

IBM – JDA Integration

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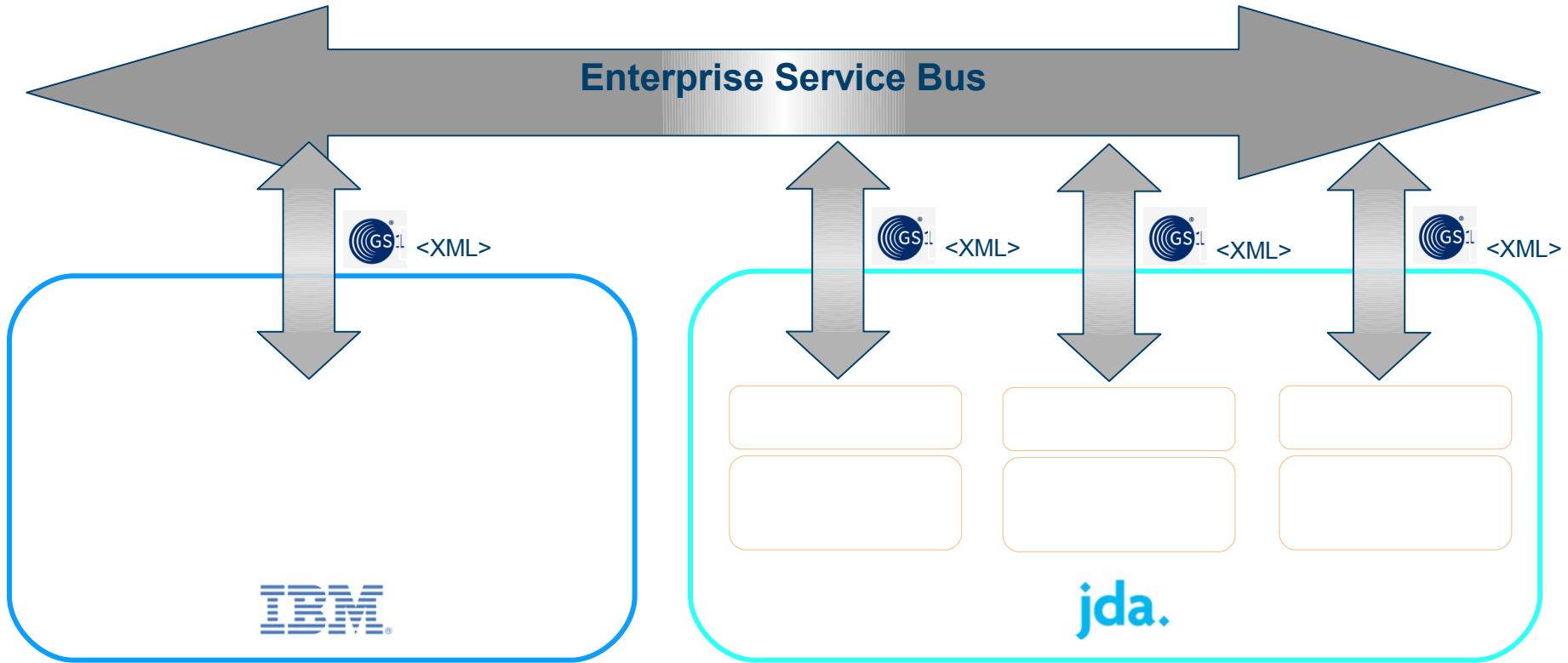
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Agenda

- **Architecture Overview**
- **Scenarios support in Phase 1**
- **Implementation Details**
- **Components and Extensibility**
- **Availability**

Architecture Overview

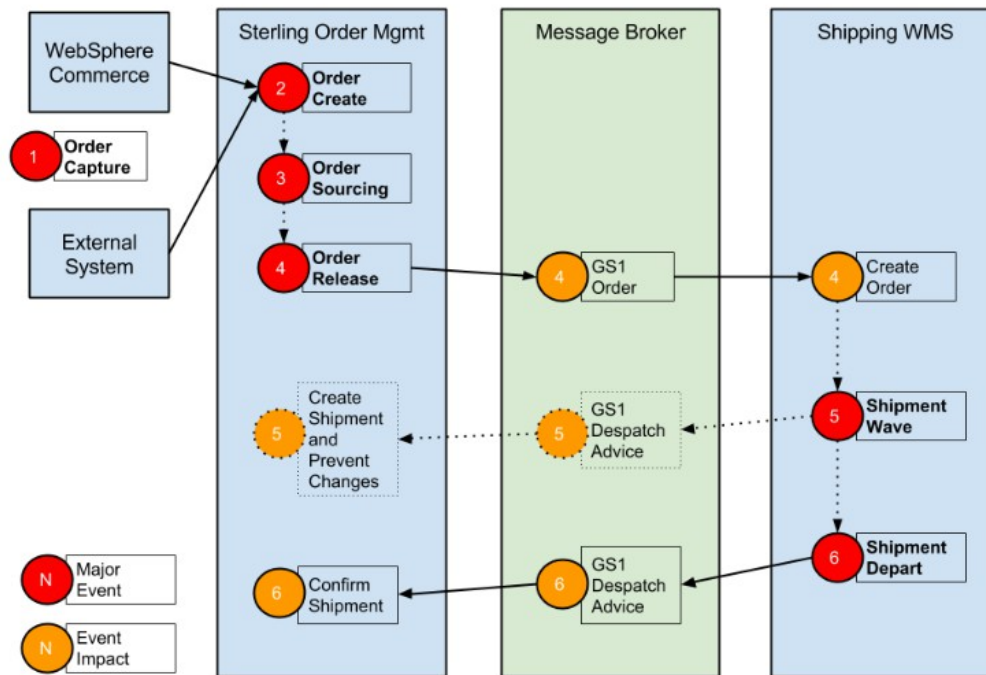


Architecture Overview (Cont.)

- **IBM Sterling Order Management (OMS): Order Management, Order Fulfillment, Global Inventory Visibility**
- **Enterprise Service Bus: Routes messages between the Applications**
- **JDA Demand: Generates a Forecast of Item Demand**
- **JDA Warehouse Management (WMS): Supports the operations of Warehouse Locations**
- **JDA Transportation Management (TMS): Plans and Executes the transportation of Shipments**
- **GS1: Industry messaging standard for industries such as Retails, Transportation and Logistics.**
 - **Reference: www.gs1.org**

Integration Scenario 1:

Customer Order Ship via Parcel from a Warehouse



1. Order Capture: WSC, OMS or other System captures the Customer Order.

2. Order Create: Order is created in OMS

3. Order Sourcing: OMS sources the Order and determines that Parcel is Shipping Method. This creates Order Releases in OMS.

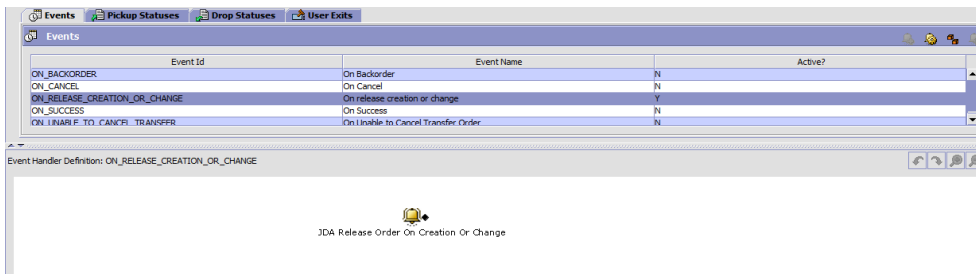
4. Order Release: OMS publishes the Order Release to MB as GS1 Order. MB delivers the message to the Shipping WMS instance to create a WMS Order. Later the Shipping WMS creates a Shipment for the Parcel Order

5. Shipment Wave: Shipping WMS allocates the Shipment. Shipping WMS prepares the Parcel Shipment (pick, pack, labels, etc)

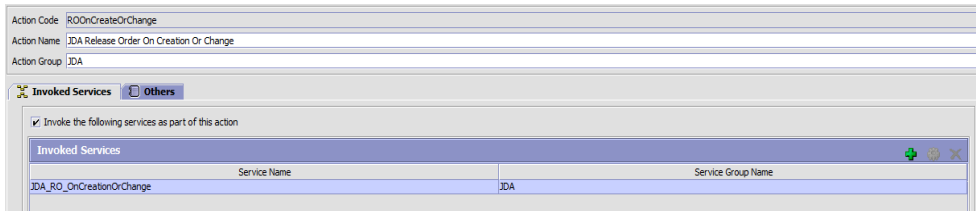
6. Shipment Depart: Shipping WMS publishes Parcel Shipment details of Parcel Shipment to MB as a GS1 DespatchAdvice. MB delivers the message to OMS with Parcel Shipment details (Tracking numbers, containers, etc). OMS will confirm the Shipment.

Event

The “**ON_RELEASE_CREATION_OR_CHANGE**” event on the ReleaseOrder transaction is enabled to invoke the “JDA Release Order On Creation Or Change action”



The action invokes the “**JDA_RO_OnCreationOrChange**” service



Integration Services

JDA_RO_OnCreationOrChange Service Definition:

Properties: JMS Sender

Runtime	Header	Reconnect	Jms Security Properties
Destination Name	\${jda.integration.apis.releaseOrder.event.queue}		Time To Live (seconds) 0
Provider URL	\${jda.integration.providerurl}		Initial Context Factory WebSphere
Connection Factory	\${jda.integration.apis.export.qcf}		<input checked="" type="radio"/> Persistent <input type="radio"/> Non Persistent
<input type="checkbox"/> Needs Compression		<input checked="" type="checkbox"/> Commit of this message depends on parent transaction	
<input type="checkbox"/> Enable JMS Security			

JDA_RO_OnCreationOrChange_Internal Service Definition:

Properties: API

General	Arguments	Template	Facts
<input type="radio"/> Standard API <input checked="" type="radio"/> Extended API <input type="radio"/> Extended Database API			
API Name	ValueMapXSLTranslator		
Class Name	com.yantra.jda.business.integration.IDAXisProcessor	Method Name	transform
<input type="checkbox"/> Requires Backward Compatibility		Version	

Component and Extensibility

InvokeService Component:

- Entry point to the OOB service
- Use for inbound and outbound communications
- Accepts **serviceName** and **extensionClass** arguments
- Custom logic can be implemented via extensionClass argument

```
public interface JDAIntegrationServiceAPICallback {  
  
    public void beforeServiceCall(YFSEEnvironment env, String serviceName, Document  
input);  
    public void afterServiceCall(YFSEEnvironment env, String serviceName, Document  
output);  
  
}
```

Properties: API

General Arguments Template Facts

Standard API Extended API Extended Database API

API Name

Class Name Method Name

Requires Backward Compatibility Version

Component and Extensibility

ValueMapXSLT Translator Component:

- Use for translating request from JDA to OMS compliant input xml and vice versa.
- Take 3 parameters:
 - xslFileName – XSL file that will be used for translation
 - valueMapFileName - the name of mapping file which will be used for compliant conversion by component
 - extensionClass.- extension class for any custom logic prior or after the input XML translation.

```
public interface JDAXSLTCallback {
```

```
    public Document beforeXSLTCall(YFSEEnvironment env, Document input);
    public Document afterXSLTCall(YFSEEnvironment env, Document output);
```

```
}
```

Properties: API

General Arguments Template Facts

Standard API Extended API Extended Database API

API Name

Class Name Method Name

Requires Backward Compatibility Version

Properties: API

General Arguments Template Facts

System Arguments

Argument Name	Argument Value
xslFile	template/xsl/jda/ReleaseOrderOnCreationOrChange.xsl
valueMapXML	\${jda.value.mapping.file}
extensionclass	com.sterling.jda.extension.Extensionclass

```

<?xml version="1.0" encoding="UTF-8"?>
<order:orderMessage xmlns:order="urn:gs1:ecom:order:xsd:3"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <StandardBusinessDocumentHeader>
    <HeaderVersion>1.0</HeaderVersion>
    <Sender>
      <Identifier Authority="JDA">IBM</Identifier>
    </Sender>
    <Receiver>
      <Identifier Authority="JDA">JDA</Identifier>
    </Receiver>
    <DocumentIdentification>
      <Standard>GS1</Standard>
      <TypeVersion>3.2</TypeVersion>
      <Type>Order</Type>
      <CreationDateAndTime>2015-03-28T00:33:53Z</CreationDateAndTime>
    </DocumentIdentification>
  </StandardBusinessDocumentHeader>
  <Order>
    <creationDateTime>2015-03-28T01:51:32-04:00</creationDateTime>
    <orderIdentification>
      <entityIdentification>2015032801513220010</entityIdentification>
    </orderIdentification>
    <seller>
      <additionalPartyIdentification>JDA</additionalPartyIdentification>
    </seller>
    <buyer>
      <additionalPartyIdentification/>
    </buyer>
    <orderLogisticalInformation>
      <shipFrom>
        <additionalPartyIdentification>JDA_Node1</additionalPartyIdentification>
      </shipFrom>
      <shipmentTransportationInformation>
        <transportServiceLevelCode>JDA Regular Delivery</transportServiceLevelCode>
      </shipmentTransportationInformation>
      <billTo>
        <address>
          <name>Barack Obama</name>
          <streetAddressOne>1600 Pennsylvania Ave</streetAddressOne>
          <streetAddressTwo>

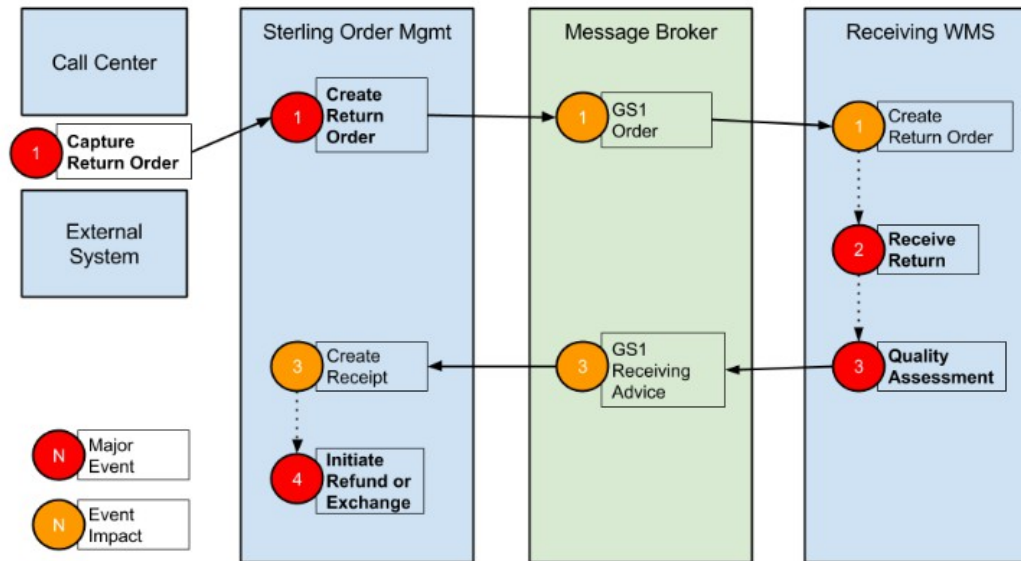
```

```
<contact>
  <jobTitle/>
  <communicationChannel>
    <communicationChannelCode>TELEPHONE</communicationChannelCode>
    <communicationValue>5081001000</communicationValue>
    <communicationChannelCode>EMAIL</communicationChannelCode>
    <communicationValue>obama@gmail.com</communicationValue>
    <communicationChannelCode>TELEFAX</communicationChannelCode>
    <communicationValue>5082002000</communicationValue>
  </communicationChannel>
</contact>
</billTo>
<shipTo>
  <address>
    <name>Francis Underwood</name>
    <streetAddressOne>8 Main Street</streetAddressOne>
    <streetAddressTwo/>
    <streetAddressThree/>
    <city>Littleton</city>
    <state>MA</state>
    <postalCode>01460</postalCode>
    <countryCode>US</countryCode>
    <geographicalCoordinates>
      <latitude/>
      <longitude/>
    </geographicalCoordinates>
  </address>
  <additionalPartyIdentification/>
  <contact>
    <jobTitle/>
    <communicationChannel>
      <communicationChannelCode>TELEPHONE</communicationChannelCode>
      <communicationValue>9781893456</communicationValue>
      <communicationChannelCode>EMAIL</communicationChannelCode>
      <communicationValue>francisU@gmail.com</communicationValue>
      <communicationChannelCode>TELEFAX</communicationChannelCode>
      <communicationValue>9782341234</communicationValue>
    </communicationChannel>
  </contact>
</shipTo>
```

```
<orderLineItem>
  <orderLineItemDetail>
    <orderLogisticalDateInformation>
      <requestedShipDateTime>
        <date>2015-03-29+0000</date>
        <time>04:00:00</time>
      </requestedShipDateTime>
      <requestedDeliveryDateTime>
        <date>2015-03-29+0000</date>
        <time>04:00:00</time>
      </requestedDeliveryDateTime>
    </orderLogisticalDateInformation>
  </orderLineItemDetail>
  <shipmentTransportationInformation>
    <carrier>
      <additionalPartyIdentification>JDA-USPS</additionalPartyIdentification>
    </carrier>
  </shipmentTransportationInformation>
  <lineItemNumber>2</lineItemNumber>
  <transactionalTradeItem>
    <additionalTradeItemIdentification>OfficeChair1</additionalTradeItemIdentification>
  </transactionalTradeItem>
  <requestedQuantity>2.00</requestedQuantity>
  <itemPriceBaseQuantity>100.00</itemPriceBaseQuantity>
</orderLineItem>
</Order>
</order:orderMessage>
```

Integration Scenario 2:

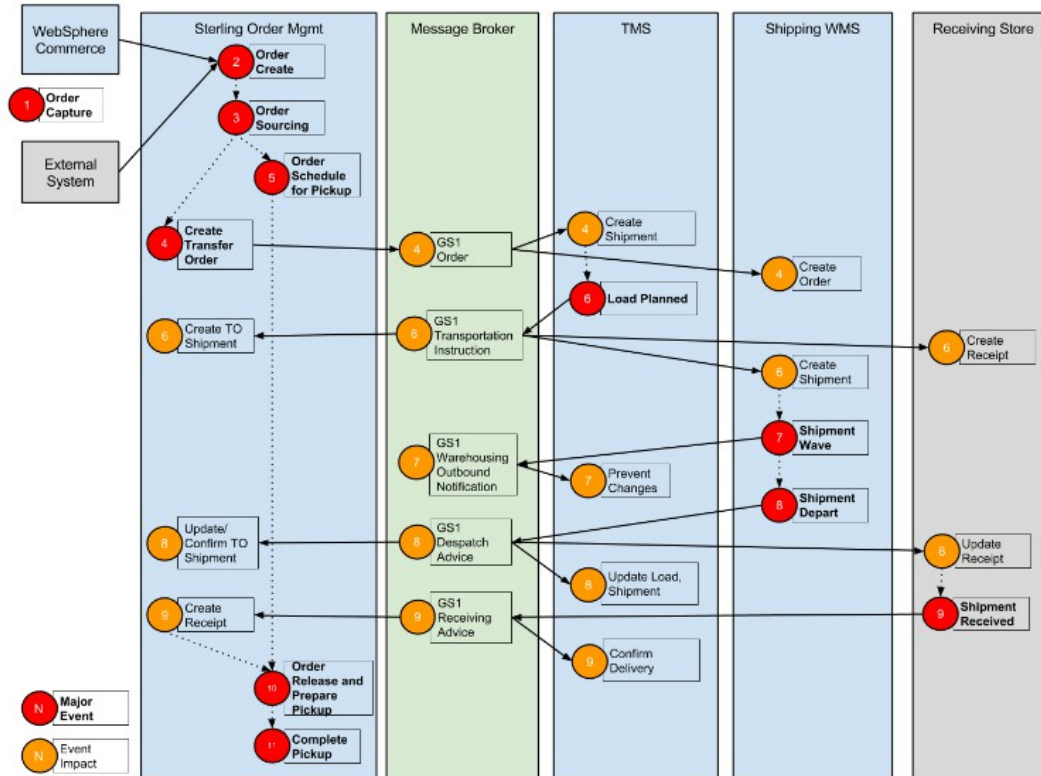
Customer Order Return with Authorization



- 1. Create Return Order:** Return Order is created within Sterling OMS, or Call Center or an External System. OMS publishes the expected Return Order to MB as a GS1 Order. MB sends the message to the expected Receiving WMS as expected Return Order.
- 2. Receive Return:** Items are received at the WMS. No message is published to the MB at this step.
- 3. Quality Assessment:** Items are assessed for quality at the WMS. Details of assessment are sent to MB as a GS1 Receiving Advice. MB sends message to OMS to create and close a Receipt against the Return Order.
- 4. Initiate Refund or Exchange:** OMS initiates the Refund and/or Exchange process.

Integration Scenario 3:

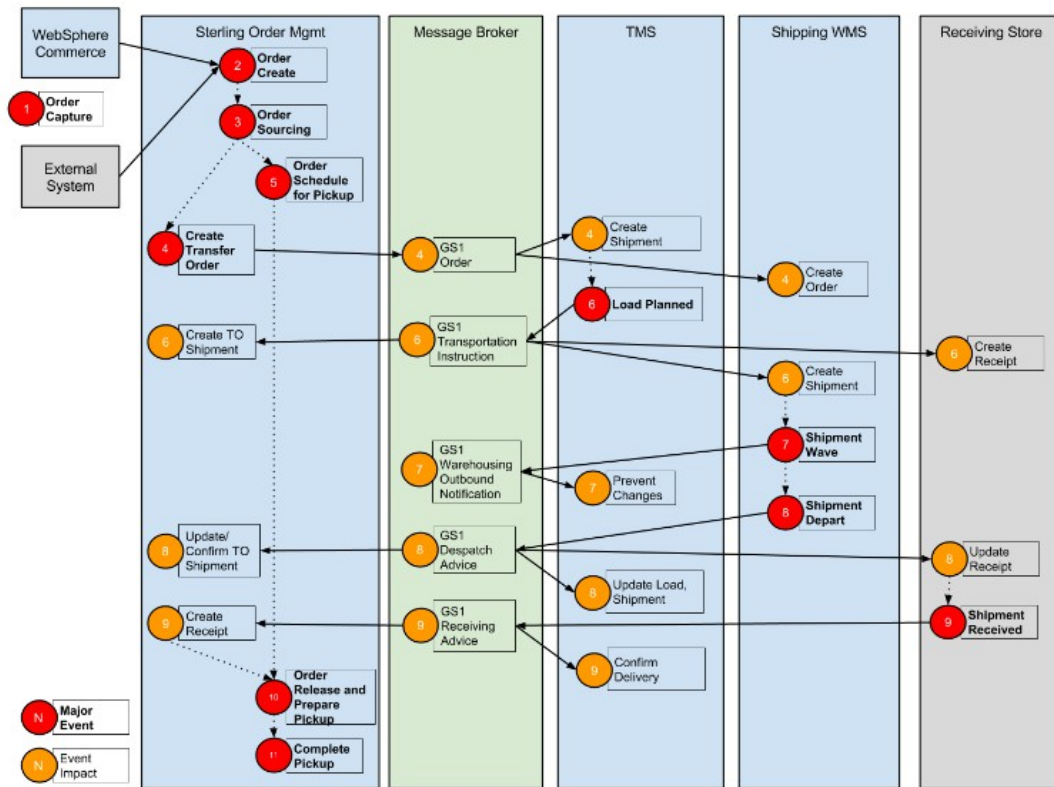
Customer Pickup Order fulfilled with Transfer Order



1. **Order Capture:** WSC, OMS or other System captures the Customer Order for In Store Pickup
2. **Order Create:** Order is created in OMS
3. **Order Sourcing:** OMS sources the Customer Order and determines that In Store Pickup is required, but inventory needs to be transferred from a DC to support the pickup.
4. **Create Transfer Order:** Transfer Order is published to the MB by OMS as a GS1 Order for execution. MB delivers the message to TMS to create a TMS Shipment. MB delivers the message to the Shipping WMS to create a WMS Order.
6. **Load Planned:** TMS creates and tenders a Load to transport the Transfer Order Shipment. TMS publishes the GS1 Transportation Instruction (Load Plan) to MB. MB delivers this message to the Shipping WMS to create a Carrier Move and Shipment. MB also delivers the message to OMS to create a Shipment for the TO.

Integration Scenario 3:

Customer Pickup Order fulfilled with Transfer Order (Cont.)



7. Shipment Wave: Shipping WMS allocates the Shipment and publishes Wave message to MB as a GS1 Dispatch Advice. MB forwards this message to TMS to indicate the Load Plan should not be modified.-Shipping WMS prepares the Shipment (pick, pack, etc)

8. Shipment Depart: Shipping WMS publishes Shipment details to MB as GS1 Dispatch Advice. MB delivers the message to the Receiving Store to update the expected Receipt details. MB delivers the message to the OMS and TMS with the updated Shipment details (Trailer number, etc) to confirm the shipment.

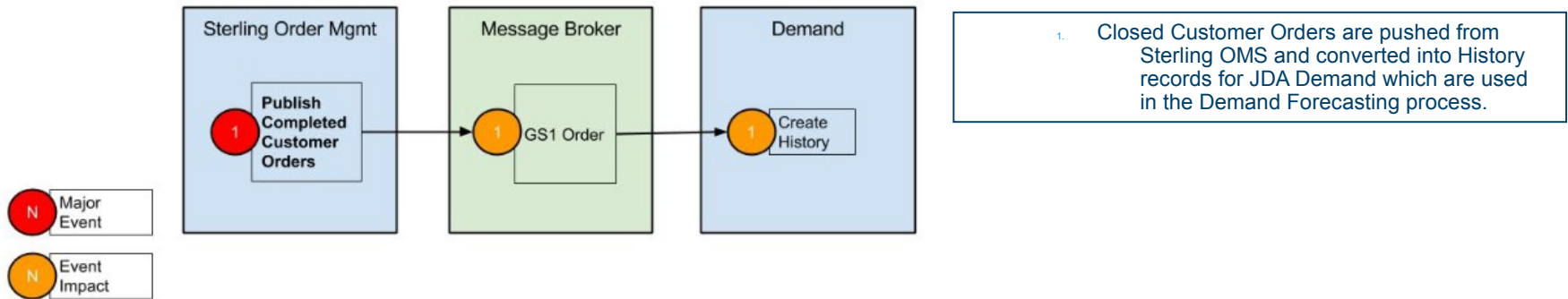
9. Shipment Received: Receiving Store receives the Shipment, the details are published to MB as a GS1 Receiving Advice. MB delivers the message to the OMS to create a receipt against the TO Shipment. MB delivers the message to TMS to confirm Delivery.

10. Prepare Pickup or Shipment: Now that the inventory is available at the Store, the Order Release for Store Pickup is created. Sterling Store prepares the Pickup.

11. Complete Pickup or Shipment: Sterling Store marks the Pickup as complete

Integration Scenario 4:

Customer Order Sync from OMS to Demand



Availability

- Available as part of IBM Sterling OMS version 9.4 FP 4
- JDA version 9.0
- Documentation is available on the Knowledge Center
http://www.ibm.com/support/knowledgecenter/SS6PEW_9.4.0/com.ibm.help.integ.94or

Thank You

