

CASE STUDY

Legacy Mainframe Modernization

U.S. Army — Force Builder Program

San Framework Pillar: Modernization

Ni-San (■■) Consulting LLC

Strategy. Transformation. Execution.

THE CHALLENGE

A critical IBM Mainframe batch program supporting the U.S. Army Force Builder Program was consuming an enormous amount of CPU processing time and costing the government significantly on every job run. The problem had gone undetected in part because the available technical documentation did not reflect the actual state of the code — a common and dangerous gap in legacy mainframe environments.

Without accurate documentation, the program was essentially a black box. No one fully understood what it was doing or why it was performing so poorly.

THE APPROACH

Working as a Systems Analyst, we went directly to the source — reading the live COBOL and DB2 code line by line to understand exactly how control flowed through the program. IBM OMEGAMON performance monitoring was used to pinpoint the exact JCL step consuming excessive CPU, confirming what direct code analysis had already identified.

The culprit was identified: a DB2 fetch cursor had been placed inside a processing loop. In DB2, a fetch cursor is designed to be executed once — not repeatedly within a loop. Every time the loop cycled, the program was re-executing the fetch — compounding processing time and CPU cost with every iteration.

The solution was surgical:

- Moved the fetch cursor outside of the looping logic — where it belonged
- Updated and corrected the technical documentation to reflect the actual code
- Conducted rigorous testing to validate the fix before touching production
- Deployed the corrected program to the production environment

THE OUTCOME

- ✓ Direct code analysis identified the CPU bottleneck — IBM OMEGAMON confirmed the finding
 - ✓ Significant reduction in CPU processing time — validated through testing
 - ✓ Hundreds of thousands in cumulative processing costs stopped
 - ✓ Critical technical documentation brought current for the first time
 - ✓ Production deployment completed successfully with zero disruption
 - ✓ A black box program made transparent, documented, and maintainable
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"The biggest obstacle to transformation is almost never the technology. It is execution."

— William M. Randolph Jr., Founder, Ni-San Consulting LLC