papiNet® Forest Wood Supply & Bioproducts

Use Case 02

Pulpwood from a terminal to a mill with a train

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2.1 Overview

The Forest Company is supplying pulpwood to a Pulp Mill, which is a production unit of the Forest Company. Wood supply organisation of the Forest Company is selling pulpwood to the Pulp Mill. Selling of wood is left outside of this use case, because it is an internal business process of the Forest Company and papiNet e-documents are usually not used.

The Forest Company is the buyer of the train transport services. Transports are operated by the Carrier. Terminal Operator is responsible for planning of transports including communication with the Carrier and all the operations at the Terminal. The Forest Company sends a **Delivery Instruction** to the Terminal Operator to instruct delivery of pulpwood to the Pulp Mill. The delivery is made from one Terminal with two Supply Points. The Pulp Mill is buying two products. The Terminal Operator accepts to carry out this instruction by responding with a **Business Acceptance**.

Terminal operations and loadings of trains are operated by Terminal Operator. It has own loading machines or alternatively it has a sub-contract with a Loading Operator on loadings of the railcars. Terminal Operator is paid by measured quantities of received wood. Loading Operator is paid by measured quantities of loaded wood (loading to the train).

The Forest Company has its own inventories (= Supply Points) containing different pulpwood products at the Terminal. There can be inventories of several forest companies at the same Terminal. The Forest Company delivers pulpwood from logging areas to the inventories at the Terminal by truck. The deliveries from forest to Terminal are outside of this use case. **Inventory Status** is sent from the Forest Company to the Terminal Operator to inform about the up-to-date quantities of the products in the inventory of the Terminal. Inventory Status has inventory at two Supply Points, both with different Product.

Based on the Inventory Status information the Terminal Operator can do detailed planning of the transports including reservations of the train and railcars. Terminal Operator orders suitable number of railcars from the Carrier for the transport by sending a **LoadTender** document. The Carrier responds to it by sending a confirmation message (**Business Acceptance)** and a **LoadTenderResponse** document with the information about the train and railcars that are booked for the transport. If the Carrier does not support papiNet, no papiNet documents are used for the train booking process.

Terminal Operator sends a **DeliveryPlanning** document to the Forest Company to inform about the planned transports, especially quantities per products and arriving times to the mills. Terminal Operator instructs the loadings by sending a **Delivery Instruction** type LoadingInstruction to the loading machine or Loading Operator. Delivery is made from one Terminal with two Supply Points.

When the train is loaded the loading machine (Loading Operator) sends a **Delivery Message** #1 to the Terminal Operator. The train is loaded with 30 pulpwood log piles from Supply Point 1 with one Product and with 15 pulpwood log piles from Supply Point 2 with another Product. Quantity of loaded wood is measured using a measuring system which is mounted to the loading machine, for example automatic weight scale. Delivery Message #1 is used to inform the quantities per pulpwood log piles and the location of each pile on the train. The message is specified by products and PackageInformation is used for log pile details.

Terminal Operator sends waybill information in **Delivery Message** #2 **type Waybill** to Carrier. Terminal Operator sends **Delivery Message** #3 with references to Delivery Instruction and Delivery Message #2, waybill information including waybill number, to Forest Company (mill reception system) to notify about the arriving train. The Pulp Mill belongs to the mill reception system of the Forest Company, so the information of the arriving delivery is forwarded to the Pulp Mill's wood reception personnel that way.

Forest Company is responsible for mill reception and measuring. The Products are unloaded at the Pulp Mill by machines which normally are operated by a contractor. Payments for the unloading contractor are outside of the use case. The Products are measured either when the train enters the mill gate or during the unloading process, depending on the measuring system used at the mill. Pulpwood is measured by log piles and sorted by quality. The measuring system creates a **Measuring Ticket type ArrivalTicket** including the weighing data of the railcars right after the train has arrived at the mill. The system creates a **Measuring Ticket type MeasuringTicket** after the measurement of the train load has been finished. Both documents are sent to the Forest Company from the Pulp Mill. The Forest Company sends a **Measuring Ticket type InvoiceSpecification** document to the Terminal Operator in order to inform about the received quantities.

Invoicing of transport costs is based on the waybill and the measured loaded quantities in it. The Carrier sends an invoice for the transports either to Terminal Operator or Forest Company depending on the business model and the contracts between the parties. The invoice is normally not a papiNet e-document.

The Terminal Operator sends an **Invoice** to Forest Company for the loading and other operations at the terminal. If the Carrier invoices Terminal Operator for the freight, Terminal Operator adds freight costs to the Invoice which it sends to Forest Company. It also can send separate Invoices for freight costs, loadings and other operations.

It is recommended to use papiNet e-document **Business Acknowledgement** as a system acknowledgement for all received papiNet e-documents. Business Acknowledgement confirms if the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

papiNet e-documents are recommended to be wrapped into the **papiNet Envelope** before they are sent. The xml-file, i.e. the payload, that is sent to the receiving partner consists of the papiNet Envelope and the e-document. Routing and processing of e-documents are much easier to implement in a consistent way by using the papiNet Envelope. Attachments to the e-document can also be wrapped and sent in the papiNet Envelope. Additional transmission envelopes can be used by the message service when transmitting the message.

2.2   Delivery Instruction Forest Company

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Forest Company sends a Delivery Instruction to the Terminal Operator to instruct delivery of pulpwood from a Terminal to the Pulp Mill.

Scope: 1 Terminal with 2 supply points, 1 ShipTo taking 2 products, 1 sequence ShipTo.
XML-file: UC02_2.2_DeliveryInstruction_yyyy-mm-dd.xml

2.3   Business Acceptance

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Forest Company sends a Delivery Instruction to the Terminal Operator to instruct delivery of pulpwood from a Terminal to the Pulp Mill. The Terminal Operator accepts to carry out this instruction by responding with a Business Acceptance.

Scope: Acceptance of the Delivery Instruction.
XML-file: UC02_2.3_BusinessAcceptance_yyyy-mm-dd.xml

2.4   Inventory Status

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Forest Company sends an Inventory Status to the Terminal Operator to inform about inventory at supply points of the Terminal.

Scope: 1 Terminal with 2 Supply Points, Supply Point 1 with one Product (line item 1) and Supply Point 2 with another Product (line item 2)

XML-file: UC02_2.4_InventoryStatus_yyyy-mm-dd.xml

2.5   Delivery Planning

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Terminal Operator sends a Delivery Planning to the Forest Company to inform about the planned transports, especially quantities per products and arriving times at the mills. The Delivery Planning can be made on monthly or weekly basis or it can inform a specific delivery only.

Scope: The delivery by train from 1 Terminal with 2 supply points

XML-file: UC02_2.5_DeliveryPlanning _yyyy-mm-dd.xml

2.6   Load Tender

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Carrier is responsible for the train transports from the Terminal to the Pulp Mill. The Terminal Operator sends a Load Tender to the Carrier to book a train and railcars for the planned transport.

Scope: The booking of a train and sufficient number of railcars for the delivery from the Terminal to the Pulp Mill

XML-file: UC02_2.6_LoadTender _yyyy-mm-dd.xml

2.7   Load Tender Response

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Carrier is responsible for the train transports from the Terminal to the Pulp Mill. The Carrier sends a Load Tender Response to the Terminal Operator to notify the booking of a train and railcars for the planned transport.

Scope: The booking of a train and sufficient number of railcars for the delivery from the Terminal to the Pulp Mill

XML-file: UC02_2.7_LoadTenderResponse _yyyy-mm-dd.xml

2.8   Delivery Instruction Terminal Operator

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Terminal Operator sends a Delivery Instruction to the loading machine or Loading Operator to instruct loading of pulpwood from Terminal Supply Points to the train.

Scope: 1 Terminal with 2 supply points, 1 ShipTo taking 2 products, 1 sequence ShipTo

XML-file: UC02_2.8_DeliveryInstruction_Terminal_Operator_yyyy-mm-dd.xml

2.9   Delivery Message # 1 Loading Machine (Loading Operator)

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The loading machine (Loading Operator) sends a Delivery Message to the Terminal Operator when the train is loaded at the terminal.

Scope: The train is loaded with two products from two supply points at the terminal.

XML-file: UC02_2.9_DeliveryMessage_LoadingMachine_yyyy-mm-dd.xml

2.10 Delivery Message # 2 type Waybill Terminal Operator

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Terminal Operator sends a Delivery Message type Waybill to the Carrier when the train is loaded at the terminal to inform the loadings of the railcars with waybill number and railcar identifiers.

Scope: The train is loaded with two products from two supply points at the terminal.

XML-file: UC02_2.10_DeliveryMessage_Waybill_Terminal_Operator_yyyy-mm-dd.xml

2.11 Delivery Message # 3 Terminal Operator

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Terminal Operator sends a Delivery Message to the Forest Company when the train is loaded at the terminal to notify about an arriving train. The information is forwarded to the millgate.

Scope: The train is loaded with two products from two supply points at the terminal.

XML-file: UC02_2.11_DeliveryMessage_Terminal_Operator_yyyy-mm-dd.xml

2.12 Measuring Ticket # 1 Pulp Mill

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Pulp Mill (or the mill reception system of the Forest Company) sends a Measuring Ticket type ArrivalTicket to the Forest Company when the train has arrived at the mill.

Scope: The delivery contains two products from one train. The received pulpwood is partly measured e.g. by weighing the loads of the railcars. Information about the arrival of the train is sent to Forest Company.

XML-file: UC02_2.12_MeasuringTicket_1_Pulp_Mill_yyyy-mm-dd.xml

2.13 Measuring Ticket # 2 Pulp Mill

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Pulp Mill (or the mill reception system of the Forest Company) sends a Measuring Ticket type MeasuringTicket to the Forest Company when the measurement of the delivery is finished.

Scope: The delivery contains two products from one train. Measured pulpwood is sorted and grouped into specific products depending on the quality of the wood.

XML-file: UC02_2.13_MeasuringTicket_2_Pulp_Mill_yyyy-mm-dd.xml

2.14 Measuring Ticket # 3 Forest Company

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. The Forest Company sends a Measuring Ticket type InvoiceSpecification to the Terminal Operator to notify about the received quantities when the delivery is measured. The information is used to prepare the Invoice from the Terminal Operator to the Forest Company.

Scope: The delivery contains two products from one train. Measured pulpwood is sorted and grouped into specific products depending on the quality of the wood.

XML-file: UC02_2.14_MeasuringTicket_3_Forest_Company_yyyy-mm-dd.xml

2.15 Invoice Logistics

The Forest Company is supplying pulpwood to a Pulp Mill, which belongs to the Forest Company. The Forest Company is the buyer of the transport services. Billing of transport costs are based on measured received quantities. The Terminal Operator sends an Invoice to the Forest Company for payment of the loading and/or transport costs.

Scope1: The Terminal Operator sends a logistics invoice for one train load identified by the ShipmentStatusNumber, DeliveryMessageNumber and waybill number. Freight cost from the Carrier, loading, loading waiting time and possible other terminal operations are invoiced.

Scope2: The Terminal Operator sends a logistics invoice for one train load identified by the ShipmentStatusNumber, DeliveryMessageNumber and waybill number. Loading, loading waiting time and possible other terminal operations are invoiced.

XML-file: UC02_2.15_Invoice_Logistics_yyyy-mm-dd.xml

2.16 Business Acknowledgement

It is recommended to use papiNet e-document Business Acknowledgement as a system acknowledgement for all received papiNet e-documents. Business Acknowledgement confirms if the e-document has been received, validated OK and stored into the receiving system database or if there are any errors in the e-document causing processing errors.

Scope: The Terminal Operator sends an Invoice to the Forest Company for payment of the transport and loading costs. The Forest Company confirms that the Invoice has been received without errors by responding with a Business Acknowledgement.

XML-file: UC02_2.16_BusinessAcknowledgement_yyyy-mm-dd.xml

2.17 papiNet Envelope

papiNet e-documents are recommended to be wrapped into the papiNet Envelope before they are sent. The xml-file, i.e. the payload, that is sent to the receiving partner consists of the papiNet Envelope and the e-document. Routing and processing of e-documents are much easier to implement in a consistent way by using the papiNet Envelope. Attachments to the e-document can also be wrapped and sent in the papiNet Envelope. Additional transmission envelopes can be used by the message service when transmitting the message.

Scope: The Terminal Operator sends an Invoice to the Forest Company for payment of the transport and loading costs. The Forest Company has outsourced their IT Services to an IT Company. The receiver of the transmitted message is the IT Company, i.e. the Transmission Receiver in the papiNet Envelope. The Receiver Party in the Invoice e-document is the Forest Company.

XML-file: UC02_2.17_papiNetEnvelope_yyyy-mm-dd.xml