

# HPE Shadowbase SOLV Product Suite



## Online and Offline Database Loading/Unloading

Before a database is useful, it must first be loaded with data. The HPE Shadowbase Online Loader (SOLV) and Shadowbase Extract, Transform and Load (ETL) Toolkit are utility products designed to perform this task.



## HPE Shadowbase Online Loader (SOLV)

The HPE Shadowbase SOLV utility provides *online* loading of a source database into a target database. Online loading means that the source and/or target databases can be open for reading and updating while the load/copy occurs. In contrast to other loading products, while the load/unload occurs, there is no need to take either the source or target databases offline, making them inaccessible to applications.

SOLV can load audited and non-audited HPE NonStop Enscribe source files and HPE NonStop SQL tables into any target environment and database combination supported by the HPE Shadowbase line of data replication products (e.g., HPE NonStop Enscribe or HPE NonStop SQL targets, or other server targets such as Oracle, SQL Server, Sybase, Db2®, SAP HANA, Postgres, and MySQL). SOLV can perform the load while regular replication is also taking place, consuming the source database changes and merging them with the data being loaded to keep the target fully synchronized with the source while the load takes place (Figure 1).

## Key Features

- Initial and refresh target data-loading utility
- Supports point-in-time bulk loading of source to target
- Allows for extract, transform, filter, and cleanse of the data being loaded
- Optionally integrates with the Shadowbase replication engine to keep target synchronized during and after the load completes<sup>1</sup>
- Can use the same (or different) conversion routines for loading that are used for replication
- Dynamically adjusts loading activity to efficiently utilize available resources
- Source and target can be opened for read-write activity while the load/refresh occurs
- SOLV does not require writing data to interim disk queues during the load, making the loading process much more efficient than other loading methods

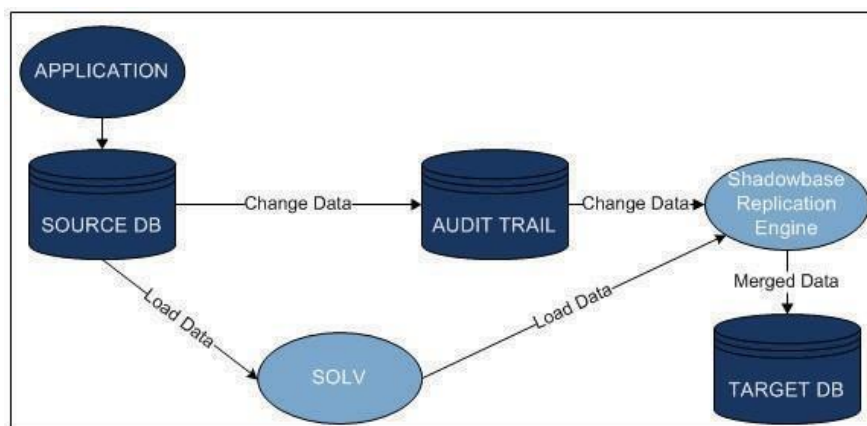


Figure 1 – SOLV Online Loading Integrated with HPE Shadowbase Change Data Replication

<sup>1</sup> Since replicated events are consumed/merged with the loading activity, there is no queue of changes to drain after the load completes.

## HPE Shadowbase ETL Toolkit

The HPE Shadowbase ETL Toolkit is used to extract database changes or initial load data into flat files for subsequent ETL loading into a target environment (e.g., a data warehouse) using comma-separated value (CSV), fixed-position, variable length, and tab-delimited formats. It is particularly useful for feeding high-volume data quantities into a data warehouse, and when feeding row-based data into columnar databases.

The Toolkit also extends the SOLV loading capabilities to allow for reading and injecting events from flat files into the Shadowbase replication engine for processing. This capability is useful, for example, when an application maintains a log of events that need to be replicated.



More specifically, for certain applications, an existing vendor's ETL loading utility may be used to load either initial or change data, into a data warehouse. The Toolkit allows a Shadowbase user to perform these tasks. For example, when coupled with SOLV, the Toolkit can be used to extract select data from a source database, transform/cleanse it into the proper format, and save it into flat files that this ETL loading utility can understand, and load into a target database environment not directly supported by Shadowbase replication. Using the Toolkit, source database change data can be periodically extracted from the source database's audit trail (change log), and processed into a flat file format that can be incrementally loaded into the target environment using a micro-batch incremental update approach to keep the target environment synchronized with the source.

### Key Features

- Trickle-feed replicated-events loading *and unloading* utility
  - Snapshot point-in-time bulk loading *and unloading* utility
  - Allows for extract, transform, filter, and cleanse of the data to be loaded/unloaded
  - Reads/generates flat files for the data to be loaded/unloaded
  - Reads/generates various formats, including CSV, fixed position, and variable length
  - Source or target can be open for read-write activity while the load/unload occurs
- Leverages the SOLV features for ETL processing

### Summary

An empty database is a useless database. HPE Shadowbase Online Loader and HPE Shadowbase ETL Toolkit are utility products designed to remedy this situation by performing initial database loads, providing online and offline loading/unloading of a source database into a target database/flat file. A wide range of features and databases are supported. Hewlett Packard Enterprise globally sells and supports Shadowbase solutions under the name HPE Shadowbase. For more information, please contact your local HPE Shadowbase representative or visit our website.

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