Revolutionizing Navy's Sustainment with a Single Digital Thread

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Within a Naval career spanning 33 years, Mike Lyden served as Commander, Naval Supply Systems Command and 45th Chief of the US Navy Supply Corps from 2008 to July 2011 where he retired as a Rear Admiral. Mike later served as the first General Manager of the NATO Support and Procurement Agency.

Organizations with long standing "stove-piped" information technology solutions with decentralized governance are at a disadvantage in creating a single, interconnected, strategic scale and sustainable end-to-end digital sustainment solution necessary to achieve critical business requirements and true cost-wise data analytics. Navy is at a threshold where true integration of supply, maintenance and finance is possible and vitally necessary to achieve desired readiness gains through optimized investment and fully visible execution.

BACKGROUND

Navy is the only Service that separates supply and maintenance authorities and functions among different Systems Commands (SYSCOMs) and the Fleet. Achieving true end to end integration and data integrity is near impossible in this environment. While trying to do the right thing, everyone is pursuing their own end state. According to the DON's 2020-2023 Business Operations Plan, "Leaders at every level across Navy are urgently partnering with key stakeholders, gleaning best practices from private and public sectors, and monitoring impact and performance to share lessons learned to integrate

combat and support operations. However, *without overall coherence and coordination, great ideas often become siloed while others languish.”*

Multiple systems and databases, without overarching executive governance and end-to-end decision making, have diluted data integrity and slowed the comprehensive data analytics necessary to make definitive gains in readiness and reductions in overall cost. To a large extent the various communities and organizations in supply and maintenance continue to replicate previous “As-Is” processes in their COTS or newly developed software acquisitions.

This was particularly true in the implementation of Navy Enterprise Resource Planning (NERP) over the last decade. This led to underutilization of standard functionality, extensive customization, suboptimization, and a consistent inability to leverage and institutionalize best business practices.

However, with NERP, Navy has established a strong enterprise business backbone with single financial and wholesale supply systems. Together they can serve as a foundation to fully integrate supply and maintenance to finally maximize readiness dollars and outcomes.

True interconnectivity of sustainment, including integration and data integrity across supply and maintenance, cannot be effectively achieved by knitting together disparate systems for supply and maintenance. The out-year costs remain too high to perpetuate existing systems into the future. Fortuitously, *the vice chief of naval operations’ (VCNO) current Naval Sustainment System (NSS) architecture addresses long-standing supply and maintenance stovepipes to create a true end-to-end environment that delivers the common goal of readiness.* The Navy will have to be bold and directive to achieve true maintenance and supply integration.

THERE IS A BETTER WAY

Navy’s financial leadership embraced a single financial architecture on NERP as the foundation of its effort to achieve significant progress toward audit readiness and meet Financial Improvement and Audit Readiness (FIAR) requirements. The same strategy could be extended for supply and maintenance integration.

Leveraging the NSS architecture along with the existing NERP business backbone, now supercharged on SAP HANA and the Cloud, can bring true end-to-end process control to the supply and maintenance environment with very strong linkages to finance. To achieve this Navy leadership must become more directive in terms of adherence to common processes and systems to breakdown long standing stovepipes.

Further, there must be recognition that Navy’s supply and maintenance process are not so unique compared to the commercial world and therefore should not require an extensive portfolio of disparate systems, databases and analytics, or force extensive and expensive customization of NERP.

Exploiting the existing capability in NERP, augmented with a technical upgrade into the SAP S/4HANA environment, can deliver the systems capability to support a fully interconnected supply and maintenance end state vision and establish the systems backbone to support the objectives of NSS.

The integration of supply and maintenance in NERP allows the realization of the digital thread necessary for the ubiquitous capture, access and use of data across supply and maintenance. An integrated solution allows: better demand forecasting, obligation of funds using a readiness-based paradigm that takes advantage of Navy-wide inventory visibility, and automated prioritization of fleet purchase requests.

It is this single digital thread that can revolutionize Navy’s sustainment and achieve desired readiness.

IT CAN BE DONE

The Navy currently runs finance and wholesale supply operations in Navy ERP on HANA within the National Security Services (NS2) Cloud. Planning, procurement, and other core functions are run as separate applications. Maintenance, from the field to depot level, is outside NERP altogether. To execute the complete sustainment processes, data is moved across multiple applications within a complex landscape with multiple views.

SAP has embedded several applications within S/4HANA, the next upgrade of its product. This unifies applications such as Advanced Planning and Optimization (APO), Advanced Available to Promise (AATP), Extended Warehouse Management (EWM), and Transportation Management (TM) into a single system, supported by a single database. Organizations that migrate to S/4HANA minimize siloed operations, get a powerful engine for analytics, and realize significantly increased functionality within the core solution.

Two industry examples bring perspective to the opportunities provided by this path:

Work at Newport News Shipbuilding (NNS), a subsidiary of Huntington Ingalls Industries, includes design and construction of aircraft carriers and submarines. In an enterprise like this, world-class software isn’t a consideration; it’s imperative. NNS previously ran SAP’s ERP Central Component (SAP ECC) system similar to the current Navy ERP program. NNS successfully migrated 22 years of data effectively and error-free to SAP’s S/4HANA system. Upon implementation, they realized improvements across multiple operational domains.

Airbus Defence and Space SE, a division of Airbus, faces changing market expectations, competition, and program and supply chain risks. Due to mergers and restructuring, they had

accumulated three major ERP systems running siloed processes with limited data transparency across the business.

With their Finance Vision 2.0 they created one central finance community across the business, underpinned by lean processes and efficient systems. The company implemented the SAP S/4HANA solution for central finance. Critical data such as sales forecasts and project cash flows are now available instantly, and planning processes are now quicker and more agile. With a single authoritative source for all data feeds, they operate from real-time insights.

With a clear vision and focused executive direction, it can be done: a single, interconnected, strategic scale and sustainable end-to-end digital sustainment solution fully integrated with finance.

SAP has enjoyed an extensive relationship supporting multiple Defense Departments and Ministries across the globe as they modernize and improve their asset management and mission readiness capabilities.

See SAP technology in action by visiting the Synchronized Planning for Defense video series, found here.

Undersecretary Affirms Need for Low-Yield Nuclear Weapons to Counter Russian, Chinese

Arsenals

Undersecretary of Defense for Policy John Rood at a Defense Writers Group breakfast on Dec. 4. Defense Writers Group

A senior defense official reaffirmed the importance of the nuclear deterrent triad and the need for new sea-based, low-yield nuclear weapons to counter increased nuclear arsenals by Russia and China and Russia's professed doctrine of early use of low-yield weapons to prevent a U.S. nuclear response.

Undersecretary of Defense for Policy John Rood noted the findings by last year's Nuclear Posture Review (NPR) that "the United States was reducing our reliance on nuclear weapons, reducing the size of our nuclear stockpile, while at the same time Russia and China are moving in the opposition direction, increasing their reliance on nuclear weapons … and increasing the numbers and types of nuclear weapons."

While the NPR endorsed the need to recapitalize the existing nuclear triad of land-based Minuteman III and submarine-launched Trident D-5 ballistic missiles and nuclear-capable U.S. Air Force bombers, it also "recommended pursue of some complementary capabilities," Rood told a Defense Writers' breakfast Dec. 4. President Trump then supported development of "a sea-launched cruise missile and a submarine-launched ballistic missile" with low-yield nuclear capability, he added.

“The ballistic missile is more advanced, utilizing the existing submarine-launched ballistic missile, the D-5, with a modified warhead for low yield. That program, we think, is going well. But for the [ship-launched] cruise missile, we are not as advanced,” and were still going through an analysis of alternatives, Rood said.

Rood said the need for the new low-yield weapons came from intelligence reports of Russian emphasis on use of nuclear weapons earlier in a conflict, “and the mistaken belief that they have the ability to use a low-yield nuclear weapon earlier in the conflict in a way to deter response.”
He cited Russian President Vladimir Putin’s public statements advocating the early use of low-yield nuclear weapons “as a way of deterring an adversary.”

“We saw the need of aggressive action to restore deterrence, which had gotten weaker than we would like … with these supplemental capabilities” that would show “we had a variety of capabilities that were more survivable than the existing low-yield weapons” that are aircraft delivered.
“We see this as very stabilizing” and in no way supporting the concept of early use of low-yield nuclear weapons, Rood said, countering the warnings from arms-control advocates.

Rood also supported the administration’s withdrawal from the Intermediate-Range Nuclear Missile Treaty because Russia fielded land-based missiles with a range beyond the INF limits, and the

subsequent U.S. work to develop similar weapons. He said there has been some testing of a possible medium-range cruise missile but none for a ballistic missile. He avoided answering a question about whether any European ally has indicated willingness to host such a weapon by saying there had been no decision yet on developing any specific system.

And he restated the administration's adamant position that Turkey's possession of the Russian-built S-400 air- and missile-defense system "could never be compatible" with NATO, but added that Turkey remains an ally and member of the alliance. He did not answer a question of what Turkey could do to regain access to the F-35 program, for which it had been a component producer and intended buyer.