One Network Enterprises™
A Blue Yonder Company

Leveraging Data Awareness to
Extend Operational Reach in Multi-Domain Operations

Why there is an urgent need for multi-enterprise systems for defense supply chains

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The power of multi-enterprise systems for defense supply chains

One Network Enterprises™ (ONE), a Blue Yonder company, is a world leader providing an artificial intelligence (AI) / machine learning (ML) driven, Secure Control Tower enabled multi-functional, agnostic Digital Supply Chain Network™. The solution provides a never legacy commitment, drastic audit posture improvement potential, world class integration synergy, real-time multi-modal global visibility with modernized real-time actionability from the strategic to tactical level. It provides powerful AI and ML prescription capabilities, and a unique deployed and disconnected capability that allows logisticians to operate in both contested and austere environments logistically uninhibited, thereby increasing operational effectiveness and efficiency.

Unlike platforms that merely collect data and present it for visibility, the solution provides you end-to-end, multi-functional logistics planning and execution, improved with modernized AI/ML prescriptions and a deployed/disconnected capability that extends commanders' operational reach in today's complex environments. Traditional data analytics platforms in use today within DoD cannot perform these critical functions.

ONE's multiparty and multi-tier, cloud-based network is transparent, revolutionary, and a transformative solution providing a single version of the truth (SVOT), concurrently and instantaneously matching maintenance, demand to supply, to transportation, thus increasing agility and responsiveness which increases operational effectiveness and efficiency.

Since it is a true network, not simply interconnected standalone systems, users onboard one time and then can connect instantly with anyone on the network to do business. The system includes a state-of-the-art permissibility security framework ensuring access to data is strictly managed and controlled. The highly secure solution already approved for US Department of Defense (DoD) operations, currently operating at IL5 and moving to IL6 within the next three to six months. It is cloud-agnostic and has a modular architecture with a low-code software development kit (SDK) giving users the ability to adapt, extend, and add new capabilities.

The never legacy commitment allows ONE to support a deployed solution as commercial off-the-shelf (COTS) and keeps it current with the commercial roadmap. The unique architecture provides defense capabilities that are organically integrated into the commercial solution, providing modernization opportunities for all customers without being locked into customization (which is typical of traditional DoD solutions). This eliminates the big sustainment costs that have burdened DoD with all IT implementations, particularly ERP solutions.

The solution also provides drastic audit posture improvement. The ONE solution helped the US Marine Corps pass an unqualified audit…the only DoD Service entity that has successfully passed a DoD unqualified audit. Through integration, the solution provides and receives transactional (actionable) data to or from Service or Joint Accountable Property Systems of Record (APSR).

ONE is already subsuming the entire US Air Force (USAF) Munitions portfolio and, with the go-live of FLITES, will replace 11 systems in the USAF Log IT portfolio.

This allows the solution to generate analytic reports for users and maintain chain of custody throughout the supply chain. (This is one key reason the solution meets the challenging requirements of audits.)

ONE operates as either a System of Record or System of Engagement. It has two National Security Systems (NSS) in production as APSRs today. The ONE "tunable system of control" allows users to decide when and how they desire to transition to the network. The network can embrace, connect, coordinate, enhance, and replace current systems (if desired), to include current operating systems (both ERP and legacy), with multiparty workflows and backward compatibility.

The ONE solution's integration capability is extensive. If there is a way to integrate, the solution is capable. The solution is configured, through backward compatible APIs and a rich integration layer, to interoperate with current systems. First, it can embrace and collaborate for improved visibility; and second, enhance the user's ability to understand logistics requirements thus giving the user the ability to not only see, but to act in real-time to improve operational effectiveness and efficiency.

For the US DoD, the solution can communicate and integrate through Defense Logistics Management Standards (DLMS) and Federal Logistics Information System (FLIS) messaging, along with multiple other options that take advantage of ONE's extensible APIs to allow new integrations to be developed quickly.

Some Examples of Systems ONE Currently Integrates With

- Logistics Modernization Program (LMP)
- Weapon System Support Program
- Federal Logistics Information System (FLIS)
- Logistics Management Data Bank
- Joint Hazard Classification System (JHCS)
- Weapon System Management Information System
- US Navy ERP
- Air Force Total Ownership Cost
- USMC GCSS
- Requirements Management System
- Joint Reliability Availability System (JRAMS)
- Purchase Request Process System
- Commercial Asset Visibility - Air Force
- Contractor Supported Weapons System
- Commander's Resource Integration System
- Reliability and Maintainability Information System
- Integrated Logistics System

Coupled with a federated Master Data Management approach, this capability provides significant advantages for defense operations. Some of the current systems our solution integrates with are listed above.

Intelligent Control Tower
Enterprise-wide visibility linked to objectives

Figure 1: Intelligent Control Tower with enterprise-wide visibility linked to objectives.

In sum, if there is a way to integrate digitally, through messaging, API, or another option, the ONE solution can do it. In practice, ONE is already subsuming the entire US Air Force (USAF) Munitions portfolio and will replace 11 systems in the USAF Log IT portfolio with the go-live of FLITES. The ONE solution for FLITES will implement 118 interfaces/integration points across the portfolio.

The ONE solution is different in that most solutions require customers to emphasize either planning or execution. Yet, today's defense requirements really need real-time planning be wed to real-time execution, to harmonize full-spectrum, multi-domain operations. The ONE solution is a real-time decision-making and execution supply chain suite, providing unprecedented alignment, collaboration, and synergy between all users. It enables you to see and interact with the entire network and multiple supply chains instantaneously, using enhanced AI and ML technologies.

The ONE secure control tower provides end-to-end visibility across all your partners and tiers. It allows collaborative planning, information sharing, and both predictive and prescriptive decision support, and autonomous decision-making from the strategic to tactical level. The results are proven with over 90% of users reducing stock shortages

and gaining massive efficiencies, while 100% of users increased on-time shipments and cost reductions, while also drastically reducing maintenance repair cycle times. Supporting the Joint Logistics Enterprise (JLEnt), the solution provides extensive capabilities, with the ability to adapt and build new modules to further extend the solution to support almost any business need. The control tower links enterprise-wide visibility along with actionability, to achieve objectives (see figure 1 above)..

The network has a unique integrated planning approach that uses actual demand, supply, and transportation conditions to adjust both plans and current operations simultaneously. Demand and capability are automatically matched in the network to give users options to effectively and efficiently plan and execute. These AI/ML prescriptions enhance operational effectiveness and efficiency. All aspects and capabilities throughout the network will be able to plan, collaborate, and execute in a secure, cloud-based environment in real-time. A snapshot of an example user-interface follows in figure 2.

The network empowers you to drive the lifecycle of multi-functional logistics processes with precision and integration, including supply-agnostic procurement, contracting,
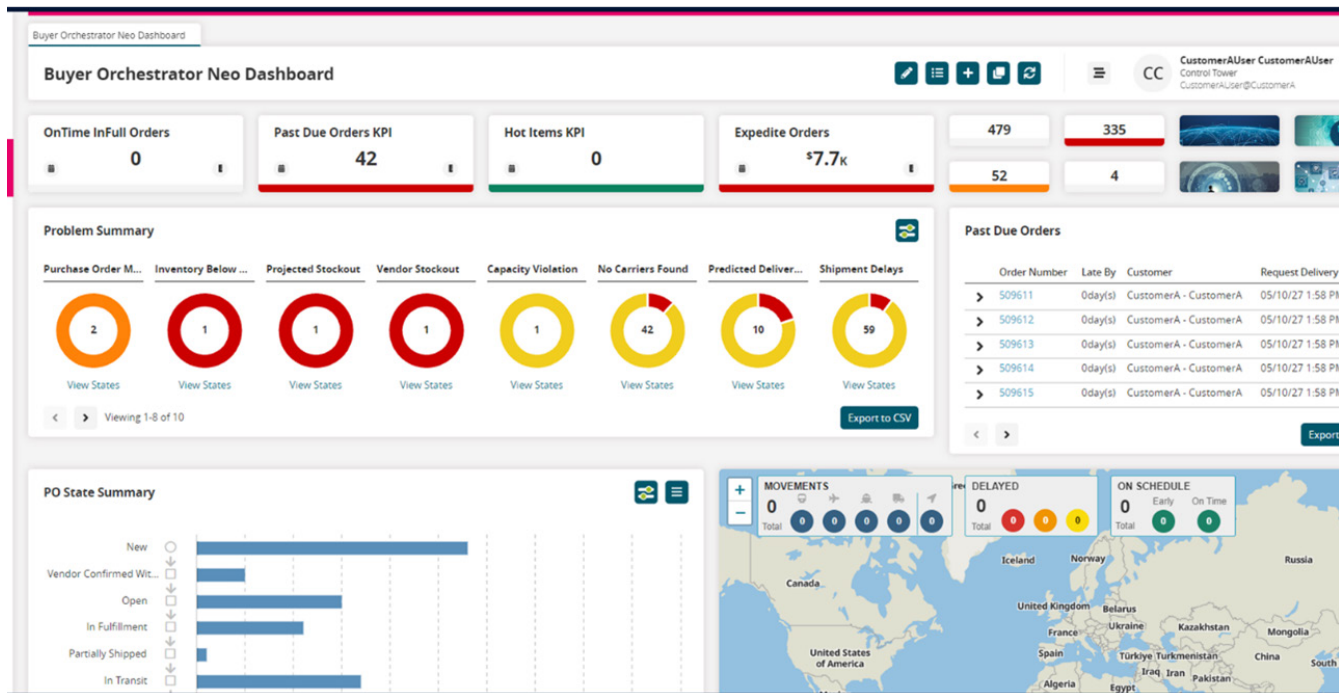
Figure 2: User Interface for Buyer Orchestrator role.

transportation-agnostic shipment planning, real-time visibility with modernized capabilities to adjust using AI/ML prescriptions when or if desired, appointment scheduling, warehouse and asset management, along with maintenance management capabilities, and world-class financial and claims visibility and settlements through accounting systems of record via integration. These capabilities reduce overall logistics costs while simultaneously improve operational effectiveness. The value of the network will be seen immediately with guaranteed positive audit posture.

When supporting the US DoD, the ONE solution provides capabilities in six of the seven joint logistics functions (IAW Joint Publication 4-0). The solution supports deployment and distribution operations, supply, maintenance, logistics services, contract support, and joint health services through multiple defense modules. The solution improves overall resilience, responsiveness, flexibility, visibility, cooperation, and efficiency.

The ONE solution excels in operations in contested or austere environments. The ONE deployed operations capability supports secure and continuous operations in contested or austere situations and environments. It can be used where reliable communications do not exist. It is

designed to work over low bandwidth devices like Iridium modem, military communication equipment, other tactical networks, along with commercial or military internet and intranet services and even commercial cellular networks.

ONE's patented **Platform-to-Platform Integration (P2PI)** capability guarantees that once connection is reestablished, minimum amounts of data for transfer from Disconnected Clients to Deployed Servers (and vice-versa). The deployed/disconnected capability can be used in one of four modes discussed below.

ONE Disconnected Client is a small footprint application on a mobile device (Laptop, Handheld, Tablet) (that can be carried on a person, vehicle, aircraft, ship, submarine, or used throughout a warehouse or forward supply point.

This versatility allows you to work anywhere by providing required logistics functionality on and offline (updating the enterprise when connection is restored) through store and forward capability. Users with mobile computers or tablets with or without scanners have the capability to conduct core Order and Warehousing management capabilities including, but not limited to: Inventory actions,

The system is capable even when disconnected from the enterprise. Once connectivity is reestablished, a fast and seamless harmonization and re-consolidation of data begins moving upstream and downstream, synchronizing all related nodes in the enterprise.

Warehousing actions, Containerization, Shipment receipts, Issues, Returns, Asset Transfers, and Asset Inspections.

These capabilities and more can be accomplished while disconnected from the enterprise. Once connectivity is reestablished, and with a synchronization capability built in, a fast and seamless harmonization and re-consolidation of data begins moving upstream and downstream, synchronizing all related nodes in the enterprise. Connections can be made directly to the enterprise or through a ONE Deployed Server. It is designed to operate offline indefinitely, however, the longer the delay in data synchronization the greater the delta between the database becomes and the longer it will take to complete.

ONE Deployed Server is a full-capability solution that is installed on a local server that is a smaller version of the enterprise solution with all the functions and essential data required to support operations within the scope of the environment it has been deployed to.

This allows for full offline capability of all enterprise-level functions in any tactical environment, ashore or afloat, with transactional synchronization to the NEO for Global Defense Enterprise Server(s). Deployed servers can operate for indefinite periods offline. Disconnected clients can synchronize to a Deployed Server, further extending operations in a deployed environment.

ONE NEO Enterprise. NEO for Global Defense is ONE's commercial off-the-shelf (COTS), Digital Supply Chain Solution configured for Defense customers. Using P2PI, it provides bi-directional data synchronizations with both Disconnected Clients and Deployed Servers. In addition to housing a full logistical suite of Artificial Intelligence (AI) infused management tools, the enterprise is built on a full integration framework to provide integration into both modern and legacy ERP solutions.

It can serve as the Accountable Property System of Record (APSR) or feed other APSR's within a Military organization. The Solution provides master data management (MDM) ensuring data cleansing and standardization, DLMS EDI's and FIAR support, as well as being designed with backwards compatible API's, ensuring it never goes legacy.

ONE NEO Lite. Equivalent to the ONE NEO Enterprise, NEO Lite integrates with existing ERPs or legacy environments to add deployed logistics capabilities to environments that cannot support deployed capabilities. It extends SAP, Oracle, other ERP implementations and legacy environments into the deployed workspace. It also provides an expandable modernized platform for rapidly enabling new capabilities.

Additionally, the four modes are outlined graphically above. The network is International Traffic in Arms Regulation (ITAR) compliant, and completely interoperable with logistics solutions deployed today throughout the US DoD. Currently, the ONE solution is used by the US Air Force and US Marine Corps in multiple facets. ONE has executed programs with the US Army, US Navy, and continues to pursue opportunities in both all DoD services and US DoD joint commands.

NEO Deployed Server and Disconnected Client

NEO deployed servers can be deployed to remote locations such as ships or warehouses and provide full functionality for forward deployed assets and periodically update to the enterprise
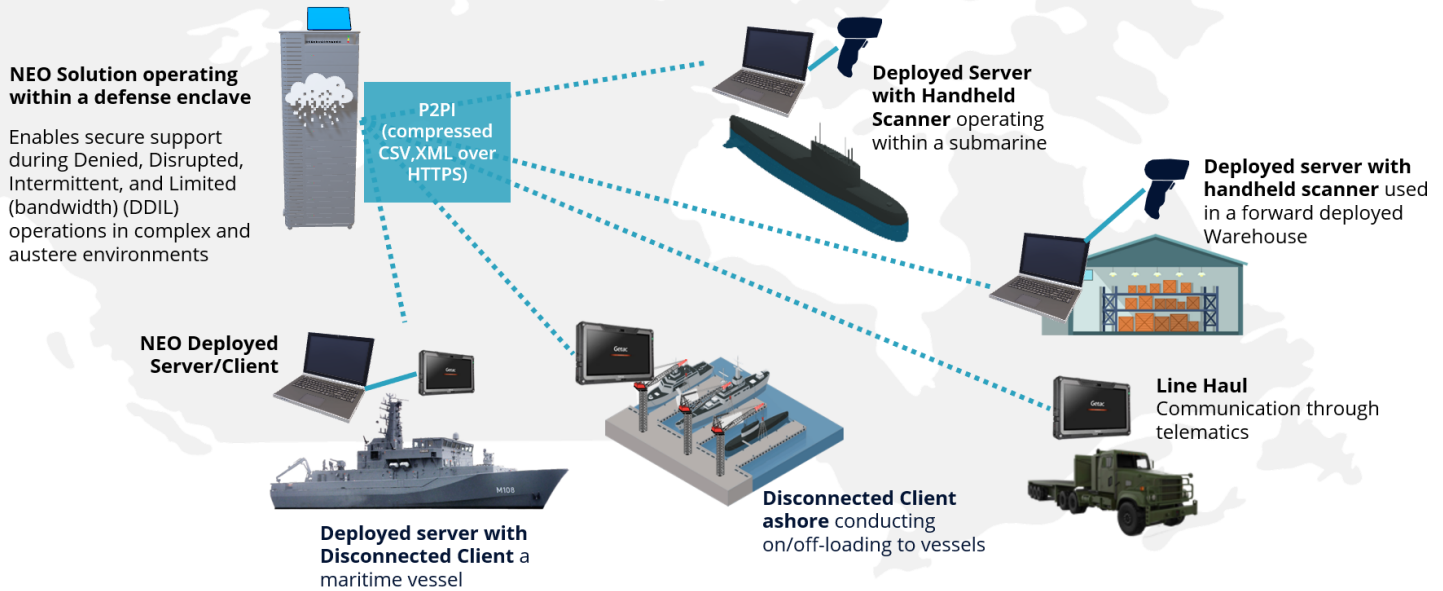

NEO Solution operating within a defense enclave

Enables secure support during Denied, Disrupted, Intermittent, and Limited (bandwidth) (DDIL) operations in complex and austere environments

P2PI (compressed CSV,XML over HTTPS)

Deployed Server with Handheld Scanner operating within a submarine

Deployed server with handheld scanner used in a forward deployed Warehouse

NEO Deployed Server/Client

Line Haul Communication through telematics

Deployed server with Disconnected Client a maritime vessel

Disconnected Client ashore conducting on/off-loading to vessels

Figure 3: The four modes of deployment of the One Network NEO solution.

If you are looking for a data collection device for visibility only, there are plenty of options in the market. However, if you seek a modernized capability with real-time visibility and execution from the strategic to tactical level, with a proven audit capability, then the ONE solution is the answer.

Unlike other supply chain software solutions, the ONE solution delivers a unique ERP capability to integrate planning and execution with demand-driven processes, enabling everyone on the network to concurrently optimize planning and execution.

The software that is the subject of this documentation is subject to control of the EAR and/or ITAR.
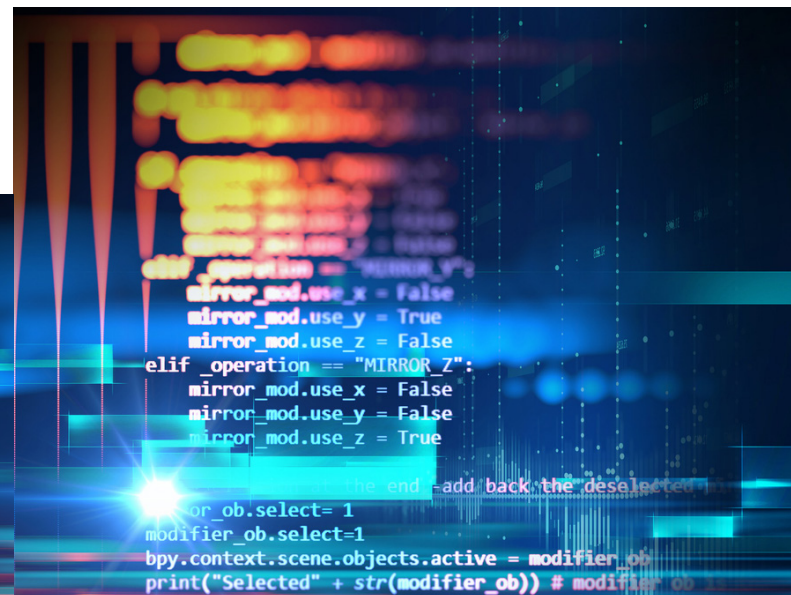
ABOUT ONE NETWORK ENTERPRISES

One Network Enterprises (ONE), a Blue Yonder company, is the leader in supply chain control towers, and provider of the Digital Supply Chain Network™. It is the only solution that gives supply chain managers and executives end-to-end visibility and control with one data model and one truth, from raw material to last mile delivery. Powered by NEO, One Network's machine learning and intelligent agent technology, it enables seamless planning and execution, across inbound supply, outbound order fulfillment, and logistics, matching demand with available supply in real-time. Lead your industry by providing the highest service levels and product quality at the lowest possible cost.

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