover process
- The bank needed to perform a BASE24 application upgrade and an HPE NonStop hardware refresh with no downtime



Sizzling-hot-takeover (SZT) availability for island bank

HPE Shadowbase Business Continuity – *active/almost-active*

Solution

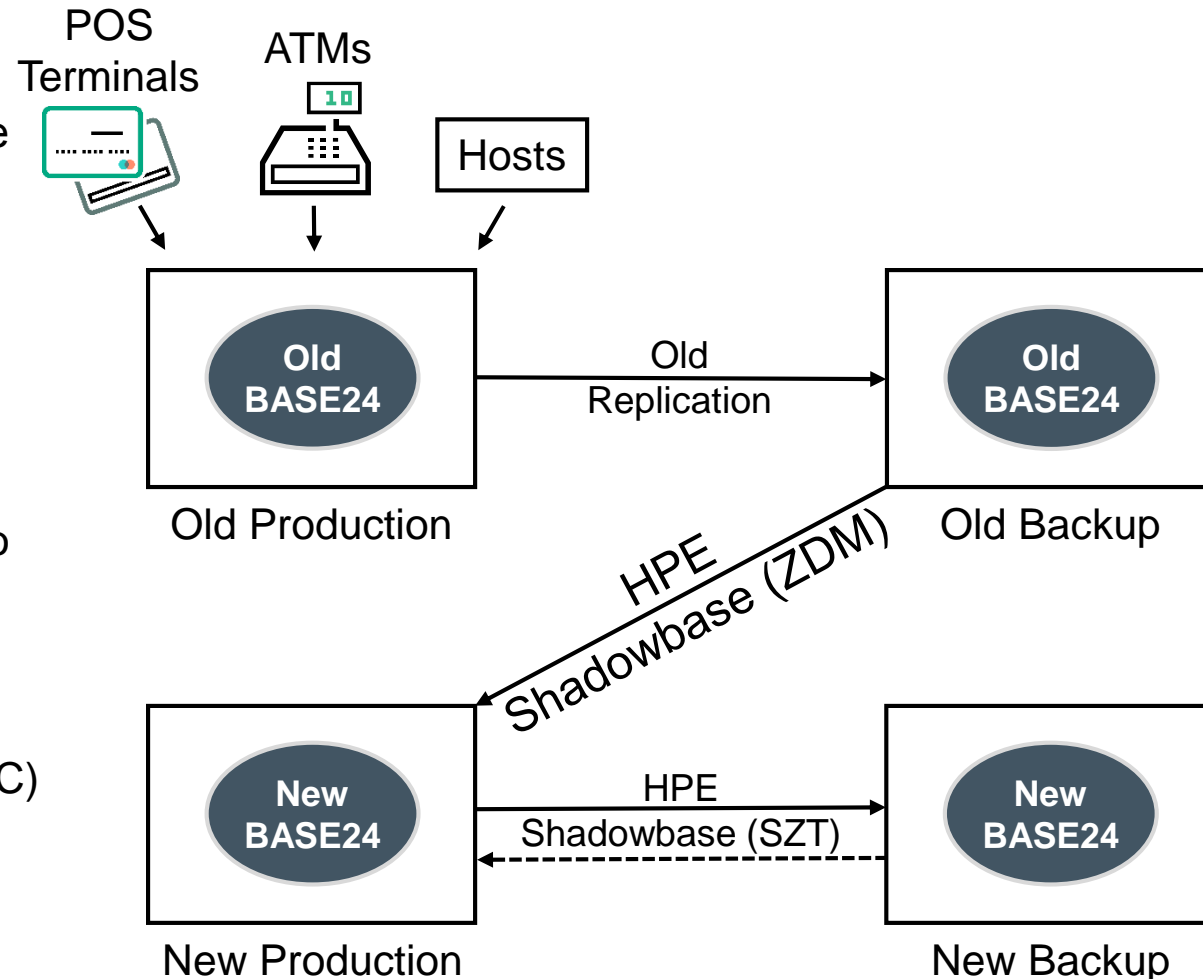
- Use HPE Shadowbase Zero Downtime Migration (ZDM) to upgrade the BASE24™ application and perform the hardware platform refresh
- Implement HPE Shadowbase Sizzling-Hot-Takeover for the new BC environment

Outcomes

- Upgraded the BASE24 application and performed the hardware platform refresh with no downtime
- Created a fast and reliable failover capability and the ability to practice periodic, non-disruptive testing through HPE Shadowbase SZT solution

HPE Shadowbase products of interest

- HPE NonStop Shadowbase Basic Data Replication (BE441AC)
- HPE NonStop Shadowbase Advanced Data Replication (BE442AL)
- HPE NonStop Shadowbase Compare (BE445AC)



Continuous application availability for cellular network

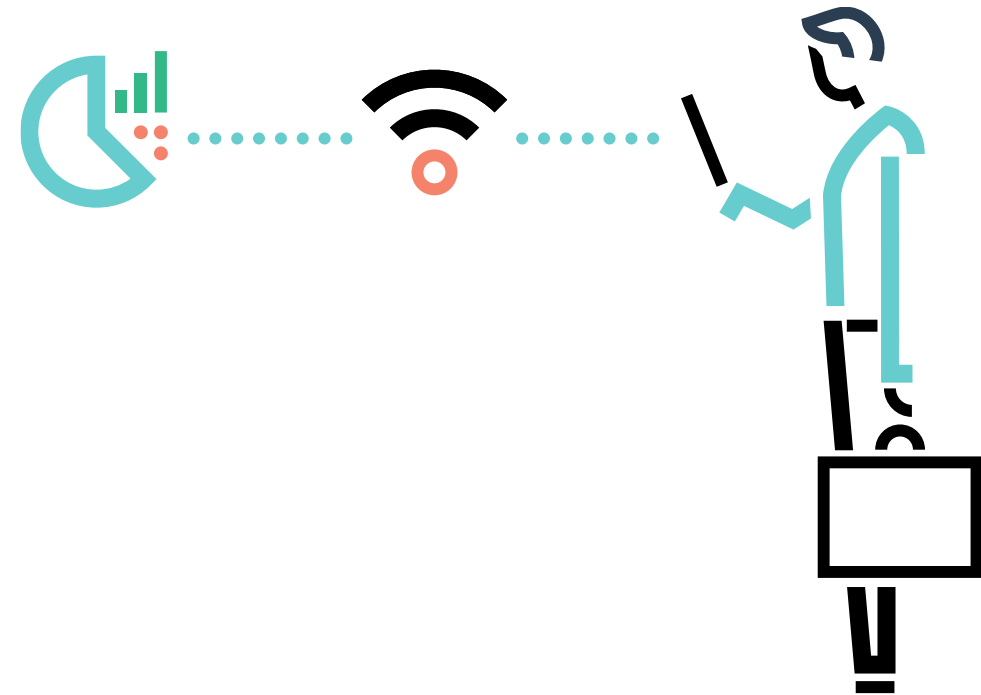
HPE Shadowbase Business Continuity – *active/active “route anywhere”*

Situation statement

- A cellular provider services a large and growing population of cell phone customers
- All traffic for a given subscriber is routed to only one system at a time

Problem statement

- The provider needed to improve cell phone services and provisioning to be more efficiently load-balanced and continuously available to avoid data collisions when running in an active/active business continuity architecture
- This required improvements in network routing capabilities and system scale-out as well as redundancy to survive any catastrophic system, datacenter, or regional disaster



Continuous application availability for cellular network

HPE Shadowbase Business Continuity – *active/active* “route anywhere”

Solution

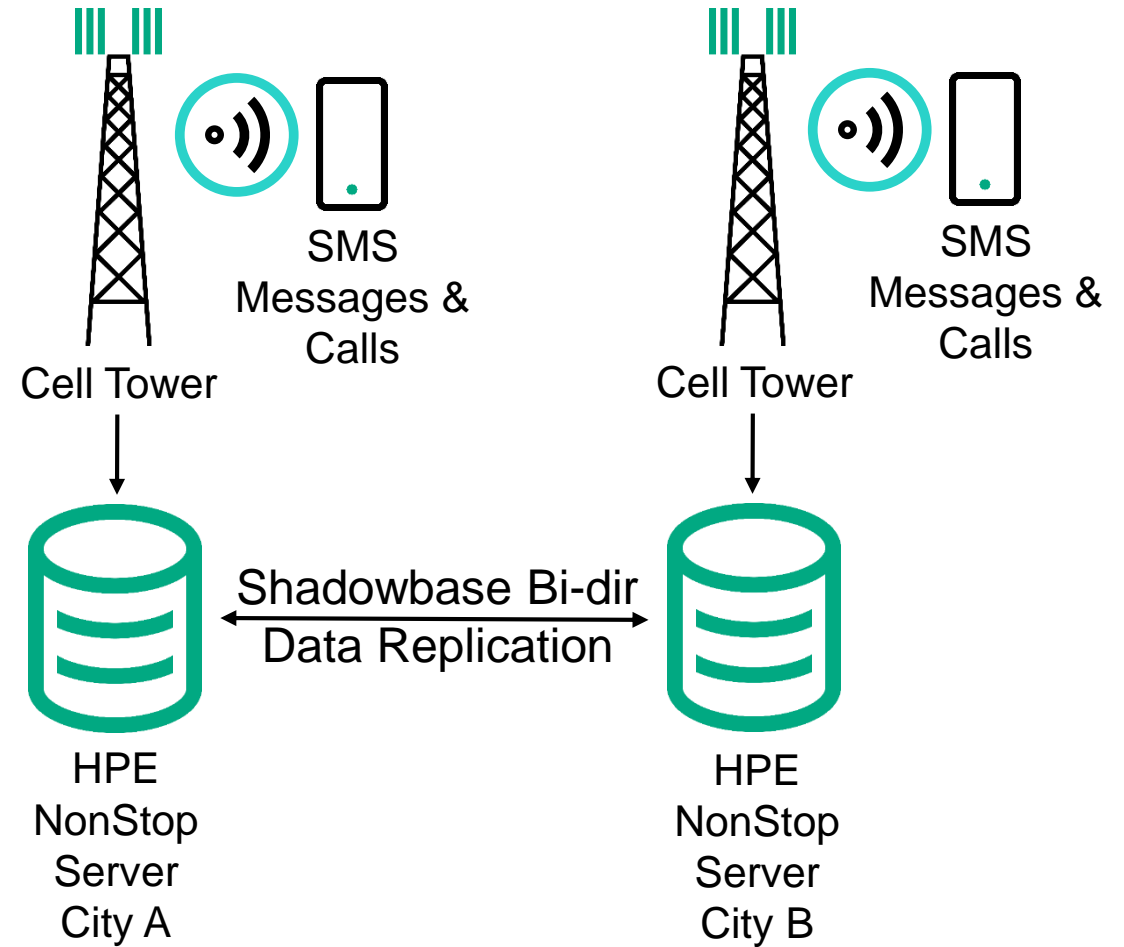
- Use HPE Shadowbase bi-directional data replication to synchronize application databases in a “route anywhere” model (any user/transaction can be serviced by any system)
- Apply *relative replication* to correct data collisions, keeping records consistent across nodes

Outcomes

- Created a geographically fault tolerant solution with an efficient network topology
- Increased application availability for cellular users
- Improved server utilization through load-balancing

HPE Shadowbase products of interest

- HPE NonStop Shadowbase Basic Data Replication (BE441AC)
- HPE NonStop Shadowbase Advanced Data Replication (BE442AL)
- HPE NonStop Shadowbase Compare (BE445AC)





HPE Shadowbase Use Cases

Data Integration

Replicate and transform insurance claims data

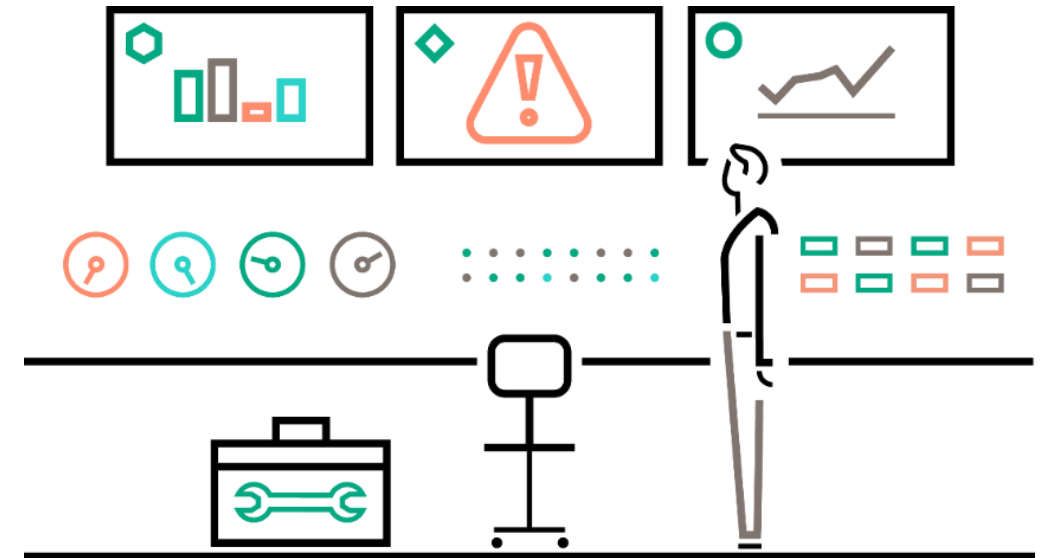
HPE Shadowbase for *data integration*

Situation statement

- An insurance company provides claim processing for client companies across multiple databases residing on multiple platforms using end-of-day batch file processing to synchronize data
- The company uses manual processing to provide claim information to its clients

Problem statement

- The manual process is error prone, duplicates effort, and is time consuming
- Unable to meet customer's needs in terms of checking claim status and verifying claim information in a timely manner through an automated process



Replicate and transform insurance claims data

HPE Shadowbase for *data integration*

Solution

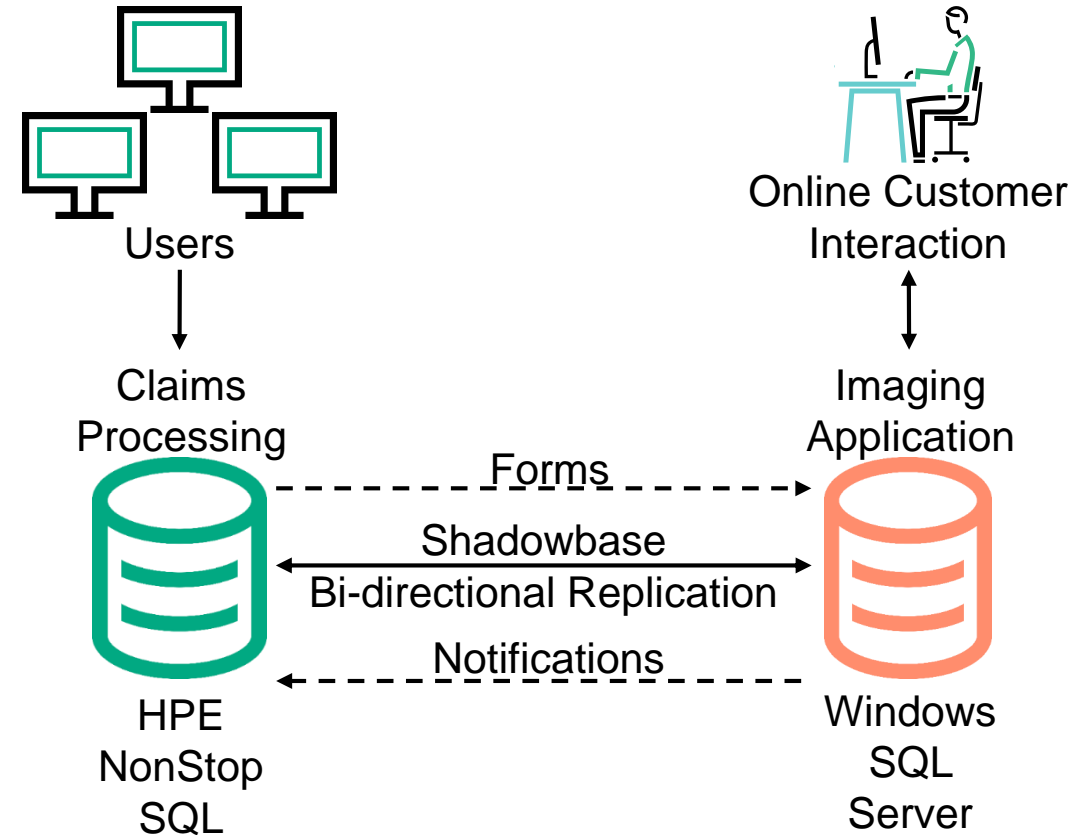
- Use HPE Shadowbase Data Integration to integrate heterogeneous databases on separate platforms
- Changes made to the HPE NonStop SQL database are applied to the Windows SQL database in real-time and vice versa

Outcomes

- Reduced user data entry redundancy and errors
- Increased speed of claim status updates
- Improved the user experience with a modern interactive interface

HPE Shadowbase products of interest

- HPE NonStop Shadowbase DIAI Basic SW (BE443AC)
- HPE NonStop Shadowbase DIAI Adv LTU (BE444AL)
- HPE Other Server Shadowbase DIAI Basic SW (WSA51V6T2)
- HPE Other Server Shadowbase DIAI Adv LTU (WSA52V6T2)



Ensure quality assurance through operational analytics

HPE Shadowbase for *big data*

Situation statement

- A major commodity provider delivers eight billion pounds of produce per year to customers from thousands of independent farms throughout the country
- Major commodity producers are shifting towards precision agriculture, which takes the guesswork out of growing crops and facilitates integrated commodity pricing in the financial spot markets

Problem statement

- The system's applications live in data silos, and the testing equipment can become uncalibrated without the agency knowing
- The feedback provided was stale by the time it reached growers and the pricing market



Ensure quality assurance through operational analytics

HPE Shadowbase for *big data*

Solution

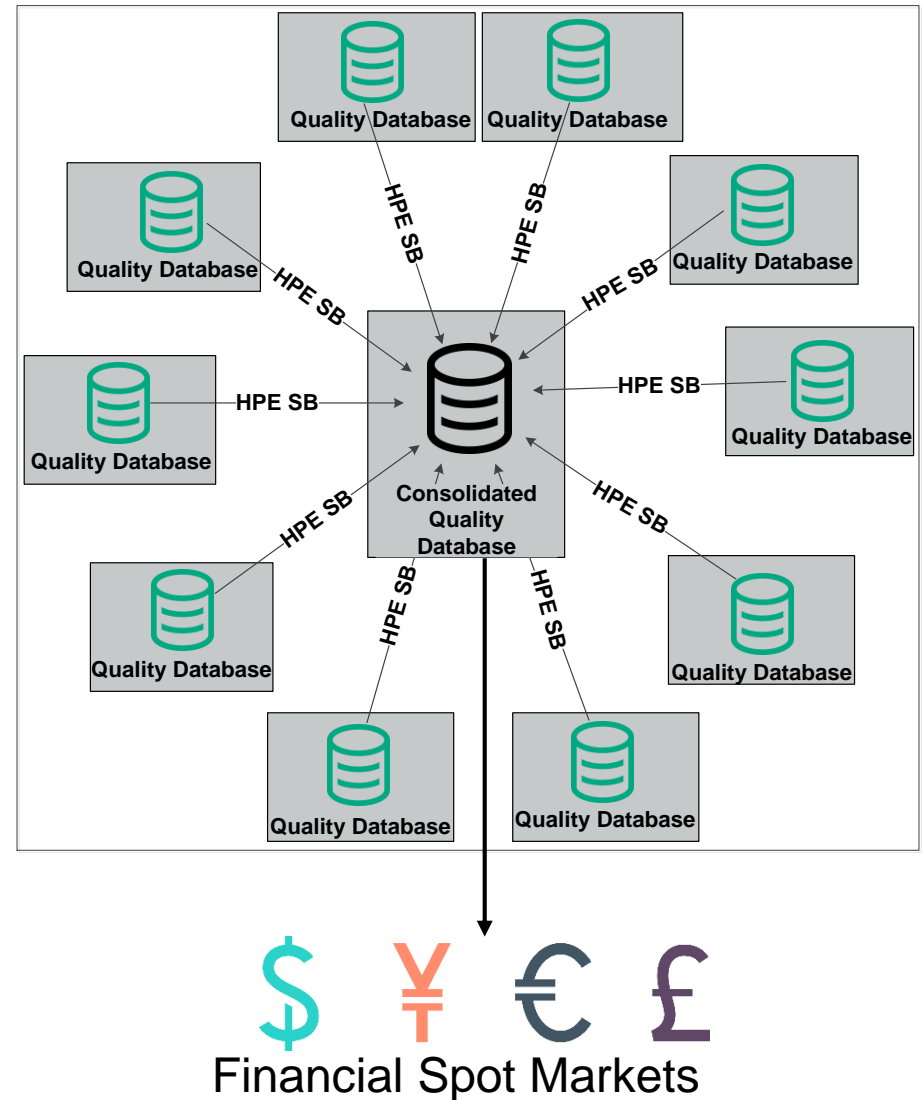
- Use HPE Shadowbase Data Integration for heterogeneous integration and data silo integration and consolidation
- Distribute commodity quality data in real-time so the produce can be fairly priced on the financial spot market

Outcomes

- Distributed consolidated quality data across heterogeneous systems for OLAP analysis
- Increased commodity quality by immediately alarming users when testing parameters are not met

HPE Shadowbase products of interest

- HPE NonStop Shadowbase DIAI Basic SW (BE443AC)
- HPE Other Server Shadowbase DIAI Basic SW (WSA51V6T2)





HPE Shadowbase Use Cases

Application Integration

Prevent fraudulent activity for online banking

HPE Shadowbase for *application integration*

Situation statement

- A European bank provides online account access to its customers for a banking application that runs on HPE NonStop systems
- Fraud occurs and is difficult to identify and prosecute
- The *intent* to commit a crime is not sufficient; the crime must actually be *attempted* for prosecution
- Fraudulent financial activity is increasing in the region, particularly in online banking

Problem statement

- This situation is costing the bank lots of money
- The bank has had limited success assisting authorities in prosecuting the crimes



Prevent fraudulent activity for online banking

HPE Shadowbase for *application integration*

Solution

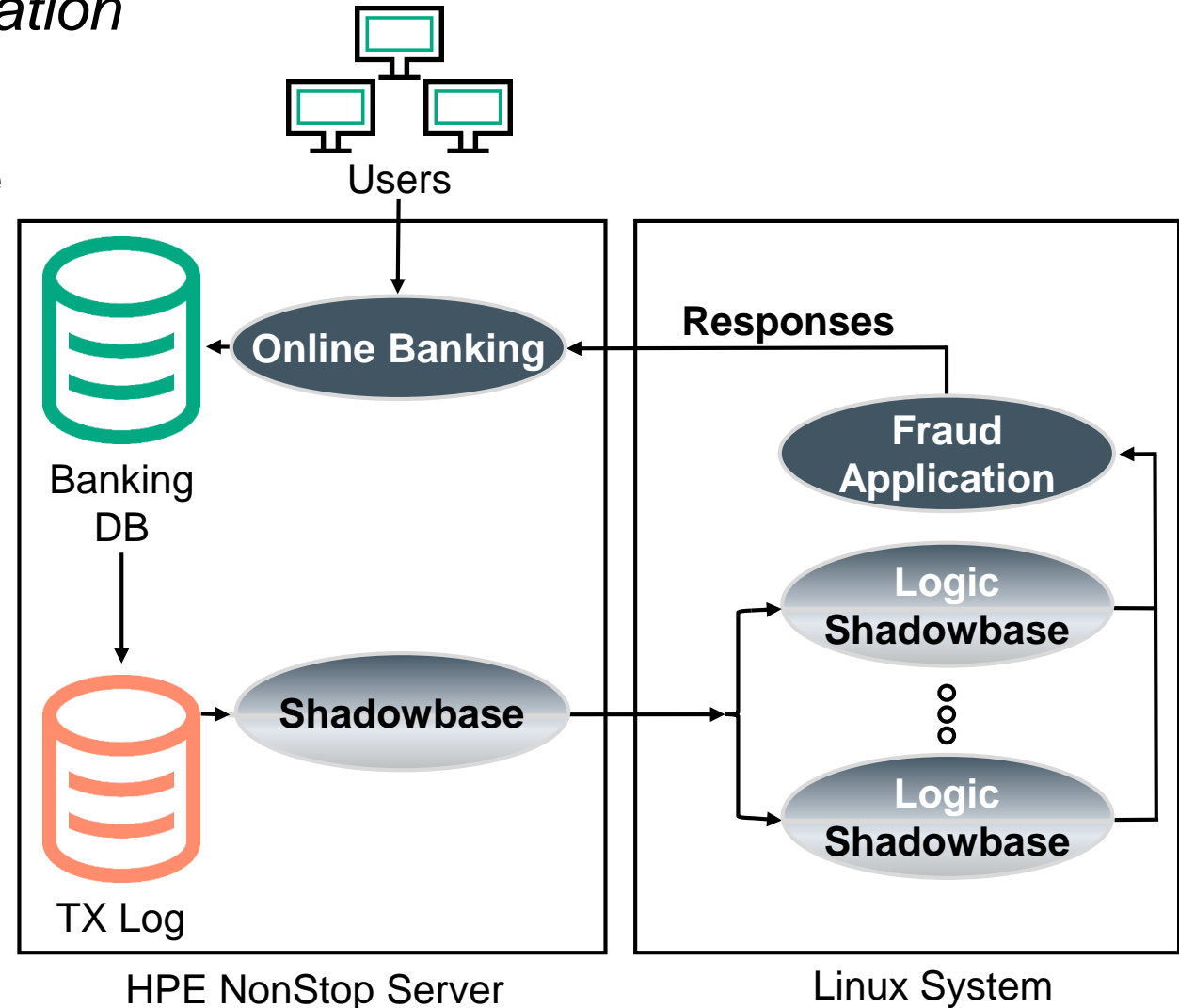
- Use HPE Shadowbase Application Integration to integrate the HPE NonStop banking activity in real-time with a Linux-based fraud-scoring application, to detect and prevent fraud before it occurs
- Enable the prosecution of the crime by demonstrating actual, attempted fraud

Outcomes

- Reduced costs from fraudulent activity
- Crimes using the online application are easier to identify, prosecute, and have a higher conviction rate

HPE Shadowbase products of interest

- HPE NonStop Shadowbase DIAI Basic SW (BE443AC)
- HPE NonStop Shadowbase DIAI Adv LTU (BE444AL)
- HPE Other Server Shadowbase DIAI Basic SW (WSA51V6T2)
- HPE Other Server Shadowbase DIAI Adv SW (WSA52V6T2)





HPE Shadowbase New Features & Future Features

New features in HPE Shadowbase

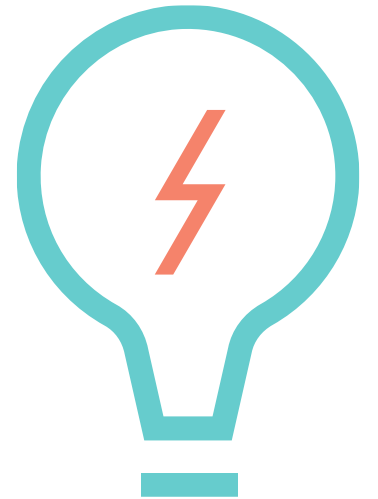
Please periodically upgrade to stay current!

- Support for all L-Series NonStop X platforms (including vNS)
- Premier introduction of HPE SB Zero Data Loss (ZDL) synchronous replication (for uni-dir NonStop environments)
- Expanded replication capabilities for *DB2 as a source* (log-based, uni-dir, and reciprocal)
- Performance improvements for SQL/MX and non-NonStop target databases
- Support for BASE24™ Classic *Full Refresh for CAF or PBF* using AutoTMF
- New features to support container, tenant, and multiplexed redo logs (i.e., for Oracle database as a source)
- *Reverse replication cut-off* feature prevents configuration mishaps after transitioning from RDF to HPE SB (e.g., when changing from uni-dir to bi-dir SZT architectures)
- New *repair* function in the Compare product for SQL/MP and SQL/MX



HPE Shadowbase Future Features

- HPE Shadowbase ZDL synchronous replication for bi-directional NonStop environments (SZT & A/A)
- Redesign off-platform encryption infrastructure to enhance data in motion and data at rest protection
- Active/active support for BASE24™ environments
- Redesign the mapping utility to facilitate data transformation for Enscribe, SQL/MP, or SQL/MX source to SQL targets
- Bi-directional DB2 replication (enhances current DB2 reciprocal replication)
- HPE Shadowbase support for SAP Hana as a target
 - Others...Sybase IQ, Teradata, Kafka, Hadoop, AWS/S3





HPE Shadowbase

Summary & For More Information



HPE Shadowbase at GTUG

Sessions of Interest

- **Tuesday, 15 May, 11:45-12:15, Potsdam Room**
New HPE Shadowbase Success Stories
(Business Continuity, Data Integration, Zero Downtime Migrations)
Paul J. Holenstein, Exec. Vice President, Gravic, Inc.
- **Wednesday, 16 May, 10:30-11:00, Potsdam Room**
Shadowbase Tricks: A 'Swiss Army Knife' Guide to Replication/Recovery
Rick Stather, Sr. System Consultant/Team Lead, TCM Solutions Pty Ltd
- **Wednesday, 16 May, 14:30-15:00, Potsdam Room**
New HPE Shadowbase Features that Solve Customers' Challenges
(Zero Data Loss, DB2 as a source, transforming Enscribe data to industry standard DBs)
Paul J. Holenstein, Exec. Vice President, Gravic, Inc.



Why Choose Shadowbase?

Proven technology

- Shadowbase is deployed at hundreds of sites, including many of the most-demanding HPE NonStop sites

Flexible solutions for your business challenges

- Business continuity, data integration & synchronization, data warehouse feeds, application integration, real-time business intelligence

Global sales organization

- Global reseller presence from HPE Sales

Global 24x7 support & Professional Services organizations

- Global support presence from the HPE GNSC
- Global Professional Services from HPE Pointnext and HPE SDI (or HPE's regional reseller)

Affordable, and committed to the HPE NonStop platform

- Improves TCO via overall cost advantage and features
 - "One product, many solutions"
- We are partnering and investing with HPE in many innovative enhancements
 - "Only on NonStop"



For More Information

Breaking the Availability Barrier Book Series

Volume 1

Survivable Systems for Enterprise Computing

Volume 2

Achieving Century Uptimes with Active/Active

Volume 3

Active/Active Systems in Practice

Also, Visit our Website for Case Studies, White Papers, Solution Briefs, and Articles:

<https://shadowbasesoftware.com/publications/>

Also, CONTACT US to receive our periodic *Shadowbase Newsletter*:

<https://shadowbasesoftware.com/contact-us/>



For More Information – Marcom (1)

Preparing for Your HPE Shadowbase Experience

If you are interested in:	Please read these White Papers:
A General Overview About HPE Shadowbase	<ul style="list-style-type: none">• HPE Shadowbase Total Replication Solutions for NonStop• HPE Shadowbase Total Replication Solutions for Other Servers• HPE Shadowbase Total Replication Solutions Product Datasheet
Building a Business Continuity Environment	<ul style="list-style-type: none">• Choosing a Business Continuity Solution to Match Your Business Availability Requirements• Achieving Century Uptimes with HPE Shadowbase Active/Active Technology• Fingers Crossed? Or What is Your Business Continuity Plan for the Inevitable?
Performing a Zero Downtime Migration	<ul style="list-style-type: none">• Using HPE Shadowbase Software to Eliminate Planned Downtime via Zero Downtime Migration• Switching Replication Engines with Zero Downtime and Less Risk
Implementing a Data Warehouse Feed	<ul style="list-style-type: none">• HPE Shadowbase Streams for Data Integration
Building a Real-Time Business Intelligence System	<ul style="list-style-type: none">• The Evolution of Real-Time Business Intelligence and How to Achieve It Using HPE Shadowbase Software• HPE Shadowbase Streams for Application Integration

For More Information – Marcom (2)

Preparing for Your HPE Shadowbase Experience

If you are interested in:	Please read these White Papers:
Building a Converged Infrastructure	<ul style="list-style-type: none">• HPE Shadowbase Solutions for the Converged Infrastructure• HPE Shadowbase Solutions and Pathway Domains—Perfect Together!
Shadowbase in a Big Data Environment	<ul style="list-style-type: none">• HPE Shadowbase Solutions in a Big Data World
Shadowbase in the Cloud	<ul style="list-style-type: none">• HPE Shadowbase Solutions for the Cloud
Recovering/Restoring Corrupted Data	<ul style="list-style-type: none">• HPE Shadowbase Data Recovery Software
Shadowbase Articles, Case Studies, Solution Briefs, News, Upcoming Tradeshows, and White Papers	<ul style="list-style-type: none">• Shadowbase Articles• Shadowbase Case Studies• Shadowbase Solution Briefs• Shadowbase News• Shadowbase Tradeshows• Shadowbase White Papers

Thank you

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