

Enscribe-2-SQL Toolkit

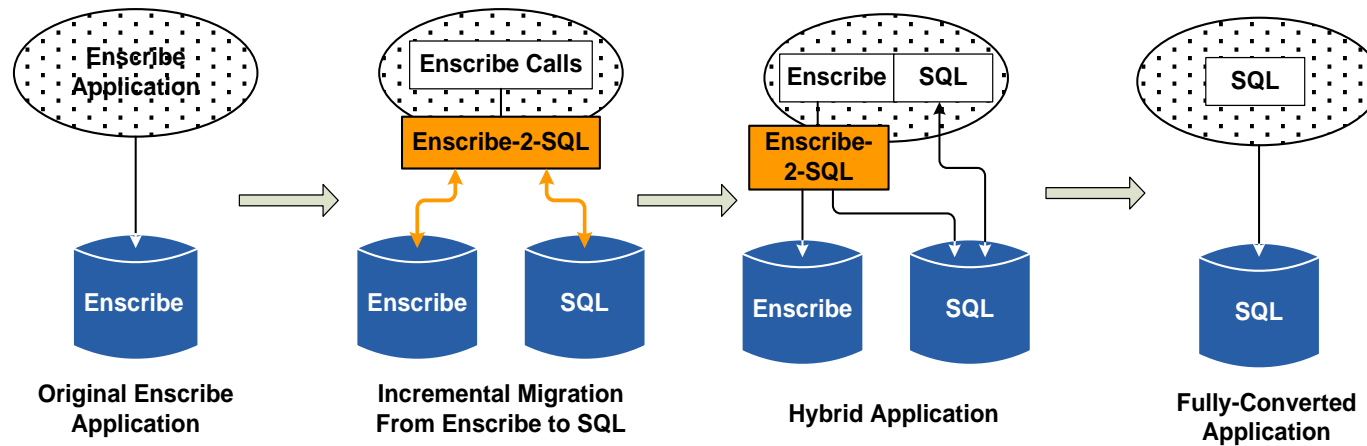
Jack Di Giacomo
TANDsoft, Inc.

Today's Agenda

Enscribe-2-SQL Toolkit

A flexible, affordable alternative to more expensive conversion products or manual conversion techniques.

Introducing the Enscribe-2-SQL Toolkit



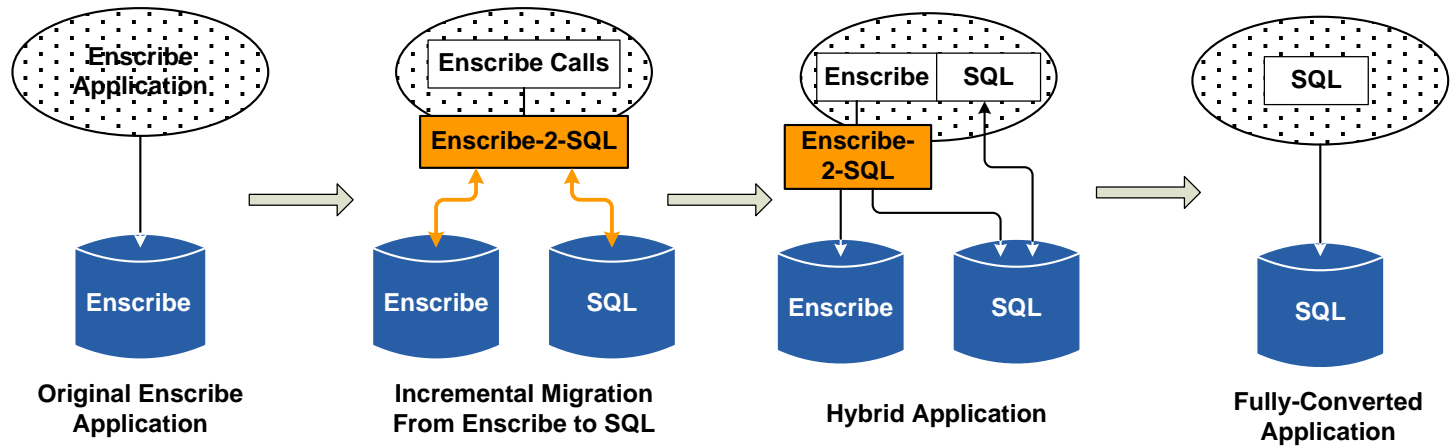
Migrating from Enscribe to SQL with the Enscribe-2-SQL Toolkit

Introducing the Enscribe-2-SQL Toolkit

Available on all HP NonStop Servers

<u>DB Mgr.</u>	<u>Platforms</u>	<u>Languages</u>
SQL/MP	All HP NonStop servers	All NonStop languages
SQL/MX	HP NonStop servers and Integrity servers	All NonStop languages
Enscribe	All HP NonStop servers	All NonStop languages

Here's How The Toolkit Works!



Migrating from Enscribe to SQL with the Enscribe-2-SQL Toolkit

Enscribe-2-SQL Toolkit

Features

- Offers unlimited conversion flexibility

Enscribe-2-SQL Toolkit

Offers Unlimited Conversion Flexibility

A developer can define such actions as:

- Not interested. Execute as is.
- Convert to SQL.
 - includes Enscribe database updates to SQL equivalent
examples: Enscribe insert = SQL insert
 Enscribe Create File = SQL Create Table
- Do both. Write to both an Enscribe file and an SQL table.
Also known as dual mode.
- Support TMF Audited and Non-Audited files.

Enscribe-2-SQL Toolkit

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- **No changes necessary to Enscribe applications**

Enscribe-2-SQL Toolkit

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- **Supports both static and dynamic SQL**

Enscribe-2-SQL Toolkit

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- Supports both static and dynamic SQL
- **Permits file-by-file and application-by-application incremental migration**

Enscribe-2-SQL Toolkit

Features

- Offers unlimited conversion flexibility
- No changes necessary to Enscribe applications
- Supports both static and dynamic SQL
- Permits file-by-file and application-by-application incremental migration
- **Can maintain dual Enscribe and SQL copies of the data**

Enscribe-2-SQL Toolkit

Features

- Optional hybrid programs offer further flexibility

Enscribe-2-SQL Toolkit

Features

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- **Supports joins and other complex set operations for maximum performance**

Enscribe-2-SQL Toolkit

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- **Supports Enscribe Key, Relative, and Entry sequenced files**

Enscribe-2-SQL Toolkit

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- Supports joins and other complex set operations for maximum performance
- Supports Enscribe Key, Relative, and Entry sequenced files
- **Supports full Enscribe API**

Enscribe-2-SQL Toolkit

Features

- Optional hybrid programs offer further flexibility
- Supports joins and other complex set operations for maximum performance
- Supports Enscribe Key, Relative, and Entry sequenced files
- Supports full Enscribe API
- **Works with HP NonStop utilities – FUP, Enform.**

Enscribe-2-SQL Toolkit

Features

- Optional hybrid programs offer further flexibility
- Supports joins and other complex set operations for maximum performance
- Supports Enscribe Key, Relative, and Entry sequenced files
- Supports full Enscribe API
- Works with HP NonStop utilities – FUP, Enform.
- **No privileged code required**

Enscribe-2-SQL Toolkit

How to Use the Toolkit Library

- Prepare Enscribe applications for use with the Enscribe-2-SQL Toolkit.

Enscribe-2-SQL Toolkit

How to Use the Toolkit Library

- Prepare Enscribe applications for use with the Enscribe-2-SQL Toolkit.
- **Create Enscribe to SQL mapping code to convert Enscribe calls to SQL statements.**

Enscribe-2-SQL Toolkit

How to Use the Toolkit Library

- Prepare Enscribe applications for use with the Enscribe-2-SQL Toolkit.
- Create Enscribe to SQL mapping code to convert Enscribe calls to SQL statements.
- **Both Enscribe files and SQL tables can be updated to confirm that conversion is correct.**

Enscribe-2-SQL Toolkit

How to Use the Toolkit Library

- Prepare Enscribe applications for use with the Enscribe-2-SQL Toolkit.
- Create Enscribe to SQL mapping code to convert Enscribe calls to SQL statements.
- Both Enscribe files and SQL tables can be updated to confirm that conversion is correct.
- **Add or replace Enscribe calls with SQL statements.**

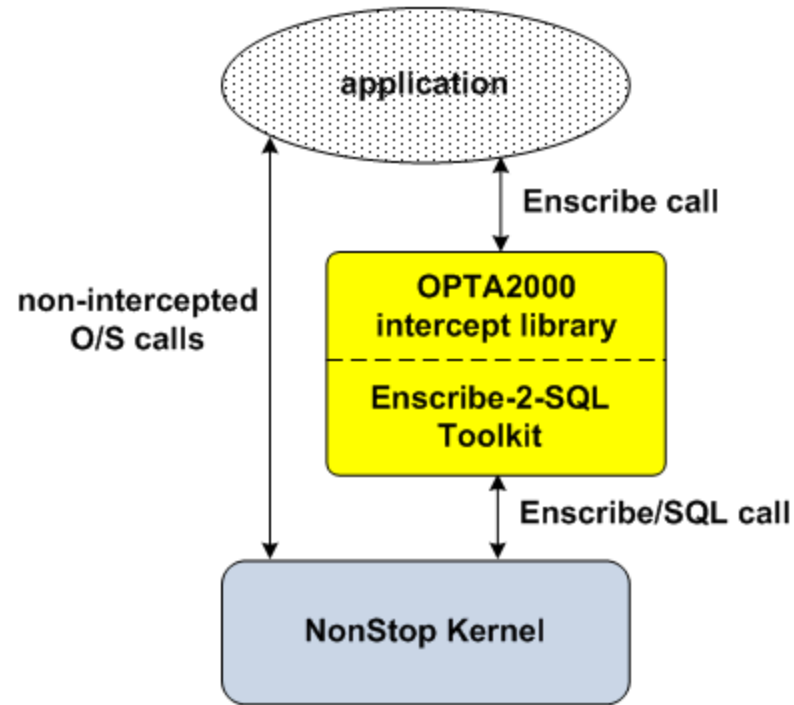
Enscribe-2-SQL Toolkit

How to Use the Toolkit Library

- Prepare Enscribe applications for use with the Enscribe-2-SQL Toolkit.
- Create Enscribe to SQL mapping code to convert Enscribe calls to SQL statements.
- Both Enscribe files and SQL tables can be updated to confirm that conversion is correct.
- Add or replace Enscribe calls with SQL statements.
- **Once all desired Enscribe calls are replaced, discard library.**

Enscribe-2-SQL Toolkit

Uses Existing OPTA2000 Intercept Technology



Enscribe-2-SQL Toolkit

Replace Enscribe Files with SQL/MP or SQL/MX Tables

- **CONVERT** - HP tool used to convert Enscribe file described in a Data Definition Language (DDL) dictionary to SQL table.
- **LOAD** - HP tools (SQLCI LOAD, COPY or DataLoader/MP/MX) used to load data from an Enscribe file to SQL table.
- **PREPARE** - Enscribe application using Enscribe-2-SQL Toolkit and SQL access code (Enscribe file to SQL DB mapping).
- **EXECUTE** - prepared Enscribe application.
- **RESULT** - Open SQL/MP or SQL/MX relational database ready for use by:
 - a multitude of supported platforms, third-party applications and tools.
 - new customer SQL applications or hybrid (Enscribe/SQL) applications.

Enscribe-2-SQL Toolkit

Convert an Enscribe File to an SQL Table

Enscribe File – DDL Definition

```
DEFINITION enscribe-def
  02col_1          PIC X (40).
END.
```

Enscribe File – Attributes

```
ENSCRIBE
TYPE E
REC 40
AUDIT
```

Enscribe File – Contents

Mario Lemieux
 Sidney Crosby
 Alexander Ovechkin
 Wayne Gretzky
 Phillip Di Giacomo

Convert Enscribe File to SQL Table

```
SQLCI Convert record enscribe-record to table SQLent
  catalog optacat comments      dictionary dictens
  file is  ENSent load part      source SQLload clear;
```

```
CREATE TABLE  SQLENT
( COL_1          PIC X(40) NOT NULL )
ORGANIZATION ENTRY SEQUENCED
CATALOG OPTACAT NO AUDIT  BUFFERED;
```

Enscribe-2-SQL Toolkit

Load Data From an Enscribe File into an SQL Table

Load SQL Table from Enscribe File

```
LOAD ENSENT , SQLENT ,  
SOURCEDICT DICTENS , SOURCEREC ENSCRIBE-RECORD ,  
USESQNULLS;
```

```
File Name    Reads/Writes
```

```
ENSENT      5
```

```
SQLENT      5
```

```
ALTER TABLE SQLENT AUDIT;
```

Load SQL Table Contents

```
Sqlci select * from SQLent;  
COL_1
```

```
-----  
Mario Lemieux
```

```
Sidney Crosby
```

```
Alexander Ovechkin
```

```
Wayne Gretzky
```

```
Phillip Di Giacomo
```

```
--- 5 row(s) selected.
```

Enscribe-2-SQL Toolkit

Prepare Enscribe Application Using Enscribe-2-SQL Toolkit and SQL Access Code (Enscribe File to SQL DB Mapping)

Enscribe to SQL DB mapping code

Enscribe Sequential READ to SQL FETCH

```
EXEC SQL DECLARE ent_read CURSOR FOR
  SELECT SYSKEY, col_1
  FROM =E2SQL_ent
  WHERE SYSKEY > :sql.ent.sys_key
  BROWSE ACCESS;
```

```
EXEC SQL OPEN ent_read;
```

```
EXEC SQL FETCH ent_read INTO :sql.ent.sys_key, :sql.ent.col_1;
```

```
EXEC SQL CLOSE ent_read;
```

Enscribe WRITE to SQL INSERT.

```
EXEC SQL INSERT INTO =E2SQL_ent ( col_1 )
  VALUES ( :sql.ent.col_1 ) RETURNING :sql.ent.sys_key;
```

Enscribe UPDATE to SQL UPDATE.

```
EXEC SQL UPDATE =E2SQL_ent
  SET col_1 = :sql.ent.col_1
  WHERE syskey = :sql.ent.sys_key
  STABLE ACCESS;
```

Enscribe-2-SQL Toolkit

Prepare Enscribe Application Using Enscribe-2-SQL Toolkit and SQL Access Code (Enscribe File to SQL DB Mapping)

Enscribe to SQL DB mapping code...continued

Enscribe Random READ to SQL SELECT

```
EXEC SQL SELECT syskey, col_1
      INTO  :sql.ent.sys_key, :sql.ent.col_1
      FROM  =E2SQL_ent
      WHERE syskey = :sql.ent.sys_key
      STABLE ACCESS;
```

Enscribe DELETE to SQL DELETE (for Relative and Key files only)

```
EXEC SQL DELETE FROM =E2SQL_key
      WHERE key_1 = :sql.key.key_1
      STABLE ACCESS;
```

Prepare Enscribe application for use with Enscribe-2-SQL Toolkit

Run <u>PrepTNS</u>	PROGRAM	Copy
	LIBRARY	LibE2sql
	ENS2SQL-LIBRARY	\$vol.subvol.LIBesTg
	ENS2SQL-EXIT-OBJECT	Exit2sql
	ENS2SQL-SQL-OBJECT	SqIMPtns

Program Copy Prepared for Enscribe-2-SQL.

Enscribe-2-SQL Library LibE2sql Prepared.

Enscribe-2-SQL Toolkit

Execute Prepared Enscribe Application – Reads Data From SQL Table

RUN Copy

Mario Lemieux

Sidney Crosby

Alexander Ovechkin

Wayne Gretzky

Phillip Di Giacomo

5 records copied

Enscribe-2-SQL Toolkit

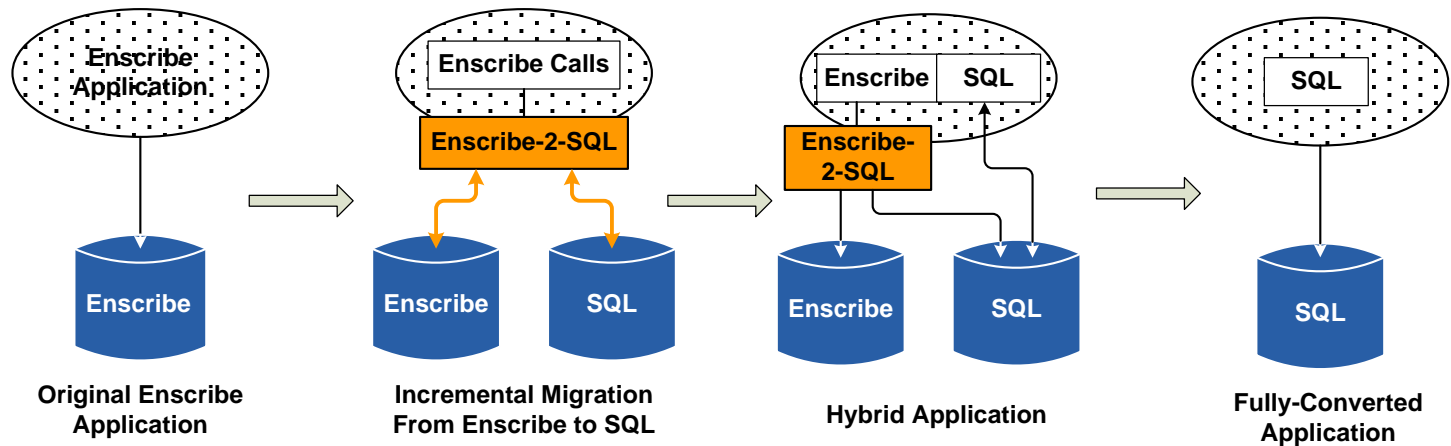
**Result – Open SQL/MP or SQL/MX Relational Database Ready
For Use By:**

- **A multitude of supported platforms, third-party applications and tools.**
- **New customer SQL applications or hybrid (Enscribe/SQL) applications.**

Enscribe-2-SQL Toolkit

Any Questions?

Ask them now, or contact me later at
jack.digiacomio@tandsoft.com



Migrating from Enscribe to SQL with the Enscribe-2-SQL Toolkit

Thank You For Attending!

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TANDsoft's HP NonStop solutions include time-zone virtualization, time-sensitive application testing, file synchronization for disaster recovery, and the new Enscribe-2-SQL toolkit.