HP Shadowbase Solutions
Overview

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Introduction

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Agenda

• HP Shadowbase:
  - Sales, Service, and Support is Now Directly Available from HP

• HP Shadowbase Product Overview with Shadowbase Success Stories:
  - Business Continuity
  - Data Integration & Synchronization
  - Application Integration
  - Tools, Utilities, and Add-ons

• HP Shadowbase Provides Solutions for:
  - ACI BASE24™
  - GE Centricity®
  - Big Data & Cloud Environments

• What’s New & What’s Next for HP Shadowbase

Questions? Please ask as we go along…
HP 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**
- Homogenous & 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
HP Shadowbase Product Suite Overview

Homogeneous & Heterogeneous Uni/Bi-Directional Data Replication

Source Database

HP NonStop

Oracle

SQL Server

Sybase

Linux, Unix, Windows

Target Database

HP NonStop

Enscribe

SQL/MP

SQL/MX

Sybase

Oracle

MySQL

DB2

Unix/Linux

Windows

Any ODBC Target Platform/Database (e.g., Teradata)

Source/Target Database

HP NonStop

Enscribe

SQL/MP

SQL/MX

Sybase

Oracle

SQL Server

Sybase

Linux, Unix, Windows

Source/Target Database

HP NonStop

Enscribe

SQL/MP

SQL/MX

Sybase

Oracle

SQL Server

Sybase

Linux, Unix, Windows
HP Shadowbase Product Suite Overview

HP Shadowbase Product Extensions

Audit Compliance: Mine Audit & Build Archival DB of Business TX’s for Reporting & Analysis

Audit Compliance: Validate Target Matches Source

Load/Refresh Data Warehouses and Data Marts Using Shadowbase ETL Toolkit

Build *Real-Time* Business Intelligence and *Active* Data Warehouse Systems

Integrate Operational Processing with Ancillary Systems

Eliminate Planned Application Downtime for Upgrades and Migrations (ZDM)

Restore Corrupted Databases Online Eliminating Application Outages

Initial Online Loading of Target Environment

Command & Control GUI from your Windows Workstation
HP Shadowbase Business Continuity Overview

**RTO (faster recovery)**

**RPO**
(less, or no, data loss)

- None
- Secs
- Mins
- Hours
- Days

- HP Shadowbase ZDL**
- HP Shadowbase ZDL (SZT)**
- Shadowbase ZDL Plus SR**
- HP Shadowbase Active/Passive
- HP Shadowbase SZT
- **Future Technology**

Increasing Availability
HP Shadowbase For Data Integration

Shadowbase Manages Data Mapping for Source to Target
• Many datatypes mapped automatically
  – For example: CHAR, VARCHAR, numerics, many dates/times, etc.
• Complex datatypes mapped via either Data Mapping scripts or the Shadowbase User Exit capability

Data Scrubbing and Cleansing
• Blank and null-fill processing, NULL mapping, date/time cleansing, etc.

Data Filtering and/or Aggregation
• Remove events being replicated based on data content
• Consolidate multiple events into one

Non-Relational to/from Relational Data Formats
• Data normalization support provided (for redefinition support, array fan-out, etc.)
• For example NonStop Enscribe to Oracle
HP Shadowbase For Data Integration

Large Scale SaaS: Integrating HP NonStop trading applications with online trading applications

Internet client

Internet

Internet clients

Windows
Linux
Unix
IBM

Oracle
Sybase
SQL Server
DB2
MySQL
Flat Files

NonStop Cluster

Shadowbase

150+

Firewall

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HP Shadowbase For Data Integration

Application Integration: Insurance Claims Processing - Integrating an HP NonStop Claims Processing application with an MSSQL Forms Processing Application
HP Shadowbase For Application Integration

Shadowbase Enables *Event-Driven Architectures*

- Shadowbase monitors the transaction log and can “trigger” on all DML or DDL database activity (e.g., inserts, updates, or deletes)
  - Avoid inefficient polling for changes

Shadowbase Provides *Real-Time Event Delivery*

- As soon as the event occurs in the database, Shadowbase sees it and can processes it
  - Avoid using “stale” data

Shadowbase Integrates at the *Data Layer*

- No need to modify application code (assuming you **have** the code)
- Shadowbase acts as the hub, feeding pertinent database change events to all other system(s)
- Build efficient data-driven Publish/Subscribe event-notification architectures using replication as the middleware
- Events being replicated can be delivered in any format using any supported connectivity option
**Function:**
Shadowbase “sees” all changes to the customer's database… and can act on them in real-time.

**Uses:**
Shadowbase acts as a *capture process* for change events from the database/audit trail and notifies or delivers them to downstream files, applications, or middleware.
HP Shadowbase For Application Integration
Real-Time Fraud Detection NonStop Source to SBOS Target

NonStop-based Online Banking application feeding transactions into RiskShield (a Linux-based real-time fraud detection system)
Shadowbase Success Stories

Multi-Shadowbase-Use Case Studies

Application & Data Synchronization – First Data Corp.

Availability Modernization – Royal Bank of Canada

Traditional Disaster Recovery & Beyond – Vodacom
Shadowbase Success Stories

Implementations at First Data Corporation

1) Business Continuity – Disaster Recovery

2) Business Continuity – Active/Active Switch

3) Data Integration – Active Data Warehouse/Real-time Fraud Detection
Shadowbase Success Stories
Implementations at Royal Bank of Canada

1) Bi-Directional Active/Active Business Continuity

2) Wealth Management Market Watch

3) Data Center Migration with Zero Downtime (ZDM)
Shadowbase Success Stories

Implementations at Vodacom

Billing/Admin
Unix - Oracle

\NonStop 1

Shadowbase

Bi-Directional Business Continuity

\NonStop 2

Shadowbase

NonStop 1

Recharge Cards & Air Time Transfer

\NonStop 3

Cointel for Online Game Show

Windows - SQL

NonStop 2

Charging System

\NonStop 4

Shadowbase

NonStop 3

\NonStop 4
What’s Next for HP Shadowbase (1)

Sync Replication – Shadowbase ZDL™ (Zero Data Loss)

• Shadowbase Synchronous Data Replication Engine with Guaranteed Data Delivery (Zero Data Loss at Failure)
• Incorporates HP NonStop Synchronous Replication Gateway API
• Active/Passive, Sizzling-Hot-Takeover, and Active/Active Architectures Supported
• Data is Safe-Stored on the Target before Source is Allowed to Commit
  – Data Collisions Are Possible in Active/Active Architectures
• File/Table and TX Level Granularity
• POC Completed, Beta Programs Underway; Contact Gravic if Interested…

Sync Replication – Shadowbase ZDL Plus SR™

• Leverages Shadowbase ZDL Architecture to Provide:
  – Zero Data Loss if a Failure
  – Collision Avoidance for Active/Active Architectures
• Data is Applied into the Target Database before Source is Allowed to Commit
• Beta Program to Follow Shadowbase ZDL

Interested in Learning More? See Separate Presentation on Shadowbase Synchronous Replication

NOTE: Shadowbase ZDL™ and Shadowbase ZDL Plus SR™ are future technologies and require HP’s NonStop Synchronous Replication Gateway; specifications are subject to change without notice and delivery dates are not guaranteed…
What’s Next for HP Shadowbase (2)

Shadowbase Oracle Log-Reading Source Support
• Add Oracle Source Support (Log-Reading REDO via LogMiner for RAC environments)
• All Platforms

Shadowbase DB2 Log-Reading Source Support
• Add DB2 as a Source (Log-Reading via Journal/Redo)
• Linux, Unix, AIX, Windows (Native Port)

Shadowbase DB2 Source/Target Appliance Support
• Support for “any” DB2 Target via a “Data Appliance” Approach
• Support for “any” DB2 Source via a “Data Appliance” Approach
  – i.e., Provides DB2 Support for All Other Environments (e.g., AS/400, IBM MF)

Shadowbase IBM Mainframe z/OS Port
• Port of Shadowbase DB2 target architecture into zLinux z/OS VM
• Port of Shadowbase DB2 source architecture into zLinux z/OS VM
• Eliminated need for data appliance for MF Replication

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Why Choose HP Shadowbase?

**Proven Technology**
- Shadowbase is deployed at hundreds of sites, including many of the most-demanding 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 HP Sales, and local time zone/language support from select regional resellers

**Global 24x7 Support Organization**
- Global Reseller Presence from the HP GNSC, and local time zone/language support from select regional resellers

**Affordable, and Committed to the NonStop Platform**
- Improves TCO via Overall Cost Advantage and Features
  - “One Product, Many Solutions”
- We are partnering and investing with HP in many innovative enhancements
  - “Only on NonStop”
Are You Looking to Replace Your Existing Data Replication Solution?

Is your current solution overly expensive?

Are you unhappy with the Product Support from your current vendor?

Are you dissatisfied with the features offered by your current solution?

Does your current solution not satisfy your growing Data Replication requirements?

Or, do you have new, unmet needs for Business Continuity or Data and Application Integration?

Then please speak with us or your HP Account Team about HP Shadowbase!

- Free, no-obligation, 60-day Trials/Proof-of-Concept available
- Porting and conversion services are also available