

# TIME AND ATTENDANCE SAP ERP IMPLEMENTATION

## DATA MODELING, CONVERSION AND REPORTING

### SUMMARY

Saturn Systems worked with the Naval Sea Systems Command (NAVSEA) to assist in the implementation of a very large-scale SAP Enterprise Resource Planning (ERP) implementation project in order to reduce maintenance costs, raise the level of business system integration and reliability and increase top-down visibility of both short and long-term financial assets.

### THE CHALLENGE

NAVSEA maintained multiple applications and computing platforms, deployed at various sites, to implement business functions such as procurement, asset inventory, contracts, time and attendance for civilian federal employees. These applications interfaced with Department of Defense (DoD) payroll and Accounts Payable (A/P) platforms via text file transfers. Many of these business systems had been in use for decades. Written in COBOL and other mainframe business languages, these legacy systems became increasingly difficult and expensive to maintain.

As part of a Navy-wide initiative, NAVSEA was scheduled to decommission their old business systems as they ported their business functions into a new SAP ERP system. ERP implementations are difficult under the best of circumstances, and the level of risk and complexity increases with the size and bureaucracy of the organization. Saturn Systems was assigned the Technical Lead role in converting legacy Time and Attendance (T&A) records into the new SAP ERP system, adhering to the following requirements:

1. Seamlessly transfer active (unpaid) time and attendance records from the legacy system into the SAP ERP system with no disruption to NAVSEA employee paychecks.
2. Convert T&A records from ten NAVSEA installations, located primarily on the East and West Coasts, each with their own payroll system nuances.
3. All input records must be 100% accounted for in the ERP system. No records will be left behind.
4. Maximize automation and minimize manual data entry and correction.
5. Input records must be processed and queued for import into the ERP system within 45 minutes of receipt.
6. The conversion process and software must be developed and tested within nine months.
7. Identify conversion requirements and success criteria while working with teams of subject matter experts over three time zones.

### ABOUT THE CLIENT

The Naval Sea Systems Command (NAVSEA) designs, builds, delivers and maintains ships and security systems for the United States Navy.



### KEY TECHNOLOGIES AND FRAMEWORKS

- Microsoft C# .NET
- .NET multithreading to parallelize processing
- Excel Automation classes to produce the reconciliation report
- SAP ERP

### THE SOLUTION

The most crucial aspect of this project was assembling the right mix of project leaders and support personnel among the ten participating NAVSEA sites, followed by establishing a highly agile project plan, executed by a seasoned project manager and backstopped by escalation procedures to address potential show stoppers.

From the beginning, it was assumed the custom conversion software would not be able to convert 100% of the legacy records, and subject matter experts would have to manually enter some records into SAP. But based on strict time constraints, the goal was to engineer the process and software to a point that manual intervention would be minimized.

After an initial requirements gathering phase between our development group and the NAVSEA subject matter experts, the software and reports were developed, refined and tested during a series of five dry runs. Knowledge from each dry run functioned as input to further refine the conversion process and algorithms and increase the speed and conversion efficiency of the software. Later dry runs revealed the necessity to develop reconciliation reports that would become the key tool for technicians to confirm that all records were successfully transferred, either automatically or manually, from the legacy systems to the SAP ERP System. All software code was fully unit tested and system tested through a series of mock conversions before the final conversion was performed.

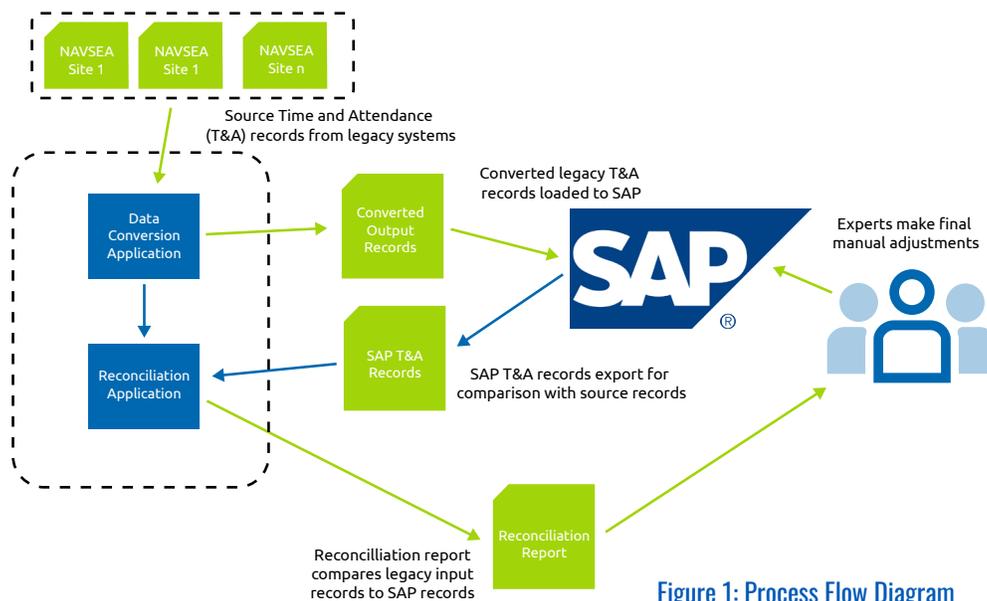


Figure 1: Process Flow Diagram

### THE RESULTS

Through extreme attention to detail and a focus on continuous process improvement, over a period of nine months, the final conversion effort of over 1 million records was executed with 100% accuracy within the allocated time windows.

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