

A hand is shown holding a glowing blue globe with a grid pattern. The background features a city skyline with skyscrapers, a grid floor, and various blue geometric shapes and lines, creating a futuristic, high-tech atmosphere.

# TANDsoft

Product solutions

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# TANDsoft - Jack Di Giacomo

- TANDsoft is a global provider of innovative HPE NonStop software solutions for use in time virtualization, application modernization, security, and business continuity.
- I have over 30 years of experience in building HPE NonStop software solutions.
- Seamless intercept technology products:
  - OPTA2000 – Virtual Clock and Time Zone simulator
  - SDI (sensitive data intercept for Enscribe, MP and MX), purchased by comforte and used in SecureDPS (tokenization solution).
  - Enscribe-2-SQL toolkit (like Escort SQL, Enscribe to MP, uses dynamic SQL)
  - E2S 4.0 - Enscribe to MX ( uses static SQL )
- Blazing fast Compare & Repair, Backup & Restore, File synchronization using Block hashing and DP2 block reading technology.

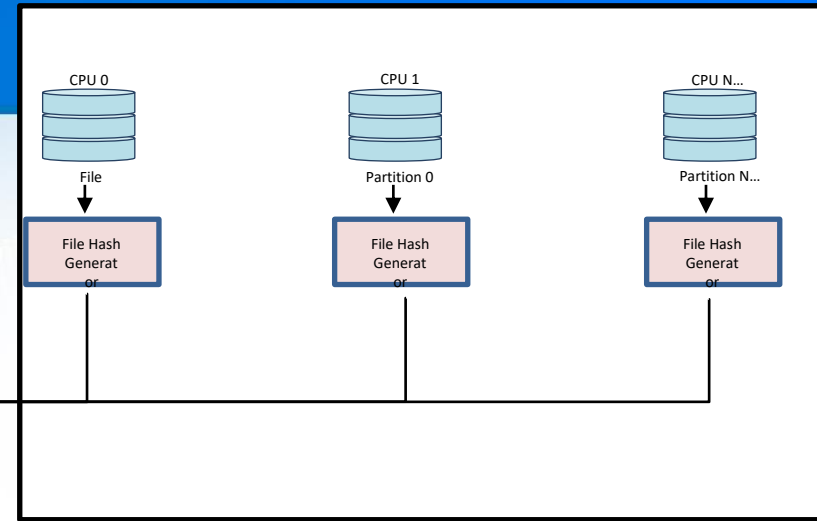
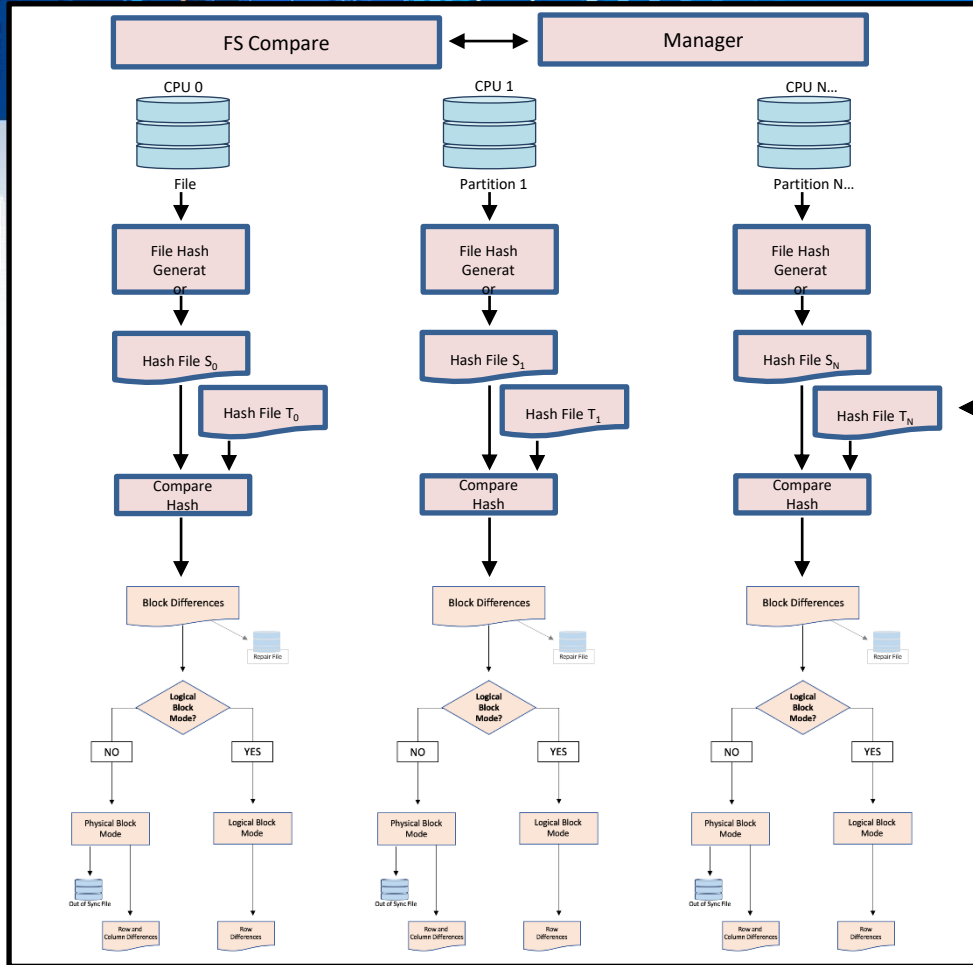


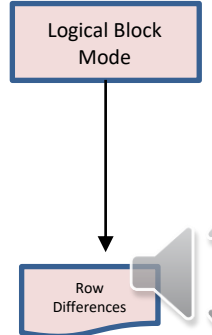
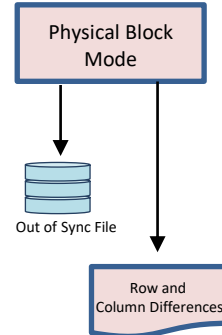
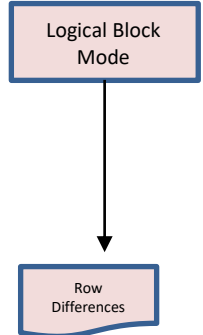
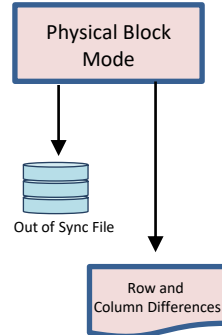
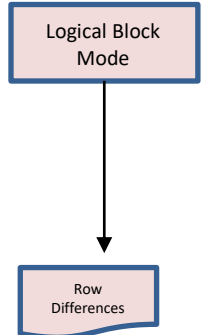
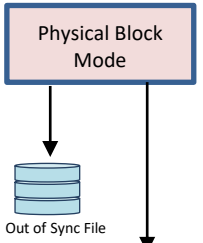
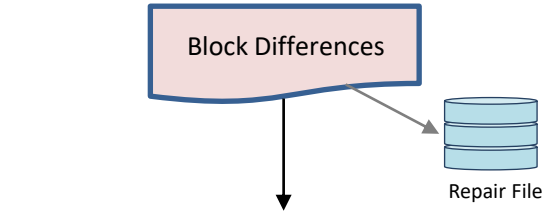
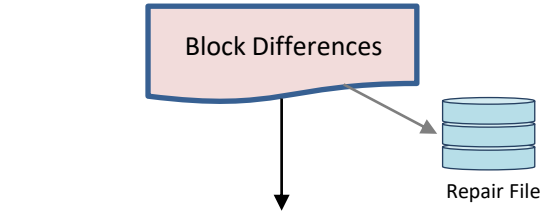
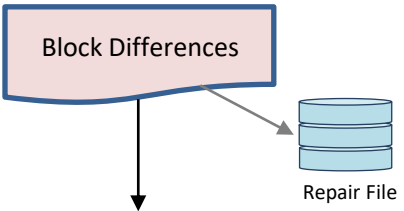
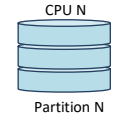
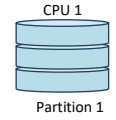
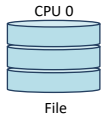


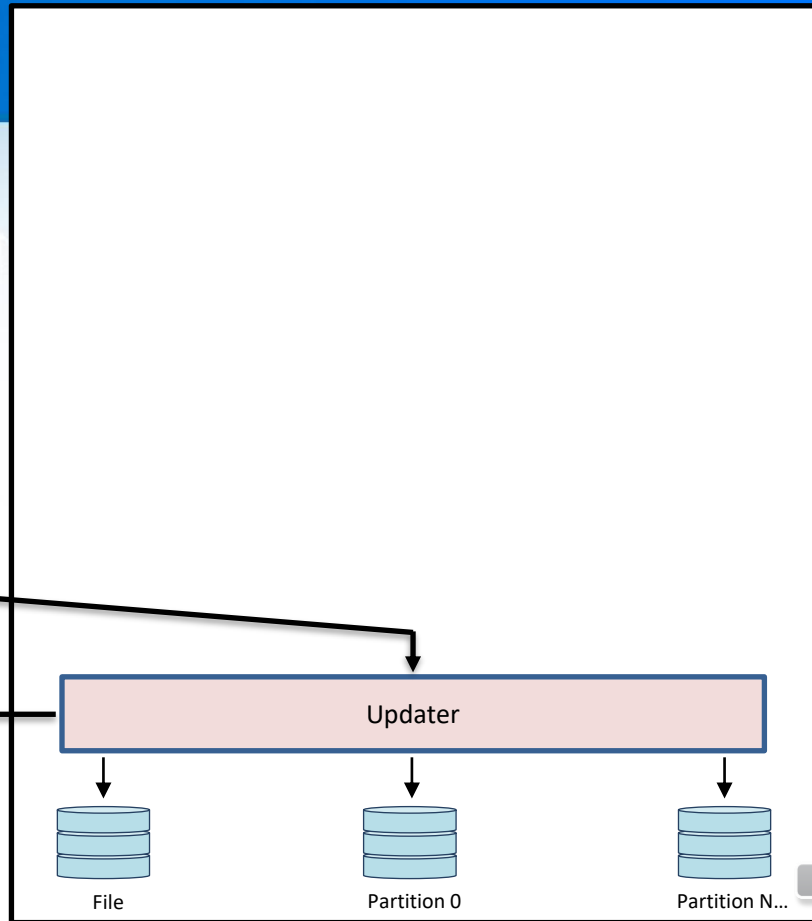
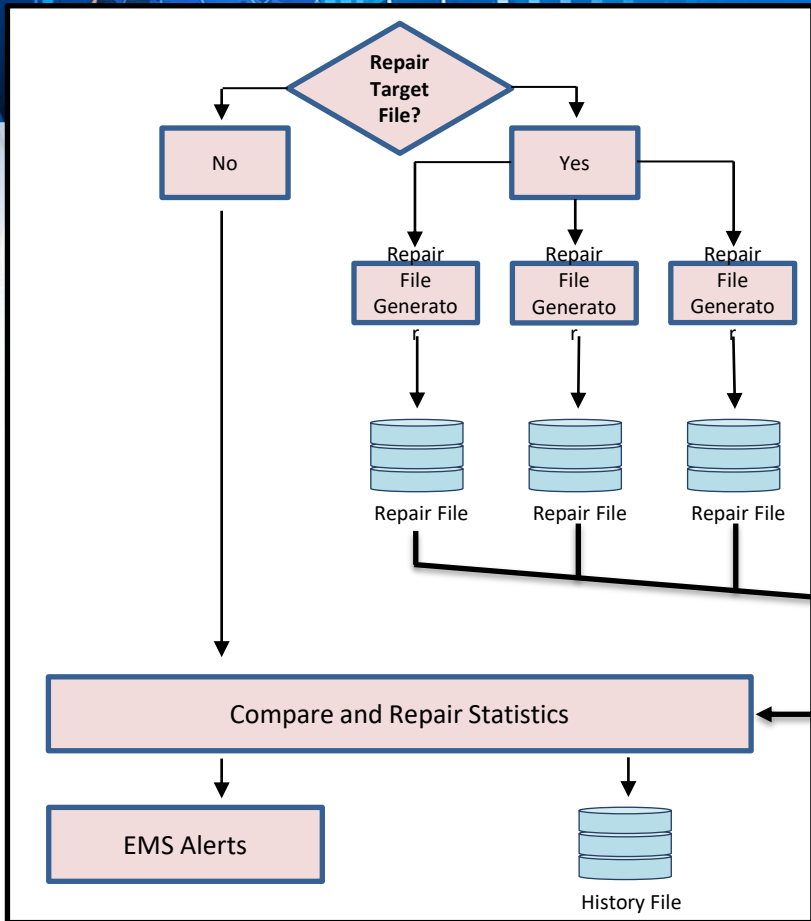
# What is Block Technology ?

- TANDsoft 'Block technology' incorporates **Blazing fast reading** and **Block hashing** of Enscribe, OSS, SQL/MP and SQL/MX data blocks.
- Block hash compare allows for very quick identification of data block differences between two datasets.
- This core technology is used in all of the TANDsoft FS family of products.
  - FS Compare and Repair
  - FS Backup and Restore
  - FileSync



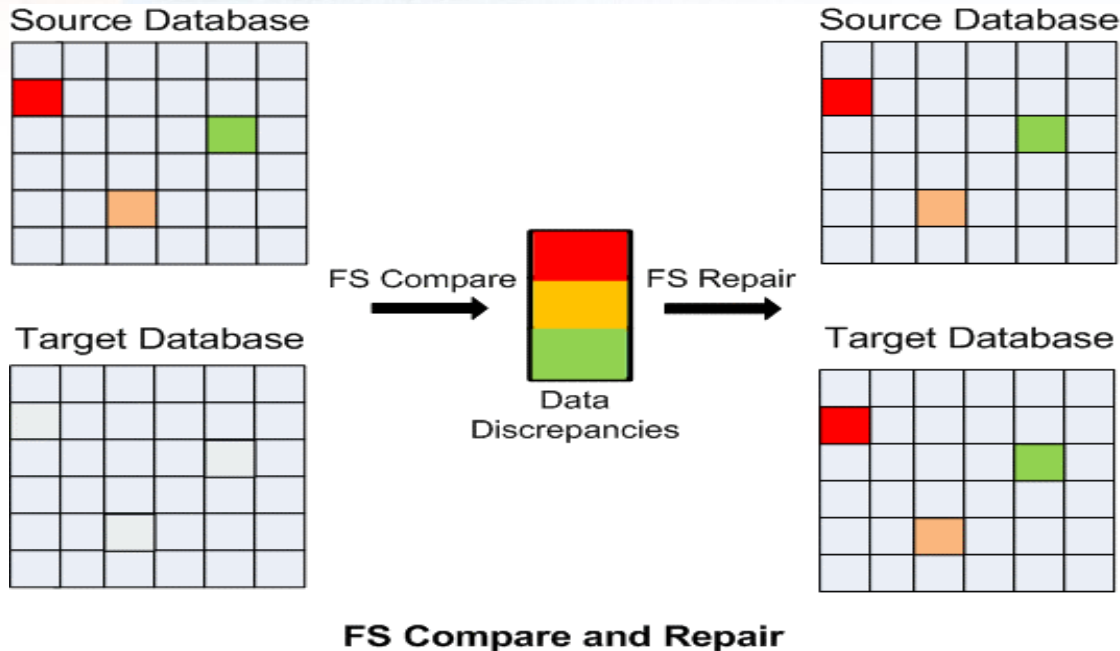






# FS Compare and Repair

Is the fastest and most reliable data comparison solution for NonStop Servers.



# FS Compare and Repair

SQLCI Update \CGNAC2.\$DATA11.FS32.PANP1 set Pan2 = '123456' where Pan = '000000';

Update Record on Target -----

Source ...

Block: 00002000 Record: 0 Address: 2028, Len 51

0000: 0006 3030 3030 3030 3030 4333 3433 2020 2020 2000 0432 3232 3233 3333 3320 2020 2020 2020 2000 0434 3434 3400 0631 3233 3435 36

0000: ..00000000C343..22223333..4444..123456

Block: 00002000 Record: 0 Key: (0: PAN,8), Len 8

0000: 0006 3030 3030 3030 ..000000

... Address: 002B, Column: 5, PAN2, Len 8

0000: 0006 3132 3334 3536 ..123456

Target ...

Block: 00000000 Record: 0 Address: 0000, Len 51

0000: 0006 3030 3030 3030 3030 4333 3433 2020 2020 2000 0432 3232 3233 3333 3320 2020 2020 2020 2000 0434 3434 3400 0630 3043 3334 33

0000: ..00000000C343..22223333..4444..00C343

Block: 00002000 Record: 0 Key: (0: PAN,8), Len 8

0000: 0006 3030 3030 3030 ..000000

... Address: 002B, Column: 5, PAN2, Len 8

0000: 0006 3030 4333 3433 ..00C343





# FS Compare and Repair

```
run FSCOMP Source " \cgnac2.$data11.fs32.test4gb " Target " \cgnac2.$data11.fs32.test4gbx "
```

```
File Last Modtime [*] EOF Blocks != Rows
```

---

```
S-1 20-04-26 10:27:56 4,483,469,856 1,094,598 0 1,094,598
```

```
T-1 20-04-26 10:27:56 4,483,469,856 1,094,598 0 1,094,598
```

```
S-1 = \CGNAC2.$DATA11.FS32.TEST4GB
```

```
T-1 = \CGNAC2.$DATA11.FS32.TEST4GBX
```

```
Profile : Profile-Enscribe-4gb, Config-file $DATA11.FS32.FSCONFIG
```

```
File/Part/Index : 1 (Equal)
```

```
Blocks : 1094598 (Equal)
```

```
Records/Rows : Source 1094598, Target 1094598 (Not Equal 0) : Inserts 0, Deletes 0, Updates 0
```

```
Errors/Warnings : 0 Errors, 0 Warnings
```

```
Elapsed Time : 00:00:48.402
```

```
File Equal : Yes
```

```
File Repaired : No
```

```
EMS File Alerts : 0
```



# FS Backup and Restore

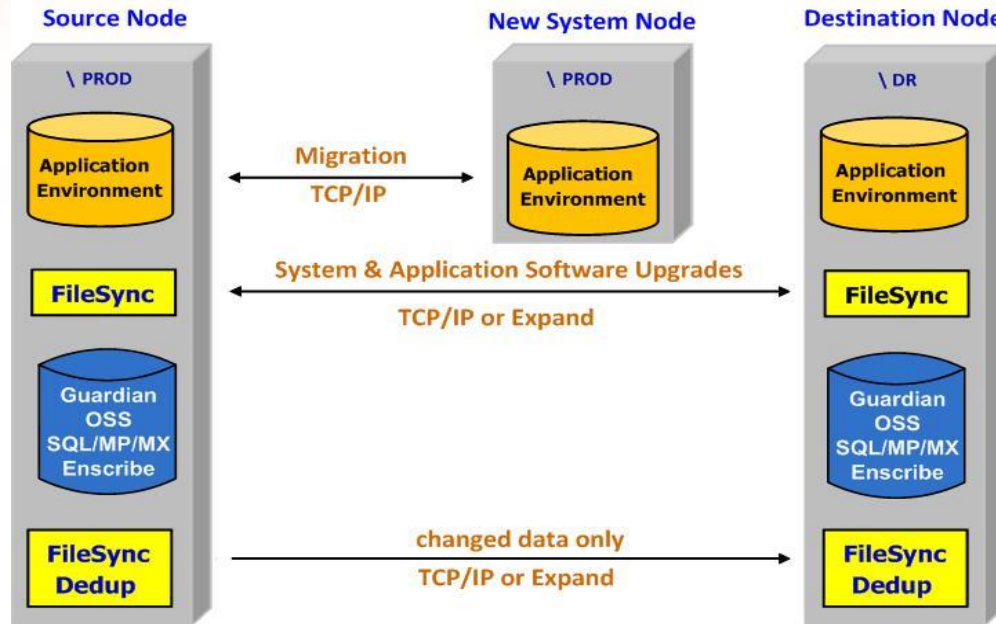
Backup times are reduced from Hours to Minutes



**FS Backup and Restore**



Replicates and synchronizes file modifications between NonStop Servers



# Why E2S ?

- E2S 4.0 is the next generation of the ENSCRIBE-to-SQL Toolkit solution
  - ENSCRIBE to native SQL/MX (or SQL/MP) migration
  - Transparent Intercept - No code changes required
  - Automatic Data Transformations (e.g. JULIANTIMESTAMP from/to DATETIME(6))
  - Uses Static compiled SQL/MX, not Dynamic SQL for much better performance.
  - E2S APIs exposed for customer use
  - Supports Guardian, OSS, TNS & Native ENSCRIBE applications (C, C++, Cobol, Tal & pTal)

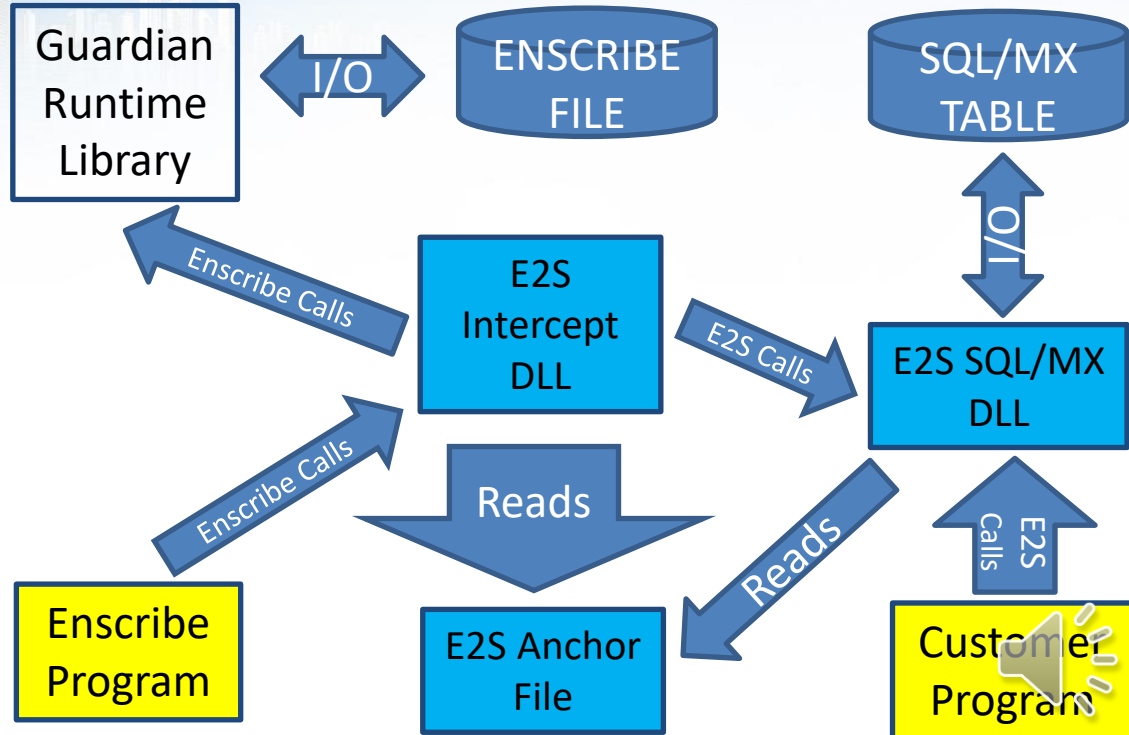
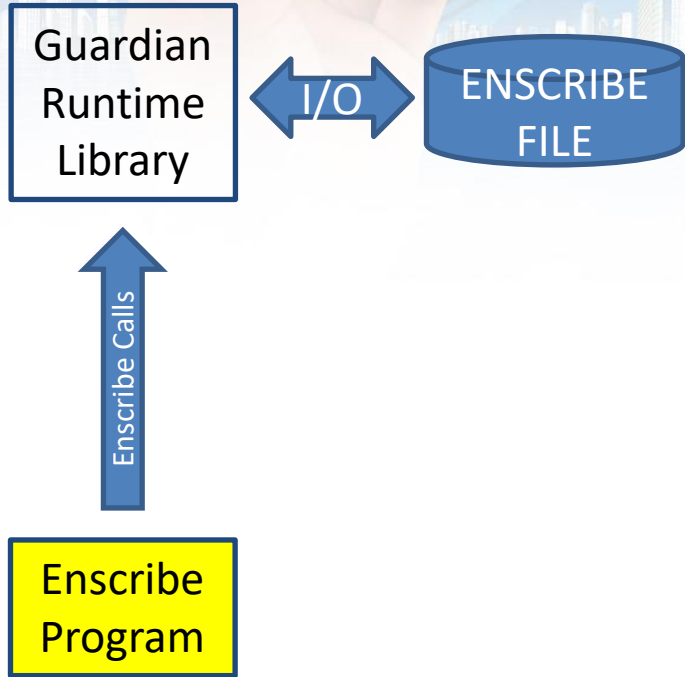
**E2S is the most cost efficient and secure solution to modernize your application**



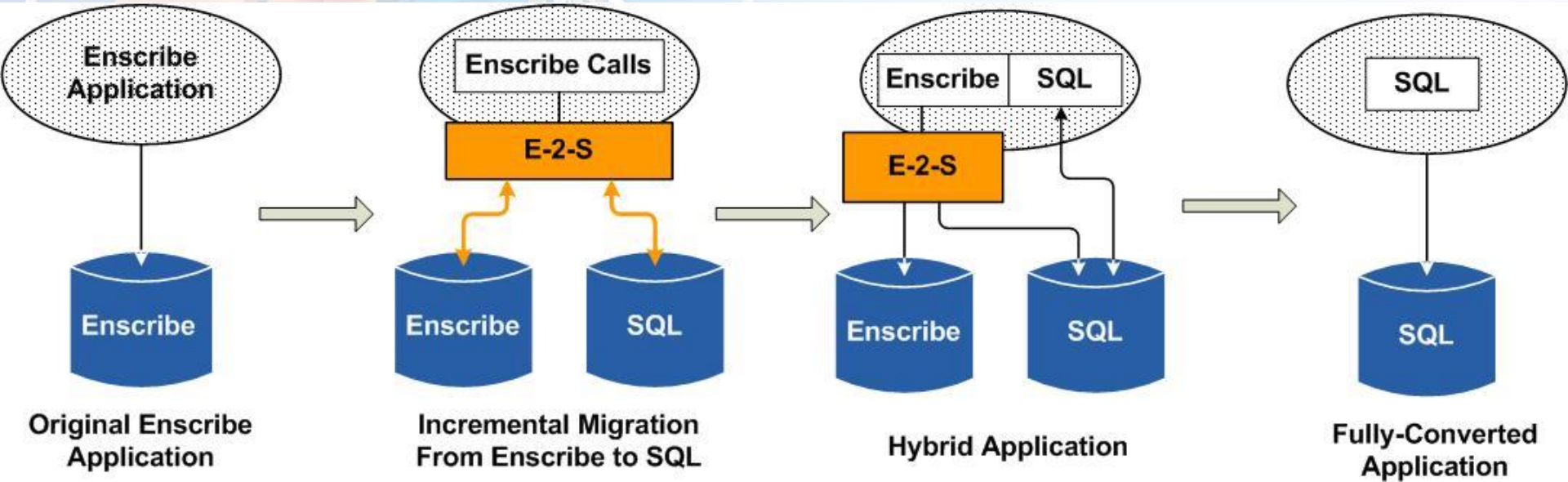
# E2S Architecture

Customer programs today...

Customer programs transformed by E2S...



# Lifecycle of E2S



Migrating from Enscribe to SQL with E-2-S



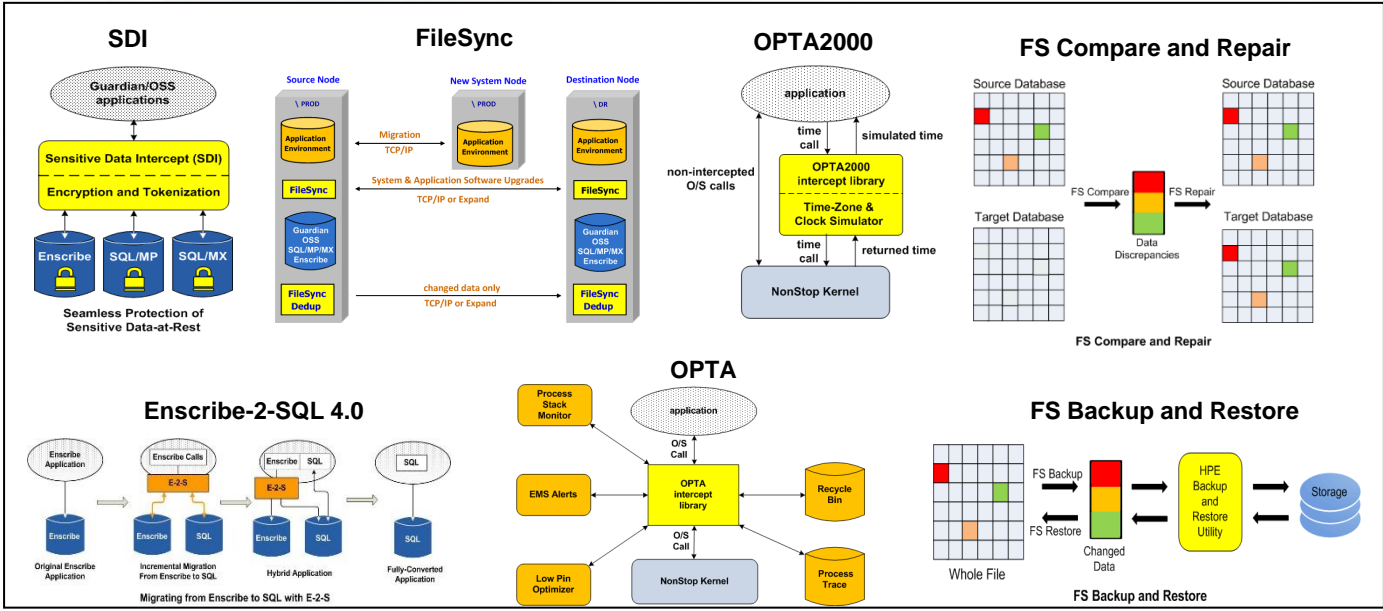


# E2S – Enscribe to SQL/MX migration

- E2S enable all Enscribe programs ( attach seamless intercept Library )
- Activate Enscribe Change data capture mode ( like TMF audit trail ) for all E2S enabled processes ( captures all Enscribe file record changes )
- Initiate initial partition load from Enscribe file to SQL/MX table ( using E2S )
- Activate Sync mode - Initiate E2S Sync to apply Enscribe CDC changes to SQL/MX ( using E2S )
- Activate Live mode - When Enscribe CDC log empty, switch from Sync mode to Live mode
- E2SCOM commands:
  - List E2S enabled process current status ( passthru, Sync, Live mode, etc.. )
  - Statistics, Enable / Disable tracing



# TANDsoft products







# TANDsoft products

**OPTA2000** - Virtual clock and Virtual time zone simulator.

- HPE, third-party and customer applications can run in different time zones on one NonStop server with NO source code changes.

**SDI** – Seamless interception of Enscribe, SQL/MP and SQL/MX DB access.

- Used for encryption, auditing and tracing of database access.





# DRNet®/Unified for HPE Customers

- Single Source Solution to meet all Customer data needs offered by NTI.
- TANDsoft® and DRNet® “Unified”
- TANDsoft® Distributor since 2003
- Direct Support – no intermediaries
- Webinar November 17, 2021

**A comprehensive alternative for NonStop Business Continuity**



**Thank You for Attending**

**Additional information or questions ?**

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