Agenda

• What is SAP TM for Shippers?
• History of SAP TM
• Basic flow in ECC
• Processes and Capabilities in SAP TM
• Conceptual view of SAP TM
• ECC - TM Integration alternatives
• Other Integrations
• Differences between LE-TRA and SAP TM
• Key Considerations
SAP TM for Shippers

SAP TM has two main uses

1. Manage Transportation Planning and Execution for a shipper, i.e. a producer and/or buyer/seller of goods

2. Manage Transportation Planning and Execution for a transportation service provider, i.e. a company providing transportation services to others (Shipper)

This presentation will focus on the first use.
The History of Transportation in SAP Solutions

• In the beginning, there was SAP LE-TRA…

LE-TRA

Shipping Planning & Optimization

Limitations:
• Capacity Planning and Optimization
• Split of Delivery (Subsequent Delivery Split)
• Mixing of Inbound and Outbound

APO TP/VS

Transportation Planning & Execution

Limitations:
• Split of Delivery
• Mixing of Inbound and Outbound

TM …-7.0

ECC (and EWM/EM/GTS) Integration
New industries and scenarios added

TM 8.0-9.3

Limitations:
• Specific industries (Retail)
Basic flow in ECC

OUTBOUND

- Sales Order
  - Delivery
- Sales Order
  - Delivery
  - Delivery
  - Shipment

INBOUND

- Purchase Order
  - Inbound Delivery
  - Inbound Delivery
- Shipment
  - Shipment
Processes and Capabilities in SAP TM

Order Management
- Capture Transportation Requirements from ERP
- Capture Transportation Requirements manually
- Freight Unit Building

Planning
- Optimizer Based Planning
- Manual Planning
- Freight Tendering
- Freight Procurement & Carrier selection

Execution
- Freight Order / Booking Management, Service Orders
- Load Planning
- Customs integration
- Charge Calculation
- Status Handling & Tracking

Settlement
- Freight Settlement
- FI-CO postings
- Profitability Analysis

Cross Processes
- Track & Trace (Event Management)
- Carrier Integration / Collaboration portal
- Reporting

Master Data
- General Master Data: Organization, Product, Dangerous Goods, Business Partners
- Transportation Network: Locations, Zones, Lanes, Schedules, Routes
- Resources: Vehicles &Trailers, Calendars and Handling Resources, TU’s &Equipment
- Charge Management: Agreements, Calculation Sheet, Rate tables, Charge Types, Scales
Conceptual Process in SAP TM

Order Management

SO/Delivery 1
10 Goods1
20 Goods2
30 Goods3
40 Goods4

FU1
FU2
FU3

SO/Delivery 2
10 Goods1
20 Goods2
30 Goods3
40 Goods4

FU4
FU5
FU6

Planning

DC

Loading Begin
Proof-of-Pickup
Departure
Delay
Unloading End
Proof-of-Delivery

Execution

Freight Order

Loading End
Arrival

Settlement

Integration to MM/FICO

$
Multiple ECC Integration Alternatives

1. TM drives creation of ECC Deliveries based on Transportation Plan

   ECC
   
   Sales Order
   
   Delivery
   
   Shipment
   
   Freight Order
   
   Execute Transportation
   
   Only required if execution is driven or monitored in ERP

   TM
   
   Order Based Transport Req. (OTR)
   
   Build Freight Units
   
   Transportation Planning
   
   Delivery Proposal
   
   Delivery Based Transport Req. (DTR)
   
   Consume Freight Units
   
   Adopt Transport Planning
   
   Delivery Proposal

2. ECC drives creation of Deliveries and TM plans based on these

   ECC
   
   Sales Order
   
   Delivery
   
   Shipment
   
   Freight Order
   
   Execute Transportation
   
   Only required if execution is driven or monitored in ERP

   TM
   
   Delivery Based Transport Req. (DTR)
   
   EWM
   
   ODO
   
   TU
   
   Build Freight Units
   
   Transportation Planning
   
   Freight Order
   
   Execute Transportation
   
   Only required if execution is driven or monitored in ERP
Other SAP Integrations

Supply Chain Execution Platform

- EWM
  - Freight Order <-> TU Integration

- TM
- EM
  - Track & Monitor

ECC

GTS
  - Customs Mgmt
  - Compliance Mgmt
Main differences between LE-TRA in ECC and TM

<table>
<thead>
<tr>
<th>ECC LE-TRA</th>
<th>TM</th>
</tr>
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<tbody>
<tr>
<td>Plans and creates Shipments based on Deliveries (one or many full Deliveries in one Shipment)</td>
<td>Plans and creates Freight Orders based on individual Freight Units</td>
</tr>
<tr>
<td>Shipments normally correspond to the entire transportation from source to destination</td>
<td>A single Freight Unit can be transported via multiple Freight Orders, using different carriers and modes of transport to get from source to destination</td>
</tr>
<tr>
<td>Hard distinction between outbound and inbound shipments</td>
<td>A Freight Order can include Freight Units going both from and to a specific site/plant (location)</td>
</tr>
<tr>
<td>Very basic functionality for carrier selection (defaults based on customer etc)</td>
<td>Advanced functionality for tendering and carrier selection</td>
</tr>
<tr>
<td>Basic functionality for charge calculations and settlement (Shipment/Delivery Costing)</td>
<td>Advanced functionality for Freight Agreements, Charge Calculation and Settlements</td>
</tr>
<tr>
<td>Basic transportation planning. E.g. assignment of deliveries to shipment, route determination etc.</td>
<td>Advanced transportation and route optimization (VSR optimizer)</td>
</tr>
</tbody>
</table>
Key Considerations

- What systems should TM be integrated with
  - Integration via ECC is most straightforward and all flows are based on this
  - EM is tightly integrated with EM (with no need to go via ECC)
- Master Data
  - TM requires a lot of Master Data (just like EWM etc)
  - Products, Business Partners, Locations, Agreements, Rate Tables, …
  - Some can be sent from ECC (CIF) but many must often be maintained in TM
- Order/Delivery Based Transport Requirements (OTR/DTR)
  - Represents the actual demand for transportation coming from ECC
  - Very limited maintainance in TM
  - Forwarding Orders are another type of transportation requirement that are primarily used for Forwarding Companies (not Shippers). These can be created/manitained manually in TM
- Freight Units
  - Freight Units are critical objects in TM for planning and execution
  - ECC plans shipments based on Deliveries while TM plan based on Freight Units
  - E.g. the "biggest unit" with the same source and destination
  - Can be anything from a full shipping container or truck load to a small parcel/single product, depending on industry and specific requirements
  - Will not necessarily correspond to a HU in ECC or EWM
Take-aways about TM

- One of top 3 Transportation Management solutions and rapidly improving*
- Works best integrated with SAP ECC
- Integration based on Inbound/Outbound Deliveries (also SOs, POs and Shipments)
- TM Order Management – creation of transportation requirements (OTR/DTR) and Freight Units (FU).
- TM Planning - finding best way to leverage available resources to fulfill transportation requirements
- TM Execution - control and monitoring of physical transportation, EM integration
- TM Settlements – calculating charges, receiving invoices, MM/FICO integration
- Multiple integration alternatives between ECC and TM
- Also integration with GTS, EWM

* Source: Gartner March 2015
Thank you for listening

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