

Mainframe Optimization for DB2

Overview of the Performance Enhancement and Cost Reduction Process





Initial Steps...

01

Collect Data

Collect data from Db2 cache and SMF utilizing a simple REXX deployment provided by Critical Path Software.

02

Analyzes Data

Critical Path Software analyzes the data and provides forecasted CPU consumption savings potential.

Provide Consulting
Critical Path Software provides consulting for 2 months (more if required) ensuring maximum savings are achieved.

03

Defining Savings

Proof of Concept (POC) defines the savings in a limited engagement in tandem with a commitment once established.

04

Reduce Cost

Reduce costs moving forward. SAVE MONEY!

05



Results achieved from TTSQL...

1| Initial analysis performed at our cost.

2| Performance optimization reduces cost.

3| Solutions unique to TTSQL for Db2 optimization [“tuning”]

4| Decrease response time for better end user experience.

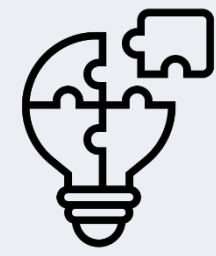
5| Compress the Db2 CPU batch window more than 70%.

6| Decrease CICS transactional response times.

7| TTSQL Package Clean-Up removes obsolete packages from the Db2 Catalog. Greatly reducing CPU and running applications faster.



What makes TURBOTUNE® Different?



Critical Path Software provides the solutions!

- Other Db2 tools identify performance issues but do not solve them.
- TTSQL creates and implements the solution quickly using AI and automation.



Pay LESS...save MORE!

- TTSQL pays for itself through its own savings achievement.
- Pay only a percentage of the total savings as you utilize the tool.
- No limitations on use within the specified environment.



Key features...

■ Reduces time for complex analysis of indexes and poorly constructed SQL.

Freeing DBA's for other duties. Save 85% of your time on this function.

■ Real time monitor with minimal CPU consumption

[<1.5% of system overhead]

- All analyses are completed in Java.

■ Index recommendations with artificial intelligence

- Unique to TTSQL
- 100% automatic

■ No cost in z/OS

- Not intrusive
- NoAPF
- No "hooks"

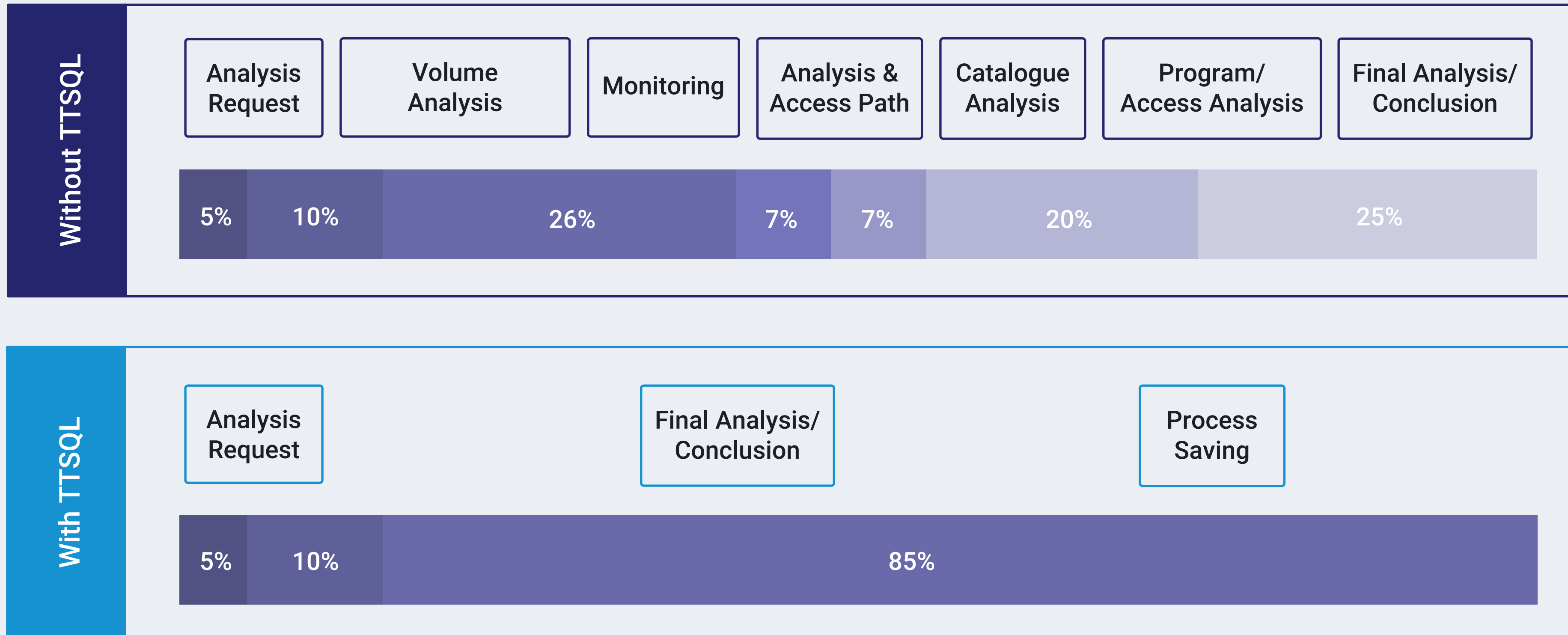


Key features...

- Analyzes ALL Db2(s), not only one job or program
- Acts as the perfect repository for maintaining history and usage records for capacity planning
- Sandbox can be used to process SMF datasets from production, saving more money



Productivity gains up to 85% from a single SQL





TurboTuneSQL will deliver multiple layers of savings enhancements, utilizing proprietary AI and automation, ensuring improved performance and reduced operational costs throughout the engagement. Key optimizations include:

- **Index recommendations:** Identify and implement optimal indexing strategies to reduce CPU consumption and improve query response times.
- **Obsolete package deletion:** Eliminates outdated or unused Db2 packages, reducing system overhead and improving resource efficiency.
- **Multi-row fetch enhancements:** Improve data retrieval efficiency by minimizing the number of I/O operations required for bulk data access, significantly reducing CPU usage.

Each of these enhancements will be applied as needed during the engagement to maximize performance gains and cost savings, ensuring your mainframe environment operates with optimal efficiency.

Recent Examples:

Metric	Before Optimization	After Optimization	Savings Unit	Savings (%)
Service Units (SUs)	80693	7	80686	99.9913%
CPU Time (ms)	82.711	0.007	82.704	99.9915%

STMT	Metric	Before Optimization	After Optimization	Savings Unit	Total Executions	Total Saved	Savings (%)
5790	Service Units (SUs)	1281	214	1067	1082	1154494	83.29%
5790	CPU Time (ms)	1.313	0.219	1.094	1082	1183708	83.32%
5986	Service Units (SUs)	91	5	86	1082	93052	94.50%
5986	CPU Time (ms)	0.094	0.006	0.088	1082	95216	93.61%



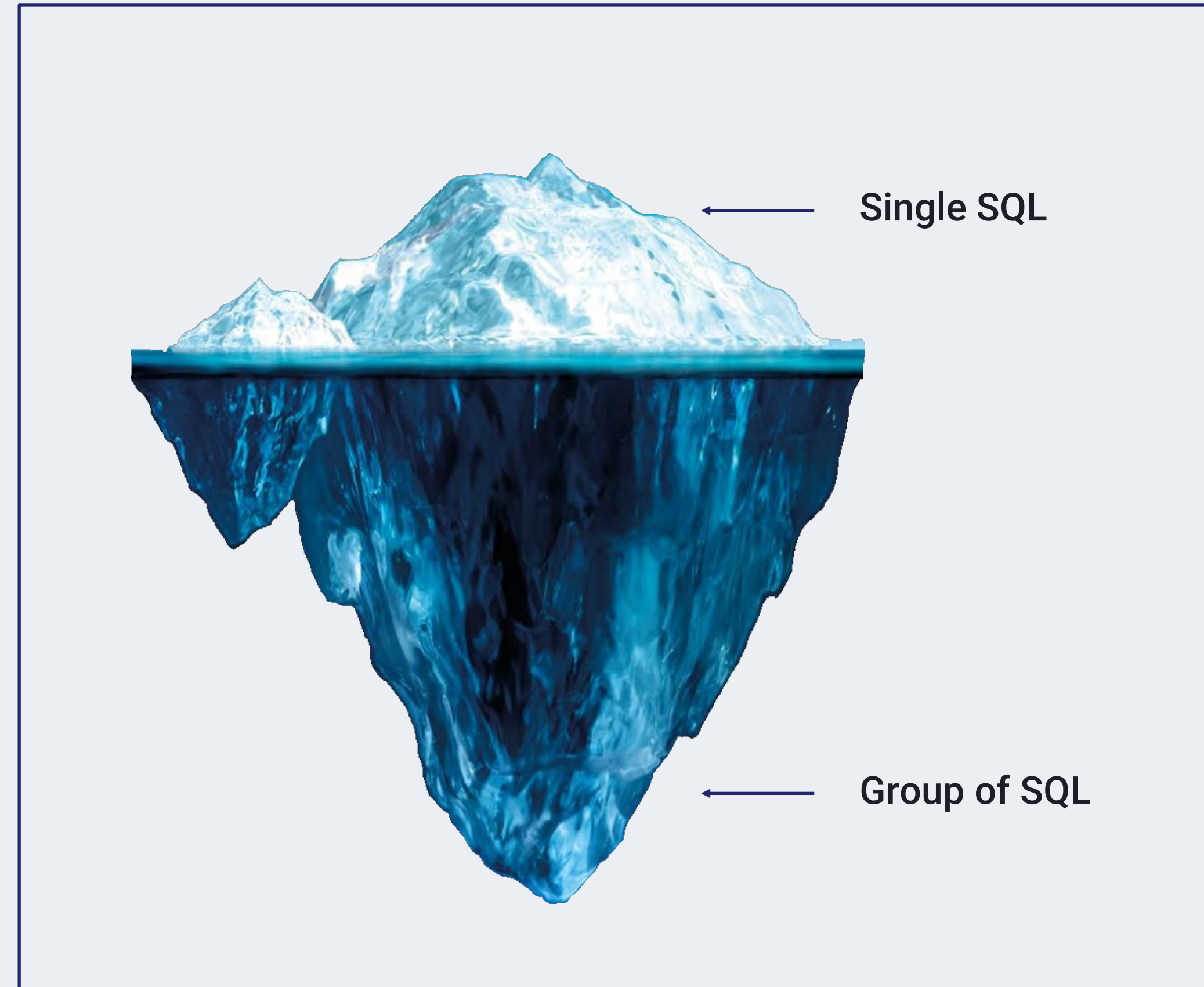
The tip of the iceberg...

- Most of the time, tools identify a single SQL consuming more resources and “killing” Db2. Creating HIGH CPU!
- Using TTSQL inventory abilities, it is possible to view groups of SQL statements that are highly improvable. Reducing CPU!



Example:

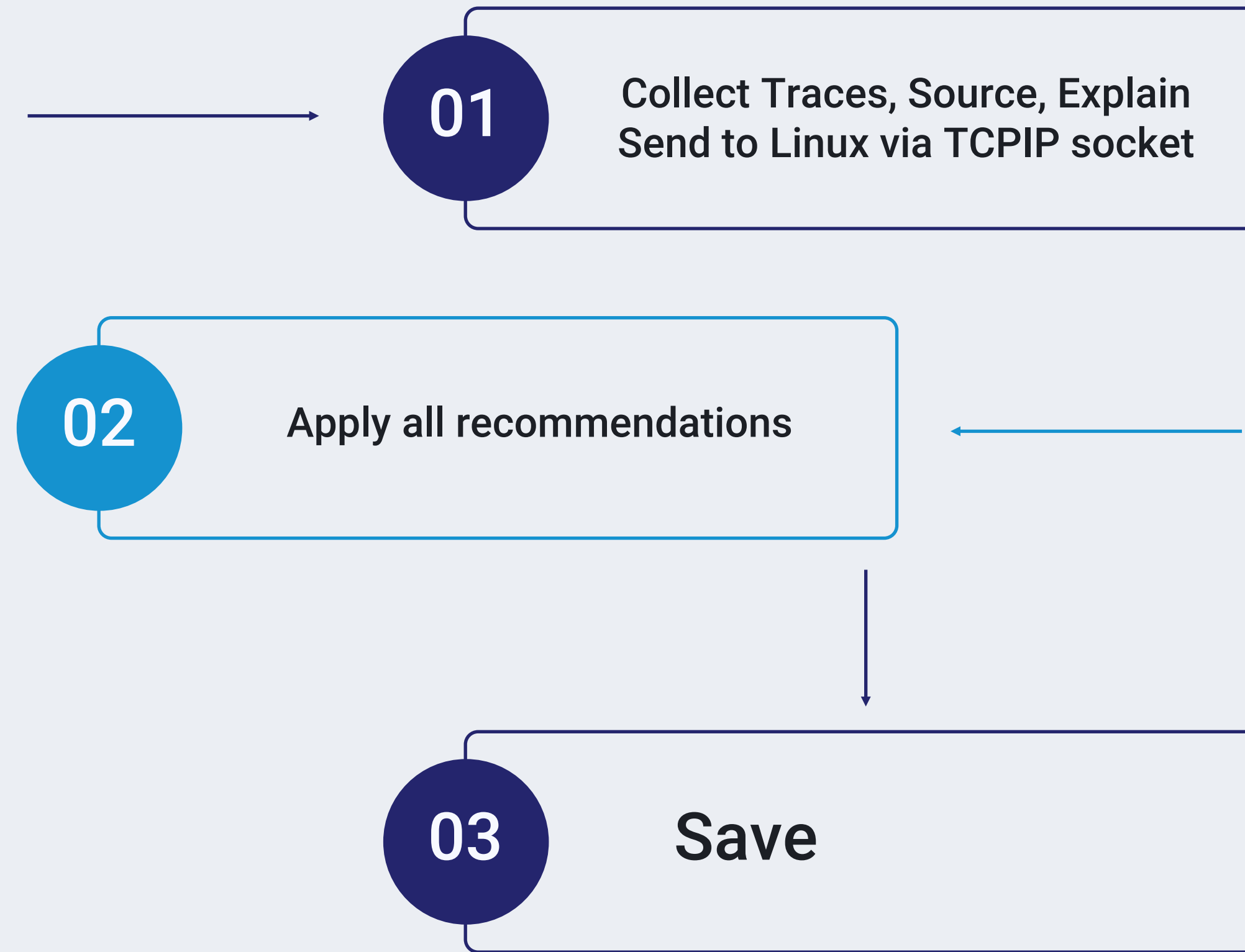
1 SQL with CPU a little above normal; executing millions of times in CICS!



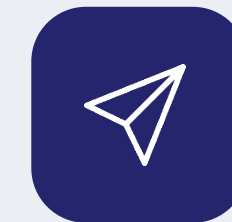


Savings as simple as 1...2...3...SAVE!

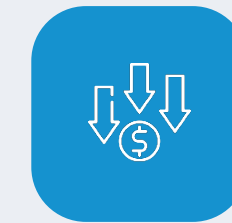
Db2 z/OS



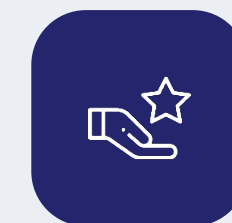
Linux is Free
All information stored in MySQL.
Java GUI analyzes all information



When SMF dump datasets from PROD are shared, the “sandbox” can read and send information directly to Linux.



There is no consumption cost while using the sandbox!



The sand box can be used for Index Recommendations!



Thank You and Contact Us



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