KDD062 - Integration with Transportation Providers

Status	Approved
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Issue

During the process of arranging transport with carriers there are several business functions that require integration with carriers. These business functions are:

- Spot Tendering
- Call-Off Management
- Slot Scheduling
- Track and Trace
- Charge Settlement
- Extra Cost Dispute Management.

To cater for these functions, SAP provides an online platform: SAP Business Network for Logistics (BN4L).

Currently Syensqo uses two TMS solutions that are also catering for these business functions: Transwide (in EMEA countries) and BluJay (in North America). As BluJay is scoped to be replaced, there is a separate KDD focused on the decision of the way forward with BluJay: KDD048 - Way Forward with BluJay.

This KDD will focus on the standard solution for Syensqo globally. Here the decision is to be made which online platform Syensqo should use to integrate with carriers other than the scope of KDD048.

Recommendation

In the light of standardisation of processes and simplification of the landscape, the recommendation is to retire Transwide and utilise the BN4L platform as the standard platform for carriers and freight forwarders to integrate to. BN4L will be deployed in EMEA countries where currently Transwide is utilised, but will also be deployed globally where no integration platform is currently used.

The full features of BN4L will be utilised including Tendering, Call-Off Management, Dock Appointment Scheduling, Transportation Execution (for OTIF and Route Accuracy Management), Carrier Invoicing and Dispute Management (for avoiding invoice rejections).

Background & Context

Overview of SAP TM with BN4L (Option A)

To be be able to assess if SAP TM with integration to BN4L is a fitting solution for Syensqo, an understanding of the SAP TM processes is essential. In this section a more detailed explanation is provided how the process works in this system configuration.

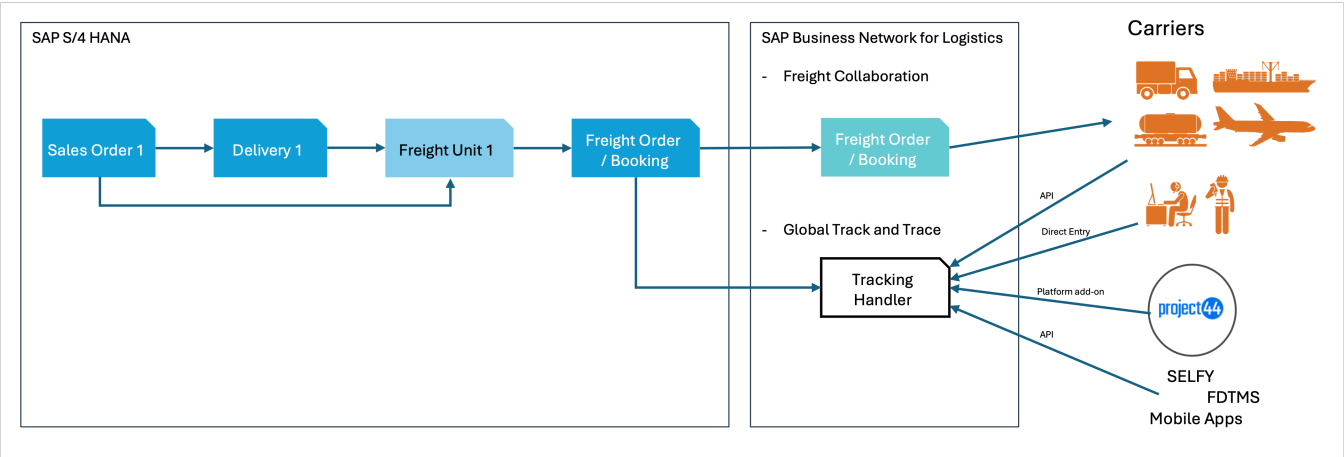
System Landscape

SAP Business Network for Logistics is SAP's collaborative cloud network that empowers logistics businesses to work together. There are two submodules within BN4L:

SAP Business Network Freight Collaboration improves supply chain efficiency by connecting business partners on a collaborative network that supports jointly managing transactions, exchanging documents, and sharing insights across the value chain. For instance, upon invitation from a shipper, a carrier can onboard onto the network and collaborate with shippers on freight tendering, subcontracting, freight settlement and dock appointment scheduling.

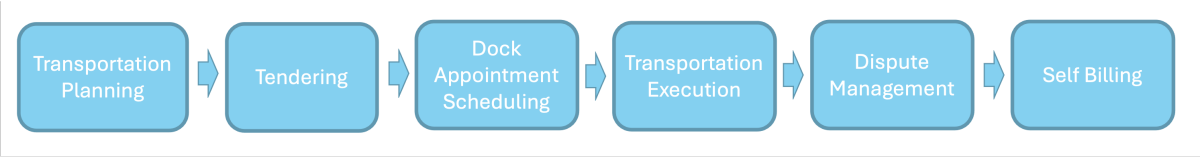
The aim of **SAP Business Network Global Track and Trace** is to capture, process and store tracking information about tracked business processes. Then, it allows business users to get transparency of the execution of those processes. They can query any tracked process and display its retrieved data from end to end.

Following image provides a simplified view of the system landscape:



Process Flow

The functionality of this setup will be explained by the following process steps:



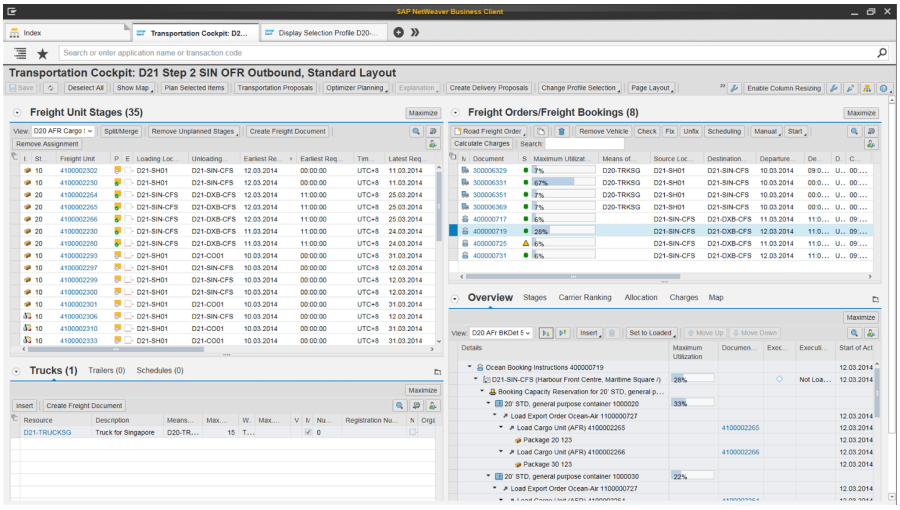
Transportation Planning

During Transportation Planning, Freight Orders (Road and Rail) or Freight Bookings (Air and Ocean) are created. These transportation orders are the starting point for integration to BN4L and communication with carriers. There are multiple ways how these transportation orders are created:

1. Manual Planning in the Transportation Cockpit.
2. Manual creation from the Freight Unit or Container Unit.
3. Shortcut planning where a Freight Order is created directly from delivery.
4. Automated planning.

Call-Off Management

During planning Freight Orders and Freight Bookings are created. The system will execute carrier ranking automatically and the system will automatically select the preferred carrier. After carrier assignment, Freight Documents are sent to carrier through BN4L. Carrier can view these Freight Documents with all details in BN4L where carrier confirms or rejects the Freight Order back to the Syensqo planner.



Tendering

When a Freight Order is not assigned to a carrier as a call-off order, then users can decide to execute a spot tender. SAP TM supports peer-to-peer tendering, broadcast tendering or a combination of the two.

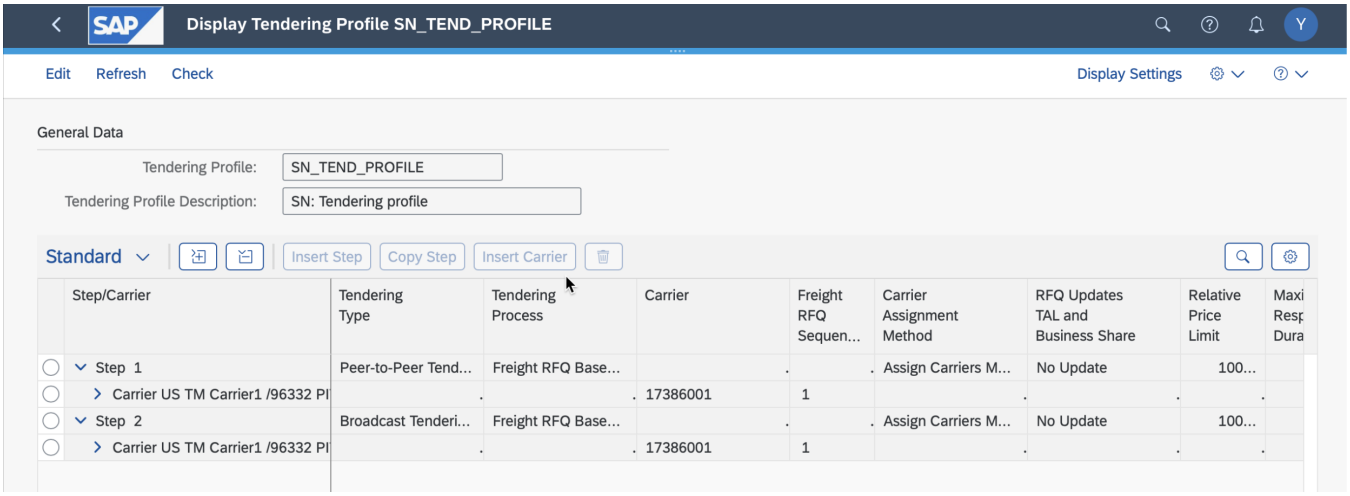
Peer-to-Peer Tendering initiates the tendering process with one or more carriers sequentially. This means that the system will wait for a (negative) response from the first carrier before contacting the second (or third and so on) carrier.

Broadcast Tendering is executed in which several carriers are contacted simultaneously. With a 'best offer' mechanism the carrier is selected that quoted the best price within a pre-defined timeframe. With a 'first acceptable offer' mechanism the carrier is selected that has the fastest response with a quote below a specific price limit (price limits can be communicated or can be hidden from carrier).

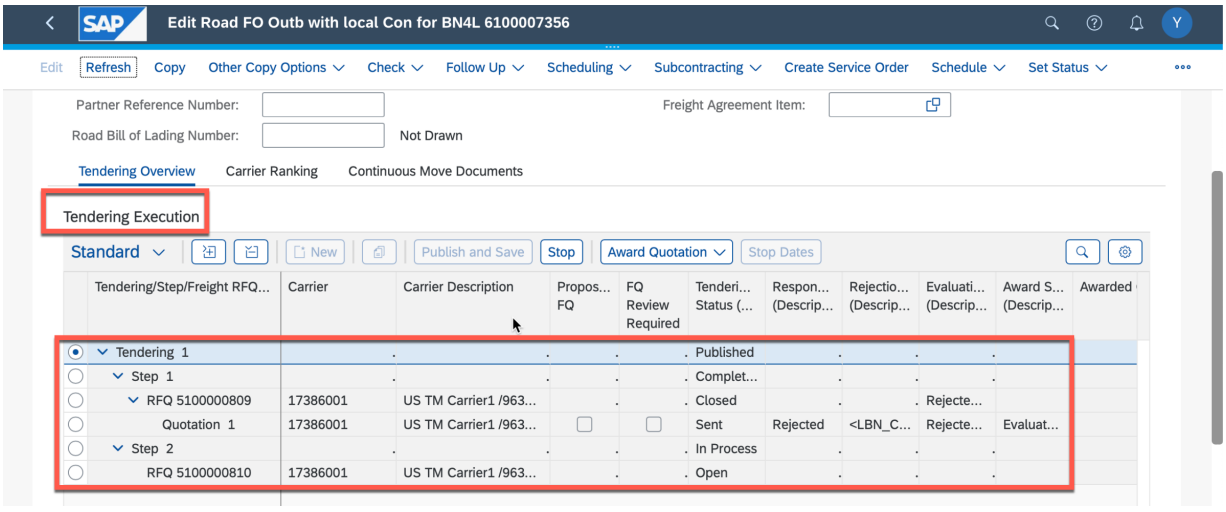
With a combination of the two tendering approaches, the most likely process is that first a peer-to-peer tendering step is completed. If these carriers are not accepting the orders, then a broadcast tender can be performed to a selected group of carriers.

The tendering approach is defined in a Tendering Profile. This tendering profile can be selected by the user in the Freight Order, or it can be automatically selected by the system.

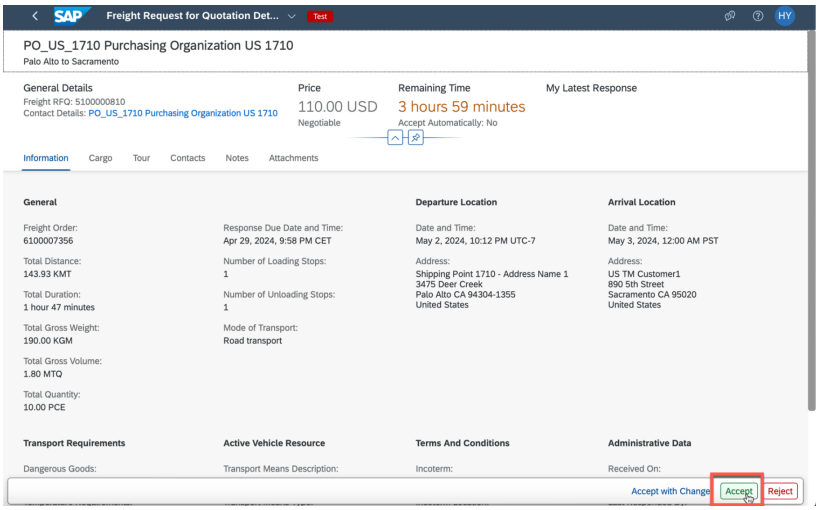
Example of Tendering Profile:



Monitoring tendering status with response of carriers in Freight Order:



Example of Request for Quotation that is send to carrier for response:



Dock Appointment Scheduling

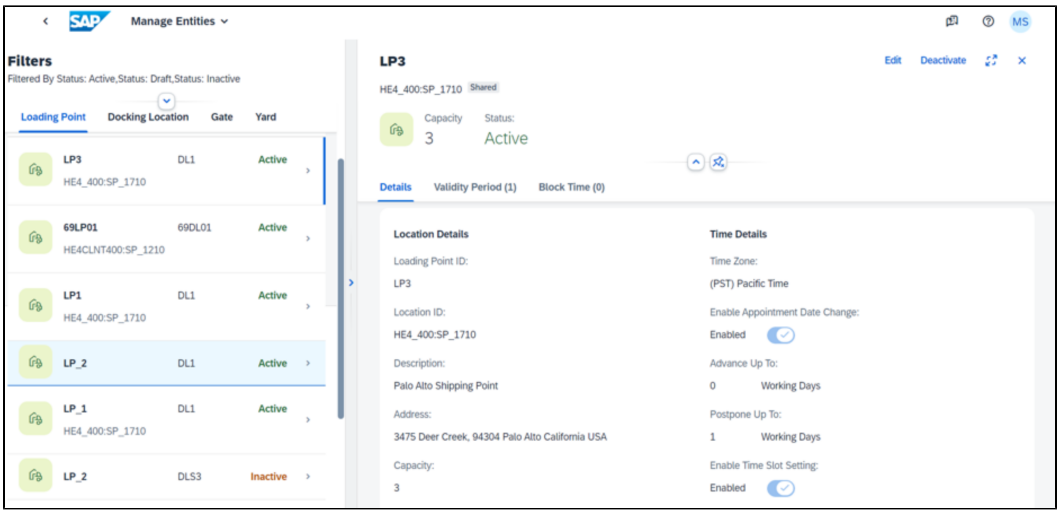
The dock appointment scheduling functionality is integrated with the freight orders from SAP TM. A freight order is created in the BN4L system for the carrier. With relevant settings have been maintained, when the carrier confirms the freight order, the system creates an appointment request for this freight order.

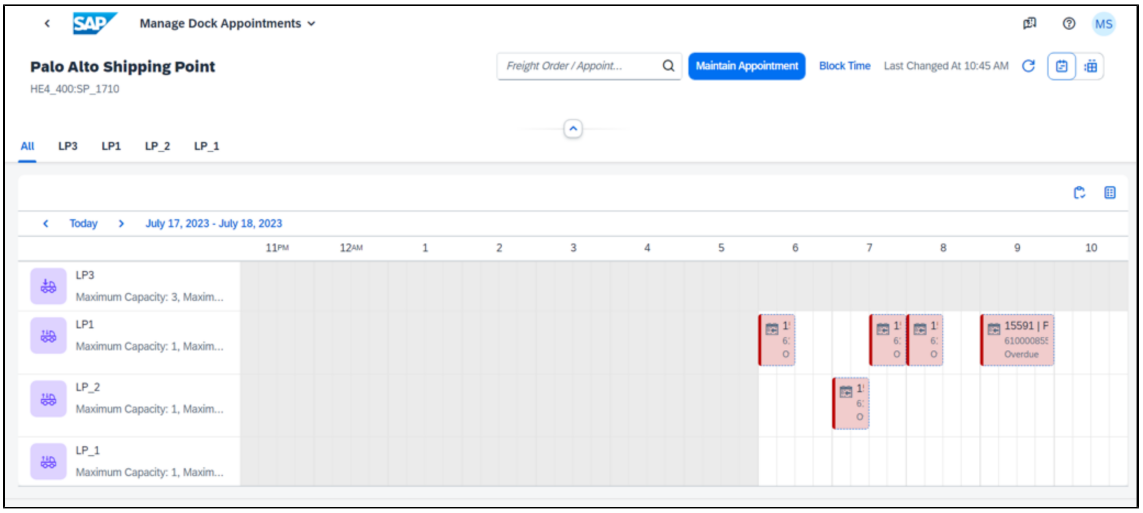
In the app Self Book Dock Appointments, the carrier can see the list of orders that require appointment scheduling. The system displays available time slots based on the dock's scheduling and current availability. Carriers can choose an available time slot that fits the schedule. The platform typically allows carriers to select and confirm a time slot directly within the interface.

Carriers can manage, modify, or cancel appointments through the same BN4L platform. Changes will be updated in real time and visible to relevant parties.

Key features:

- Enable collaboration on dock appointments and gate-in and gate-out processes
  Starting from planning and scheduling of dock appointments to check-in and check-out at the gates as well as loading and unloading.
- Share responsibilities between shipper and (external) warehouse / yard operators
  Share master data as well as operational data instantly across the involved parties.
- Integrate into logistics backend systems for seamless processes
  Open APIs available for integration into SAP Logistics suite and 3rd party systems. Standard integration available for SAP Yard Logistics.
- Manage dock appointments centrally
  Configure master data and share with business partners e.g. on appointment creation, define docking locations and loading points.
  Leverage calendar view and color coding to keep track of dock appointment status.
- Manage gate processing centrally
  Maintain gate master data related to docking locations and docking points.
  View dock appointments and access worklists to assign gates, perform check-in, add notes and attachments.





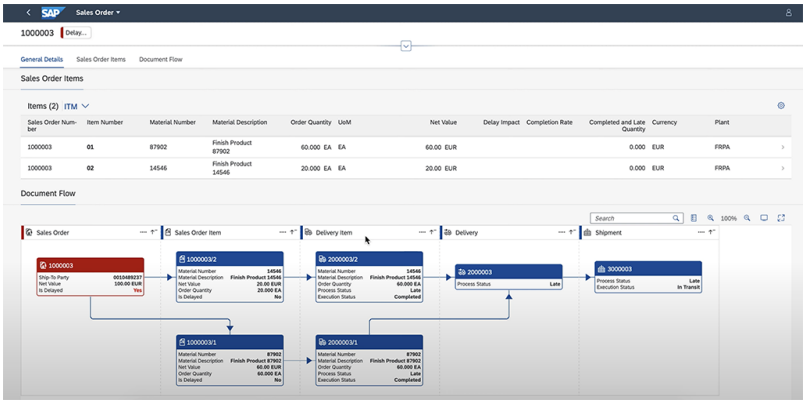
Transportation Execution

Transportation execution comprises all activities involved with handling and documenting shipments in transit. It is more than just tracking a vehicle on the road, and includes recording any changes to the planned transport and handovers to other business partners or entities.

With SAP BN4L, you can seize each moment by connecting the physical movement of orders and goods with the flow of information. Capturing key process events among which; arrival dates, departure dates, delays and POD events (relevant for OTIF and route accuracy management). Including relevant attachment documents.

Key features:

- Track your order fulfilment progress and goods in-transit
  Monitor shipments standalone (Freight Orders and Freight Bookings) or as part of the end-to-end order fulfillment (Sales Orders and Purchase Orders) for maximum insight with milestone monitoring and exception management
- Understand the impact of deviations from the plan
  Conduct impact analysis and view the document flow. Benefit from event correlation between orders, deliveries, shipments and external identifiers
- Inform stakeholders of progress and exceptions
  Set up exception and information notifications, such as an email with tracking link upon order confirmation, and notify stakeholders when an exception occurs
- Ease transacting with your logistics service providers
  Receive milestone updates via API or EDI (ANSI X12)
- Flexible and extensible setup, supported by standard apps & templates
  Supports customer-defined fields, event types and event-to-action scripts. Or build custom scenarios from scratch
- Integrate with your ERP and logistics systems for seamless transparency
  Standard / extractor-based integration via Idocs. Provide insights to end users in their preferred working environment
- Direct reporting of events in online launchpad
  Report events directly in GTT launchpad using mobile ready apps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Item Number
Material Number
Material Description
Order Quantity
UoM
Net Value
Delay Impact
Completion Rate
Completed and Late Quantity
Currency
Plant
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1000003 02 14546 Finish Product 14546 20.000 EA EA 20.00 EUR 0.000 EUR FRPA
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Sales Order Item
Delivery Item
Delivery
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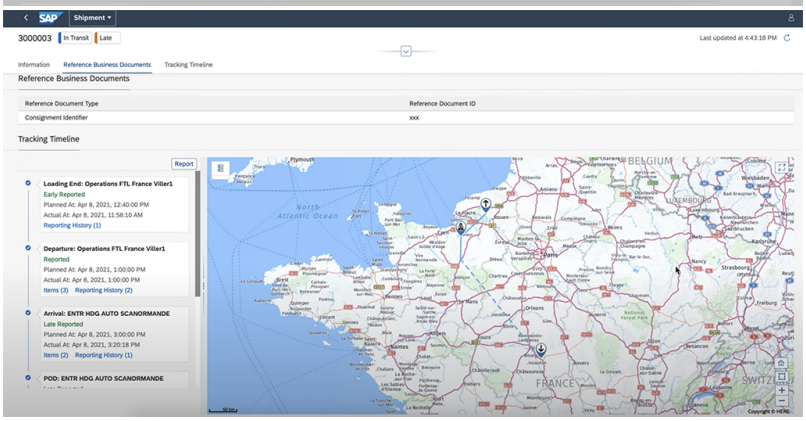
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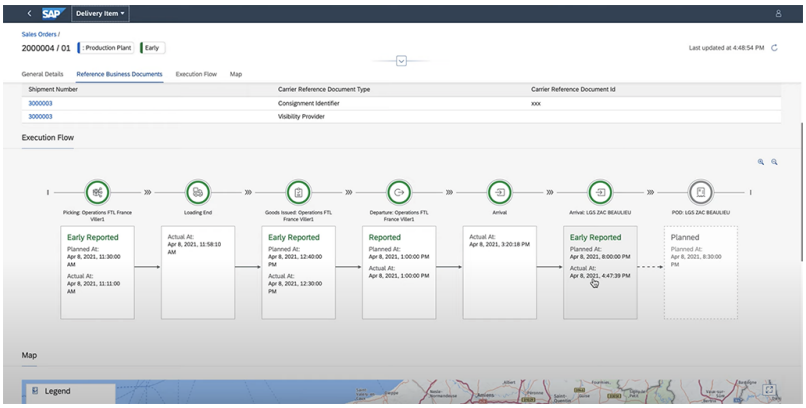
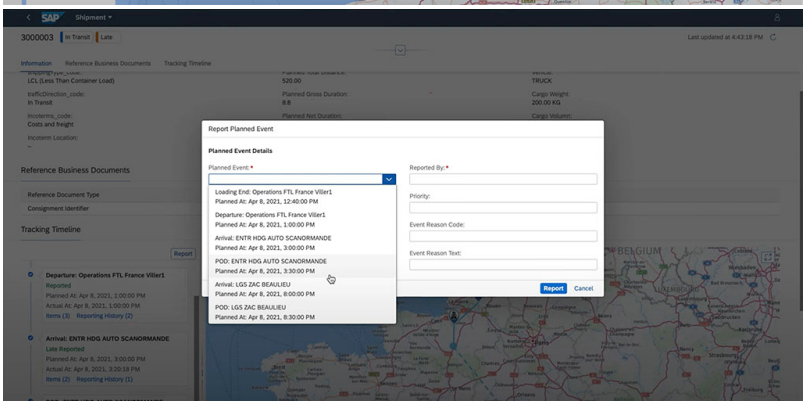
North Atlantic Ocean
BELGIUM
LUXEMBOURG
FRANCE
Copyright © HERE





Extra costs and Dispute Management

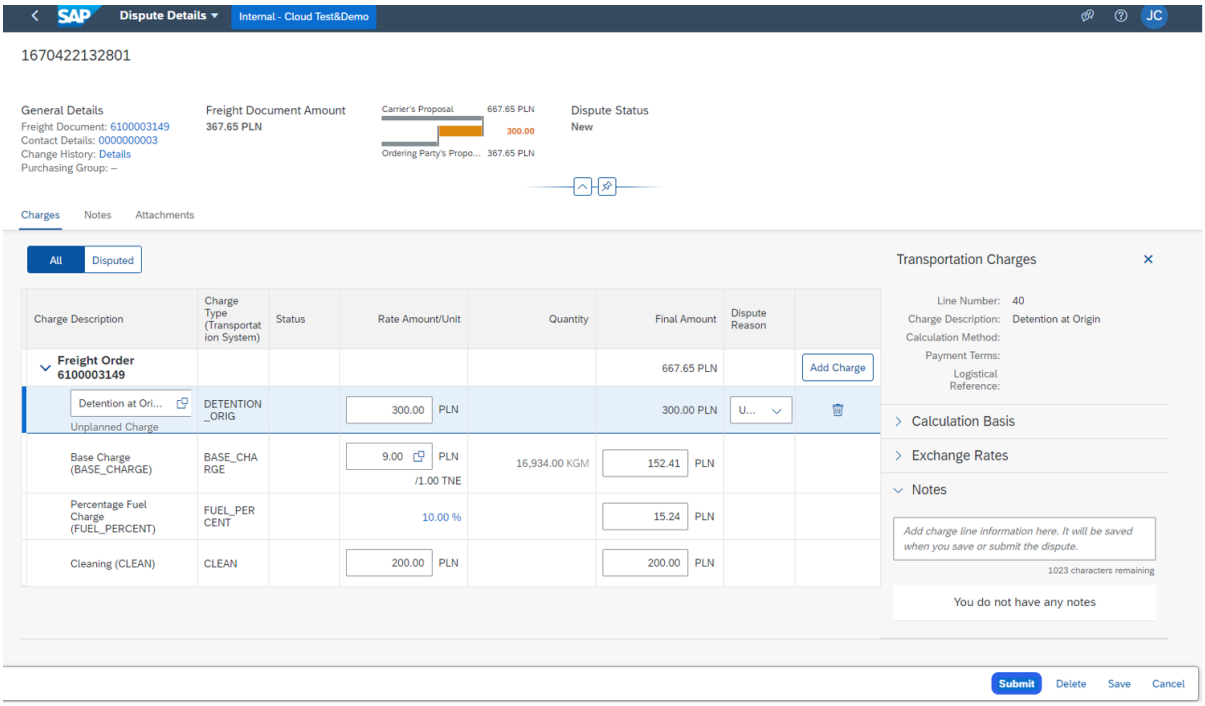
Freight costs as calculated by Syensqo on the Freight Document, can be reviewed by the carrier in BN4L. Here the carrier can update freight costs, include assessorial charges, penalties or update quantities like gross weight. When these discrepancies have been reported, the system will generate a dispute case that will be send to Syensqo for acceptance or rejection.

A freight settlement dispute case is an individual business document that captures differences in logistics item quantities or charge amounts in a Freight Document or carrier invoice. As a requester of transportation services, such as a shipper, you own the information in the Freight Document. Your provider of transportation services, such as your carrier, checks the accuracy of the charge and logistics details in your Freight Document.

In the review of freight charges process, the service provider uses BN4L to create a dispute case against a Freight Document.

In the invoice submission process, the process of settlement between you and your service provider is based on an invoice that your service provider submits to you for a Freight Document. Your service provider can use the SAP BN4L portal to submit such an invoice. For example, your service provider can submit an invoice that contains changes to logistics details such as gross weight or gross volume, or changes to charge details such as rate or an additional charge line for an unplanned charge (specified by the corresponding charge type that can be selected by the carrier). In these situations, the system captures the changes in a dispute case and links the dispute case to the invoice your service provider submits. This avoids unnecessary rejections of invoices when they have been received.

If the dispute case fails the tolerance limits you specify in Customising, you must manually review the dispute case on the Freight Settlement Dispute Cases app.



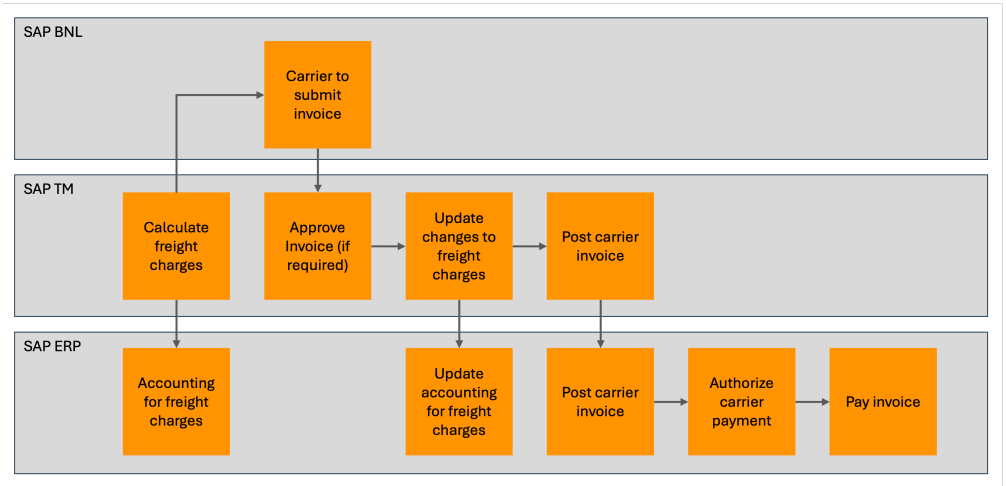
Charge-verification / Carrier Invoicing

Standard invoicing process follows invoice verification through a standard Service PO, with standard VIM processing.SAP Business Network for Logistics adds two other options for carrier invoices; self-billing process or carrier invoicing through upload of Freight Document based invoices.

Charge-verification

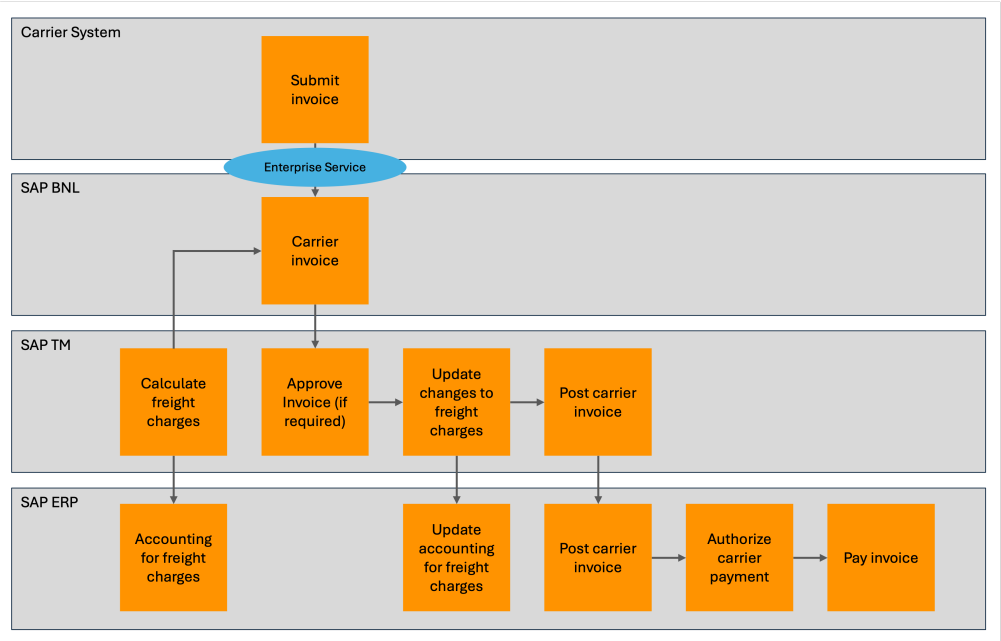
Once the Freight Document is sent to the carrier, a new document is created within the "Invoice Freight Document" app, marked with the status "To Be Invoiced." Subsequently, the carrier user can generate an invoice for this document by utilising the "Create Invoice" button within the app. This action triggers the creation of an invoice document in the "Manage Invoice" app, labelled with the status "Draft," concurrently adjusting the Freight Document status to "Invoicing in Progress." As the carrier submits the invoice, the document status transforms to "Submitted," while the Freight Document status evolves to "Awaiting Ordering Party Response."

At this juncture, the system initiates the transmission of the invoice to the Transportation Management (TM) system. Upon successful creation of the invoice in TM, the carrier invoicing status undergoes an update within the Freight Document, subsequently relayed to BN4L. This transition culminates in setting the Freight Document status to "Completely Invoiced," marking the successful completion of the invoicing process.



Carrier Invoicing

Carrier can create an invoice for Freight Documents using the Provider API for Invoicing. Additionally, users can view the Freight Document for invoicing in the Invoice Freight Documents app in SAP BN4L. If there is any mismatch in the charges, the system creates a dispute either in the ordering party's SAP Business Network for Logistics ordering party tenant or the external transportation system depending on the settings.

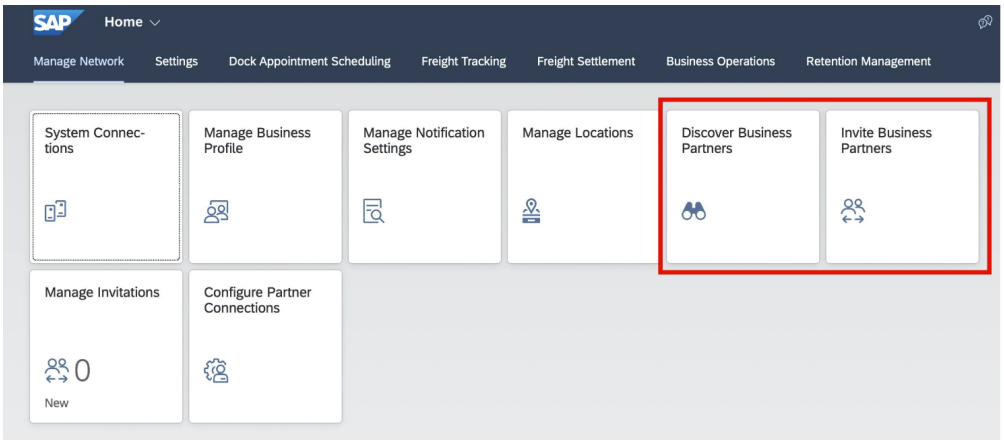


Carrier On-Boarding to SAP Business Network for Logistics

The Invite Business Partners app is designed for managing all the business partners that you want to be part of your network. You can use this app to select and invite business partners to join your business network and check their participation status.

Carriers can choose to use BN4L from the launchpad (online), or they can set up integration using the following API's (EDI is also available):

- Provider and consumer API for Freight Tendering to accept or reject a freight request for quotation.
- Provider and consumer API for Freight Subcontracting to integrate Freight Document subcontracting.
- Provider and consumer API for Freight Booking to integrate freight booking subcontracting.
- Provider and consumer API for Order Events or Order Tracking to post events.
- Provider API to create an invoice



Project 44 Add-On

SAP provides SAP Business Network with project44 add-ons that provide visibility content.

These add-on services leverage the project44 multi-mode carrier network with its established B2B connectivity to carrier and logistics provider systems, electronic logging devices, and so on.
With the add-ons for project44 visibility services, SAP Business Network users can benefit from the availability of actual shipment execution insights, such as shipment location and event status for full truck loads, and milestone status for less than truck load shipments. This allows for a holistic view of both planned and actual shipment status, as well as automatic business event detection.

Project 44 visibility content is available to SAP Business Network users through supplementary, add-on licenses from SAP.

Option B: SAP TM integrated with Transwide

Transwide is the current TMS solution used in Europe and a few countries outside of Europe. The features used in from Transwide are:

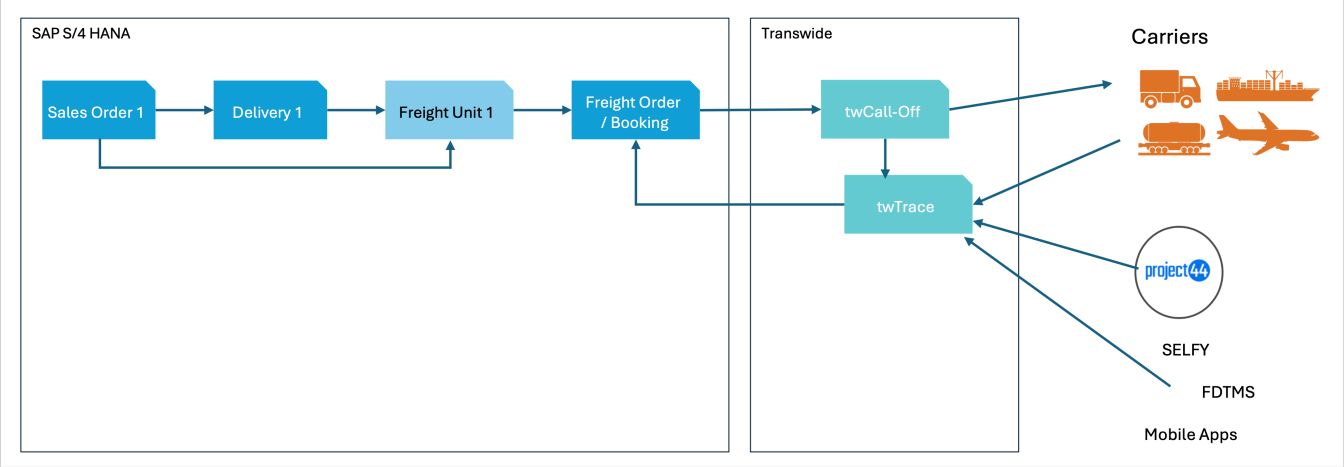
- Tendering
- Carrier Determination
- Slot Scheduling
- Status Tracking
- Exception Management
- Additional Cost and Settlement

Transwide is currently used for road transportation, and in lesser amount for ocean (with BDP), but can be extended to other modes of transport.

Transwide is owned by Alpega and the solution has been renamed to Alpega TMS. Alpega TM is a combination of Inet and Transwide.

When integrating with Transwide, the integration objects will be Freight Order and Freight Booking. Once these documents are created, they are interfaced to Transwide for further processing.

For track and trace functions the design will follow similar design as with BN4L, where Project 44 is integrated with Transwide and Syensqo internal systems also send updates to Transwide where required. From Transwide the updates are propagated to SAP system.



*Note: decision for North America for replacement of BluJay is not taken into account in this KDD. Next to Transwide, E2Open TMS4S will be part of system landscape.

Option C: SAP TM integrated with E2Open TMS4S deployed internationally

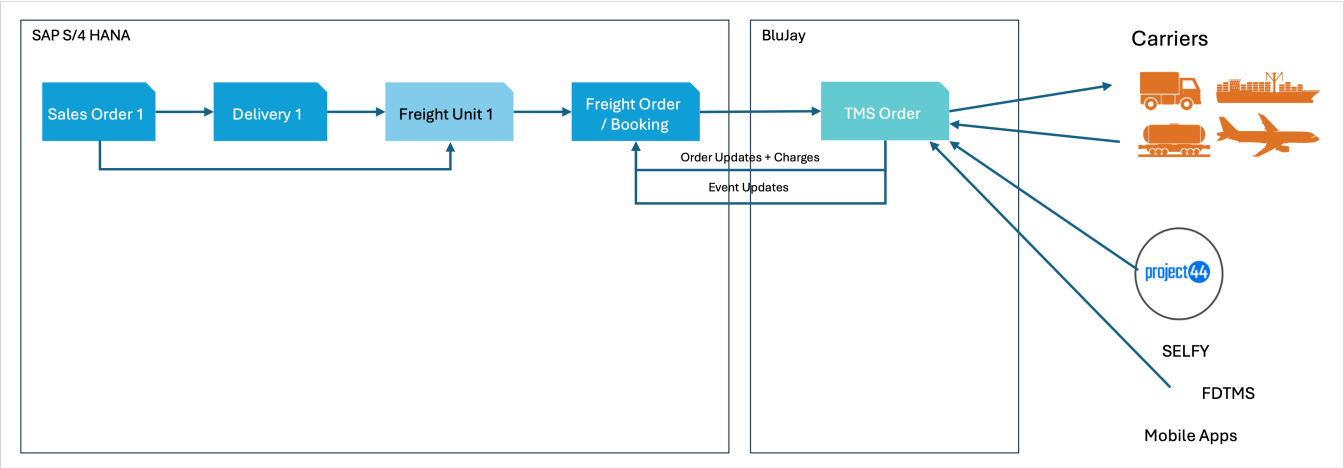
BluJay, which is used in North America, will be replaced by E2Open TMS4S. TM4S is a complete, integrated software solution that manages the entire logistics operation from front to back, handling multiple languages, currencies, and time zones. It allows shippers to manage all multimodal transportation activities for one shipment. TMS4S will be used by most GBUs in North America region.

Features:

- Contracts & tariffs management
- Load optimisation
- Mode and carrier determination
- Electronic booking
- Freight cost calculation (planned & unplanned costs)
- Collaborative status tracking
- Transport reporting (carrier compliance, freight costs, KPIs…)
- Freight audit
- Freight payment

Part of this KDD is to consider if TMS4S is to be deployed globally. In that case Transwide would be replaced and all Freight Orders and Freight Bookings are integrated with TMS4S.

More detail on BluJay and TMS4S is provided in KDD048 - Way Forward with BluJay.



Assumptions

Execution systems can report events to portal
Execution systems owned by Syensqo, like Selfy, FDTMS or other mobile apps, can be integrated with the chosen portal solution. This can be SAP BN4L, Transwide or TMS4S. If this integration is not possible, then it will be considered to integrate these systems directly with SAP TM (this will be custom development). This decision will be taken during detail design.

Project 44
Project 44 will be included in project scope to receive shipment updates from ocean shipping liners.

Carriers can adopt SAP BN4L
With the information provided by SAP, carriers are able to utilise the launchpad online, or they can use API's provided by SAP.

Impacts

Carriers to adopt SAP BN4L

Carriers that are currently not using SAP BN4L will have to use the SAP BN4L Launchpad, or invest in integration using the BN4L API or EDI interfaces.

Preferred carriers
Carriers that are operational on SAP BN4L will be preferred carriers. It might require Syensqo to incentivise carriers adopt SAP BN4L.

User experience

With the use of SAP TM in combination with SAP BN4L, Syensqo users will work only in SAP TM and they can monitor progress of Tendering, Carrier Selection and Execution in the SAP TM system. When other systems are involved then users will need to switch between SAP and third party systems.

Business Rules

Freight charges to be updated in SAP TM
In either solution, freight charges have to be reported back to SAP TM transportation documents. This is to cater for accrual postings. The charges are distributed over the cargo and are posted as accruals in accounting.

Evaluation

Evaluating the functionalities between SAP BN4L and Transwide, there are not many differences. Ocean and Air freight shipments are not supported through Transwide. Since for these mode of transports the only option is to integration through BN4L, the recommendation is to retire Transwide and recognise SAP BN4L as the default global platform for carrier integration.

The E2Open TMS4S solution will be focussed on integration with USA and Canadian road carriers. There is no direct benefit of deploying TMS4S globally. Instead it will lack the benefit of the seamless integration that BN4L can offer.

The recommended option is Option A.

	Option A: SAP TM with BN4L	**Option B: Integrate SAP TM with Transwide**	**Option C: Integrate SAP TM with E2Open TMS4S**
Functionality	⊕ SAP BN4L with GTT has the option track full lifecycle of Sales Orders and Purchase Orders.		
User experience	⊕ Transportation planners can perform all their activities in SAP TM. Status updates from tendering, carrier acceptance, transportation execution and transportation charges are reported back in SAP TM. ⊖ All users will have to learn how to use SAP TM in combination with BN4L.	⊕ / ⊖ Users already familiar with Transwide (EMEA) will adapt easier to this solution. Other users that have not used Transwide before will have to get trained.	⊕ / ⊖ Users already familiar with TMS4S will adapt easier to this solution. Other users that have not used TMS4S before will have to get trained.
Costs	⊕ As SAP TM works standard with SAP BN4L, no integration needs to be built with another TMS solution. ⊖ SAP BN4L has additional license fees.	⊖ If both Transwide and BluJay stay operational, this is likely the most expensive solution.	⊕ As part of KDD048, if BluJay is replaced with TMS4S, then enhancements required for this integration are already scoped.
Risks	⊕ Use of standard SAP solution, with standard interfaces. Reducing risk in implementation and deployment. Also better support from SAP.	⊖ Additional custom integration, which is additional costs and risk in implementation and deployment.	⊕ / ⊖ Additional custom integration, which is additional costs and risk in implementation and deployment. But as part of KDD048 this risk has already been taken.
Network	⊖ Carriers not integrated with SAP BN4L will have to adapt and/or invest in setting up integration with BN4L.	⊕ / ⊖ Carriers that are already integrated with Transwide don't have to transition to a new platform. When deployed to other parts of the world, these carriers will need to adapt to Transwide platform.	⊕ / ⊖ Carriers that are already integrated withTMS4S don't have to transition to a new platform. When deployed to other parts of the world, these carriers will need to adapt to TMS4S platform.

See also

SAP Powerpoint about Business Network for Logistics:

Change log

Version	Published	Changed By	Comment
CURRENT (v. 68)	**Apr 15, 2026 06:47**	**VAN OS-ext, Nico**	
v. 67	Apr 15, 2026 06:38	**VAN OS-ext, Nico**	
v. 66	Apr 13, 2026 13:44	**VAN OS-ext, Nico**	
v. 65	Apr 13, 2026 09:15	**VAN OS-ext, Nico**	
v. 64	Apr 09, 2026 13:49	**VAN OS-ext, Nico**	
v. 63	Apr 09, 2026 12:35	**VAN OS-ext, Nico**	
v. 62	Mar 05, 2026 14:05	**VAN OS-ext, Nico**	

v. 61	Mar 02, 2026 13:33	**VAN OS-ext, Nico**
v. 60	Feb 26, 2026 06:18	**VAN OS-ext, Nico**
v. 59	Feb 26, 2026 04:16	**VAN OS-ext, Nico**

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Workflow history

Title	Last Updated By	Updated	Status
There are no pages at the moment.			

Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

Apr 28, 2026	Actor	Type	Activity	Version
Approved	CHIEW-ext, Yock Sang	State	changed state to Approved at 8:46 am	v68
Pending SteerCo Review	CHIEW-ext, Yock Sang	State	gave *Final Approval* approval at 8:46 am *Approval as attached*	
		State	changed expiry date to '12 May, 2026 08:46 am' at 8:46 am	
		State	changed state to Pending SteerCo Review at 8:46 am	v68
Pending Stakeholder Review	CHIEW-ext, Yock Sang	State	gave *Stakeholder Review* approval at 8:46 am	
		State	changed expiry date to '05 May, 2026 08:45 am' at 8:45 am	
		State	changed state to Pending Stakeholder Review at 8:45 am	v68
Edited following DA Endorsement	CHIEW-ext, Yock Sang	State	gave *Minor change* approval at 8:45 am *Approval from 3 VPs as attached*	
From Apr 09, 2026 to Apr 15, 2026				
	VAN OS-ext, Nico	Edit	updated the page at 1:49 pm	