Enhancing SAP with a Network Platform

Enabling Multi-Enterprise Visibility and Collaboration Across Multiple Internal and External SAP Instances

The need for companies to have real-time network visibility across all their customer channels and through all tiers of supply has never been more important, and has been dramatically highlighted with the pandemic. Enabling a nimble and responsive partner ecosystem is now a priority for many firms. The network needs to withstand supply shocks, demand surges, and market volatility, while fusing current technology like ERP, TMS and WMS, with new emerging technologies such as IoT, telematics and machine learning. This report explains how companies can achieve this goal, rapidly and with minimal risk and disruption to current operations.

Complexity in Enterprise Systems is a Reality, They Represent Significant Investment, and Must Be Embraced

Many manufacturing companies in Europe and elsewhere use SAP's ERP-systems like S/4HANA to manage their internal supply chains. While many companies already run a one company with all its legal entities on a single ERP client, there are still many companies that operate either many clients in their ERP which each model a legal entity or (mostly as a result of M&A) even operate a multiple-ERP system landscape. These systems house valuable data and functionality, and cannot simply be discarded without significant disruption and wasted investment. Yet they pose a formidable challenge to establishing a real-time supply chain ecosystem. Any viable modernization strategy must recognize and tackle this challenge head on.

The Challenge of Supply Network Collaboration

For these reasons, many large companies struggle when it comes to cross supply network collaboration. Companies with multi-client or multi-ERP environments already have a hard job to manage their internal supply chains resulting in complex and hard to maintain external and internal EDI (Electronic Data Interchange) scenarios.

To imagine the magnitude of these problems: A typical European automotive OEM manages the internal supply chain with multiple SAP ERP (and multiple non-SAP logistics) systems. In addition, their supply network consists of an average of 3500 tier-1 suppliers and 100k+ tier-2 suppliers.

This situation results in huge efforts to keep control of the entire network to safeguard the up-to-the-second scheduled JIT/JIS pearl chain in their car assembly sites.

Besides the internal and external supply network management challenge, other challenges include:

- Different material numbers for the same physical item across the systems in the landscape. For example, a "M6 Bolt, 60mm long" is material 12345 in System 1, but 987654 in System 2, resulting in material-to-material number conversions, and the lack of transparency in supply sources, quantities and prices.

- Complex tax-management models result in complex rules on how to route material and financial flows through the network, while the requirement has to be fulfilled to remain legally compliant and auditable.

A Multiparty Network Platform with a Single Version of the Truth

One Network's NEO Control Tower Platform provides an ideal solution to tackle these challenges and more, with its capability

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to easily connect to SAP ERP or S/4HANA, as well as other non-SAP ERP, logistical and supply chain systems.

Imagine following scenario:

• One Network's NEO Platform connects to any and all ERP systems in the supply network – this is usually a light-weight project and is only done once per participating system in the network.

• Upon connecting, the NEO Platform functionality can be leveraged to solve all the challenges above and more.

The network platform's integrated Supply Chain Control Tower can be used to gain full transparency across internal systems and across external partners in the supply network, enabling early detection and prediction of problems. The platform's intelligent NEO agents can proactively recommend (or even execute) solutions to predicted problems that the planners may not be aware of yet.

One Network uses its master data and demand translation functionality to resolve the issues of the differing material identifications. For the companies with the multi-client or multi-system environments, this might be the first point in time for them to see all the internal network information and status in one single place -- with often stunning results!

With planning rules implemented matching the tax management models requirements also these complex material and financial flows can be brought to a manageable level!

This single version of the truth across systems and partners is made possible by One Network's unique multiparty master data management solution, and Tunable System of Control.

A Master Data Management (MDM) Solution

It begins with clean, consistent business network data. The One Network MDM solution is a multiparty, multi-tier, cross-functional, and process-oriented approach to manage information about customers, products, suppliers, locations, and other entities. With multiparty MDM, network-wide partners are connected to a shared, network solution:

• **Connect Once:** Partners connect just once to the network and can immediately connect virtually to any other partner on the network in a matter of clicks.

• **One Instance:** Partners' master data is represented just once, not N times.

• **Strong Permissions:** Partners share data using an advanced permissions framework that provides robust security with granular roles and permissions fulfilling also all GDPR requirements

• **Partner Specific:** Partners need only to create their own mappings – they do not need copies of all attributes.

An organization can reference their partners' master data, but no longer needs to maintain partners' data – saving time, reducing costs, increasing data quality, and eliminating errors.

Leverage Multiparty MDM to Drive Supply Chain Network Performance

The multiparty MDM solution provides comprehensive enablement of MDM processes.
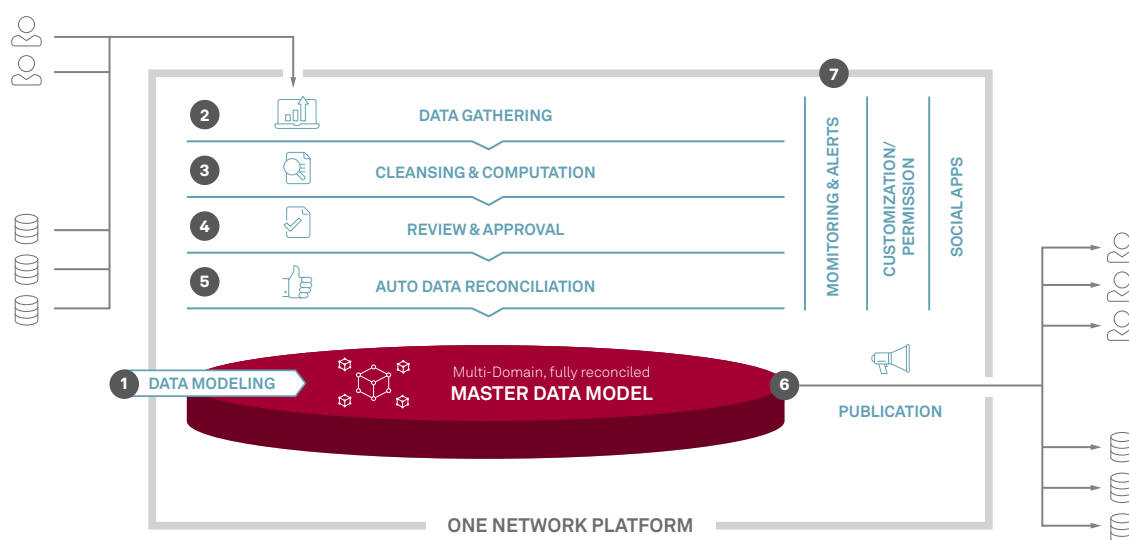

Figure 1: Multiparty MDM process

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1. **Data Modeling:** Enables complex relationship modeling between application sources, between products and services, and between parties with Community Master Data Models for intra- and inter-enterprise modeling.

2. **Data Gathering:** Provides configurable user forms to gather unstructured data as a data request. Use role and geo-based permissibility to handle distributed ownership at site-, org- or enterprise-level.

3. **Data Cleansing and Computation:** Allows for configurable validation rules and customizable workflows to find and correct data errors (e.g., automatic correction of addresses).

4. **Reviews and Approvals:** Includes configurable approval routing rules for sending data to authorities for approval. Complete audit trail of changes and approval history.

5. **Master Data Reconciliation:** Multi-domain, fully reconciled master data models cover an extensive body of 400+ supply chain models, including site, item, routing guide, carrier contracts, fleet, and equipment.

6. **Data Publishing:** Enables subscription-based publishing of changes to Master Data to relevant parties. Users can subscribe through alerts, emails and download-friendly CSVs. Permissions ensure that clients receive only the data they are allowed to receive.

7. **Monitoring and Alerts:** Includes a full set of analytics and performance metrics.

By bringing visibility and reliability to enterprise data, new MDM programs that are business outcome-oriented can improve business decision-making and drive improvements in both operating and financial metrics.

Master Data Reconciliation & Source System tracking

- Often the data coming from various systems within the enterprise do not have reconciled master data

- ONE's MDM supports cross-reference tables, allowing you to map your disparate inbound data sources into a single canonical master data model within ONE for unified use.
  - This is part of the Mapping / Transformation layer

- Additionally, we ccan persist original source system on any data model in case it is required for subsequent processing or integration
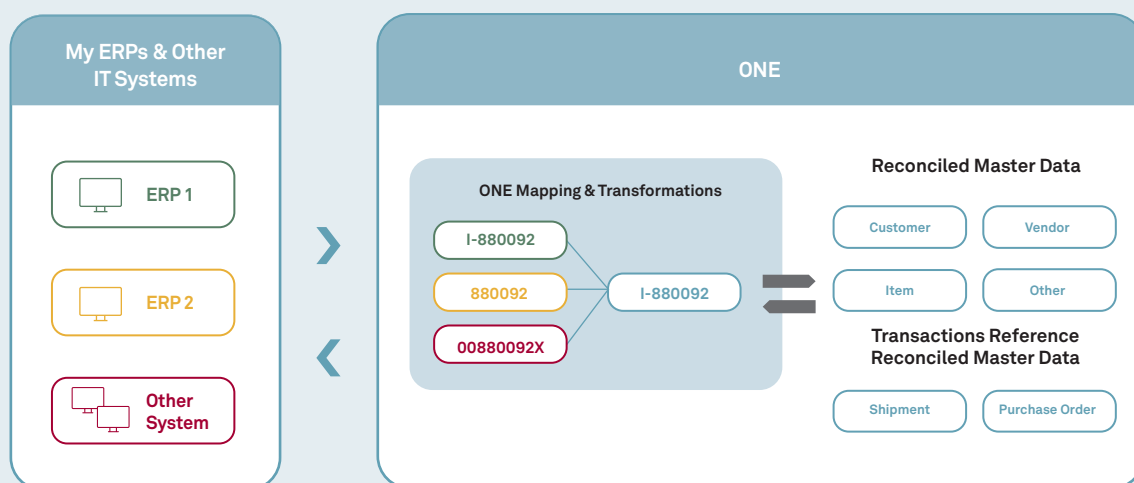

Figure 2: Data Mapping and Transformation

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With One Network's multiparty MDM you can unify your supply network with a single version of the truth and act in unison for optimal performance and results.

Benefits of a Tunable System of Control

What is a Tunable System of Control? With the issues of master data management addressed, One Network's unique Tunable System of Control now coordinates business processes across multiple parties and systems, leveraging new technology residing in the network platform layer, while empowering your ERP systems to deliver optimal results fast.

The tuning capability enables you to assign system-of-record responsibility to either the One Network Platform or to another application for each state and action in a multiparty network process.

The multiparty „embrace, enhance and maybe replace" strategy enables a phased approach to easily migrate the capabilities of legacy applications into the NEO Platform.

The central idea is that you begin moving business functionality into the network layer over time in a systematic way that matches your business priorities... and captures benefits.

This will unlock enormous value as you go along - as you eliminate time lags and buffers. We've seen that time-and-time again in the One Network customer base, as you move capabilities into the business network layer in a way that matches your priorities. Even in a phase one project, you can't tackle every business function and business unit at once, so the idea is to start with the highest value areas first - the ones that match your strategic objectives – and move those into the network first.
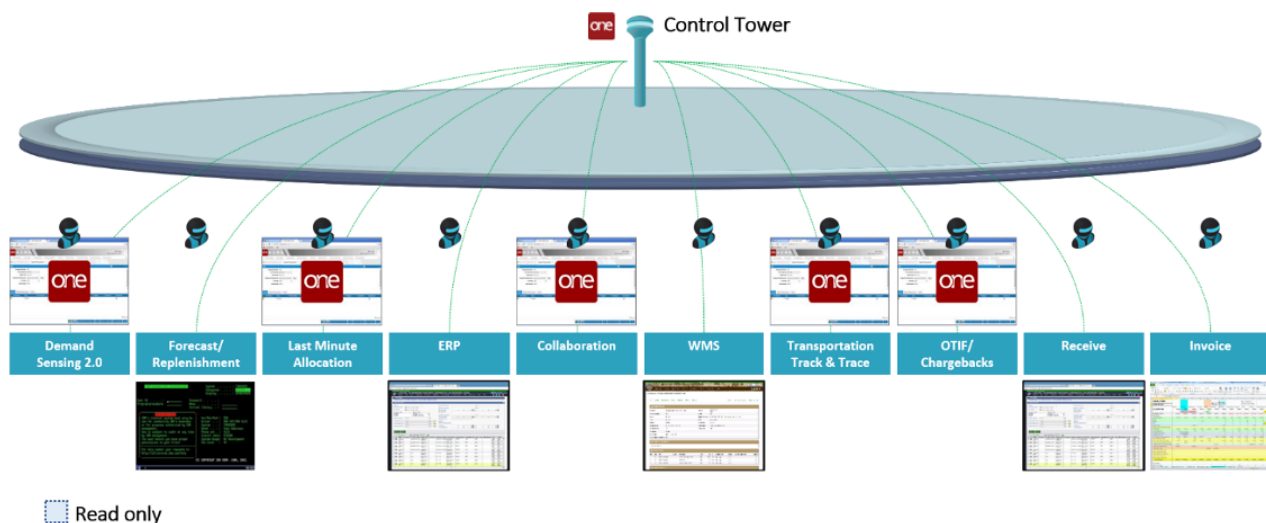

Figure 1: Multiparty MDM process

The key is the network layer. One Network's platform manages the designated end-to-end processes in a collaborative network layer that provides a single version of truth in real-time for all parties, while designated steps are processed by individual SAP instances or legacy systems.

From inbound supply to outbound order fulfillment and logistics, this enables companies to streamline and optimize planning and execution in a multi-ERP situation, where the network platform provides a streamlined business process environment across all lines of business and can federate operations across your multiple ERP installations.

It's also „tunable" because you decide where to start, based on your business priorities. So, you can take a systematic, phased-approach that lowers risk and that is self-funding because you're focusing on the most important areas first. As you go along, you capture benefits - eliminating silos, eliminating information lags, as you bring capabilities into the network layer and you eliminate costs and buffers at every step.

This capability provides an efficient, quick path to digital transformation that can take you from your current state to a new growth platform and a new business and operating system – one that's digitized across your supply network and is:

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- Clear, so that your entire organization can understand the approach and come along with you.

- Fast, because you can start immediately. Your competition is moving fast and so are your markets.

- Systematic and achievable. You'll lose the support of your team if it's „pie-in-the-sky", so it needs to be a well-grounded and realistic approach.

- Self-funding because the days of "big bang" IT projects are long gone and you need to generate value at each step along the way to maintain support of your business.

- An approach that meshes with your business priorities and strategies so those are met as you digitize, making your team most successful.

One Network's Control Tower Platform: Bringing Network Intelligence and Collaboration to ERP

One Network's unique MDM solution and Tunable System of Control enable a clear path to digital transformation with a high degree of team confidence and project success, regardless of their current technology stacks. How? As one customer (a multi-billion-dollar global manufacturer with dozens of SAP instances) explains:

"I can't over-emphasize how much unlocked value there is in our supply chain, because we operate in such a siloed fashion. Every one of the nodes in our supply chain is planned completely independently. They carry all their own safety stocks. They add all their own lead times. They're all on different systems and there's no integration.

… if we move work to that layer, and move decision making to that layer, our effectiveness opportunity is in the hundreds of millions of dollars, and probably quite in excess of that."

With the One Network platform, ERP, logistics, and legacy systems operate together across the network layer, and all parties benefit from better data, improved connectivity, and more effective coordination of planning and execution across all functions, systems and trading partners. The network lets these satellite systems function as usual, providing key enterprise functionality, so companies can realize the value of their technology investments, while leveraging their data and elevating multiparty processes and workflows into the network.

This enables, for the first time, real-time visibility and collaboration across trading partners. And with a full suite of supply chain solutions, companies are able to plan, execute and collaborate, across all stages of the product and supply chain cycles.

The One Network Control Tower Platform is enabled with the latest technologies in AI and machine learning, designed to use and analyze the big data generated by today's IoT devices and telematics. Intelligent NEO agents run both traditional algorithms coupled with machine learning. They are designed to monitor network-wide transactions and optimize multiparty processes. With prescriptive and predictive analytics, they rapidly detect and respond to potential problems quickly and at scale. Agents can execute resolutions autonomously via the platform, or issue recommendations to users or to external execution systems. Innovative "workbenches" allow the user to interact and interrogate NEO agents, or approve and deploy their recommendations with a single click.

This brings precision optimization, intelligent coordination across demand supply and logistics, and powerful automation to complex supply networks. It enables companies and their partners to respond to shifting demand faster and more cost-effectively, to improve customer service while lowering costs for all.

Möchten Sie mehr zu diesem Thema oder zu unseren anderen Lösungen erfahren? Wir freuen uns auf Ihren Anruf.

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