



TANDsoft

Product updates

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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.
- 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 products using Block reading and Hashing technology:
 - FS Compare & Repair
 - FS Backup & Restore
 - FileSync

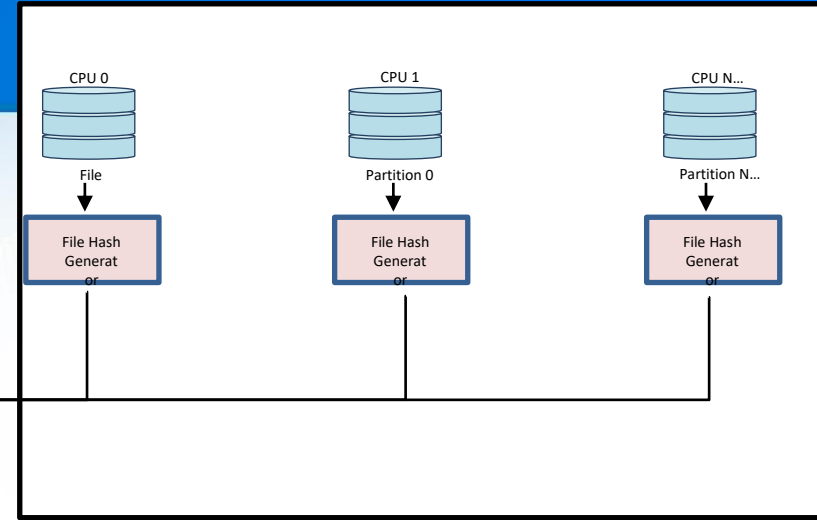
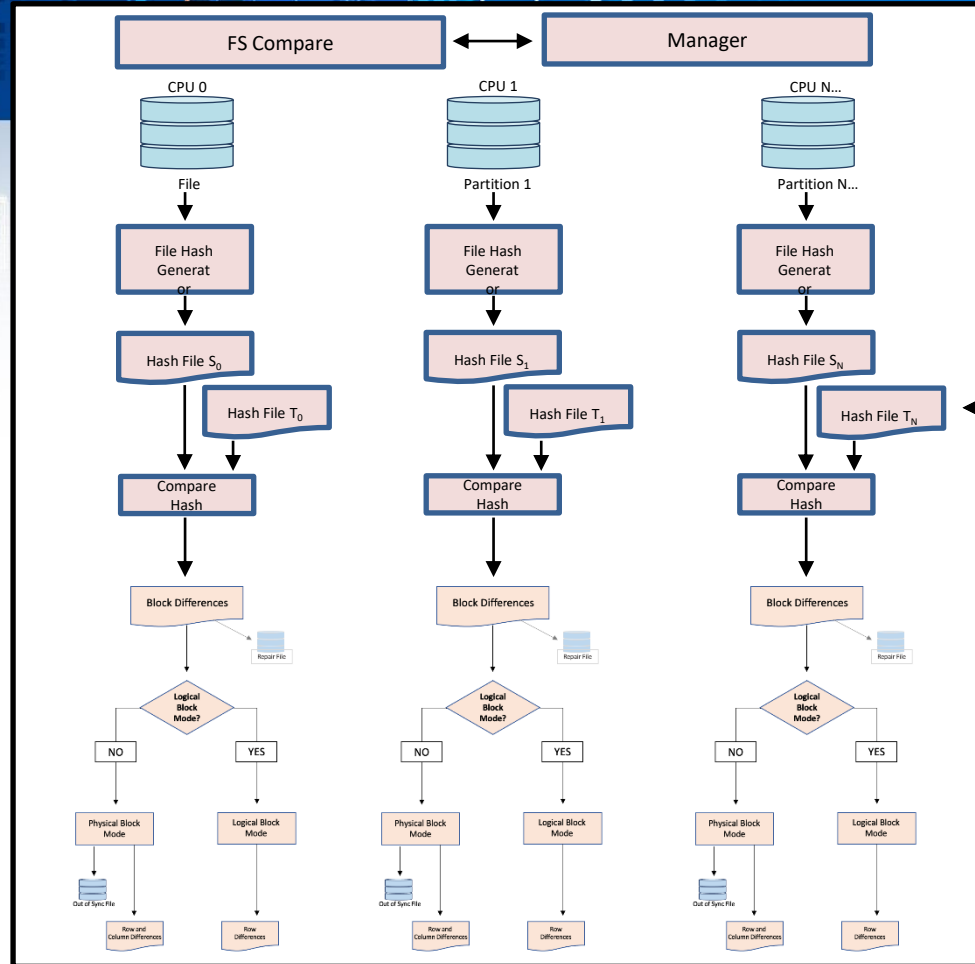


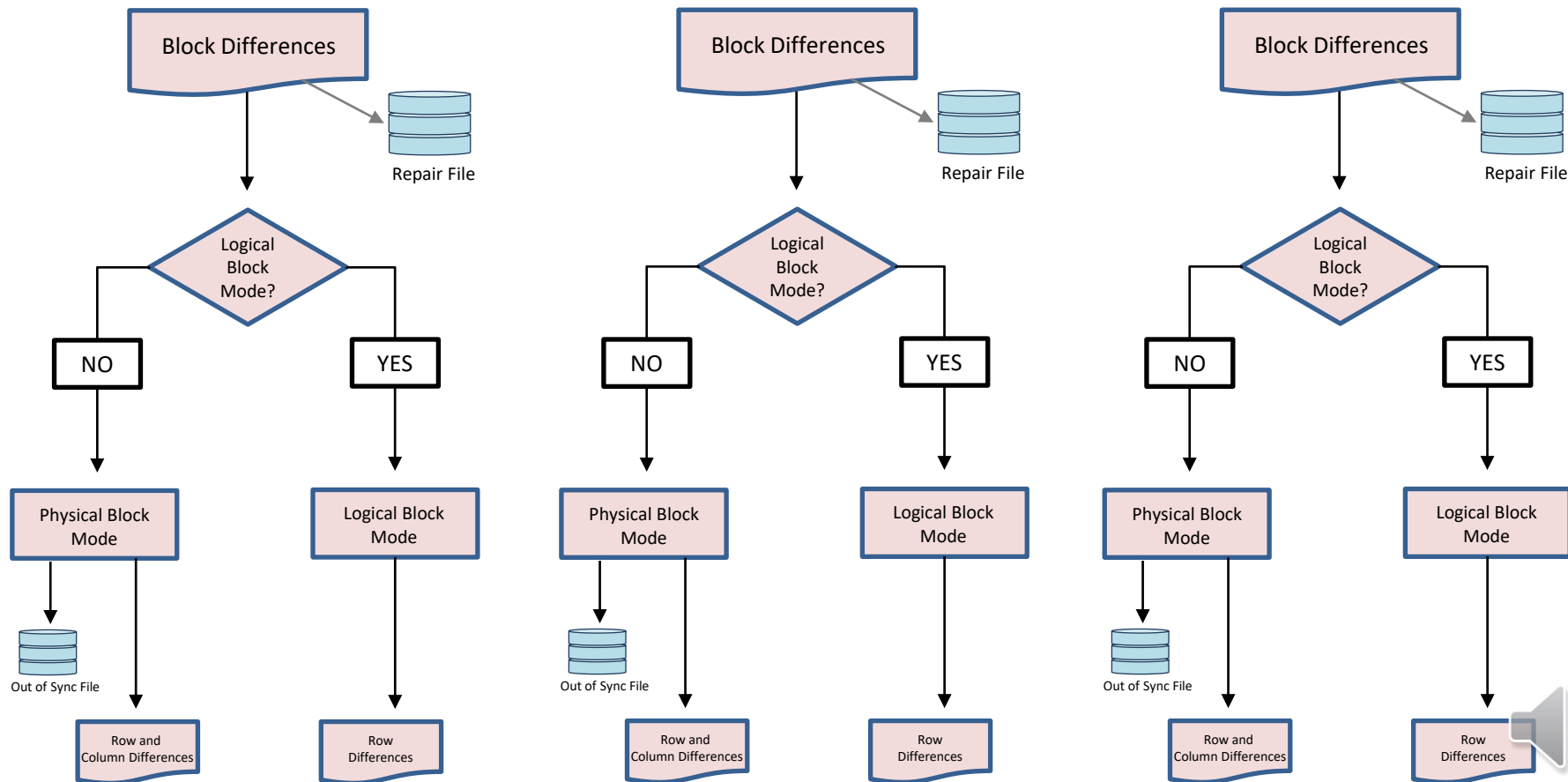
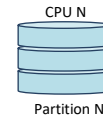
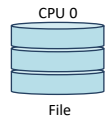


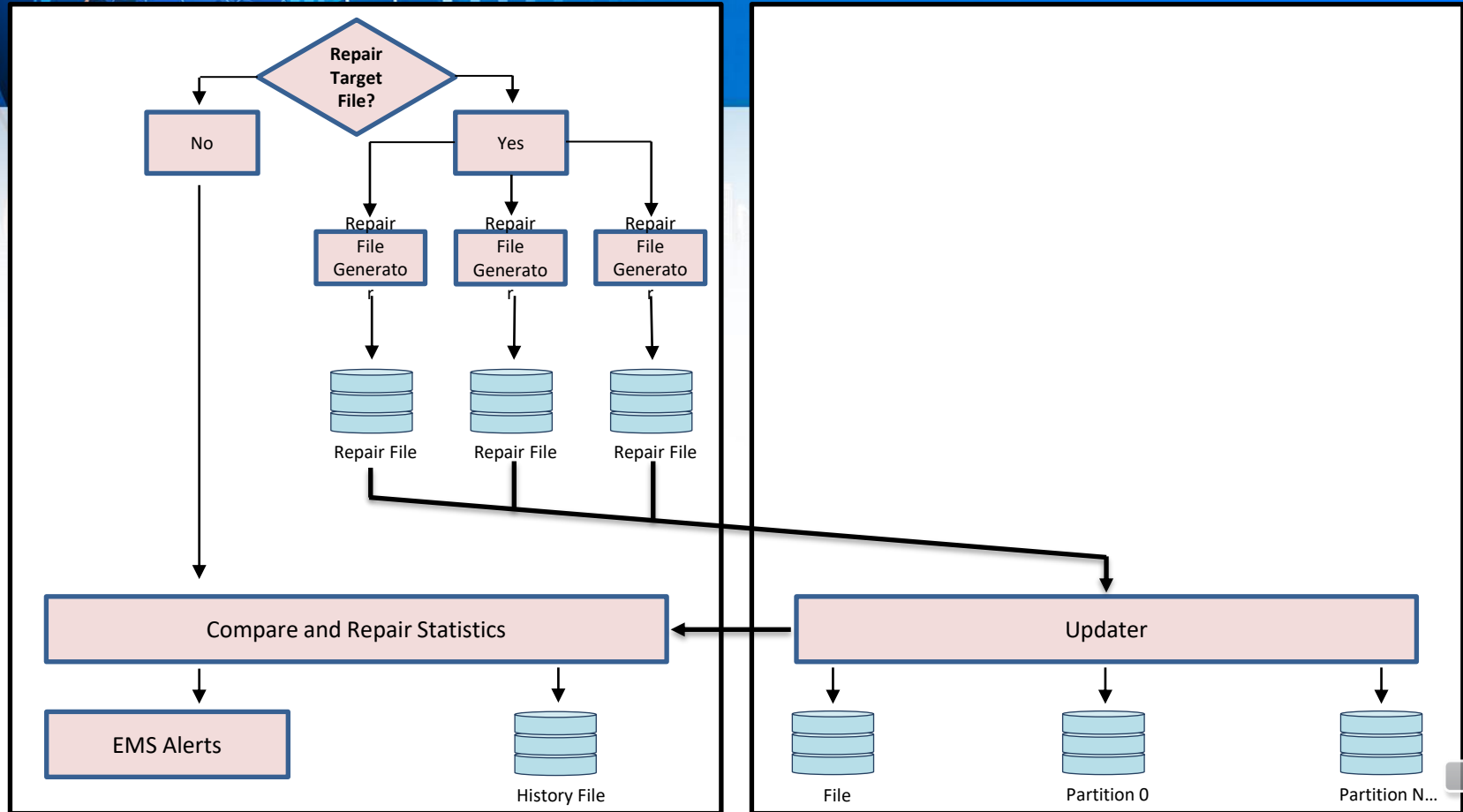
What is Block Technology ?

- 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 files.
- This core technology is used in all of the TANDsoft FS family of products.
 - FS Compare and Repair
 - FS Backup and Restore
 - FileSync
 - FS Loader









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 Compare and Repair Highlights

Blazing Fast Compare

- 10,000,000 records in 13 seconds.. 1 TB multi-partitioned file in 10 minutes

Supports all NonStop databases

- OSS, Enscribe, SQL/MP and SQL/MX

Accurately detects data differences in Live Databases.

- Ignores False positives.
- **The NonStop DBA “must have” Compare and Repair solution.**
- Compare and Repair individual or all Enscribe, SQL/MP, SQL/MX Partitions.





FS Compare and Repair 4.2

Compare and Repair of ALL NonStop file types using TCP/IP instead of Expand.

- **With TCP/IP, NonStop production and DR nodes or new systems, with the same system name can now be Compared and Repaired.**

SQL/MX table wildcarding.

With version 4.2, all existing features are supported.

- **Blazing Fast reading, Source and Target parallel partition hash calculations and minimal System and Network resource usage.**
- **Record Repair mode.**
 - **Target Database is Repaired by applying Record / or Row Inserts, Deletes and Updates.**
- **Block Repair mode.**
 - **Target Database is Repaired by updating the Target file Blocks.**





Solving Enterprise Challenges today

How do I ensure that my Production data matches my DR data ?

- **Compare over 250,000 files between Production and DR environments.**

I want to know when my Production data no longer matches my DR data ?

- **Scheduled and repeated Compares for critical production files.**
- **Automatic alerts are generated when File discrepancies are detected.**

How often did my Production data not match my DR data ?

- **Compare statistics database can be queried using SQL.**
- **Simple and easy to read Compare reports for Management.**





Differences with other Compare solutions

Competitor Compare products:

- use Record or Block compression
- compare records one at a time
- consume much more System and Network resources, leading to long compare times

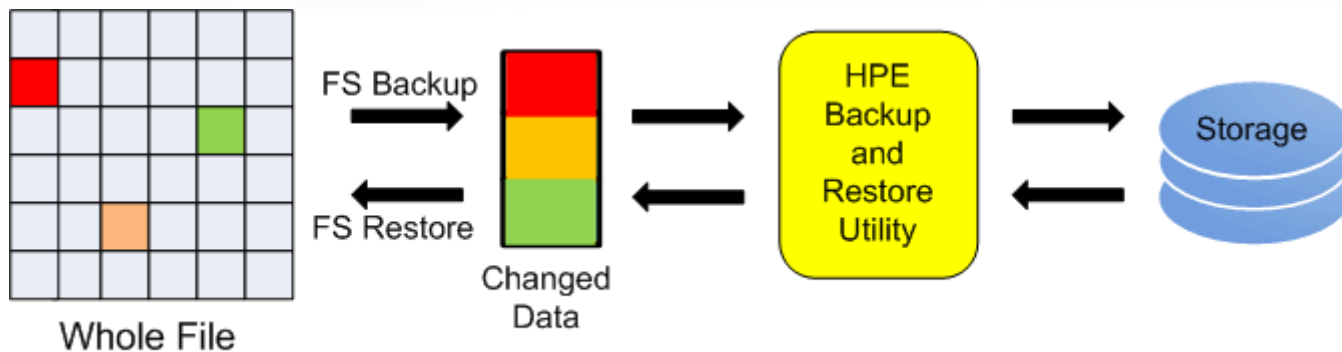
FS Compare CO-operative Licensing.

- If you already purchased a competitor Compare product and need FS Compare for the Fastest compare times, contact us to see how we can help you.



FS Backup and Restore

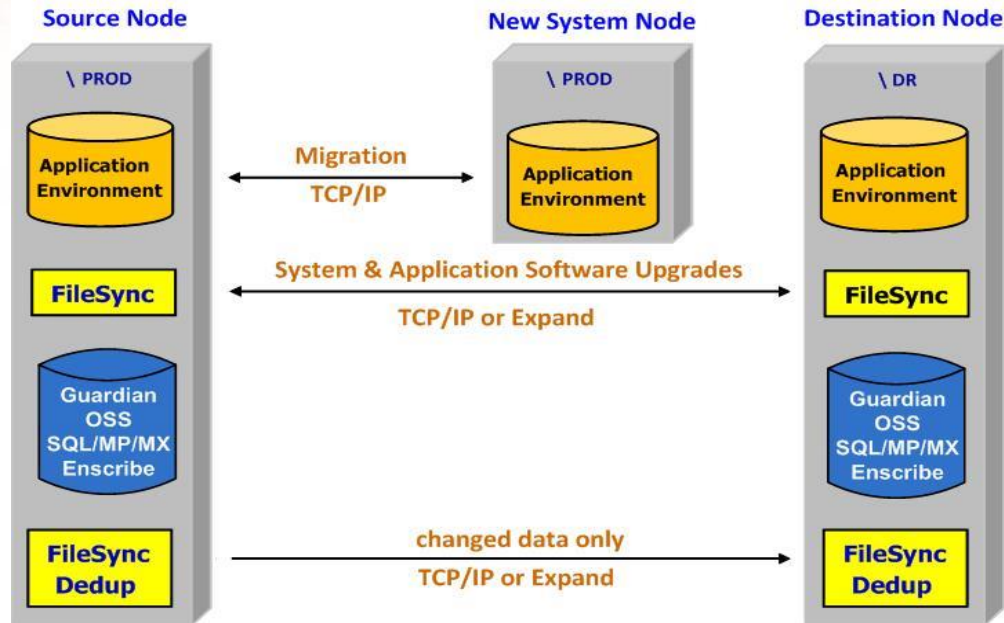
Backup times are reduced from Hours to Minutes



FS Backup and Restore



Replicates and synchronizes file modifications between NonStop Servers





New - FS Loader

- FS Loader supports **Blazing fast loading** of Enscribe, OSS, SQL/MP and SQL/MX partitioned databases.
- Reads and Loads multiple partitions in parallel.
- Uses 56KB, nowait I-O for reading and writing.
- Supports Like-to-Like NonStop databases.





Why E2S ?

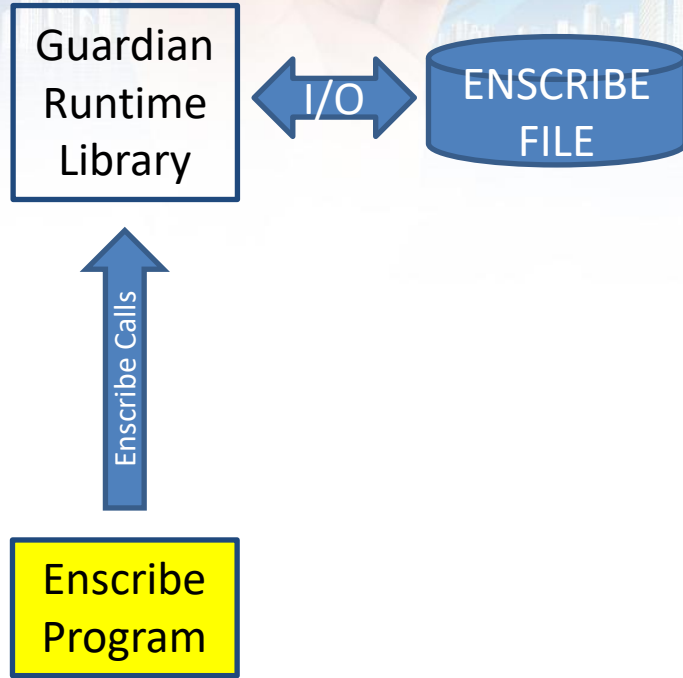
- E2S 4.0 is the next generation of the ENSCRIBE-to-SQL Toolkit solution
 - ENSCRIBE to native SQL/MX (or SQL/MP) migration
 - Transparent Intercept - No code changes required
 - Automatic Data Transformations (e.g. JULIANTIMESTAMP from/to DATETIME(6))
 - Uses Static compiled SQL/MX, not Dynamic SQL 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

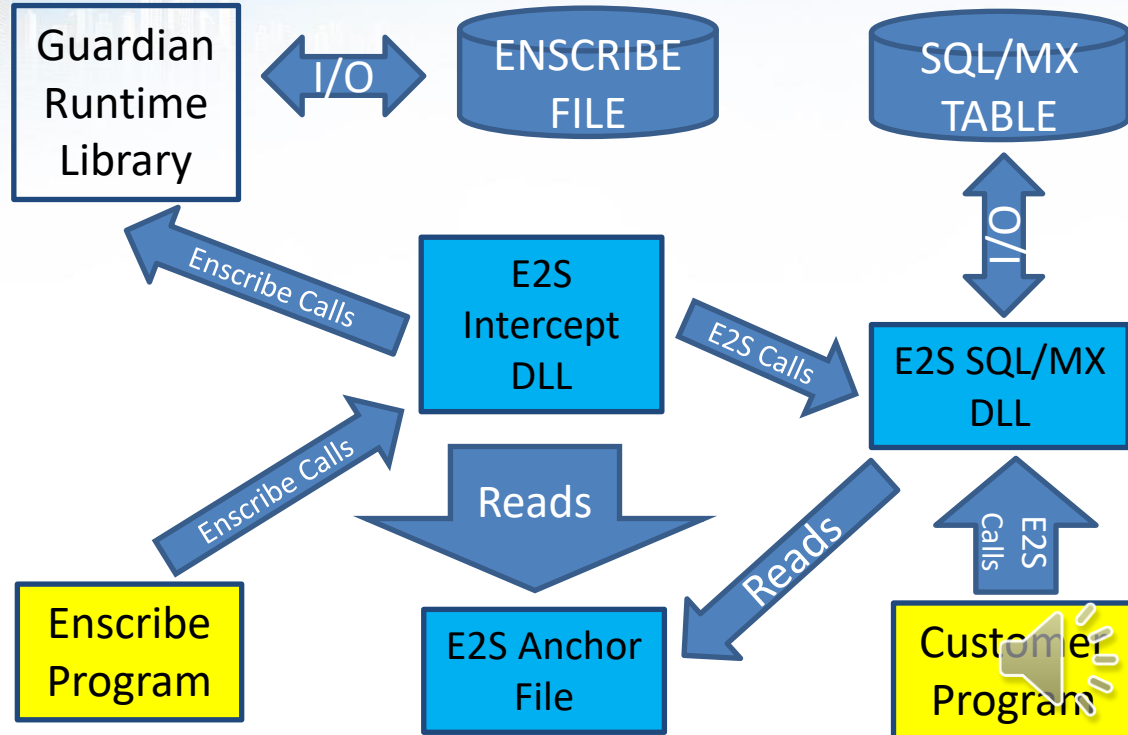


E2S Architecture

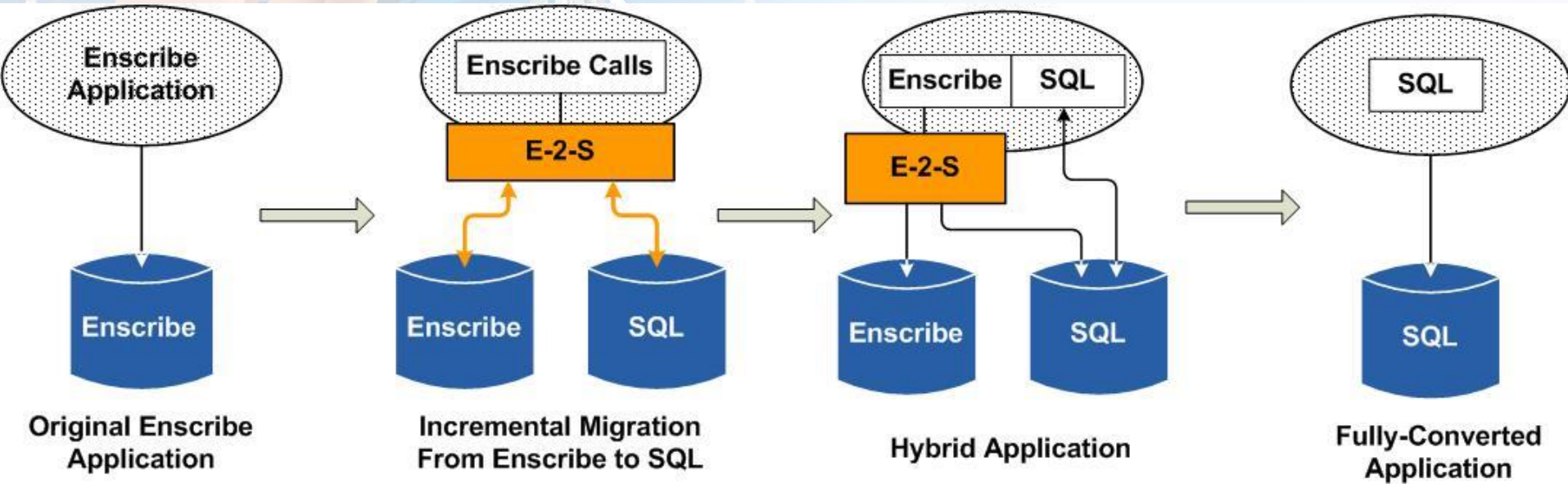
Customer programs today...



Customer programs transformed by E2S...



Lifecycle of E2S



Migrating from Enscribe to SQL with E-2-S



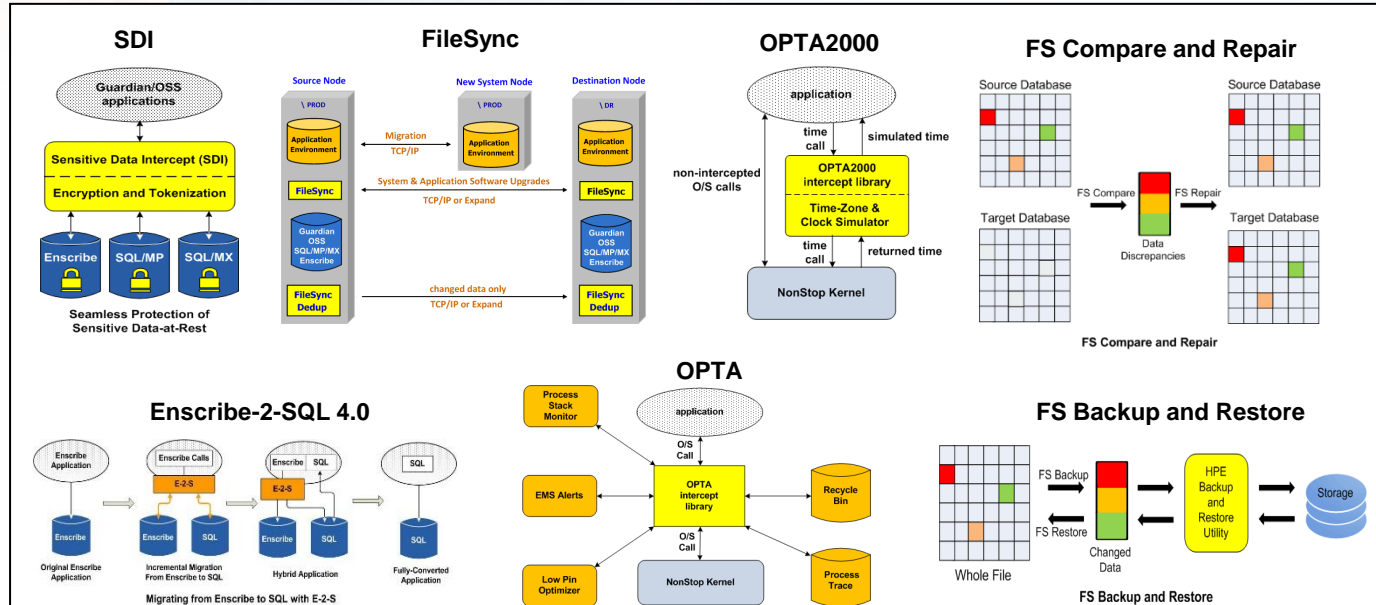


E2S – Enscribe to SQL/MX migration

- 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.





Thank You for Attending

Additional information or questions ?

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