ARTS®
NRF's RETAIL
TECHNOLOGY
STANDARDS
DIVISION

ARTS POSLog V6.0

Volume 24: Retail Transaction Interface Technical Specification

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1. Abstract

1.1 Overview

The ARTS XML Retail Transaction Interface (RTI) is a comprehensive set of XML message specifications for creating, populating, and completing retail transactions that reduces the time and cost of integration to retail transaction functions.

RTI and the service behind it, provided by the POS application, together provide a SOA Composite Service. RTI with the service behind it is consistent with the Retail Transaction Service identified by the ARTS SOA Blueprint for Retail, and the interface definition follows the SOA Service Interface definition recommendations laid out by the ARTS SOA Best Practices for Retail.

Use of this standard enables retailers to leverage POS retail transaction business logic, now also available as a Service, for multiple user touch points such as kiosks, self-checkout, and handhelds. The RTI is consistent with the ARTS XML common data library, with the business uses cases specified in the Use Case Summary section of the ARTS XML Retail Transaction Interface Charter, and the ARTS XML POSLog schema.

The figure below depicts the RTI being used with a POS system to support multiple touch points.

Error! Objects cannot be created from editing field codes.

Figure 1: RTI Overview

RTI is only service interface that an application may employ for a customer touch point solution. Other services that re-use existing POS logic may also be needed to complete the solution as illustrated in the figure below. In this example, a self check out touch point is depicted and in addition to selling items, the self checkout kiosk will need tender control – pickups, etc…, as would a regular check out lane. This functionality would be handled through a tender control service interfacing with the existing POS application. The self checkout solution would also need a service, such as WSPOS, to interact with devices in order to handle such requests as a “printer out of paper” message.

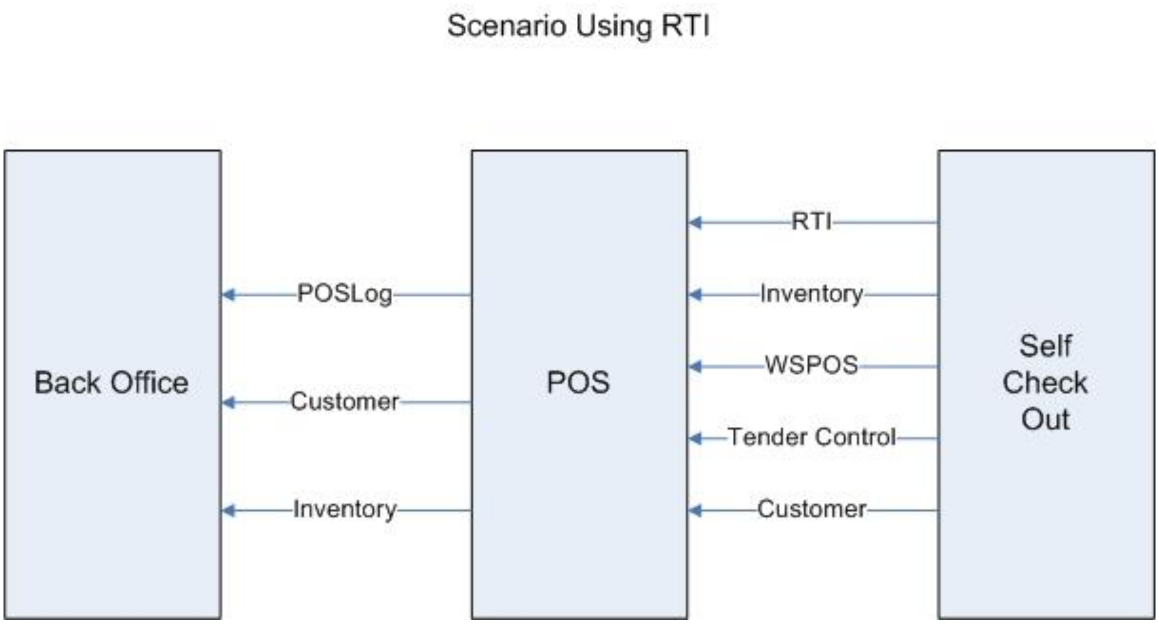
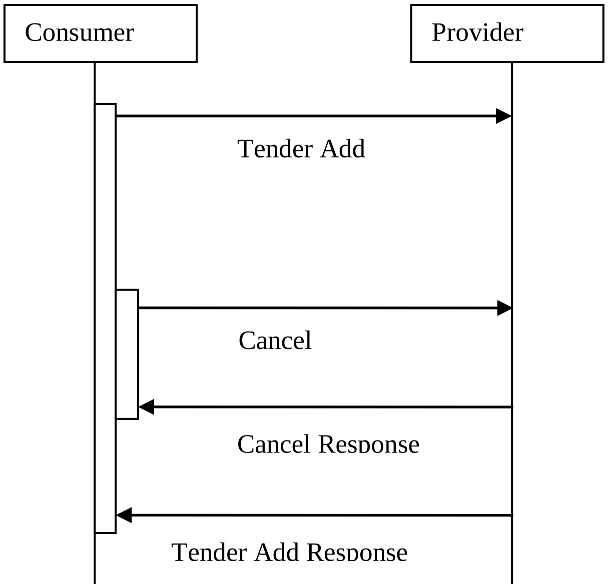


Figure 2 RTI Usage Scenario

1.2 RTI Usage Specifics

For version 1 of RTI, all messages will be **synchronous** request and response pairs. There are no use cases dealing with asynchronous events. Nonetheless, the service consumer needs a means to interrupt requests, whose execution takes too long on the service provider's end. Or, to the same result, the user might want to interrupt a request, which was previously issued, yet shall not complete.

To enable such use, a **second synchronization group** was introduced. In the first version of RTI it contains exactly one request method: cancel. The use of cancel, again, is strictly synchronous: once the service consumer requests cancel, the service provider must respond to that request and then respond to the preceding request with an appropriate return value. More specifically, the response to both cancel and the preceding request should be issued immediately. If there is no preceding unanswered request, of course, only cancel is responded to. Please see related use cases for more information on conformance.



A service implementation behind RTI is **stateful**. It means that the service keeps client interaction context between client requests. This client interaction context is often referred to as the service or application state. A stateful service usually implies a multi-step conversation (also called a session) since there would be no reason to preserve the state for single step interactions.

It is often the case that not all client requests make sense at all stages of the conversation. Moreover, there is a certain business flow that describes the behavior of the service as the conversation moves from one stage to another. To model such systems, designers often use a concept of a state machine.

It is important to note that the state of the state machine is different from the application state discussed above. The concept of the state machine state describes a certain stage of the business process implemented by an application. The concept of the application state describes the whole context (values of all the significant variables) of the application. Thus, the state of the state machine is also a part of the application state.

Each state determines what inputs (client requests) can be processed at a particular stage of the conversation. When a valid request is received, it is processed by the service which may also trigger a change of state (also called a transition). After the transition is complete, the service is ready to accept new client requests that are valid in the new state. Usually a service can process only one request from the same client at a time.

Different implementations of the service behind RTI would have different state diagrams. In other words, a state diagram describes a particular service implementation and as such cannot be included in this specification. This means that RTI imposes no limitation of which particular requests can be sent to the service at any particular stage. If a method is invoked at a stage of the conversation where it is not valid, the service should return the illegal operation error.

In the conformance XML, “**Customer Order**” is used here in RTI since it comes from the ARTS data model and we want to be consistent with that. The term was introduced into POSLog V2.2.

1.3 RTI SOA Schemas

RTS Coupon Add

RTS Coupon Tender

RTS Customer Add

RTS Data Add

RTS Line Item Add

RTS Line Item Cancel

RTS Line Item Return

RTS Request Cancel

RTS Tender Add

RTS Transaction Begin

RTS Transaction Cancel

RTS Transaction Finished

RTS Transaction Items Add

RTS Transaction Resume

RTS transaction Status Request

RTS Transaction Suspend

RTS Transaction Total

1.4 In Scope

The scope of version 1 is limited to sales transaction scenarios and will support business domains or integration scenarios such as, but not limited to, the following:

- Self checkout
- Personal shopping device
- Line busting
- Pay at the fuel pump
- Multi-channel sales (e.g., reserve on the web, buy in the store)
- Kiosks (e.g., payment, photo printing)
- Traditional POS
- Call center
- Web ordering

The following points provide additional clarification on the bounds of this standard:

- Response codes that are unique to the underlying implementations will be generalized at a high level and the details will be pass-through supporting data (see response common data)

- The data required for the receipt is part of the interface however the formatted receipt is not. In other words, formatting information is not provided as part of the interface.
- The interactive request/response scenarios are clearly in scope and a required to support several of the business scenarios (e.g., personal shopping self checkout, line busting.)
- As events are identified, NEAR events will be defined.

1.5 Out of Scope

The following points are not in scope of this standard and are not meant to be an exhaustive list.

- This interface is not intended to be used to perform functions that are already addressed in other ARTS XML schemas (e.g., basket price, customer information, price check).
- Non sales transactions such as inventory control, cash management, etc. are not part of this standard.
- Several of the integration scenarios defined above involves real POS devices. The solutions often require the use of the same devices used by the traditional POS in the new touch points. This standard does not address the sharing or management of these devices. It only addresses business data associated with these devices.

The UI is out of scope.

This work group will be providing service interface XML only and not traditional ARTS XML messaging for the first version of RTI.

Future Versions

2. Referenced Documents

- **ARTS Technical Committees Development Process V6.0.4 2009/11/30**
- **ARTS XML Best Practices V2.2 2010/11/11**
- **ARTS Best Practice for Process Modeling V1.0.0 2011/01/04**
- **A RTS SOA Best Practices Technical Report V1.2**
- **ARTS XML Interface Conformance Tool Manual V1.0 2005/08/11**

These documents are available for download from http://nrf.com

3. ARTS Common Header

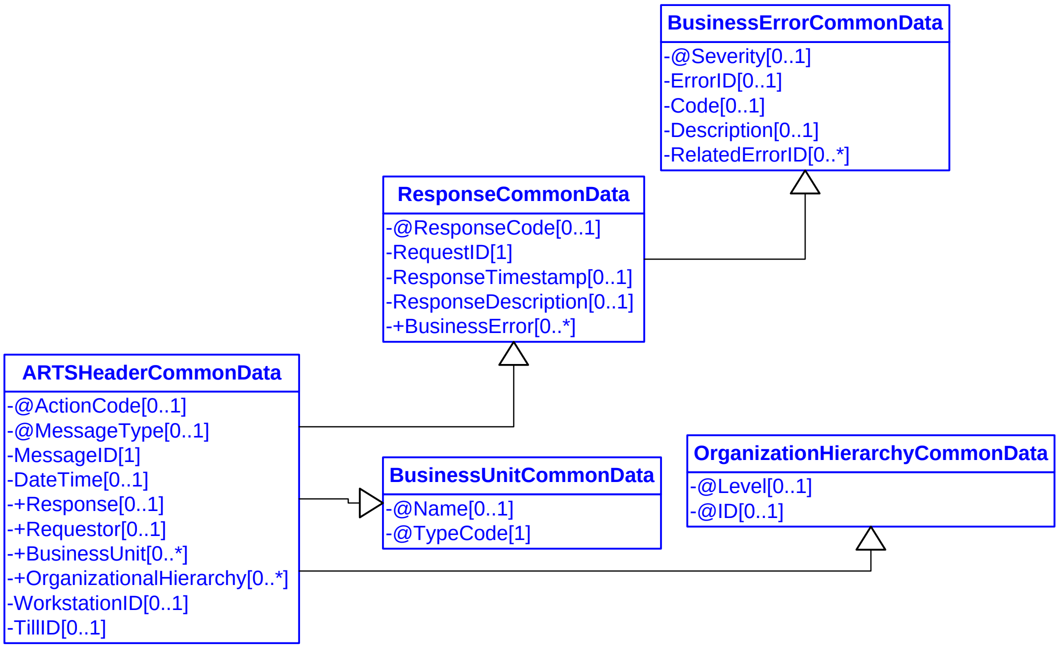


Figure 3: ARTS Common Header Domain View

The ARTS common header is used in all service name schemas. It provides the ability to set session level information and return business error information in one standard format to all SOA implementations.

ARTS Common Header

Figure 4: ARTS Common Header Representation

Since this structure is common to all service name schemas, it will not be replicated below. In place of the details, the attached box will be used to represent this complex type structure.

4. Service Name: RTSTransactionBegin

Brief Description

A transaction is started to begin ringing up customer purchases or return items.

Since RTI is stateful, the begin transaction is used to setup session information for the entire transaction, for example the retail store and workstation.

The RTI service can deal with multiple clients and therefore it needs the ability to manage its transaction numbers. This leads to the sequence number (transaction number) to being setup by the service during the begin operation.

NOTE: session information needs to also be reported to the client when a query operation occurs. However during the query operation, the service is reporting what it has as session information for the current transaction rather than receiving it from the client.

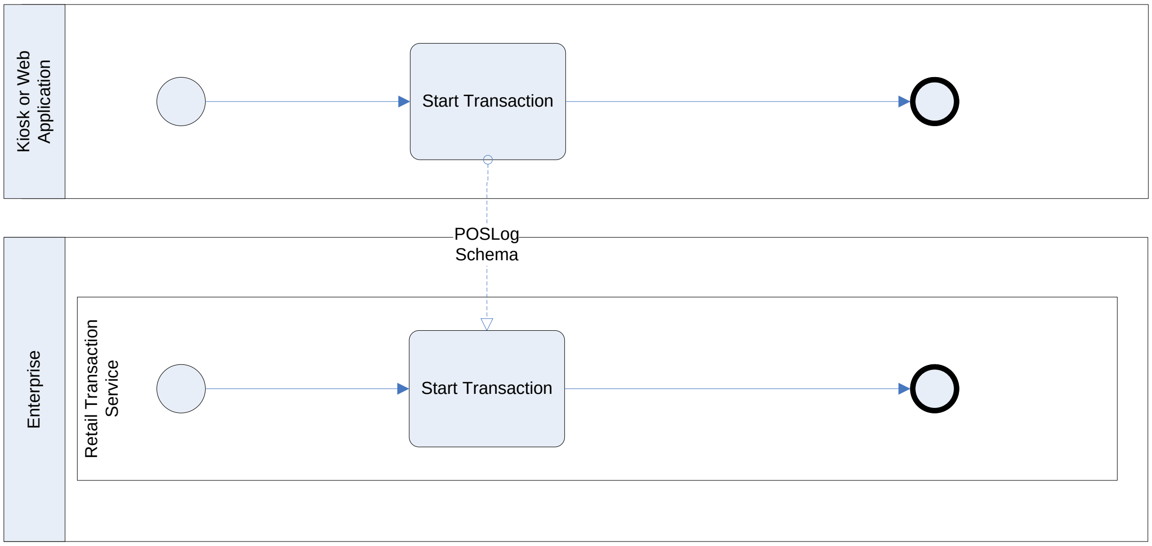


Figure 5: Start Transaction BPMN Diagram

Pre-Conditions

This is the first communication between the client and the server. It is used to setup the common session information for this transaction. All use cases below follow this first

4.1 USE CASE: START TRANSACTION

4.1.1 Scenario: Sales Transaction Begin (V4.0.0)

Scenario Description

Customer selects one or more items and brings them to a self checkout lane to purchase them. When they approach the kiosk they are asked if they have a customer card to scan. If they answer “no” a transaction is started and they can begin scanning their items.

Data
Request: sequence number, transaction type – sales transaction
Response: sequence number, transaction status (InProcess), transaction id/number, date, time

4.1.1 ARTS XML Conformance XML Instance Document – Sales Transaction Begin

Service Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionBegin xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionBeginV6.0.0.xsd"
     xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6" MinorVersion="0">
     <ARTSHeader>
          <MessageID>1234</MessageID>
          <DateTime>2001-12-17T09:30:47.0Z</DateTime>
          <BusinessUnit TypeCode="RetailStore">100</BusinessUnit>
          <WorkstationID>myKiosk</WorkstationID>
          <TillID>top</TillID>
     </ARTSHeader>
     <POSLog>
          <Transaction TypeCode="SaleTransaction" TrainingModeFlag="false"/>
     </POSLog>
</RTSTransactionBegin>
```

Service Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionBeginResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
     xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionBeginV6.0.0.xsd"
     xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
     MinorVersion="0">
     <ARTSHeader>
          <MessageID>9876</MessageID>
          <DateTime>2001-12-17T09:30:47.0Z</DateTime>
          <Response>
               <RequestID>1234</RequestID>
          </Response>
     </ARTSHeader>
     <POSLog>
          <Transaction TypeCode="SaleTransaction">
               <BusinessUnit>
                    <UnitID>100</UnitID>
               </BusinessUnit>
               <SequenceNumber>4294967295</SequenceNumber>
               <POSLogDateTime>2001-12-17T09:30:47.0Z</POSLogDateTime>
```

```
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <Total TotalType="TransactionGrossAmount">0</Total>
                <Total TotalType="TransactionGrandAmount">0</Total>
                <Total TotalType="TransactionNetAmount">0</Total>
                <Total TotalType="TransactionTaxAmount">0</Total>
                <Total TotalType="TransactionPurchaseQuantity">0</Total>
            </CustomerOrderTransaction>
            <BusinessDayDate>2001-12-17</BusinessDayDate>
            <BeginDateTime>2001-12-17T09:30:17.8247632+03:00</BeginDateTime>
            <EndDateTime>2001-12-17T09:30:47.8247632+03:00</EndDateTime>
        </Transaction>
    </POSLog>
</RTSTransactionBeginResponse>
```

4.1.2 Scenario: Return Transaction Started (V4.0.0)

Scenario Description

Customer wishes to return several items and brings them to the service counter. The cashier selects “return transaction” on the GUI which starts a return transaction to process all the item returns.

Data

Request: sequence number, transaction type – return

Response: sequence number, transaction status (InProcess), transaction id/number, date, time

4.1.2 ARTS XML Conformance XML Instance Document – Return Transaction Started

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionBegin xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionBeginV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
        <DateTime>2001-12-17T09:30:47.0Z</DateTime>
        <BusinessUnit TypeCode="RetailStore">100</BusinessUnit>
        <WorkstationID>myKiosk</WorkstationID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction"/>
    </POSLog>
</RTSTransactionBegin>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionBeginResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionBeginV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
        <BusinessUnit TypeCode="RetailStore">100</BusinessUnit>
        <WorkstationID>myKiosk</WorkstationID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>99</SequenceNumber>
            <POSLogDateTime>2001-12-17T09:30:47.0Z</POSLogDateTime>
            <CustomerOrderTransaction TransactionStatus="InProcess"/>
        </Transaction>
    </POSLog>
</RTSTransactionBeginResponse>
```

5. Service: RTSLineItemAdd

Brief Description

The RTS Item Add service is characterized by adding/returning a variety of line items to the customer order.

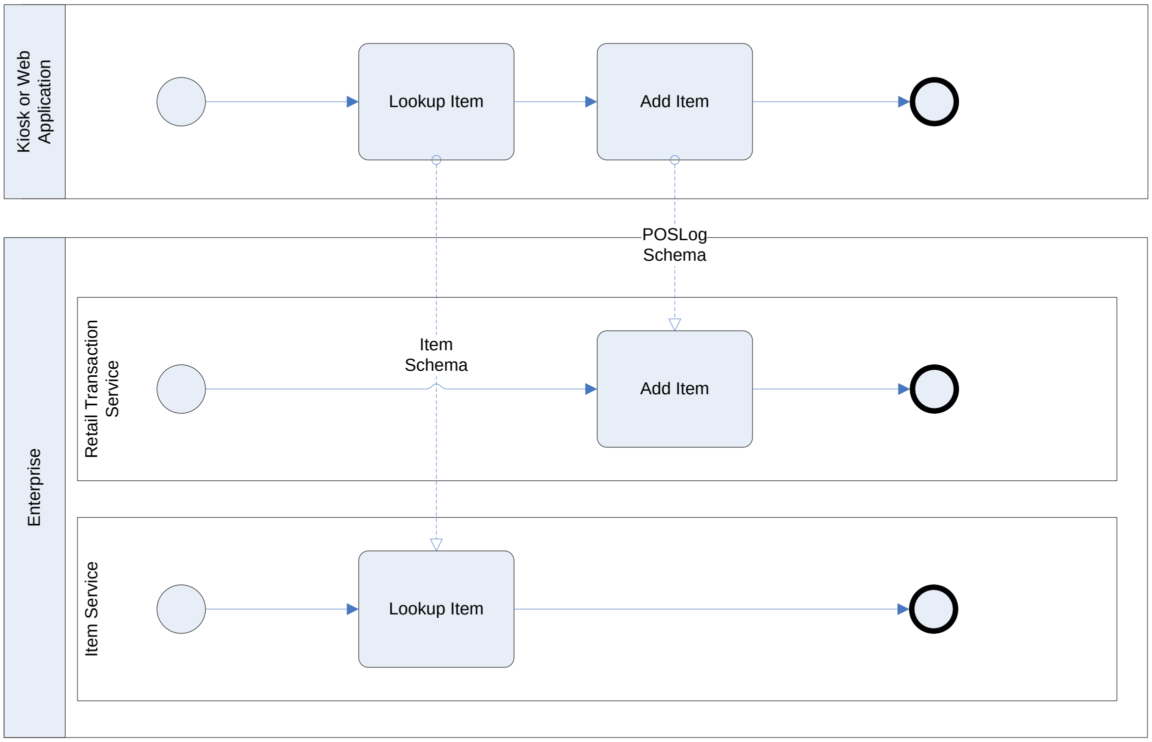


Figure 6: RTS Item Add BPMN Diagram

The RTSLineItemAdd BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These use cases and scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

This Domain View illustrates one line item (sale) many others are available following the same pattern.

5.1 USE CASE: ITEM PURCHASE

Brief Description

One or more items are purchased via any one of a number of sales channels.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

5.1.1 **Scenario: Food Item Purchase at POS (V4.0.0)**

Scenario Description

Customer selects a food item and purchases it. The item is both taxable and foodstampable. A value of ‘true’ for the **taxable** attribute means that tax applies to the item. A value of ‘true’ for **foodstampable** means that the item can be purchased with food stamps. A request is sent to the POS application indicating the items and the quantity to be purchased and a response is returned with the item details and transaction totals. Since this is the first item in the transaction, the transaction status included is “InProcess” indicating that a transaction is in progress.

Assumption:

The data in the response is minimal set available for use by the User Interface to display to the customer or the associate.

Data

Request: sequence number, item identifier, quantity

Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

5.1.1 ARTS XML Conformance XML Instance Document – Food Item Purchase at POS

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>99</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem Action="Add">
                    <Sale>
                        <ItemID>0430020006</ItemID>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>97</SequenceNumber>
            <POSLogDateTime>2001-12-17T09:30:47.0Z</POSLogDateTime>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <ItemID>0430020006</ItemID>
                        <Description>Milk</Description>
                        <RegularSalesUnitPrice>0.59</RegularSalesUnitPrice>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">0.62</Total>
                <Total TotalType="TransactionNetAmount">0.59</Total>
                <Total TotalType="TransactionTaxAmount">0.03</Total>
                <Total TotalType="TransactionBalanceDueAmount">0.62</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.1.2 Scenario: Food Item Purchase by random weight (V4.0.0)

Scenario Description

Customer purchases an item from the delicatessen, which is sold by weight. The item is both **taxable** and **foodstampable**. An item lookup service is used to look up the item to see if there is any required contextual data to be sent with the request, in this case a weight is required, so a weight is sent in with the add item request.

Data

Request: sequence number, item identifier, weight
Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, weight, weight unit of measure, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

5.1.2 ARTS XML Conformance XML Instance Document – Food Item Purchase by random weight

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>42</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem Action="Add">
                    <Sale>
                        <ItemID>0430020006</ItemID>
                        <Quantity Units="1.67"
UnitOfMeasureCode="LBR">1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>42</SequenceNumber>
            <POSLogDateTime>2001-12-17T09:30:47.0Z</POSLogDateTime>
            <CustomerOrderTransaction  TransactionStatus="InProcess">
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <ItemID>0430020006</ItemID>
                        <Description>Deli Ham</Description>
                        <RegularSalesUnitPrice>2.59</RegularSalesUnitPrice>
                        <ExtendedAmount>4.33</ExtendedAmount>
                        <Quantity Units="1.67"
UnitOfMeasureCode="Kg">1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">4.52</Total>
                <Total TotalType="TransactionNetAmount">4.33</Total>
                <Total TotalType="TransactionTaxAmount">0.19</Total>
                <Total TotalType="TransactionBalanceDueAmount">4.52</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.1.3 Scenario: Food Item Purchase by random weight using a price calculating scale

Scenario Description

This is a variation of above use case. In the EC it is quite common to achive WELMEC compliance (Weights &Measures approval) by using a calculating scale. In this case the RTI service has to use the price calculated by the scale.

A price lookup service is used to look up the item price sent with the request, in this case a weight and sales price is required, so a weight and regular sales unit price and extended amount is sent in with the add item request.

Data

Request: sequence number, item identifier, weight, regular sales unit price, extended amount

Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, weight, weight unit of measure, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

5.1.3 ARTS XML Conformance XML Instance Document – Food Item Purchase by random weight using price calculating scale

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
                <LineItem>
                    <Sale>
                        <ItemID>0430020006</ItemID>
                        <Quantity Units="1.67"
UnitOfMeasureCode="LBR">2</Quantity>
                    </Sale>
                    <SequenceNumber>4294967295</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Sale FoodstampableFlag="true" TaxableFlag="true">
                        <ItemID>0430020006</ItemID>
                        <Description>Candy Bar</Description>
                        <RegularSalesUnitPrice>0.59</RegularSalesUnitPrice>
                        <ExtendedAmount>0.99</ExtendedAmount>
                        <Quantity Units="1.67"
UnitOfMeasureCode="LBR">2</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">1.04</Total>
                <Total TotalType="TransactionNetAmount">0.99</Total>
                <Total TotalType="TransactionTaxAmount">0.05</Total>
                <Total TotalType="TransactionBalanceDueAmount">1.04</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.1.4 **Scenario: Food** Item Purchase with quantity pricing

Scenario Description

Candy bars are priced at $0.59 each or 2 for $.99. This is not a promotion; this is the normal pricing for the collection of items.

Data

Request: sequence number, item identifier, quantity
Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, quantity, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

5.1.4 ARTS XML Conformance XML Instance Document – Food Item Purchase with quantity pricing

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" MajorVersion="6"
FixVersion="0" MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
                <LineItem>
                    <Sale>
                        <ItemID>0430020006</ItemID>
                        <Quantity>2</Quantity>
                    </Sale>
                    <SequenceNumber>4294967295</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Sale FoodstampableFlag="true" TaxableFlag="true">
                        <ItemID>0430020006</ItemID>
                        <Description>Candy Bar</Description>
                        <RegularSalesUnitPrice>0.59</RegularSalesUnitPrice>
                        <ExtendedAmount>0.99</ExtendedAmount>
                        <Quantity>2</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">1.04</Total>
                <Total TotalType="TransactionNetAmount">0.99</Total>
                <Total TotalType="TransactionTaxAmount">0.05</Total>
                <Total TotalType="TransactionBalanceDueAmount">1.04</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
```

```
</RTSLineItemAddResponse>
```

5.1.5 **Scenario: Group of** Items sent to POS

Scenario Description

Customer selects several items online to purchase. A request is sent to the POS application indicating the items and the quantity to be purchased and a response is returned with all of the item details and transaction totals.

Suzy goes onto her computer at home and creates a grocery pick list. which includes bananas sold by piece. She submits the list to her local grocery web site where they return an approximate price (actual price will depend on actual weight when delivered). The pick list is submitted to the RTS for price calculations and returned to be displayed on Suzy's home computer.

Data
Request: sequence number, multiple item identifiers and quantities
Response: sequence number, line items (description, item identifier, regular sales price, quantity, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

5.1.5 ARTS XML Conformance XML Instance Document – Group of Items sent to POS

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
	xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
	xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
	MinorVersion="0">
	<ARTSHeader>
		<MessageID>1234</MessageID>
	</ARTSHeader>
	<POSLog>
		<Transaction>
			<SequenceNumber>45</SequenceNumber>
			<CustomerOrderTransaction>
				<LineItem>
					<Sale>
						<ItemID>0430020006</ItemID>
						<Quantity Units="2" UnitOfMeasureCode="EA"
EntryMethod="Scanned">1</Quantity>
					</Sale>
					<SequenceNumber>1</SequenceNumber>
				</LineItem>
				<LineItem>
					<Sale>
						<ItemID>0450089009</ItemID>
						<Quantity>1</Quantity>
```

```
                    </Sale>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Sale>
                        <ItemID>0360067402</ItemID>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>3</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

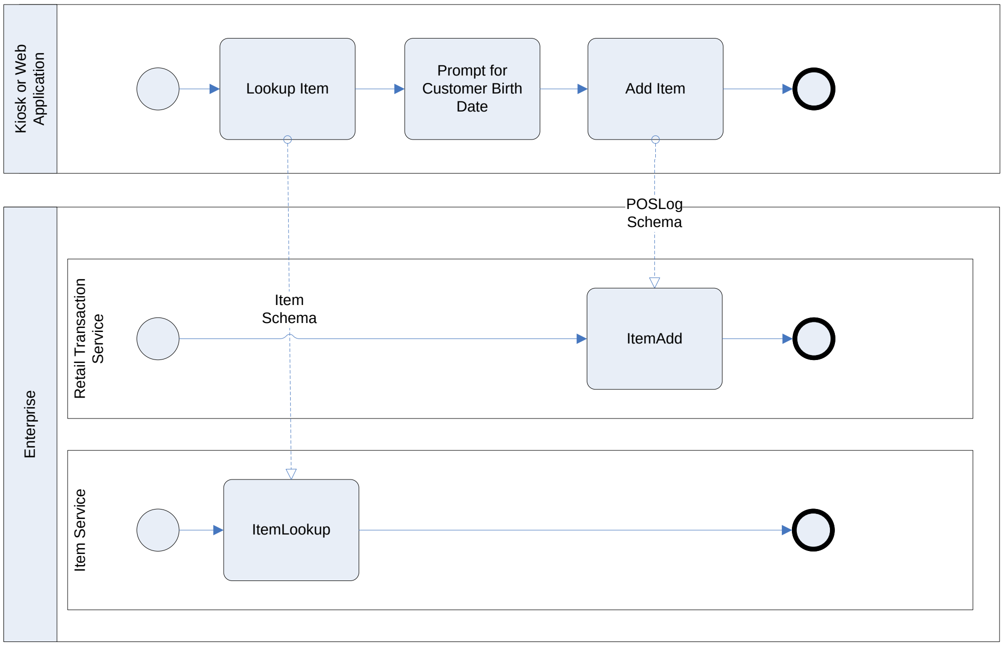
Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>45</SequenceNumber>
            <POSLogDateTime>2001-12-17T09:30:47.0Z</POSLogDateTime>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>4</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <ItemID>0430020006</ItemID>
                        <Description>Bananas</Description>
                        <RegularSalesUnitPrice>0.59</RegularSalesUnitPrice>
                        <ExtendedAmount>1.18</ExtendedAmount>
                        <Quantity Units="2" UnitOfMeasureCode="EA"
EntryMethod="Scanned"
                        >1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Sale FoodstampableFlag="true" TaxableFlag="true">
                        <ItemID>0450089009</ItemID>
                        <Description>Wheat Bread</Description>
                        <ExtendedAmount>2.59</ExtendedAmount>
                    </Sale>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Sale>
                        <ItemID>0360067402</ItemID>
                        <Description>Paper Towels</Description>
                        <ExtendedAmount>3.89</ExtendedAmount>
                    </Sale>
                    <SequenceNumber>3</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">8.00</Total>
                <Total TotalType="TransactionNetAmount">7.66</Total>
                <Total TotalType="TransactionTaxAmount">0.34</Total>
                <Total TotalType="TransactionBalanceDueAmount">8.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.1.6 Scenario: Restricted Item Purchase with a Customer Birth Date sent in the Request

Scenario Description

A customer purchases an item which is age restricted. The application uses an Item service to look up the item and determines that the customer must be of a certain age to buy this item. A prompt is issued and a shopping assistant gets the customer's birth date which is then sent along with the item add request.



Assumption: The item is scanned and a message is returned from the item lookup service saying this is a restricted item and the customer's birthdate need verification.

Data
Request: sequence number, item identifier, customer birth date
Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

5.1.6 ARTS XML Conformance XML Instance Document – Item Purchase with a Customer Birth Date sent in the Request

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Sale>
                        <ItemID Type="UPC-A">8004600789005</ItemID>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Customer>
                    <BirthDayMonth>--01-01</BirthDayMonth>
                    <BirthYear>1960</BirthYear>
                </Customer>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
```

```
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale>
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Red Wine</Description>
                        <ExtendedAmount>12.99</ExtendedAmount>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">13.57</Total>
                <Total TotalType="TransactionNetAmount">12.99</Total>
                <Total TotalType="TransactionTaxAmount">0.58</Total>
                <Total TotalType="TransactionBalanceDueAmount">13.57</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.2 USE CASE: ITEM PURCHASE OF KIT/COLLECTION ITEMS

Brief Description

For some retailers an item may actually be a Kit, Combination or Collection of other items, e.g. a garden furniture set may be comprised of a table, four chairs and a sun umbrella. Some retailers may allow some items in a kit to be substituted; others may not.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

5.2.1 **Scenario:** Kit/Collection Purchase without Substitution

Scenario Description

Customer buys a kit of garden furniture comprised of a table, four chairs and a sun umbrella. The POS sells this kit as if it was a single item, and no substitutions are permitted.

Data
Request: sequence number, item identifier, quantity
Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, quantity, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), date, time, transaction totals (total, subtotal, balance due, tax), total items

5.2.1 ARTS XML Conformance XML Instance Document – Kit/Collection Purchase without Substitution

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
                <LineItem>
                    <Sale>
                        <ItemID>01234567890123</ItemID>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>19876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
```

```
        <Transaction>
            <SequenceNumber>102</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Sale>
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>01234567890123</ItemID>
                        <Description>Garden Table Set</Description>
                        <RegularSalesUnitPrice>299.00</RegularSalesUnitPrice>
                        <ExtendedAmount>299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">312.46</Total>
                <Total TotalType="TransactionNetAmount">299.00</Total>
                <Total TotalType="TransactionTaxAmount">13.46</Total>
                <Total TotalType="TransactionBalanceDueAmount">312.46</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.3 USE CASE: ATTEMPT TO PURCHASE ITEM RECEIVES ERROR

120B**Brief Description**
A customer attempts to purchase an item and that item cannot be purchased for some reason, the item is time restricted, not available, does not exist in the item file, etc... A response message is sent back indicating the error.
121B**Pre-Conditions**
The transaction was begun following HUthe Begin Transaction Use CaseUH. These scenarios
focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other
services.
12B**Post-Conditions**

5.3.1 **Scenario:** Attempt to purchase item not on file

Scenario Description
A customer attempts to purchase an item that is not on file. A response message is sent back indicating the error.

Data
Request: sequence number, item identifier, quantity
Response: sequence number, request id, error response code, error
response message, item code (optional)

5.3.1 ARTS XML Conformance XML Instance Document – Attempt to purchase item not on file

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>23</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Sale>
                        <ItemID>4012234567</ItemID>
                        <ExtendedAmount>0</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
            <BusinessError>
                <Code>ItemNotFound</Code>
                <Description>The item code is not in the item file</Description>
            </BusinessError>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>23</SequenceNumber>
```

```
                <CustomerOrderTransaction TransactionStatus="Failed">
                    <LineItem>
                        <Sale>
                            <ItemID>4012234567</ItemID>
                            <ExtendedAmount>0</ExtendedAmount>
                            <Quantity>1</Quantity>
                        </Sale>
                        <SequenceNumber>1</SequenceNumber>
                    </LineItem>
                </CustomerOrderTransaction>
            </Transaction>
        </POSLog>
</RTSLineItemAddResponse>
```

5.4 USE CASE: SUCCESSFULLY FINDING A CUSTOMER

5.4.1 Scenario: Successfully Finding a Customer

Brief Description
A customer scans their card when the system indicates that items are to be scanned, so this results in a customer id being sent in an add item request. The system returns a successful customer add response.

Pre-Conditions
The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions
Data
Request: sequence number, customer id (sent in add item)
Response: sequence number, customer information

5.4.1 ARTS XML Conformance XML Instance Document – Successfully Finding a Customer

Request

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader ActionCode="Lookup">
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
```

```
                <Customer>
                    <CustomerID>a1b2c3</CustomerID>
                </Customer>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader ActionCode="Lookup">
        <MessageID>1234431</MessageID>
        <Response>
            <RequestID>1243</RequestID>
            <ResponseDescription>Customer found</ResponseDescription>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <Customer>
                    <CustomerID>a1b2c3</CustomerID>
                    <Name>
                        <Name Location="First">Joe</Name>
                        <Name Location="Last">Cool</Name>
                    </Name>
                </Customer>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.5 USE CASE: TAX

Brief Description

Customer selects one or more items and purchases them with various tenders. The additional unique taxation extensions are covered in each scenario.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

5.5.1 **Scenario:** US Sales Tax at the Transaction Level

Scenario Description

A customer buys an item for $10.00 USD and has a 10% sales tax added. The total cost of the transaction is $11.00 USD. The amount of tax is calculated using a tax table.

Data

Request: sequence number, item identifier, quantity

Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

5.5.1 ARTS XML Conformance XML Instance Document – US Sales Tax at the Transaction Level

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
                <LineItem>
                    <Sale>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9875</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="false">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Book</Description>
                        <RegularSalesUnitPrice>10.00</RegularSalesUnitPrice>
                        <ExtendedAmount>10.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Tax TaxType="Sales">
                        <TaxableAmount>10.00</TaxableAmount>
                        <Amount>1.00</Amount>
                        <Percent>10.00</Percent>
                    </Tax>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">11.00</Total>
                <Total TotalType="TransactionNetAmount">10.00</Total>
                <Total TotalType="TransactionTaxAmount">1.00</Total>
                <Total TotalType="TransactionBalanceDueAmount">11.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

5.5.2 **Scenario:** VAT Tax and Item Luxury Tax

Scenario Description

A customer purchases an expensive item. The item has a normal VAT tax and a luxury VAT tax.

Data

Request: sequence number, item identifier, quantity

Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items, on each item: indication this is a Luxury Tax, Taxable Amount, Tax Amount

5.5.2 ARTS XML Conformance XML Instance Document – VAT Tax and Item Luxury Tax

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
                <LineItem>
                    <Sale>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>124</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>145</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
```

```
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <ExtendedAmount>206.25</ExtendedAmount>
                        <Quantity>1</Quantity>
                        <Tax TaxType="VAT" TaxSubType="Standard">
                            <SequenceNumber>1</SequenceNumber>
                            <TaxableAmount
TaxIncludedInTaxableAmountFlag="true">165.00</TaxableAmount>
                            <Amount>15.00</Amount>
                            <Percent>10.00</Percent>
                        </Tax>
                        <Tax TaxType="VAT" TaxSubType="Luxury">
                            <SequenceNumber>2</SequenceNumber>
                            <TaxableAmount
TaxIncludedInTaxableAmountFlag="false">165.00</TaxableAmount>
                            <Amount>41.25</Amount>
                            <Percent>25.00</Percent>
                        </Tax>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">206.25</Total>
                <Total TotalType="TransactionNetAmount">165.00</Total>
                <Total TotalType="TransactionTaxAmount">41.25</Total>
                <Total TotalType="TransactionBalanceDueAmount">206.25</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

6. Service: RTSDataAdd

Brief Description

The RTS Data Add service is used to send unknown scanned information to the service for recognition. This could be information such as a typical item or a customer loyalty card.

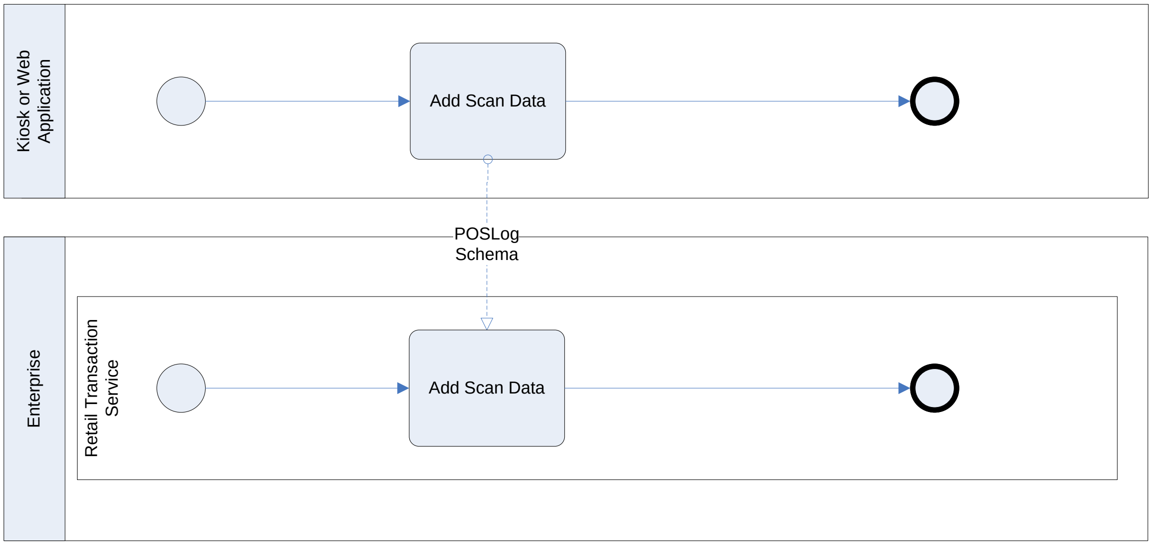


Figure 7: RTSDataAdd BPMN Diagram

The RTSDataAdd BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These use cases and scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

The RTSDataAdd Domain View identifies the scan data element is located as one of the line items in the RetailTransactionLineItem Complex Type.

6.1 **Scenario:** Item Purchase with generic scan data

Scenario Description

A Customer scans a barcode which could be a loyalty card, an item, or a coupon. In this case the barcode is for an item so the system returns the correct item information without an error. The enumeration for ScanData TypeCode is ”Barcode”, “MSR”, “RFID”.

Data

Request: sequence number, scan data

Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

6.1 ARTS XML Conformance XML Instance Document – Item Purchase with generic scan data

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSDataAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSDataAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
                <LineItem>
                    <ScanData TypeCode="Barcode"></ScanData>
                    <SequenceNumber>4294967295</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSDataAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSDataAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSDataAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1239</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
```

```
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <!-- Scan code resolves to this ItemID -->
                        <ItemID>0430020006</ItemID>
                        <Description>Paper Towels</Description>
                        <RegularSalesUnitPrice>1.59</RegularSalesUnitPrice>
                        <ExtendedAmount>1.59</ExtendedAmount>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">1.66</Total>
                <Total TotalType="TransactionNetAmount">1.59</Total>
                <Total TotalType="TransactionTaxAmount">0.07</Total>
                <Total TotalType="TransactionBalanceDueAmount">1.66</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSDataAddResponse>
```

7. Service Name: RTSLineItemCancel

Brief Description
The RTS Item Cancel Service enables the canceling of a single **line item** in the transaction.

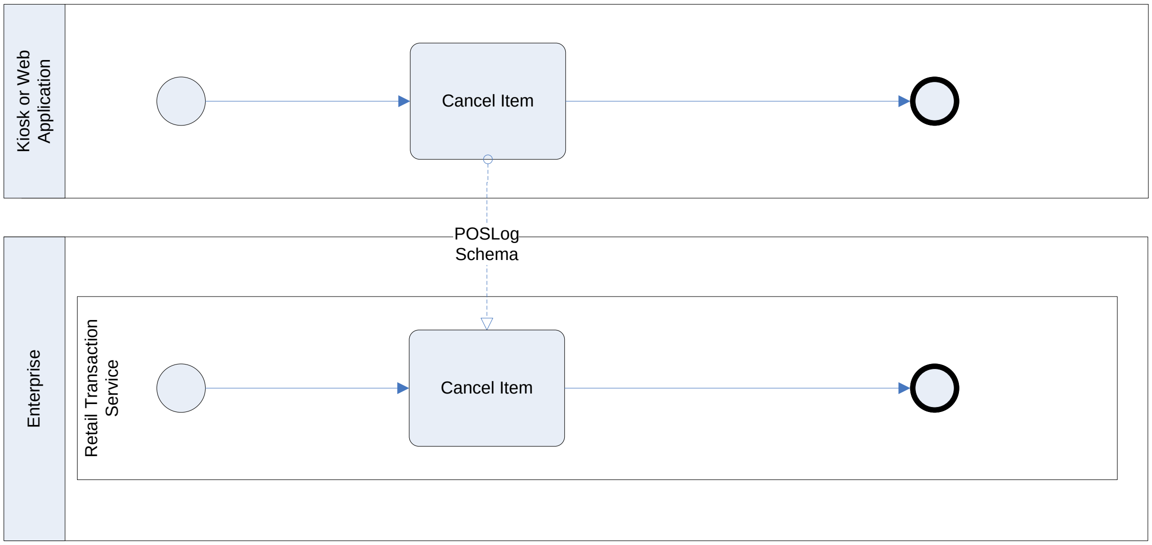


Figure 8: RTSLineItemCancel BPMN Diagram

The RTSDataAdd BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions
The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

The RTSLineItemCancel Domain View shows that individual line items can be canceled independent of any other part of the transaction.

7.1 USE CASE: ITEM CANCEL

Brief Description
After an item has been added to a transaction, it is subsequently canceled.

7.1.1 **Scenario:** Specific line item cancel

Scenario Description
After the cashier rings up a shirt, customer decides that he no longer wants to purchase it. The cashier then cancels the line item containing the shirt.

Data
Request: sequence number, the shirt line item, action of “Cancel”
Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, quantity, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

7.1.1 ARTS XML Conformance XML Instance Document – Specific line item cancel

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>123</SequenceNumber>
            <CustomerOrderTransaction >
                <!-- Requests cancel of line item number 1 -->
                <LineItem Action="Cancel">
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <ItemID>01234567890123</ItemID>
                        <Description>Red Shirt</Description>
                        <RegularSalesUnitPrice>29.00</RegularSalesUnitPrice>
                        <ExtendedAmount>29.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemCancel>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemCancelResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>9876</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>123</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>0</ItemCount>
                <!-- New line item telling it line item number 1 was canceled -->
                <LineItem Action="Cancel">
                    <Sale>
                        <ItemID>01234567890123</ItemID>
                        <ItemLink>1</ItemLink>
                    </Sale>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">0.00</Total>
                <Total TotalType="TransactionNetAmount">0.00</Total>
                <Total TotalType="TransactionTaxAmount">0.00</Total>
                <Total TotalType="TransactionBalanceDueAmount">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemCancelResponse>
```

7.1.2 **Scenario:** Cancel item by barcode

Scenario Description
After a self checkout customer scans a box of cereal and then several more items, they decide not to purchase the cereal. They select the cancel function and then scan the cereal box again to cancel it.

Data
Request: sequence number, item identifier, action of “Cancel”
Response: sequence number, transaction header data (store, workstation, and operator performing transaction, date of transaction, transaction id) line item (description, item identifier, regular sales price, quantity, extended amount, department, item taxable status, item foodstampable status), transaction status (InProcess), date, time, transaction totals (total, subtotal, balance due, tax), total items

7.1.2 ARTS XML Conformance XML Instance Document – Cancel item by barcode

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
```

```
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction>
                <!-- Request Cancel of line item with this scan code -->
                <LineItem Action="Cancel">
                    <ScanData>01234567890123</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemCancel>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemCancelResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>456</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>2</ItemCount>
                <!-- New line item telling it line item number 1 was canceled -->
                <LineItem Action="Cancel">
                    <Sale>
                        <ItemID>01234567890123</ItemID>
                        <ItemLink>1</ItemLink>
                    </Sale>
                    <SequenceNumber>4</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">52.68</Total>
                <Total TotalType="TransactionNetAmount">49.23</Total>
                <Total TotalType="TransactionTaxAmount">3.45</Total>
                <Total TotalType="TransactionBalanceDueAmount">52.68</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemCancelResponse>
```

7.2 Scenario: Partial Payment Cancel Customer Order Transaction (V6)

Paid part with gift card (10 or so) then want to use credit card to complete, but forgot it at home so have to cancel whole transaction. Customer obviously wants gift card back. Want cancel of the gift card in the cancel of the transaction (key part is giving the customer the money back). Add Reversal to the Tender Type Code to reflect this tender was reversed

Data

- The line item sale
- The line tender cash
- The cancel line tender gift card
- Void Transaction
- Manager approval

7.2 Conformance XML Instance Document – Partial Payment Cancel Customer Order Transaction

Request

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader ActionCode="Cancel">
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- Cancel this transaction -->
            <SequenceNumber>100</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionCancel>
```

Response

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionCancelResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6" MinorVersion="0">
    <ARTSHeader ActionCode="Cancel">
        <MessageID>1235</MessageID>
        <Response ResponseCode="OK">
```

```xml
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- This transaction canceled -->
            <SequenceNumber>100</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionCancelResponse>
```

8. Service Name: RTSLineItemReturn

Brief Description

The RTS Item Return Service reports the returning of a single line item.

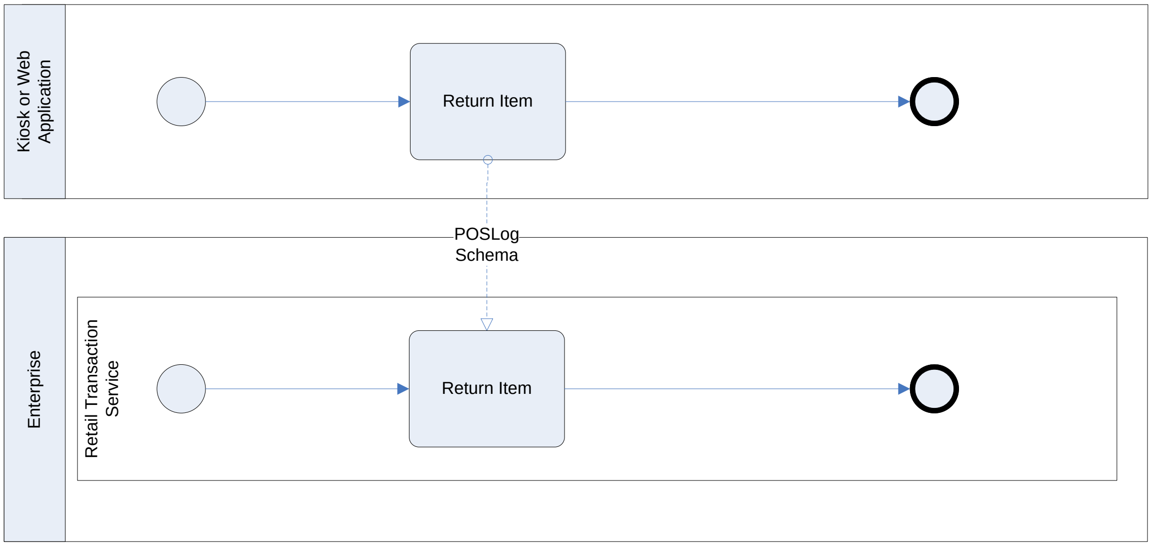


Figure 9:RTSLineItemReturn BPMN Diagram

The RTSLineItemReturn BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

The RTSLineItemReturn Domain View identifies the parts of POSLog dealing with retuning a line item.

8.1 USE CASE: ITEM RETURN

Brief Description

Sometimes it happens that a customer wants to return one or more items he had previously bought. Some possible reasons could be that he did not end up liking the items after all, or that they were broken.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

8.1.1 **Scenario:** Return Items to Store

Scenario Description

The customer returns the items that he does not want to the store.

A request is sent to the POS application indicating the items, the quantity to be returned and the original item prices (because the prices the customer paid for the items at purchase time can differ from the current item prices). Additionally the request **may** contain the reason of the return, information identifying the original purchase, as well as any disposal information describing how the returned items are to be treated.

A response is returned with the item details and transaction totals.

Data

Request: sequence number, item identifier, quantity, original item price,

Request - Optional: transaction link information, disposal information, return reason

Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department etc.), transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

8.1.1 ARTS XML Conformance XML Instance Document – Return Items to Store

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>15324</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Return>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Return>
                    <SequenceNumber>4294967295</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>87589</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>15324</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Return>
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Candy Bar</Description>
                        <RegularSalesUnitPrice>0.59</RegularSalesUnitPrice>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Return>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount"
TypeCode="Return">0.62</Total>
                <Total TotalType="TransactionNetAmount"
TypeCode="Return">0.59</Total>
                <Total TotalType="TransactionTaxAmount"
TypeCode="Return">0.03</Total>
                <Total TotalType="TransactionBalanceDueAmount"
TypeCode="Return">0.62</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturnResponse>
```

Sample XML Instance Document illustrating use of the optional elements

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <BusinessUnit>
                <UnitID>100</UnitID>
            </BusinessUnit>
            <WorkstationID>myKiosk</WorkstationID>
            <SequenceNumber>1</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem Action="Add">
                    <Return>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity Units="1" UnitOfMeasureCode="EA"
EntryMethod="Scanned"
                            >1</Quantity>
                        <TransactionLink ReasonCode="Return">
                            <BusinessUnit
TypeCode="RetailStore">100</BusinessUnit>
                            <WorkstationID>101</WorkstationID>
                            <BusinessDayDate>
                                <Date>2007-09-30</Date>
                            </BusinessDayDate>
                            <SequenceNumber>123456</SequenceNumber>
                        </TransactionLink>
                        <Disposal Method="ReturnToStock"/>
                        <Reason>Wrong</Reason>
                    </Return>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

8.1.2 **Scenario:** Return for Pickup from Customer

Scenario Description

The customer wants to return one or more large items. In this case, the return request is only registered. The items are to be picked up later at the customer’s address.

A request is sent to the POS application indicating the items, the quantity to be returned and the original item prices (because the prices the customer paid for the items at purchase time can differ from the current item prices). Additionally the request **must** contain information identifying the pickup address. The request may also contain the reason of the return and information identifying the original purchase.

A response is returned with the item details and transaction totals as well as the complete pickup address.

Note: In this scenario there is no customer ID to get an address for, or the item is at a location other than the customer’s residence so the customer address must be sent in.

Data

Request: sequence number, item identifier, quantity, original item price, the pickup address,

Request - Optional: transaction link information, return reason

Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department etc.), pickup address, transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

8.1.2 ARTS XML Conformance XML Instance Document – Return for Pickup from Customer

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>2345</SequenceNumber>
            <CustomerOrderTransaction>
                <ItemCount>1</ItemCount>
                <LineItem>
                    <ReturnForPickup>
```

```
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>1299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                        <Pickup>
                            <Address>
                                <AddressLine>123 Main Street</AddressLine>
                                <City>Anytown</City>
                                <PostalCode>12345</PostalCode>
                            </Address>
                            <TelephoneNumber>
                                <AreaCode>123</AreaCode>
                                <LocalNumber>123-4567</LocalNumber>
                            </TelephoneNumber>
                        </Pickup>
                    </ReturnForPickup>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>431</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>2345</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <ReturnForPickup>
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Refrigerator</Description>
                        <RegularSalesUnitPrice>1350.00</RegularSalesUnitPrice>
                        <ExtendedAmount>1299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                        <Pickup>
                            <Address>
                                <AddressLine>123 Main Street</AddressLine>
                                <City>Anytown</City>
                                <PostalCode>12345</PostalCode>
                            </Address>
                            <TelephoneNumber>
                                <AreaCode>123</AreaCode>
                                <LocalNumber>123-4567</LocalNumber>
                            </TelephoneNumber>
                        </Pickup>
                    </ReturnForPickup>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount"
TypeCode="Return">1349.00</Total>
                <Total TotalType="TransactionNetAmount"
TypeCode="Return">1299.00</Total>
                <Total TotalType="TransactionTaxAmount"
TypeCode="Return">50.00</Total>
                <Total TotalType="TransactionBalanceDueAmount"
TypeCode="Return">1349.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturnResponse>
```

Sample XML Instance Document illustrating use of the optional elements

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <BusinessUnit>
                <UnitID>100</UnitID>
            </BusinessUnit>
            <WorkstationID>myKiosk</WorkstationID>
            <SequenceNumber>345</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <ReturnForPickup>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>1299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                        <TransactionLink ReasonCode="Return">
                            <BusinessUnit
TypeCode="RetailStore">100</BusinessUnit>
                            <WorkstationID>101</WorkstationID>
                            <BusinessDayDate>
                                <Date>2007-09-30</Date>
                            </BusinessDayDate>
                            <SequenceNumber>123456</SequenceNumber>
                        </TransactionLink>
                        <Reason>Wrong</Reason>
                        <Pickup>
                            <Address>
                                <AddressLine>123 Main Street</AddressLine>
                                <City>Anytown</City>
                                <PostalCode>12345</PostalCode>
                            </Address>
                            <TelephoneNumber>
                                <AreaCode>(123)</AreaCode>
                                <LocalNumber>123-4567</LocalNumber>
                            </TelephoneNumber>
                        </Pickup>
                    </ReturnForPickup>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

8.1.3 **Scenario:** Return for Pickup from Customer Address

Scenario Description

The customer wants to return one or more large items. In this case, the return request is only registered. The items are to be picked up later at the customer's address.

A request is sent to the POS application indicating the items, the quantity to be returned and the original item prices (because the prices the customer paid for the items at purchase time can differ from the current item prices). Additionally the request **must** contain information identifying the pickup address. The request may also contain the reason of the return and information identifying the original purchase.

A response is returned with the item details and transaction totals as well as the complete pickup address.

Note: In this scenario, the POS application knows the customer identifier in the request and therefore is able to retrieve the pickup address. The application can use a lookup function in a separate Customer service in order to get the Customer ID.

Data

Request: sequence number, item identifier, quantity, original item price, transaction link information, information for identifying the pickup address

Request – Optional: transaction link information, return reason

Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department etc.), pickup address, transaction status (InProcess), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

8.1.3 ARTS XML Conformance XML Instance Document – Return for Pickup from Customer Address

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>4356</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <ReturnForPickup>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>1299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                        <Pickup>
                            <CustomerID>6542001</CustomerID>
                        </Pickup>
                    </ReturnForPickup>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
```

```
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>4356</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <ReturnForPickup ItemType="Stock">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Refrigerator</Description>
                        <RegularSalesUnitPrice>1350.00</RegularSalesUnitPrice>
                        <ExtendedAmount>1299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                        <TransactionLink ReasonCode="Return">
                            <BusinessUnit>100</BusinessUnit>
                            <WorkstationID>101</WorkstationID>
                            <BusinessDayDate>
                                <Date>2007-09-30</Date>
                            </BusinessDayDate>
                            <SequenceNumber>123456</SequenceNumber>
                        </TransactionLink>
                        <Pickup>
                            <CustomerID>6542001</CustomerID>
                            <Name>
                                <Name Location="First">John</Name>
                                <Name Location="Last">Smith</Name>
                                </Name>
                            <Address>
                                <AddressLine>7801 N Street</AddressLine>
                                <City>Chicago</City>
                            </Address>
                            <TelephoneNumber>
                                <AreaCode>301</AreaCode>
                                <LocalNumber>85725757</LocalNumber>
                                <ITUCountryCode>1</ITUCountryCode>
                            </TelephoneNumber>
                        </Pickup>
                    </ReturnForPickup>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount"
TypeCode="Return">1349.00</Total>
```

```
                <Total TotalType="TransactionNetAmount"
TypeCode="Return">1299.00</Total>
                <Total TotalType="TransactionTaxAmount"
TypeCode="Return">50.00</Total>
                <Total TotalType="TransactionBalanceDueAmount"
TypeCode="Return">1349.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturnResponse>
```

Sample XML Instance Document illustrating use of the optional elements

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <BusinessUnit>
                <UnitID>100</UnitID>
            </BusinessUnit>
            <WorkstationID>myKiosk</WorkstationID>
            <SequenceNumber>429</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <ReturnForPickup>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>1299.00</ExtendedAmount>
                        <Quantity Units="1" UnitOfMeasureCode="EA"
EntryMethod="Scanned"
                            >1</Quantity>
                        <TransactionLink ReasonCode="Return">
                            <BusinessUnit
TypeCode="RetailStore">100</BusinessUnit>
                            <WorkstationID>101</WorkstationID>
                            <BusinessDayDate>
                                <Date>2007-09-30</Date>
                            </BusinessDayDate>
                            <SequenceNumber>123456</SequenceNumber>
                        </TransactionLink>
                        <Reason>Wrong</Reason>
                        <Pickup>
                            <CustomerID>6542001</CustomerID>
                        </Pickup>
```

```
                              </ReturnForPickup>
                              <SequenceNumber>1</SequenceNumber>
                         </LineItem>
                    </CustomerOrderTransaction>
               </Transaction>
          </POSLog>
</RTSLineItemReturn>
```

8.1.4 **Scenario:** Return Items to Store – Approval Required

Scenario Description

The customer returns items which he does not want to keep to the store. As this is not a normal sales situation, an approval by a manager is required.

A request is sent to the POS application indicating the items, the quantity to be returned and the original item prices (because the prices the customer paid originally can differ from the current item prices).

As the approval information is missing in that request, a response is returned indicating that error.

Then, in the next step, the request is repeated – and now includes the required approval information.

A response is then returned with the item details and transaction totals.

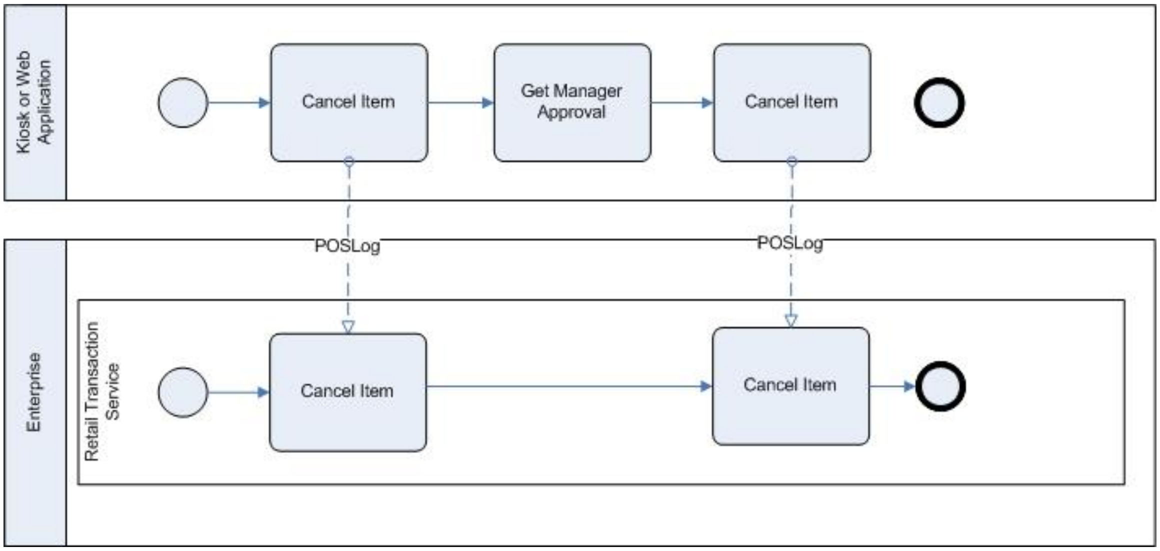


Figure 10: Return Items to Store - Approval Required BPMN Diagram

Data

1st Request: sequence number, item identifier, quantity, original item price

1st Response: sequence number, **error response code, error response message**

2nd Request: sequence number, item identifier, quantity, original item price, **approval information**

2nd Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department etc.), transaction status (InProcess), transaction id/number, date, time, transaction totals

8.1.4 ARTS XML Conformance XML Instance Document – Return Items to Store – Approval Required

1st Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>15324</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Return>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Return>
                    <SequenceNumber>4294967295</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

1st Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
            <BusinessError>
```

```
                <Code>ApprovalRequired</Code>
                <Description>return requires approval</Description>
            </BusinessError>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>7678</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Return>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Return>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturnResponse>
```

2nd Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1236</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>7678</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Return>
                        <ItemID Type="UPC-A">0430020006</ItemID>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity>1</Quantity>
                        <OperatorBypassApproval>
                            <SequenceNumber>1</SequenceNumber>
                            <ApproverID>12345</ApproverID>
                            <LineApprovalCode>AB</LineApprovalCode>
                        </OperatorBypassApproval>
                    </Return>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

2nd Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1237</MessageID>
        <Response>
            <RequestID>1236</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>7678</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Return>
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Candy Bar</Description>
                        <RegularSalesUnitPrice>0.59</RegularSalesUnitPrice>
                        <ExtendedAmount>0.59</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Return>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount"
TypeCode="Return">0.62</Total>
                <Total TotalType="TransactionNetAmount"
TypeCode="Return">0.59</Total>
                <Total TotalType="TransactionTaxAmount"
TypeCode="Return">0.03</Total>
                <Total TotalType="TransactionBalanceDueAmount"
TypeCode="Return">0.62</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturnResponse>
```

8.2 USE CASE: RETURN EMPTIES

Brief Description
Some items like soft drinks are sold with a deposit in some states. When the customer returns the empty containers, the deposit is refunded to him.

8.2.1 **Scenario:** Return Empties

Scenario Description

The customer returns one or more empty bottles in order to retrieve the deposit.

A request is sent to the POS application indicating the items and the quantity to be returned.

A response is returned with the item details and transaction totals.

Data

Request:	sequence number, item identifier, quantity
Response:	sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department etc.), transaction status (InProcess), transaction id/number, date, time, transaction totals

8.2.1 ARTS XML Conformance XML Instance Document – Return Empties

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
     xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
     MinorVersion="0">
     <ARTSHeader>
          <MessageID>1234</MessageID>
     </ARTSHeader>
     <POSLog>
          <Transaction TypeCode="ReturnTransaction">
               <CustomerOrderTransaction>
                    <LineItem>
                         <Return ItemType="DepositRefund">
                              <ItemID Type="UPC-A">0430020006</ItemID>
                              <ExtendedAmount>0</ExtendedAmount>
                              <Quantity>3</Quantity>
                         </Return>
                         <SequenceNumber>1</SequenceNumber>
                    </LineItem>
               </CustomerOrderTransaction>
          </Transaction>
     </POSLog>
</RTSLineItemReturn>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>3456</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>9876</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>3</ItemCount>
                <LineItem>
                    <Return ItemType="DepositRefund">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Bottle</Description>
                        <RegularSalesUnitPrice>0.05</RegularSalesUnitPrice>
                        <ExtendedAmount>0.15</ExtendedAmount>
                        <Quantity>3</Quantity>
                    </Return>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount"
TypeCode="Return">0.15</Total>
                <Total TotalType="TransactionNetAmount"
TypeCode="Return">0.15</Total>
                <Total TotalType="TransactionTaxAmount"
TypeCode="Return">0.00</Total>
                <Total TotalType="TransactionBalanceDueAmount"
TypeCode="Return">0.15</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturnResponse>
```

8.3 USE CASE: BUY ONLINE/CALL CENTER, ITEM RETURN IN STORE

8.3.1 **Scenario:** Return Items to Store – Purchased Online/Call Center

Scenario Description

The customer returns the items which he does not want to keep to the store that were purchased in other channel. Items, Price, and other OMS information may not be in store system which may require calls to OMS to retrieve details.

A request is sent to the OMS application indicating the transaction id or items, the quantity to be returned and the original item prices (because the prices the customer did pay for the original purchase can differ from the current item prices).

Two sub scenarios exist. First sub scenario is where you may pull the order back with items on that order in a receipt-less return by providing the order id. Second sub scenario is where you provide the item information off the receipt and return information is provided.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

Data

1st Request:	sequence number
1st Response:	sequence number, item identifier, quantity, original item price**,** status code, special conditions/rules (Hazmat)

Alternative Sequence

2nd Request:	sequence number, item identifier, quantity, original item price
2nd Response:	sequence number, item identifier, quantity, original item price, status code, special conditions/rules (Hazmat)

8.3.1 ARTS XML Conformance XML Instance Document – Return Items to Store – Purchased Online/Call Center

1st Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1236</MessageID>
    </ARTSHeader>
    <POSLog>
```

```
            <Transaction TypeCode="ReturnTransaction">
                <SequenceNumber>7678</SequenceNumber>
                <CustomerOrderTransaction OrderChannel="Web"/>
            </Transaction>
        </POSLog>
</RTSLineItemReturn>
```

1st Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
        xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
        xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
        MinorVersion="0">
        <ARTSHeader>
            <MessageID>1237</MessageID>
            <Response>
                <RequestID>1236</RequestID>
            </Response>
        </ARTSHeader>
        <POSLog>
            <Transaction TypeCode="ReturnTransaction">
                <SequenceNumber>7678</SequenceNumber>
                <CustomerOrderTransaction TransactionStatus="InProcess">
                    <ItemCount>3</ItemCount>
                    <LineItem>
                        <Return>
                            <MerchandiseHierarchy>1</MerchandiseHierarchy>
                            <ItemID>0430020006</ItemID>
                            <Description>CandyBar</Description>
                            <RegularSalesUnitPrice>0.05</RegularSalesUnitPrice>
                            <ExtendedAmount>0.15</ExtendedAmount>
                            <Quantity>3</Quantity>
                        </Return>
                        <SequenceNumber>1</SequenceNumber>
                    </LineItem>
                    <Total TotalType="TransactionGrandAmount"
TypeCode="Return">0.15</Total>
                    <Total TotalType="TransactionNetAmount"
TypeCode="Return">0.15</Total>
                    <Total TotalType="TransactionTaxAmount"
TypeCode="Return">0.00</Total>
                    <Total TotalType="TransactionBalanceDueAmount"
TypeCode="Return">0.15</Total>
                </CustomerOrderTransaction>
            </Transaction>
        </POSLog>
</RTSLineItemReturnResponse>
```

Alternative Sequence

2nd Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1237</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="ReturnTransaction">
            <SequenceNumber>7678</SequenceNumber>
            <CustomerOrderTransaction>
                <ItemCount>3</ItemCount>
                <LineItem>
                    <Return>
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>CandyBar</Description>
                        <RegularSalesUnitPrice>0.05</RegularSalesUnitPrice>
                        <ExtendedAmount>0.15</ExtendedAmount>
                        <Quantity>3</Quantity>
                    </Return>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemReturn>
```

2nd Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemReturnResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemReturnV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1238</MessageID>
        <Response ResponseCode="OK">
            <RequestID>1237</RequestID>
        </Response>
    </ARTSHeader>
</RTSLineItemReturnResponse>
```

9. Service Name: RTSTransactionStatusRequest

Brief Description

The RTSTransactionStatusRequest is sent to the server whenever contact is lost and the status needs to be updated on the client.

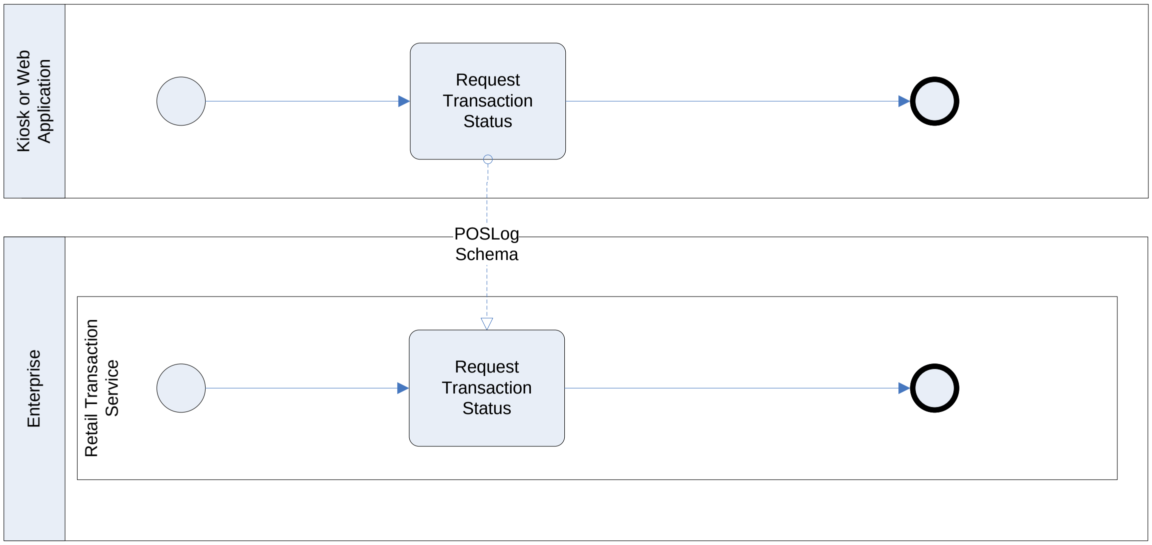

Kiosk or Web Application
Request Transaction Status
POSLog Schema
Enterprise
Retail Transaction Service
Request Transaction Status

Figure 11: RTSTransactionStatusRequest BPMN Diagram

The RTSTransactionStatusRequest BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

9.1 USE CASE: REQUEST TRANSACTION STATUS

Brief Description

If for some reason the client application loses contact with the server, it may need to query the system's status so it can re-instantiate its environment.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

9.1.1 **Scenario:** An application recovering from a system failure needs to get the current transaction status

Scenario Description
The machine running a kiosk sales application has a transaction started with one item added and then encounters a power hit. The machine restarts and the kiosk sales application needs to recover its state. A query status request is used to get the last state of the system.

Data
Request: action code of "RequestStatus"
Response: sequence number, RTI status (NotInitialized, Initialized, ProcessingRequest, NotInTransaction, InTransaction, SignedOff, InconsistentState), date and time, last successful RequestID, last response (the item add), transaction ID, transaction totals

9.1.1 ARTS XML Conformance XML Instance Document – Request Current Transaction Status

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionStatusRequest xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionStatusRequestV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1234</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionStatusRequest>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionStatusRequestResponse
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionStatusRequestV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1236</MessageID>
        <Response>
            <RequestID>1235</RequestID>
            <LastSuccessfulResponseID>1234</LastSuccessfulResponseID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1234</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>0430020006</ItemID>
                        <Description>Deli Ham</Description>
                        <RegularSalesUnitPrice>2.59</RegularSalesUnitPrice>
                        <ExtendedAmount>4.33</ExtendedAmount>
                        <Quantity Units="1.67" UnitOfMeasureCode="Kg">1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">4.76</Total>
                <Total TotalType="TransactionNetAmount">4.33</Total>
                <Total TotalType="TransactionTaxAmount">.43</Total>
                <Total TotalType="TransactionBalanceDueAmount">4.76</Total>
                <Total TotalType="TransactionFoodstampTotalAmount">0.00</Total>
                <Total TotalType="TransactionFoodstampBalanceDue">0.00</Total>
                <Total TotalType="TransactionCouponTotal">0.00</Total>
                <Total TotalType="TransactionCouponCount">0</Total>
                <Total TotalType="TransactionTotalSavings">0.00</Total>
                <Total TotalType="TransactionTenderApplied">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionStatusRequestResponse>
```

10. Service Name: RTSTransactionCancel

Brief Description

The RTSTransactionCancel Service is used to cancel a transaction in progress.

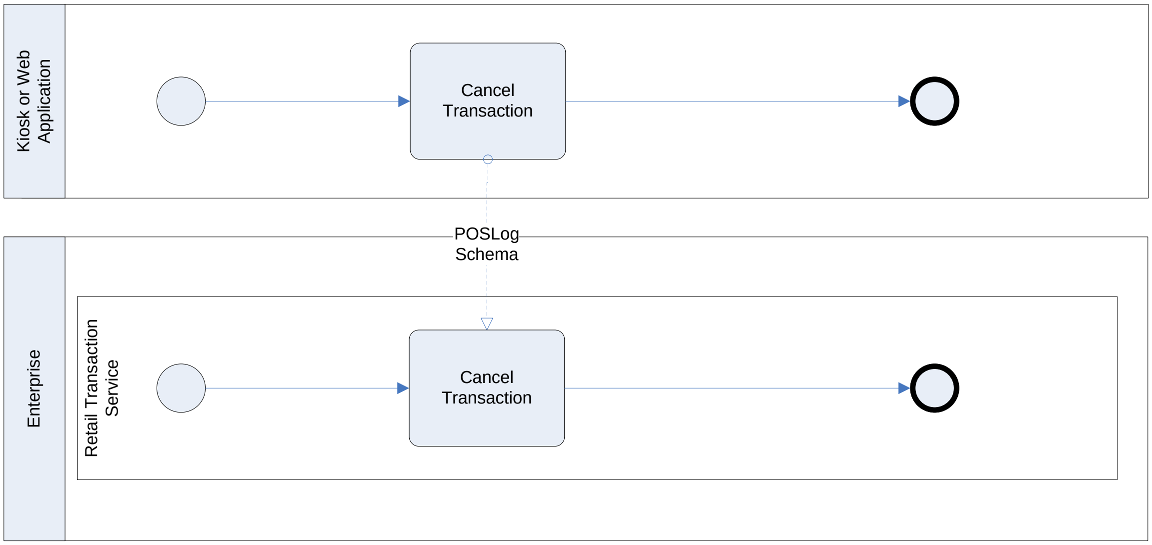


Figure 12: RTSTransactionCancel BPMN Diagram

The RTSTransactionCancel BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

10.1 USE CASE: CANCEL TRANSACTION

Brief Description

‘Cancel’ is used to designate a transaction line or entire transaction that was reversed PRIOR to the tender of a transaction.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

10.1.1 **Scenario:** Cancel a Transaction before Tender is Applied

Scenario Description

A customer is purchasing groceries but when it is time to pay he realizes that he has forgotten his wallet at home. The cashier cancels the transaction in progress.

Data

Request: action code of “Cancel”
Response: cancel acknowledgement, transaction status (Canceled), transaction id (number), date, time

10.1.1 ARTS XML Conformance XML Instance Document – Cancel a Transaction Before Tender is Applied

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- Cancel this transaction -->
            <SequenceNumber>100</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionCancel>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionCancelResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response ResponseCode="OK">
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
```

```
            <!-- This transaction canceled -->
            <SequenceNumber>100</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionCancelResponse>
```

11. Service Name: RTSTransactionSuspend

Brief Description

The RTSTransactionSuspend Service is used to suspend an active transaction.

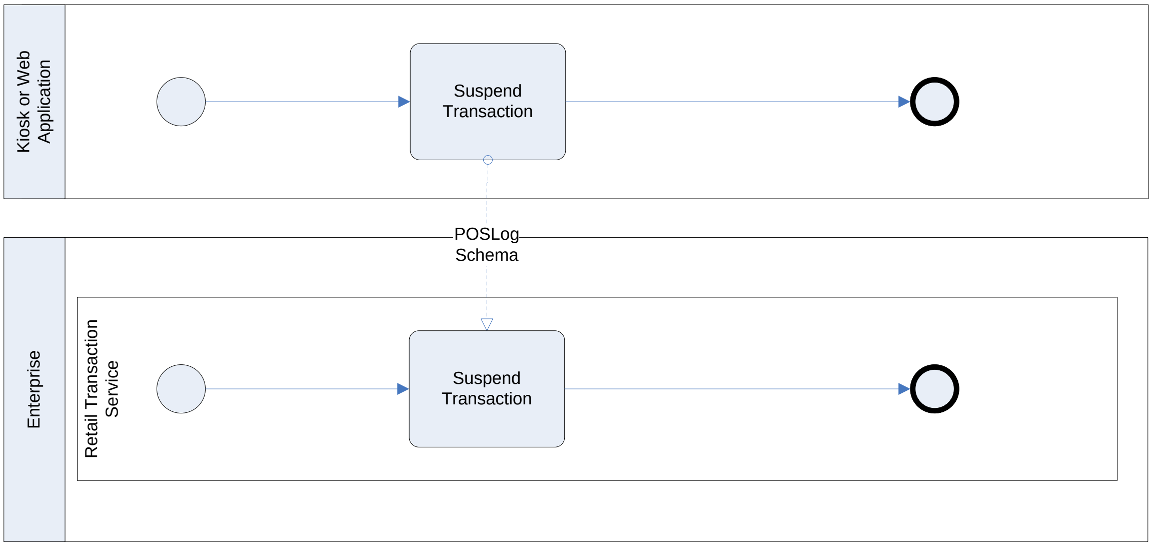


Figure 13: RTSTransactionSuspend BPMN Diagram

The RTSTransactionSuspend BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

11.1 USE CASE: SUSPEND TRANSACTION

Brief Description

A transaction that is in progress may not be able to be completed at the current time, but there are plans to finish the transaction in the future, so it is suspended instead of voided which would require a total re-ring.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

11.1.1 **Scenario:** Suspend a transaction before tender is applied

Scenario Description
A customer is purchasing groceries but has left his wallet in the car. The cashier suspends the transaction while the customer goes out to get his wallet.

Data
Request: action code of “Suspend”, reason code of “manual suspend”
Response: suspend acknowledgement, transaction status (Suspended), transaction id/number, date, time

11.1.1 ARTS XML Conformance XML Instance Document – Suspend a transaction before tender is applied

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionSuspend xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionSuspendV6.0.0.xsd"
     xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
     MinorVersion="0">
     <ARTSHeader>
          <MessageID>1234</MessageID>
          <Description>Manual Suspend</Description>
     </ARTSHeader>
     <POSLog>
          <Transaction>
               <!-- Suspend this transaction -->
               <SequenceNumber>101</SequenceNumber>
          </Transaction>
     </POSLog>
</RTSTransactionSuspend>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionSuspendResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
     xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionSuspendV6.0.0.xsd"
     xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
     MinorVersion="0">
     <ARTSHeader>
          <MessageID>1235</MessageID>
          <Response ResponseCode="OK">
               <RequestID>1234</RequestID>
               <ResponseDescription>Manual Suspend</ResponseDescription>
          </Response>
```

```
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- This transaction suspend -->
            <SequenceNumber>101</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionSuspendResponse>
```

11.1.2 **Scenario:** Transaction suspended for customer to pay at pay station

Scenario Description

A shopping associate scans all the items that the customer wishes to purchase. A payment slip is handed over to the customer by the shopping associate. The sales transaction is suspended after printing the payment slip.

Data

Request: action code of “Suspend”, reason code of “programmatic suspend”

Response: suspend acknowledgement, transaction status (Suspended), transaction id (number), date, time

11.1.2 ARTS XML Conformance XML Instance Document – Transaction suspended for customer to pay at pay station

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionSuspend xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionSuspendV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
        <Description>Programmatic Suspend</Description>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- Suspend this transaction -->
            <SequenceNumber>2544</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionSuspend>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionSuspendResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
```

```
../RTSTransactionSuspendV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Description>Programmatic Suspend</Description>
        <Response ResponseCode="OK">
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- This transaction suspended -->
            <SequenceNumber>2544</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionSuspendResponse>
```

12. Service Name: RTSTransactionResume

Brief Description

The RTSTransactionResume is used to resume a transaction that was previously suspended.

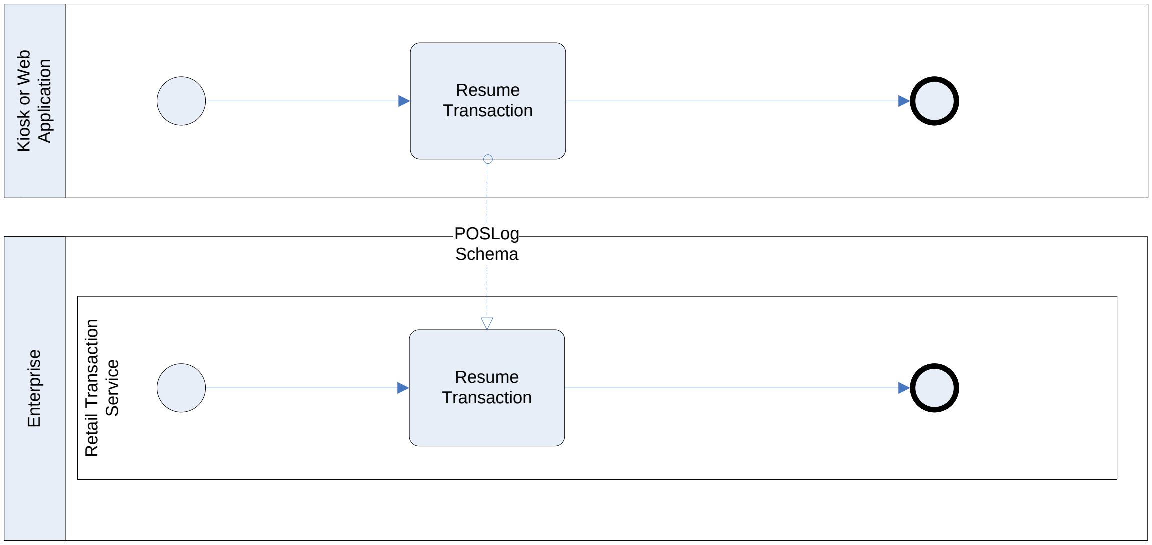


Figure 14: Resume Transaction BPMN Diagram

The RTSTransactionResume BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

12.1 USE CASE: RESUME TRANSACTION

Brief Description

A transaction that was previously suspended is resumed so it can be completed.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

12.1.1 **Scenario:** Resume a transaction after time has passed in order to complete it

Scenario Description
A customer returns with his wallet to complete a purchase that was previously started and suspended.

Data
Request: sequence number, terminal number, action code of "Resume"
Response: sequence number, resume acknowledgement, whole transaction (which includes totals), transaction status (Resumed), transaction id/number, date, time

12.1.1 ARTS XML Conformance XML Instance Document – Resume a transaction after time has passed in order to complete it

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResume xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
        <WorkstationID>25</WorkstationID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1776</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionResume>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResumeResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
```

```
            <SequenceNumber>250</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Resumed">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>01234567890123</ItemID>
                        <Description>Garden Table Set</Description>
                        <RegularSalesUnitPrice>299.00</RegularSalesUnitPrice>
                        <ExtendedAmount>299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>4294967295</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">312.46</Total>
                <Total TotalType="TransactionNetAmount">299.00</Total>
                <Total TotalType="TransactionTaxAmount">13.46</Total>
                <Total TotalType="TransactionBalanceDueAmount">312.46</Total>
                <Total TotalType="TransactionFoodstampTotalAmount">0.00</Total>
                <Total TotalType="TransactionFoodstampBalanceDue">0.00</Total>
                <Total TotalType="TransactionCouponTotal">0.00</Total>
                <Total TotalType="TransactionCouponCount">0</Total>
                <Total TotalType="TransactionTotalSavings">0.00</Total>
                <Total TotalType="TransactionTenderApplied">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionResumeResponse>
```

12.1.2 **Scenario:** Resume Transaction at a pay station

Scenario Description

A shopping associate scans all the items that the customer wishes to purchase. A payment slip is handed over to the customer by the shopping associate. The sales transaction is suspended after printing the payment slip.

The customer goes to a pay station and scans the payment slip. A request is sent to the POS application indicating that the sales transaction corresponding to the payment slip needs to be resumed. The POS application responds with a status of whether a valid sale transaction was present and resumed. The customer pays for the transaction and completes his purchase.

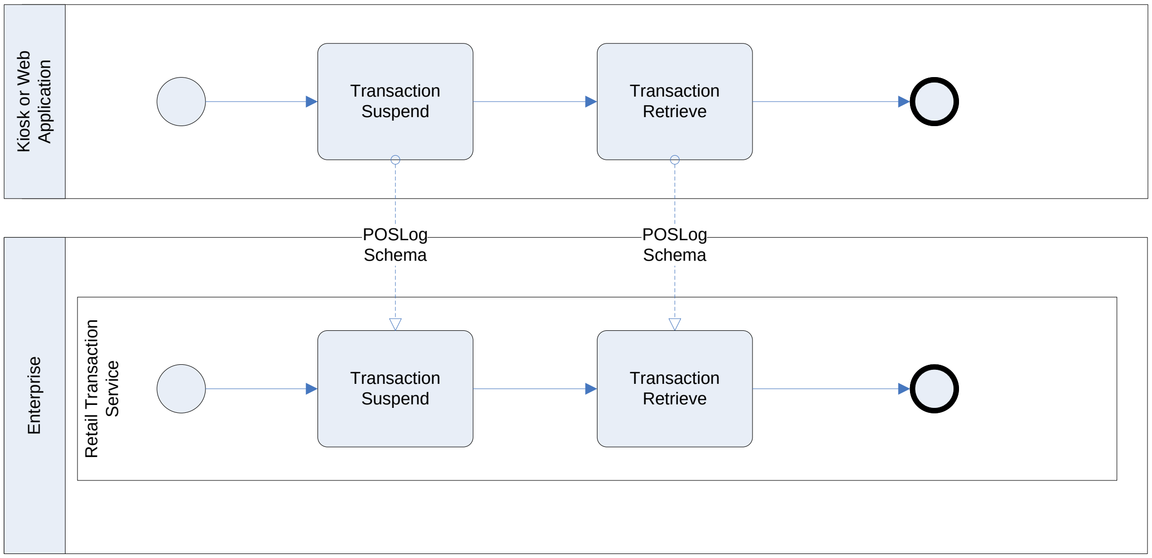


Figure 15: Resume Transaction at a pay station BPMN Diagram

Data
Request: sequence number, terminal number, action code of "Resume"
Response: sequence number, resume acknowledgement, whole transaction, transaction status (Resumed), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied)

12.1.2 ARTS XML Conformance XML Instance Document – Resume Transaction at a pay station

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResume xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader ActionCode="Resume">
        <MessageID>1234</MessageID>
        <WorkstationID>25</WorkstationID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>250</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionResume>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResumeResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>12315</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>250</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Resumed">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>01234567890123</ItemID>
                        <Description>Garden Table Set</Description>
                        <RegularSalesUnitPrice>299.00</RegularSalesUnitPrice>
                        <ExtendedAmount>299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">312.46</Total>
                <Total TotalType="TransactionNetAmount">299.00</Total>
                <Total TotalType="TransactionTaxAmount">13.46</Total>
                <Total TotalType="TransactionBalanceDueAmount">312.46</Total>
                <Total TotalType="TransactionFoodstampTotalAmount">0.00</Total>
                <Total TotalType="TransactionFoodstampBalanceDue">0.00</Total>
                <Total TotalType="TransactionCouponTotal">0.00</Total>
                <Total TotalType="TransactionCouponCount">0</Total>
                <Total TotalType="TransactionTotalSavings">0.00</Total>
                <Total TotalType="TransactionTenderApplied">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionResumeResponse>
```

12.1.3 **Scenario:** Resume Transaction using a scan code

Scenario Description

A customer scans all the items they wish to buy and then selects that they are ready to pay at the kiosk. They must pay at a pay station, so at the kiosk the sales transaction is suspended and the suspend data is printed as a barcode on the payment slip.

At the pay station, the barcode on the receipt is scanned and the transaction is resumed and then payment is made.

Data
Request: scan data for resume, action code of “Resume”
Response: sequence number, resume acknowledgement, whole transaction, transaction status (Resumed), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied)

12.1.3 ARTS XML Conformance XML Instance Document – Resume Transaction using a Scan Code

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResume xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader ActionCode="Resume">
        <MessageID>1234</MessageID>
        <WorkstationID>25</WorkstationID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <CustomerOrderTransaction>
                <LineItem>
                    <ScanData TypeCode="Barcode">400430020</ScanData>
                    <SequenceNumber>1 </SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionResume>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResumeResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
```

```
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Resumed">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Sale TaxableFlag="true" FoodstampableFlag="true">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>01234567890123</ItemID>
                        <Description>Garden Table Set</Description>
                        <RegularSalesUnitPrice>299.00</RegularSalesUnitPrice>
                        <ExtendedAmount>299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">312.46</Total>
                <Total TotalType="TransactionNetAmount">299.00</Total>
                <Total TotalType="TransactionTaxAmount">13.46</Total>
                <Total TotalType="TransactionBalanceDueAmount">312.46</Total>
                <Total TotalType="TransactionFoodstampTotalAmount">0.00</Total>
                <Total TotalType="TransactionFoodstampBalanceDue">0.00</Total>
                <Total TotalType="TransactionCouponTotal">0.00</Total>
                <Total TotalType="TransactionCouponCount">0</Total>
                <Total TotalType="TransactionTotalSavings">0.00</Total>
                <Total TotalType="TransactionTenderApplied">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionResumeResponse>
```

12.2 USE CASE: CROSS CHANNEL ORDER: BUY ONLINE/PICKUP IN STORE, BUY BY CALL CENTER/PICKUP IN STORE

Brief Description

Some orders can be placed online or in a call center with the ability to pick up the product in a local store.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

12.2.1 **Scenario:** Retrieve Item List for Pickup In Store

Scenario Description

Order is placed through remote channel for pickup in store.

Local store queries channel system or Order Management System for items to pick by Transaction ID.

Assumption:
The items have already been selected and tendered through the remote channel. This is the final stage in picking and delivering the items to the customer.

Data
Request: sequence number, transaction type – sales transaction
Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, department etc.), transaction status (InProcess), transaction id/number, date, time, transaction totals

12.2.1 ARTS XML Conformance XML Instance Document – Retrieve Item List for Pick Up In Store

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResume xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="SaleTransaction">
            <SequenceNumber>250</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionResume>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionResumeResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionResumeV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction TypeCode="SaleTransaction">
            <SequenceNumber>200</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Finished">
                <ItemCount>3</ItemCount>
                <LineItem>
                    <Sale>
                        <ItemID>0430020006</ItemID>
                        <Description>Bottle</Description>
                        <RegularSalesUnitPrice>0.05</RegularSalesUnitPrice>
                        <ExtendedAmount>0.15</ExtendedAmount>
                        <Quantity>3</Quantity>
                    </Sale>
                    <SequenceNumber>4294967295</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">0.15</Total>
                <Total TotalType="TransactionNetAmount">0.15</Total>
                <Total TotalType="TransactionTaxAmount">0.00</Total>
                <Total TotalType="TransactionBalanceDueAmount">0.15</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionResumeResponse>
```

13. Service Name: RTSTransactionTotal

Brief Description

The RTSTransactionTotal service is used to retrieve the transaction totals from the service

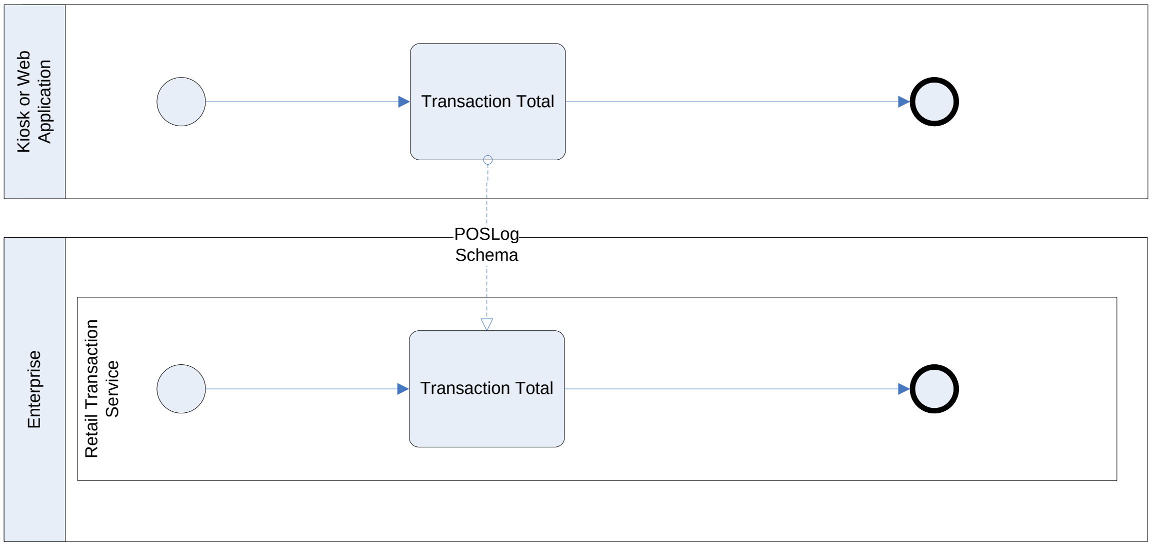


Figure 16: RTSTransactionTotal BPMN Diagram

The RTSTransactionTotal BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

13.1 USE CASE: GET TRANSACTION TOTAL

Brief Description

Several items have been added to a transaction and a transaction total is requested which will indicate that final coupon processing can be done, and the customer is ready to tender out the order.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

13.1.1 **Scenario:** Customer Ready to Tender Transaction

Scenario Description

Customer has added one or more items to a transaction and is ready to start tendering.

Data
Request: sequence number, total request (Total)
Response: sequence number, transaction status (Totaled), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied**)**

13.1.1 ARTS XML Conformance XML Instance Document – Customer Ready to Tender Transaction

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionTotal xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionTotalV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>156</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionTotal>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionTotalResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionTotalV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
```

```
            <SequenceNumber>654</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Totaled">
                <ItemCount>1</ItemCount>
                <Total TotalType="TransactionGrandAmount">4.89</Total>
                <Total TotalType="TransactionNetAmount">4.57</Total>
                <Total TotalType="TransactionTaxAmount">0.32</Total>
                <Total TotalType="TransactionBalanceDueAmount">4.89</Total>
                <Total TotalType="TransactionFoodstampTotalAmount">0.00</Total>
                <Total TotalType="TransactionFoodstampBalanceDue">0.00</Total>
                <Total TotalType="TransactionCouponTotal">0.00</Total>
                <Total TotalType="TransactionCouponCount">0</Total>
                <Total TotalType="TransactionTotalSavings">0.00</Total>
                <Total TotalType="TransactionTenderApplied">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionTotalResponse>
```

13.1.2 **Scenario:** Customer Ready to tender transaction with final coupon applied

Scenario Description

Customer has added one or more items to a transaction and is ready to start tendering. A final total is requested and at this point a coupon is applied. The coupon was delayed since it applies to the highest priced item in the transaction. If it is a store coupon then it is a Discount. If it is a manufacturer’s coupon then it is treated as tender because it is applied after tax. In this case it is a store coupon, a Discount.

Data
Request: sequence number, total request (Total)
Response: sequence number, transaction status (Totaled), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied), coupon item

13.1.2 ARTS XML Conformance XML Instance Document – Customer Ready to tender transaction with final coupon applied

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionTotal xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionTotalV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
```

```
            <SequenceNumber>200</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionTotal>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionTotalResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionTotalV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>200</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Totaled">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Discount>
                        <SequenceNumber>1</SequenceNumber>
                        <Amount Action="Subtract">0.25</Amount>
                    </Discount>
                    <SequenceNumber>5</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">4.89</Total>
                <Total TotalType="TransactionNetAmount">4.57</Total>
                <Total TotalType="TransactionTaxAmount">0.32</Total>
                <Total TotalType="TransactionBalanceDueAmount">4.89</Total>
                <Total TotalType="TransactionFoodstampTotalAmount">0.00</Total>
                <Total TotalType="TransactionFoodstampBalanceDue">0.00</Total>
                <Total TotalType="TransactionCouponTotal">0.25</Total>
                <Total TotalType="TransactionCouponCount">1</Total>
                <Total TotalType="TransactionTotalSavings">0.00</Total>
                <Total TotalType="TransactionTenderApplied">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionTotalResponse>
```

14. Service Name: RTSTransactionFinished

Brief Description

The RTSTransactionFinished is used to complete a transaction.

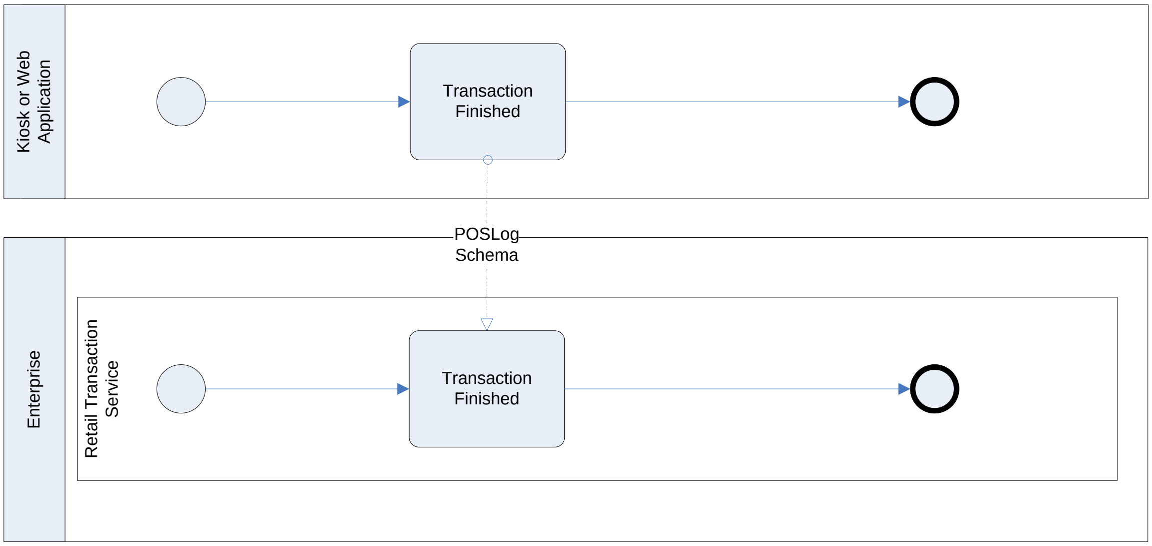


Figure 17: Resume Transaction BPMN Diagram

The RTSTransactionFinished BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

14.1 USE CASE: CROSS CHANNEL ORDER: BUY ONLINE/PICKUP IN STORE, BUY BY CALL CENTER/PICKUP IN STORE

Brief Description

Some orders can be placed online or in a call center with the ability to pick up the product in a local store.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

14.1.1 **Scenario:** Complete Pickup In Store Transaction

Scenario Description

Item list has been reserved and is ready for pickup. Consumer arrives at store location to pick up merchandise and complete transaction.

Data

Request:	sequence number
Response:	sequence number, line items (merchandise hierarchy, item id, description, reg sales unit price, extended amt, quantity), totals (trx grand amt, net amt, tax amt, balance due amt, foodstamp total amt, foodstamp bal due, coupon count, coupon total, total savings, tender applied)

14.1.1 ARTS XML Conformance XML Instance Document – Complete Pickup In Store Transaction

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionFinished xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionFinishedV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
        <WorkstationID>25</WorkstationID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>250</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionFinished>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionFinishedResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionFinishedV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>12315</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>250</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Finished">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <CustomerOrderForPickup OrderStatus="Filled"
TaxableFlag="true" FoodstampableFlag="true">
                        <MerchandiseHierarchy>1</MerchandiseHierarchy>
                        <ItemID>01234567890123</ItemID>
                        <Description>Garden Table Set</Description>
                        <RegularSalesUnitPrice>299.00</RegularSalesUnitPrice>
                        <ExtendedAmount>299.00</ExtendedAmount>
                        <Quantity>1</Quantity>
                    </CustomerOrderForPickup>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">312.46</Total>
                <Total TotalType="TransactionNetAmount">299.00</Total>
                <Total TotalType="TransactionTaxAmount">13.46</Total>
                <Total TotalType="TransactionBalanceDueAmount">312.46</Total>
                <Total TotalType="TransactionFoodstampTotalAmount">0.00</Total>
                <Total TotalType="TransactionFoodstampBalanceDue">0.00</Total>
                <Total TotalType="TransactionCouponTotal">0.00</Total>
                <Total TotalType="TransactionCouponCount">0</Total>
                <Total TotalType="TransactionTotalSavings">0.00</Total>
                <Total TotalType="TransactionTenderApplied">0.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTransactionFinishedResponse>
```

15. Service Name: RTSCustomerAdd

Brief Description

The RTSCustomerAdd Service is used to add customer information to the transaction.

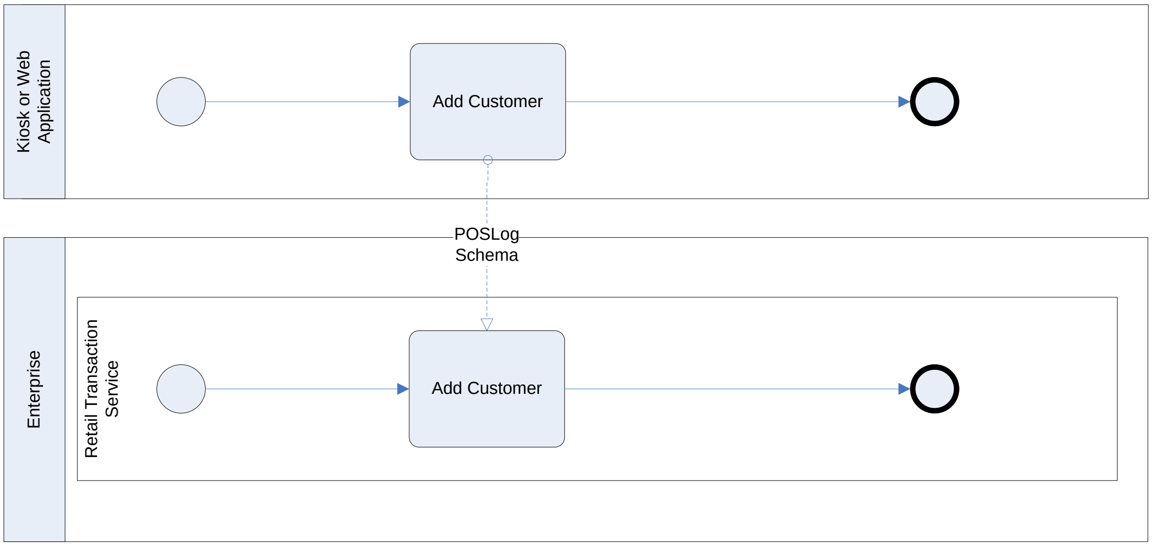


Figure 18: RTSCustomerAdd BPMN Diagram

The RTSCustomerAdd BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

15.1 USE CASE: ADD CUSTOMER LOYALTY ID TO TRANSACTION

Brief Description

A customer's loyalty id is added to a sales transaction.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

15.1.1 **Scenario:** Scan a customer loyalty barcode and add it to a sales transaction as the first entry in the transaction

Scenario Description

A customer presents their loyalty card at the register when purchasing items, no items have been scanned yet. In this case the system knows that it is a customer number being processed so that is why a customer element is sent.

Data
Request: sequence number, transaction ID, terminal number, action code of “Add”, customer loyalty ID
Response: sequence number, transaction id (number), date, time, transaction totals

15.1.1 ARTS XML Conformance XML Instance Document – Add Customer Loyalty to Transaction

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
      xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
      MinorVersion="0">
      <ARTSHeader>
            <MessageID>2134</MessageID>
      </ARTSHeader>
      <POSLog>
            <Transaction>
                  <SequenceNumber>175</SequenceNumber>
                  <CustomerOrderTransaction>
                        <Customer>
                              <CustomerID>123456789</CustomerID>
                        </Customer>
                  </CustomerOrderTransaction>
            </Transaction>
      </POSLog>
</RTSCustomerAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
      xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
      xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
      MinorVersion="0">
```

```
    <ARTSHeader>
        <MessageID>2135</MessageID>
        <Response>
            <RequestID>2134</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>175</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <Customer>
                    <CustomerID>123456789</CustomerID>
                </Customer>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCustomerAddResponse>
```

15.1.2 **Scenario:** Swipe a employee’s customer loyalty card and add it to a sales transaction which triggers a discount to be applied

Scenario Description

A customer presents their loyalty card at the register when purchasing items, several items have already been scanned and the customer is an employee. The loyalty card is swiped through an MSR and results in a discount being added to the transaction.

Data

Request: sequence number, transaction ID, terminal number, action code of “Add”, MSR data

Response: sequence number, transaction id (number), date, time, discount, transaction totals

15.1.2 ARTS XML Conformance XML Instance Document – Add Discount Triggered by Customer Loyalty

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>243</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
```

```
                    <ScanData TypeCode="MSR">123456789</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCustomerAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>12135</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>243</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Discount>
                        <SequenceNumber>1</SequenceNumber>
                        <Amount Action="Subtract">0.25</Amount>
                    </Discount>
                    <SequenceNumber>4</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">11.10</Total>
                <Total TotalType="TransactionNetAmount">10.62</Total>
                <Total TotalType="TransactionTaxAmount">0.48</Total>
                <Total TotalType="TransactionBalanceDueAmount">11.10</Total>
                <Customer>
                    <Worker>
                        <WorkerID>98756</WorkerID>
                    </Worker>
                </Customer>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCustomerAddResponse>
```

15.1.3 **Scenario:** A customer loyalty ID (with RFID technology) is added to a sales transaction

Scenario Description

A customer presents their loyalty card at the register when purchasing items and several items have already been scanned. The loyalty card is read by an RFID reader and the loyalty id is added to the transaction.

Data

Request: sequence number, transaction ID, terminal number, action code of “Add”, RFID data

Response: sequence number, transaction id/number, date, time, transaction totals

15.1.3 ARTS XML Conformance XML Instance Document – Scan Customer Loyalty with RFID

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>298</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <ScanData
TypeCode="RFID">012400540123456789460503200</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCustomerAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
```

```
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <Total TotalType="TransactionGrandAmount">11.10</Total>
                <Total TotalType="TransactionNetAmount">10.62</Total>
                <Total TotalType="TransactionTaxAmount">0.48</Total>
                <Total TotalType="TransactionBalanceDueAmount">11.10</Total>
                <Customer>
                    <CustomerID>123456789</CustomerID>
                </Customer>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCustomerAddResponse>
```

15.1.4 **Scenario:** A customer loyalty ID is mistakenly sent in as the parameter for an item add request which will result in an error

Scenario Description
A customer card is scanned and the client application sends the customer id over in a request to add an item. This results in an error.

Data
Request: sequence number, transaction ID, terminal number, action code of “Add”, Customer loyalty ID (sent as an item id)
Response: sequence number, transaction id/number, date, time, error code

15.1.4 ARTS XML Conformance XML Instance Document –Customer Loyalty ID Format Error

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>9876</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Sale>
                        <ItemID Type="UPC-A">123456789</ItemID>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
            <BusinessError>
                <Code>ItemNotFound</Code>
                <Description>The item code is not in the item file</Description>
            </BusinessError>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>9876</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Sale>
                        <ItemID Type="UPC-A">123456789</ItemID>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemAddResponse>
```

15.1.5 **Scenario:** Swipe a customer loyalty card and add it to a sales transaction which triggers loyalty points to be awarded

Scenario Description
A customer presents their loyalty card at the register when purchasing items, and several items have already been scanned. The loyalty card is swiped through an MSR and results in loyalty points being awarded.

Data
Request: sequence number, transaction ID, terminal number, action code of "Add", Customer loyalty ID
Response: sequence number, transaction id/number, date, time, points, transaction totals

15.1.5 ARTS XML Conformance XML Instance Document – Swipe Loyalty and Add Loyalty Points

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>2345</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <ScanData TypeCode="MSR">123456789</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCustomerAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCustomerAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCustomerAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
```

```xml
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>2345</SequenceNumber>
            <POSLogDateTime>2001-12-17T09:30:47.0Z</POSLogDateTime>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Points>
                        <CorrectionPoints>200</CorrectionPoints>
                    </Points>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">0.62</Total>
                <Total TotalType="TransactionNetAmount">0.59</Total>
                <Total TotalType="TransactionTaxAmount">0.03</Total>
                <Total TotalType="TransactionBalanceDueAmount">0.62</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCustomerAddResponse>
```

16. Service Name: RTSRewardAdd

16.1 Scenario: Customer gets points for purchasing item (V2.2)

Brief Description

Pre-Condition

1. Already enrolled in customer app
2. Previously retrieved Customer ID

Post-Condition

Data

Customer ID	
CustomerAccount	
LoyaltyAccount	
LoyaltyAmount	
@type	Points assigned

Error! Reference source not found. **ARTS XML Conformance XML Instance ocument – Loyalty Points Awarded**

Request

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSRewardAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSRewardAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- This transaction is have more items added -->
            <SequenceNumber>876567</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSRewardAdd>
```

Response

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSRewardAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSRewardAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <BusinessUnit>
                <UnitID>HighStreet</UnitID>
            </BusinessUnit>
            <WorkstationID>POS5</WorkstationID>
            <SequenceNumber>4294967295</SequenceNumber>
            <OperatorID>John</OperatorID>
            <RetailTransaction>
                <LineItem>
                    <Sale ItemType="Stock">
                        <POSIdentity>
                            <POSItemID>01234567890123</POSItemID>
                        </POSIdentity>
                        <ExtendedAmount>4.89</ExtendedAmount>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem>
                    <LoyaltyReward>
                        <PromotionID>122345</PromotionID>
                        <LoyaltyID>1234</LoyaltyID>
                        <PointsAwarded>25</PointsAwarded>
                    </LoyaltyReward>
                </LineItem>
                <Customer>
                    <CustomerID>A23BD</CustomerID>
                    <!-- Customer Account -->
                    <AccountNumber>4567567</AccountNumber>
                </Customer>
            </RetailTransaction>
        </Transaction>
    </POSLog>
</RTSRewardAddResponse>
```

17. Service Name: RTSTransactionItemsAdd

17.1 USE CASE: RETURN TO ITEM ADD STATE AFTER TOTALED

Brief Description

Several items were added to a transaction. A transaction total was requested, and the customer now wants to add more items.

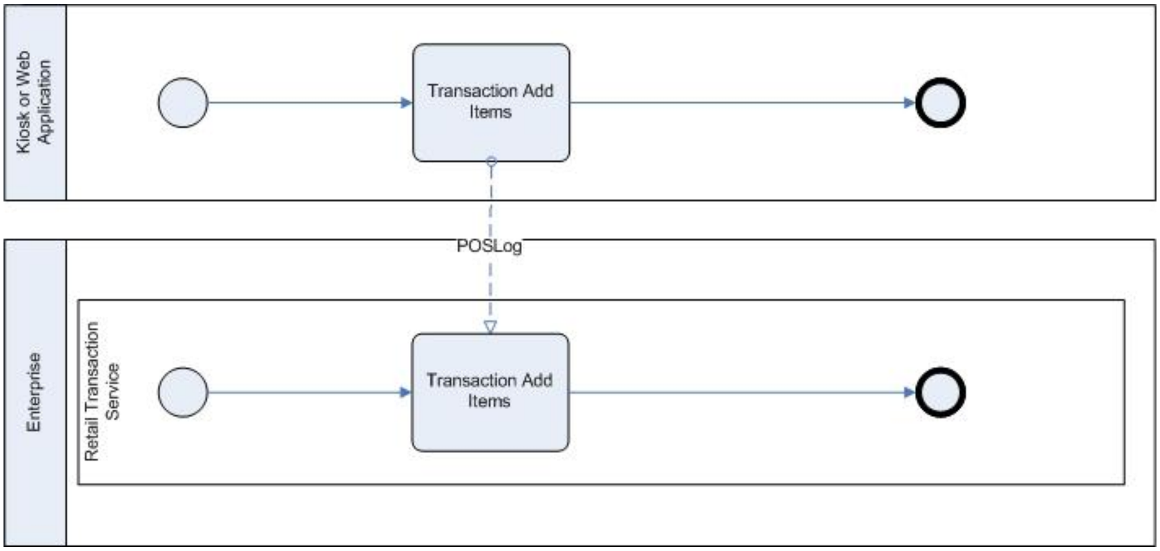


Figure 19: Return to Item Add State After a Total BPMN Diagram

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

17.1.1 **Scenario:** Customer wants to add more items after Total

Scenario Description

Customer has added one or more items to a transaction and totals the order, but then decides to add more items to the transaction before completing it.

Data

Request:	sequence number, add item state request
Response:	sequence number, acknowledgement

17.1.1 ARTS XML Conformance XML Instance Document – Add Items After Total

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionItemsAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
```

```
../RTSTransactionItemsAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- This transaction is have more items added -->
            <SequenceNumber>876567</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTransactionItemsAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTransactionItemsAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTransactionItemsAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <!-- This transaction is have more items added -->
            <SequenceNumber>876567</SequenceNumber>
            <!-- Ok Transaction status is back to in process, now enter items -->
            <CustomerOrderTransaction TransactionStatus="InProcess"/>
        </Transaction>
    </POSLog>
</RTSTransactionItemsAddResponse>
```

18. Service Name: RTSTenderAdd

Brief Description

The RTSTenderAdd service is used to add tenders to the transaction

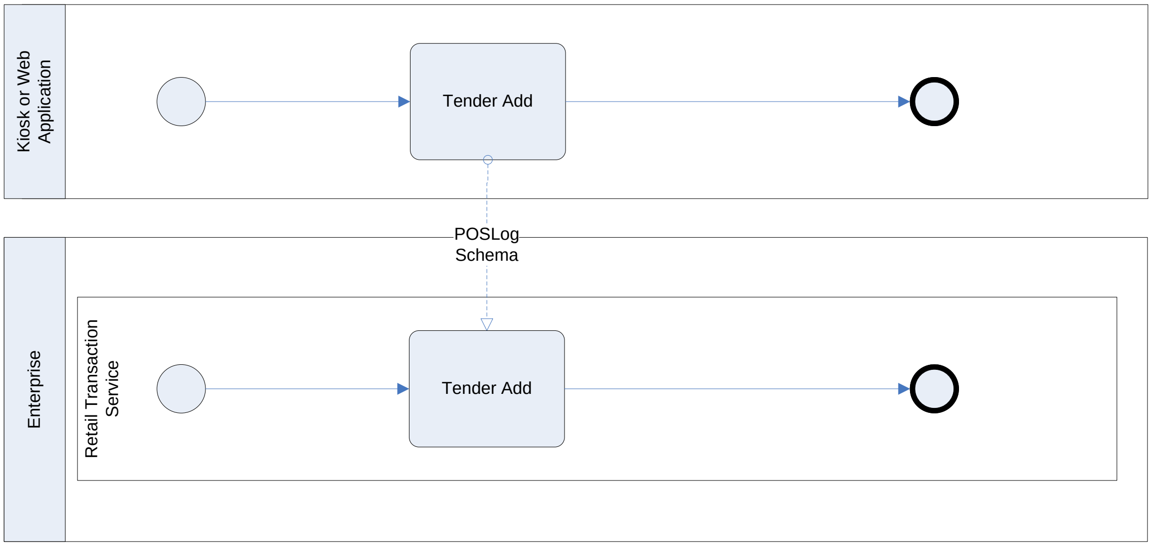


Figure 20: RTSTenderAdd BPMN Diagram

The RTSTenderAdd BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

18.1 USE CASE: ADD TENDER

Brief Description

One or more items are purchased and tender is applied to the balance due.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

18.1.1 **Scenario:** Customer Tenders Purchase with Cash Tender without Change

Scenario Description

Customer selects one or more items and purchases them with exact cash.

Data

Request: sequence number, tender type = cash, type = sale, tender amount

Response: sequence number, tender (description, tender type, tender amount), transaction status (Finished), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax), total items

18.1.1 ARTS XML Conformance XML Instance Document – Customer Tenders Purchase with Cash Tender without Change

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTenderAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTenderAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>2345</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Tender>
                        <Amount>4.89</Amount>
                    </Tender>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTenderAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTenderAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTenderAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
```

```
          <Response>
               <RequestID>1234</RequestID>
          </Response>
     </ARTSHeader>
     <POSLog>
          <Transaction>
               <SequenceNumber>2345</SequenceNumber>
               <CustomerOrderTransaction TransactionStatus="Finished">
                    <ItemCount>1</ItemCount>
                    <LineItem>
                         <Tender>
                              <Amount>4.89</Amount>
                         </Tender>
                         <SequenceNumber>2</SequenceNumber>
                    </LineItem>
                    <Total TotalType="TransactionGrandAmount">4.89</Total>
                    <Total TotalType="TransactionNetAmount">4.57</Total>
                    <Total TotalType="TransactionTaxAmount">0.32</Total>
                    <Total TotalType="TransactionBalanceDueAmount">0.00</Total>
                    <Total TotalType="TransactionTenderApplied">4.89</Total>
               </CustomerOrderTransaction>
          </Transaction>
     </POSLog>
</RTSTenderAddResponse>
```

18.1.2 **Scenario:** Customer Tenders Purchase with Cash Tender with Change

Scenario Description

Customer selects one or more items and purchases them with cash getting change back.

Data
Request: sequence number, tender type = cash, type = sale, tender amount)
Response: sequence number, tender (description, tender type, change), transaction status (Finished), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, tender applied), total items

18.1.2 ARTS XML Conformance XML Instance Document – Customer Tenders Purchase with Cash Tender with Change

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTenderAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTenderAddV6.0.0.xsd"
     xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
     MinorVersion="0">
     <ARTSHeader>
```

```
        <MessageID>1235</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>2354</SequenceNumber>
            <CustomerOrderTransaction>
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Tender>
                        <Amount>10.00</Amount>
                    </Tender>
                    <SequenceNumber>5</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTenderAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTenderAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTenderAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>2354</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="Finished">
                <ItemCount>1</ItemCount>
                <LineItem>
                    <Tender>
                        <Amount>10.00</Amount>
                        <TenderChange>
                            <Amount>5.11</Amount>
                        </TenderChange>
                    </Tender>
                    <SequenceNumber>5</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">4.89</Total>
                <Total TotalType="TransactionNetAmount">4.57</Total>
                <Total TotalType="TransactionTaxAmount">0.32</Total>
                <Total TotalType="TransactionBalanceDueAmount">0.00</Total>
                <Total TotalType="TransactionTenderApplied">10.00</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTenderAddResponse>
```

19. Service Name: RTSRequestCancel

Brief Description

The RTSRequestCancel service is used to cancel the currently active request.

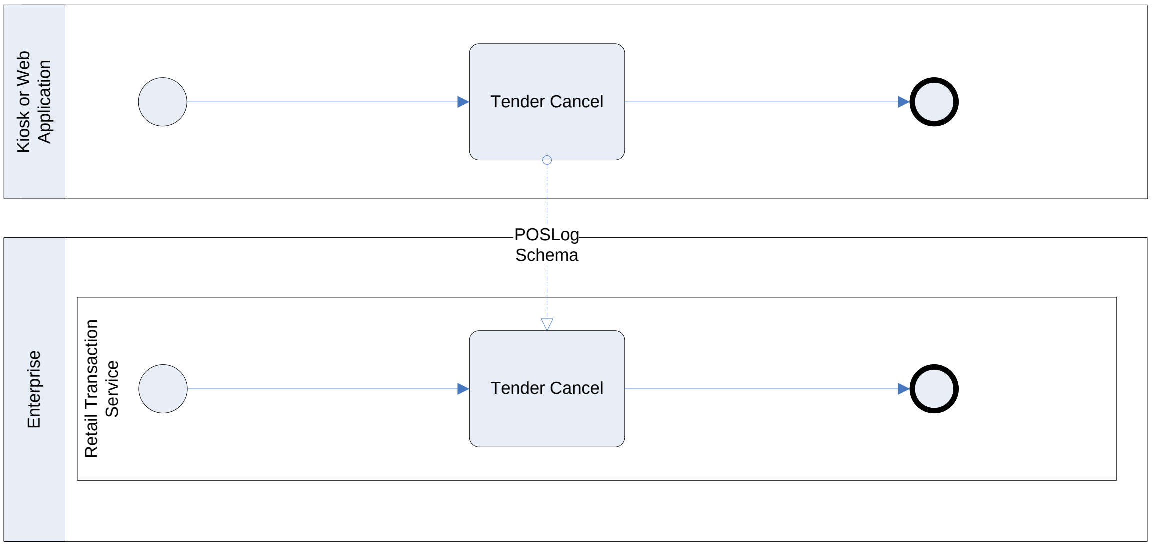


Figure 21: RTSRequestCancel BPMN Diagram

The RTSRequestCancel BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

Post-Conditions

The service provider is in a state where it will be able to immediately respond to an active request if there is any.

19.1 USE CASE: CANCEL TENDER

Brief Description

A credit tender is applied to a transaction. After requesting to add the tender, the customer wants to cancel it before the authorization is complete and a response is sent back to the client.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions
The transaction is in a state before the TenderAdd request was issued.

19.1.1 **Scenario:** Customer wants to cancel an in-progress credit tender

Scenario Description

Customer has added one or more items to a transaction and adds a credit tender, but then cancels the credit tender request.

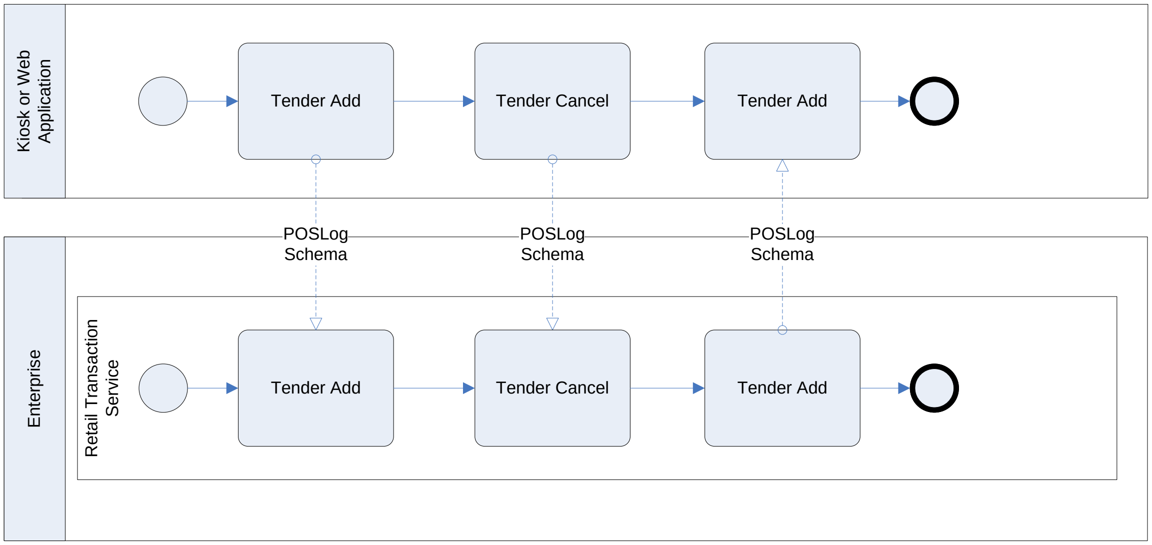


Figure 22: Cancel In-Progress Credit Tender BPMN Diagram

Data	
Request:	sequence number, cancel request
Response: (Totaled)	sequence number, acknowledgement, transaction status

19.1.1 ARTS XML Conformance XML Instance Document – Customer wants to cancel an in-progress credit tender

Tender Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTenderAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
	xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTenderAddV6.0.0.xsd"
	xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
	MinorVersion="0">
	<ARTSHeader>
```

```
        <MessageID>1235</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>2345</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Tender>
                        <Amount>4.89</Amount>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTenderAdd>
```

Tender Request Cancel

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSRequestCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSRequestCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1236</MessageID>
    </ARTSHeader>
    <POSLog>
        <!-- Cancel this transaction -->
        <Transaction>
            <SequenceNumber>2345</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSRequestCancel>
```

Tender Cancel Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSRequestCancelResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSRequestCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1237</MessageID>
        <Response ResponseCode="OK">
            <RequestID>1236</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>2345</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <TransactionLink>
                    <TransactionID>123</TransactionID>
                    <!-- This is the line item being canceled -->
                    <LineItemSequenceNumber>2</LineItemSequenceNumber>
                </TransactionLink>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSRequestCancelResponse>
```

Tender Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTenderAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTenderAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1238</MessageID>
        <Response ResponseCode="Rejected">
            <RequestID>1235</RequestID>
            <BusinessError>
                <Code>Tender Canceled</Code>
            </BusinessError>
        </Response>
    </ARTSHeader>
</RTSTenderAddResponse>
```

19.1.2 **Scenario:** Customer wants to Cancel an Approved Credit Tender

Scenario Description

Customer has added one or more items to a transaction and adds a credit tender, but then cancels a completed request. This becomes a line item cancel. See RTSLineItemCancel Use Case for more examples of line item cancels.

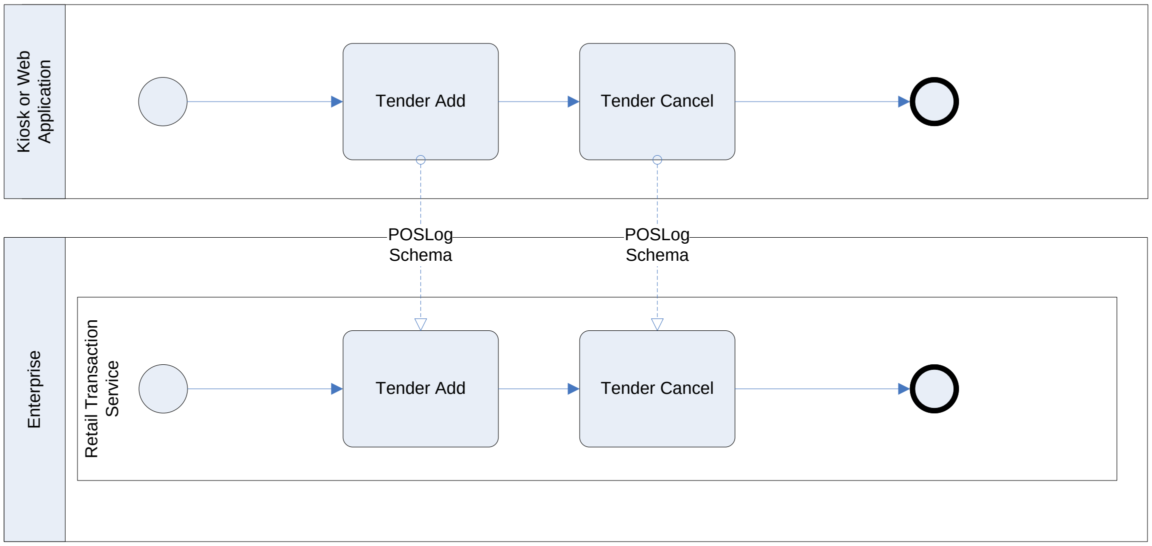


Figure 23: Cancel Approved Credit Tender BPMN Diagram

Data
Request: sequence number, cancel tender request
Response: sequence number, acknowledgement, transaction status (Totaled)

19.1.2 ARTS XML Conformance XML Instance Document – Customer wants to cancel an approved credit tender

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
	xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSLineItemCancelV6.0.0.xsd"
	xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
	MinorVersion="0">
	<ARTSHeader>
		<MessageID>1234</MessageID>
	</ARTSHeader>
	<POSLog>
		<Transaction>
			<SequenceNumber>5674</SequenceNumber>
		</Transaction>
	</POSLog>
</RTSLineItemCancel>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSLineItemCancelResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
	xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
```

```
../RTSLineItemCancelV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>5674</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <TransactionLink>
                    <TransactionID>1</TransactionID>
                    <LineItemSequenceNumber>1</LineItemSequenceNumber>
                </TransactionLink>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSLineItemCancelResponse>
```

20. Service Name: RTSTargetedOfferCheck

20.1 USE CASE: Manufacturer Coupon TargetedOfferCheckResponse[v6.0.0]

Brief Description
A customer wants to know if there is a targeted offer for them.

Steps:

- Customer asks if there is a targeted offer for them, RTI request sent to POS
- POS checks with the loyalty system
- RTI returns the results

Pre-Conditions
The customer needs to be registered with the loyalty system. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

20.1.1 Scenario: A manufacturer coupon is returned from a promotion service

Brief Description
Requesting a targeted offer results in a manufacturer’s coupon being added to the sales transaction.

Scenario Description
Joan receives a manufacturer’s coupon for paper towels from an online promotion service when she purchases them at her local store.

Data

Request: customer id
Response: sequence number, coupon line item if applicable,
response code Tender (Tender type of ManufacturerCoupon, Tender Amount)

20.1.1 ARTS XML Conformance XML Instance Document – A manufacturer coupon is returned from a promotion service

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTargetedOfferCheck  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTargetedOfferCheckV6.0.0.xsd"
      xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
```

```
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>5674</SequenceNumber>
        </Transaction>
    </POSLog>
</RTSTargetedOfferCheck>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSTargetedOfferCheckResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSTargetedOfferCheckV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <ARTSHeader ActionCode="Begin" MessageType="Response">
        <MessageID>9867</MessageID>
        <DateTime>2001-12-17T09:30:47-05:00</DateTime>
        <Response ResponseCode="OK">
            <RequestID>9867</RequestID>
        </Response>
        <BusinessUnit>100</BusinessUnit>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <BusinessUnit>
                <UnitID>100</UnitID>
            </BusinessUnit>
            <WorkstationID>POS1</WorkstationID>
            <SequenceNumber>99</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Tender TenderType="ManufacturerCoupon">
                        <Amount>5.00</Amount>
                        <Coupon>
                            <PrimaryLabel>1234</PrimaryLabel>
                        </Coupon>
                    </Tender>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Sale>
                        <ItemID Type="UPC">04300002222</ItemID>
                        <RegularSalesUnitPrice>2.59</RegularSalesUnitPrice>
                        <ExtendedAmount>5.18</ExtendedAmount>
                        <Quantity>2</Quantity>
                    </Sale>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <Customer>
                    <CustomerID>1243XCS</CustomerID >
                </Customer>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSTargetedOfferCheckResponse>
```

21. Service Name: RTSCouponAdd

Brief Description

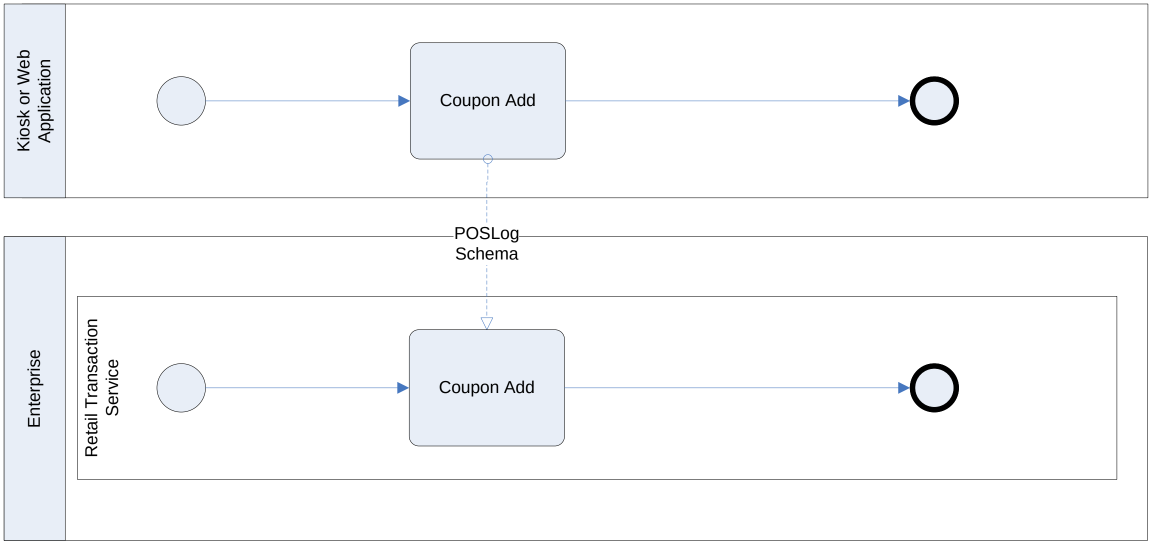


Figure 24: RTSCouponAdd BPMN Diagram

The RTSCouponAdd BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

21.1 USE CASE: ADD IN-STORE COUPON

Brief Description

Customer selects one or more items and adds an in-store coupon.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

21.1.1 **Scenario:** Customer adds an In-Store Coupon

Scenario Description

Customer selects one or more items and adds an in-store coupon. The in-store coupon is a pre-tax discount.

Data

Request: sequence number, discount (coupon)
Response: sequence number, transaction status (In Process), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, total coupons, coupon total), coupon/discount data

21.1.1 ARTS XML Conformance XML Instance Document – Customer adds an In-Store Coupon

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>3487</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Discount MethodCode="Coupon">
                        <SequenceNumber>123412341234</SequenceNumber>
                        <Amount Action="Subtract">5.00</Amount>
                    </Discount>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>3487</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem Action="Add">
                    <Discount MethodCode="Coupon">
                        <SequenceNumber>123412341234</SequenceNumber>
                        <Amount Action="Subtract">5.00</Amount>
                    </Discount>
                    <SequenceNumber>5</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">14.55</Total>
                <Total TotalType="TransactionNetAmount">13.92</Total>
                <Total TotalType="TransactionTaxAmount">0.40</Total>
                <Total TotalType="TransactionBalanceDueAmount">9.32</Total>
                <Total TotalType="TransactionCouponTotal">5.00</Total>
                <Total TotalType="TransactionCouponCount">1</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAddResponse>
```

21.1.2 **Scenario:** Customer adds a Scanned In-Store Coupon

Scenario Description

Customer selects one or more items and adds a scanned in-store coupon. The in-store coupon is a pre-tax discount.

Data
Request: sequence number, coupon id
Response: sequence number, transaction status (In Process), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, total coupons, coupon total), coupon/discount data

21.1.2 ARTS XML Conformance XML Instance Document – Customer adds a Scanned In-Store Coupon

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <ScanData TypeCode="Coupon">15002560003</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAdd>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1235</MessageID>
        <Response>
            <RequestID>1234</RequestID>
        </Response>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Discount MethodCode="Coupon">
                        <SequenceNumber>15002560003</SequenceNumber>
                        <Amount Action="Subtract">5.00</Amount>
                    </Discount>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">14.55</Total>
                <Total TotalType="TransactionNetAmount">13.92</Total>
                <Total TotalType="TransactionTaxAmount">0.40</Total>
                <Total TotalType="TransactionBalanceDueAmount">9.32</Total>
                <Total TotalType="TransactionCouponTotal">5.00</Total>
                <Total TotalType="TransactionCouponCount">1</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAddResponse>
```

21.1.3 Scenario: A customer at a self checkout terminal scans a store coupon (V6.0)

Brief Description
A customer at a self checkout terminal scans a store coupon and wants to see a confirmation on the display that the coupon was applied to the transaction.

Scenario Description
Chuck is scanning his groceries at a self checkout station and has a store coupon that he scans to get $0.50 off of the peanut butter that he purchased. After he scans the coupon, he sees a line "Peanut Butter Coupon   -0.50" on the receipt on the customer display.

Data
Request: sequence number, coupon id
Response: sequence number, transaction status (In Process), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, total coupons, coupon total), coupon/discount data (identifier, amount, description)

21.1.3 ARTS XML Conformance XML Instance Document – Self Checkout Coupon Scan Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <ScanData TypeCode="Coupon">15002560003</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAdd>
```

21.1.3 ARTS XML Conformance XML Instance Document – Self Checkout Coupon Scan Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
```

```
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Discount>
                        <SequenceNumber>1</SequenceNumber>
                        <Amount Action="Subtract">1.00</Amount>
                    </Discount>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">14.55</Total>
                <Total TotalType="TransactionNetAmount">13.92</Total>
                <Total TotalType="TransactionTaxAmount">0.40</Total>
                <Total TotalType="TransactionBalanceDueAmount">9.32</Total>
                <Total TotalType="TransactionCouponTotal">1.00</Total>
                <Total TotalType="TransactionCouponCount">1</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAddResponse>
```

21.1.4 **Scenario: A customer brings in more than one of the same paper coupon to use in a transaction**

Brief Description

A customer brings in more than one of the same store coupon to apply to a transaction. The cashier uses a quantity key to enter the coupons.

Scenario Description

Mary brings three coupons for $0.50 off of a store brand item to use in her transaction. The cashier enters the coupons by entering a quantity of three and scanning one of the coupons.

Data

- Store coupon data, including:
  - An identifier for the RetailPriceModifier
  - Amount of the RetailPriceModifier
  - Quantity of the RetailPriceModifier

21.1.4 ARTS XML Conformance XML Instance Document – Multiple Identical Coupons Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAdd xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```xml
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <ScanData TypeCode="Coupon">15002560003</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAdd>
```

21.1.4 ARTS XML Conformance XML Instance Document – Multiple Identical Coupons Response:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponAddResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponAddV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>1234</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>4294967295</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Sale>
                        <ItemID>1234</ItemID>
                        <RetailPriceModifier>
                            <SequenceNumber>1</SequenceNumber>
                            <Amount Action="Subtract">1.00</Amount>
                        </RetailPriceModifier>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">14.55</Total>
                <Total TotalType="TransactionNetAmount">13.92</Total>
                <Total TotalType="TransactionTaxAmount">0.40</Total>
                <Total TotalType="TransactionBalanceDueAmount">9.32</Total>
                <Total TotalType="TransactionCouponTotal">1.00</Total>
                <Total TotalType="TransactionCouponCount">1</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponAddResponse>
```

22. Service Name: RTSCouponTender

Brief Description

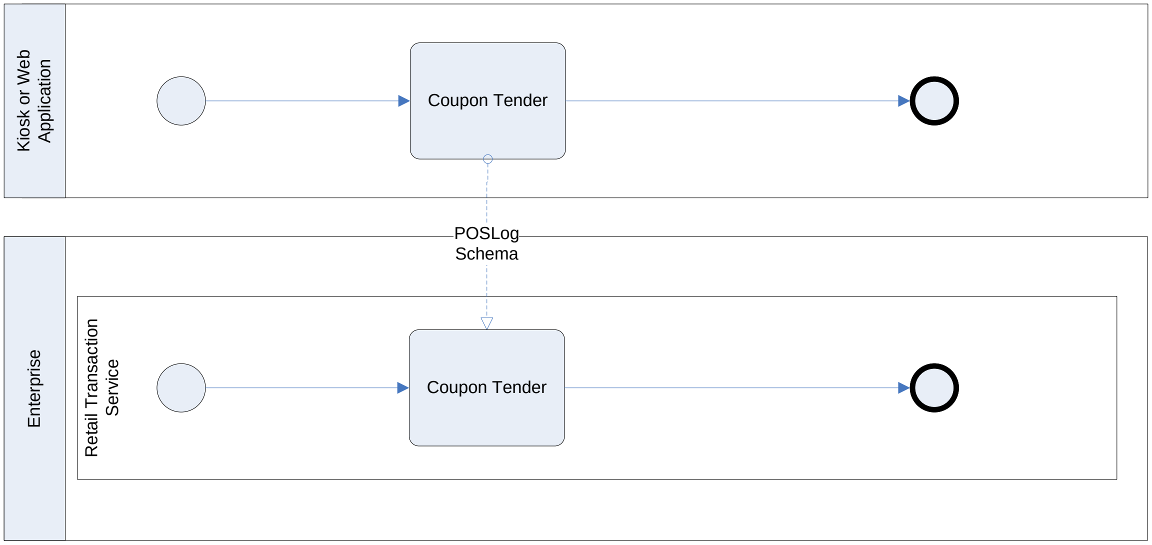


Figure 25: RTSCouponTender BPMN Diagram

The RTSCouponTender BPMN shows the interaction between the Kiosk (or web) application and the remote RTS service. It highlights the use of POSLog XML Schema as the standard interface definition for message communication between the client and service.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

22.1 USE CASE: ADD MANUFACTURER'S COUPON

Brief Description

Customer selects one or more items and purchases them in part with a manufacturer's coupon.

Pre-Conditions

The transaction was begun following the Begin Transaction Use Case. These scenarios focus on specific interim steps in a complete process and are not intended to show the entire process. The entire process may (and probably does) involve interaction with other services.

Post-Conditions

22.1.1 **Scenario:** Customer Tenders Purchase in Part with Manufacturer’s Coupon

Scenario Description

Customer selects one or more items and purchases them in part with a manufacturer’s coupon. The manufacturer’s coupon is a tender type.

Data

Request: sequence number, tender type = manufacturer’s coupon, type code = sale, tender amount

Response: sequence number, tender/coupon (description, tender type, tender amount), transaction status (In Process), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, total coupons, coupon total, tender applied?)

22.1.1ARTS XML Conformance XML Instance Document – Customer Tenders Purchase in Part with Manufacturer’s Coupon

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponTender xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponTenderV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>3456</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>999</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <Tender TenderType="ManufacturerCoupon">
                        <Amount>5.00</Amount>
                        <Coupon>
                            <PrimaryLabel>12341234</PrimaryLabel>
                        </Coupon>
                    </Tender>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponTender>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponTenderResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponTenderV6.0.0.xsd"
```

```
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>2345</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1001</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Tender TenderType="ManufacturerCoupon">
                        <Amount>5.00</Amount>
                        <Coupon>
                            <PrimaryLabel>504538009003</PrimaryLabel>
                            <ExpirationDate>2003-12-31</ExpirationDate>
                        </Coupon>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">14.55</Total>
                <Total TotalType="TransactionNetAmount">13.92</Total>
                <Total TotalType="TransactionTaxAmount">0.63</Total>
                <Total TotalType="TransactionBalanceDueAmount">9.55</Total>
                <Total TotalType="TransactionCouponTotal">5.00</Total>
                <Total TotalType="TransactionCouponCount">1</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponTenderResponse>
```

22.1.2 **Scenario:** Customer Tenders Purchase in Part with a Scanned Manufacturer’s Coupon

Scenario Description

Customer selects one or more items and purchases them in part with a scanned manufacturer’s coupon. The manufacturer’s coupon is a tender type.

Data
Request: sequence number, coupon id
Response: sequence number, tender/coupon (description, tender type, tender amount), transaction status (In Process), transaction id/number, date, time, transaction totals (total, subtotal, balance due, tax, total coupons, coupon total

22.1.2 ARTS XML Conformance XML Instance Document – Customer Tenders Purchase in Part with a Scanned Manufacturer’s Coupon

Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponTender xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
```

```
../RTSCouponTenderV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>2345</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1001</SequenceNumber>
            <CustomerOrderTransaction>
                <LineItem>
                    <ScanData TypeCode="Coupon">504538009003</ScanData>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponTender>
```

Response:

```
<?xml version="1.0" encoding="UTF-8"?>
<RTSCouponTenderResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/
../RTSCouponTenderV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" FixVersion="0"
MajorVersion="6"
    MinorVersion="0">
    <ARTSHeader>
        <MessageID>2345</MessageID>
    </ARTSHeader>
    <POSLog>
        <Transaction>
            <SequenceNumber>1001</SequenceNumber>
            <CustomerOrderTransaction TransactionStatus="InProcess">
                <LineItem>
                    <Tender TenderType="ManufacturerCoupon">
                        <Amount>5.00</Amount>
                        <Coupon>
                            <PrimaryLabel>504538009003</PrimaryLabel>
                            <ExpirationDate>2003-12-31</ExpirationDate>
                        </Coupon>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <Total TotalType="TransactionGrandAmount">14.55</Total>
                <Total TotalType="TransactionNetAmount">13.92</Total>
                <Total TotalType="TransactionTaxAmount">0.63</Total>
                <Total TotalType="TransactionBalanceDueAmount">9.55</Total>
                <Total TotalType="TransactionCouponTotal">5.00</Total>
                <Total TotalType="TransactionCouponCount">1</Total>
            </CustomerOrderTransaction>
        </Transaction>
    </POSLog>
</RTSCouponTenderResponse>
```

23. USE CASE: FULL Sequence of RTI Interactions

Brief Description

The RTI technical specification contains use cases that show the details of individual methods for adding an item, adding a tender, and so on. The RTI state diagram represents which operations are possible in the various states.

This set of use cases shows a complete sequence of operations done using RTI. There are many possible sequences in which the RTI operations can be utilized. This section will illustrate a few important use cases to demonstrate the end-to-end flow of using RTI.

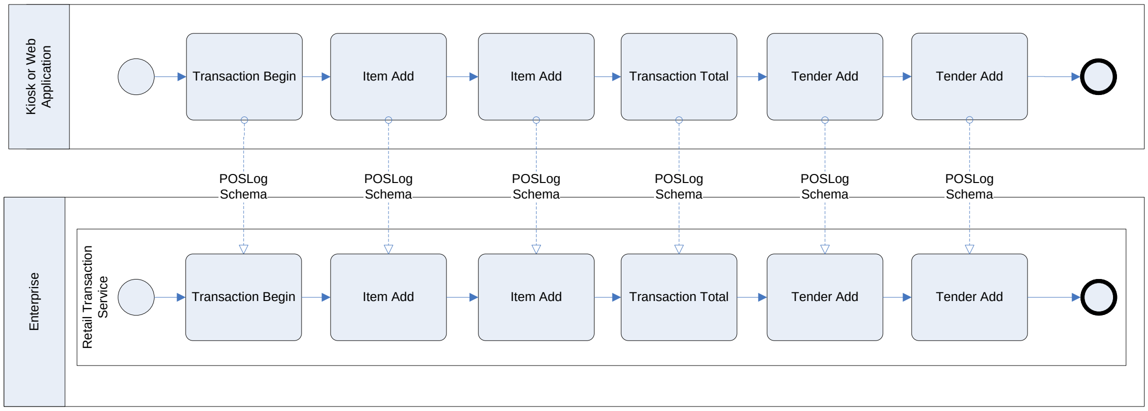


Figure 26: FULL Sequence of RTI Interactions BPMN Diagram

Pre-Conditions

Post-Conditions

23.1 **Scenario:** Scan Items and Pay for Transaction

Scenario Description

A customer scans one or more items at a self checkout lane. The customer touches the “Finish and Pay” button on the self checkout GUI. Self checkout displays the total amount due for the transaction. The customer then pays for the transaction using one or more tender types.

Data

1. Customer scans the first item

1a. Self checkout sends an RTI initialize message

Request: sequence number, workstation ID, terminal number, action code of “Initiate”

Response: sequence number, terminal number, date, time,

1b. Self checkout sends an RTI add item message

Request: sequence number, item identifier, quantity
Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, price derivation method, department, item taxable status, item foodstampable status), transaction status (Finished, InProcess,

Suspended, Voided), transaction id (number), date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied**)**

2. Customer scans another item

2a. Self checkout sends an RTI add item message

Request: sequence number, item identifier, quantity
Response: sequence number, line item (description, item identifier, regular sales price, quantity, extended amount, price derivation method, department, item taxable status, item foodstampable status), transaction status (Finished, InProcess, Suspended, Voided), transaction id (number), date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied**)**

3. The customer presses the "Finish and Pay" button

3a. Self checkout sends an RTI Get Total message

Request: sequence number, action code of "Total"
Response: sequence number, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied**)**

4. The customer pays for part of the balance due with cash

4a. Self checkout sends an RTI Add Tender message

Request: sequence number, action code of "Add", tender type (cash), tender amount, tender details

Response: sequence number, transaction status (Totaled, Tendered), transaction id (number), date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied**)**

5. The customer pays for the remaining balance due with a credit card

5a. Self checkout sends an RTI Add Tender message

Request: sequence number, action code of "Add", tender type (credit), tender amount, tender details

Response: sequence number, transaction status (Finished), transaction id (number), date, time, transaction totals (total, subtotal, balance due, tax, foodstamp balance due, foodstamp total, total items, total coupons, coupon total, total savings, tender applied**)**

24. Document History

25. Version History

Version 1.0

Overview

New Features

Sections	Description of Change
	-

Minor fixes

Deprecation

Sections	Description of Change
	-

Compatibility/Dependencies Issues

Previous Document

26. GLOSSARY

Term	Definition