ARTS POSLog V6.0

Volume 10: Tendering Line Items Technical Specification
February 10, 2014 – Last Call Working Draft

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1. Abstract

1.1 Overview

The tendering volume is a collection of use cases and scenarios which are applicable across different verticals such as soft goods, hard goods, fuel and foodservice. Scenario descriptions reflect the diversity of the intended audiences.

NOTE: ARTS defines the structure of the data in the messages between applications in retail. It does not control the message content. The examples in this volume include the use of credit card numbers. These are for example only. With modern hacking techniques, any information in plain text can be extracted. It is **<u>strongly</u>** recommended that this data be encrypted.

1.2 In Scope

1.3 Out of Scope

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
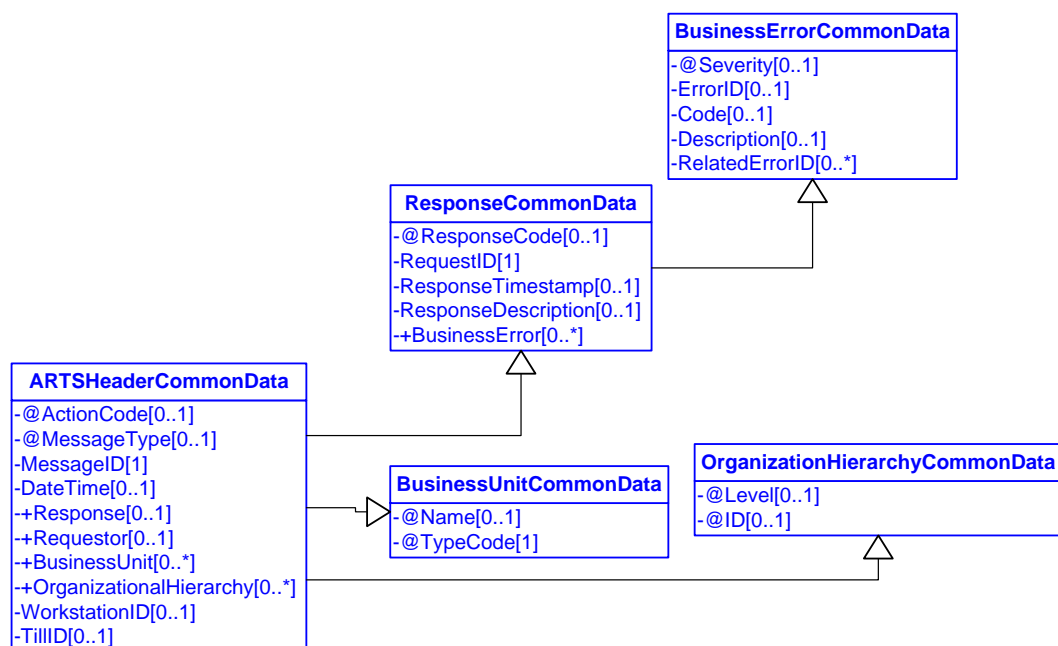
Figure 1: ARTS Common Header Domain View

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.

Figure 2: 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. USE Case: Sale Tender

The following description is used for all sale tender scenarios.

Brief Description
Customer selects one or more items and purchases them with various tenders.

Data
- Transaction header data, including:
  - **Identifiers for Store, Workstation, & Operator performing the transaction.**
  - **The date & time the transaction was performed**
  - **A workstation assigned sequence number identifying the transaction**
  - Item sale data, including:
  - **An identifier for the item being sold.**
  - **The number of multiples of the item being sold.**
  - **Unit price for the item being sold.**
  - **The extended amount (i.e. Unit price * the number of items being sold)**

5. USE CASE: Cash

5.1   Scenario: Customer Tenders Purchase with Cash Tender without Cash Back (2.1)

Brief Description

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

Data

- Tender Type = Cash
- Type = Sale
- The amount of the tender

5.1 Conformance XML Instance Document - Cash Purchase without Change

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Cash Tender without Change  -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Cash" TypeCode="Sale">
          <Amount>4.89</Amount>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

5.2   Scenario: Customer Tenders Purchase with Cash Tender with Cash Back (V2.1)

Brief Description

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

Scenario Description

A customer buys a hamburger for $2.50 and pays with a $5.00 bill.

Data
- Tender Type = Cash
- Type = Sale
- Amount Tendered
- Amount of Change

5.2 Conformance XML Instance Document – Cash Purchase with Change

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Cash Tender with change              -->
<!-- Note: Change amount is part of the original tender line item -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Cash" TypeCode="Sale">
          <Amount>5.00</Amount>
          <TenderChange>
            <Amount>0.11</Amount>
          </TenderChange>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

6. USE CASE: Credit/Debit Tender

Credit/Debit are different only in where the money comes from. In debit, it comes from the customer's account directly. If credit, it comes from a loan from the credit card company.

NOTE: Payment Card Industry Data Security Standard (PCI-CISP Version 1.0 December 15, 2004)
"Requirement 4: Encrypt transmission of cardholder and sensitive information across public networks.
Sensitive information must be encrypted during transmission over the Internet, because it is easy and common for a hacker to intercept and/or divert data while in transit.
4.1 Use strong cryptography and encryption techniques (at least 128 bit) such as Secure Sockets Layer (SSL), Point-to-Point Tunneling Protocol (PPTP), Internet Protocol Security (IPSEC) to safeguard sensitive cardholder data during transmission over public networks
4.1.1 For wireless networks transmitting cardholder data, encrypt the transmissions by using Wi-Fi Protected Access (WPA) technology if WPA capable, or VPN or SSL at 128-bit.
Never rely exclusively on WEP to protect confidentiality and access to a wireless LAN.
Use one of the above methodologies in conjunction with WEP at 128 bit, and rotate shared WEP keys quarterly and whenever there are personnel changes.
4.2 Never send cardholder information via unencrypted e-mail."

6.1 Pre-Auth Amount

How much money is held when one does a Pre-Auth with their credit card?

The answer may depend on several factors:

- If one is renting a hotel room, the hotel may place a hold for the amount of the estimated bill

- If one is purchasing gas, a retailer may either place $1 to verify the card is good or some percentage of their normal sales.

- The pre-Auth Amount could be much larger in forecourt. For example in the UK, "Pay At The Pump" Self Serve will Pre-Auth £99.99 and then limit the delivery to that amount. Final charge is for the amount dispensed

6.2 Scenario: Customer Tenders Purchase with Debit or Credit Tender without Cash Back (V2.1)

Brief Description
Customer selects one or more items and purchases them with a debit or credit card.

Scenario Description
Custoemr comes into the restaurant and orders a steak meal to go. He pays for it with his credit card.

Data
- Tender Type = Credit
- Type = Sale
- Tender Amount
- Credit Card Information
  - Card Type
  - Card Holder Name
  - Account Number
  - Expiration Date
- Authorization Information
  - Terminal where Transaction was Authorized

- o Amount Authorized
- o Authorization Code
- o Provider who Authorized Transaction
- o Date Time of Authorization

6.2 Conformance XML Instance Document - Credit Purchase without Cash Back

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Credit Card tender without CashBack   -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="CreditDebit" TypeCode="Sale">
          <Amount>4.89</Amount>
          <Authorization HostAuthorized="true" ForceOnline="true" ElectronicSignature="true">
            <RequestedAmount>4.89</RequestedAmount>
            <AuthorizationCode>234</AuthorizationCode>
            <ReferenceNumber>1234</ReferenceNumber>
            <MerchantNumber>2323-2342</MerchantNumber>
            <ProviderID>A Bank</ProviderID>
            <AuthorizationDateTime>2001-08-13T09:02:50</AuthorizationDateTime>
            <AuthorizingTermID>Terminal ID</AuthorizingTermID>
          </Authorization>
          <CreditDebit CardType="Credit">
            <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
            <ExpirationDate>2005-08</ExpirationDate>
          </CreditDebit>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

6.3 Scenario: Customer Tenders Purchase with Debit or Credit Tender with Cash Back (V2.1)

Brief Description

Customer selects one or more items and purchases them with debit or credit card getting cash back.

Scenario Description

Customer comes into the restaurant and orders a steak meal to go. He pays for it with his debit card and gets $10 in change.

Data

- Tender Type = Debit
- Type = Sale
- Tender Amount
- Credit Card Information
  - Card Type
  - Card Holder Name
  - Account Number
  - Expiration Date
- Authorization Information
  - Terminal where Transaction was Authorized
  - Amount Authorized
  - Authorization Code
  - Provider who Authorized Transaction
  - Date Time of Authorization
- Change Back to the Customer

6.3 Conformance XML Instance Document - Debit Purchase with Cash Back

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Credit Card tender with CashBack         -->
<!-- Note: CashBack amount is part of the original tender line item -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
  MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="CreditDebit" TypeCode="Sale">
```

```xml
            <Amount>9.89</Amount>
            <Cashback>5.00</Cashback>
            <Authorization HostAuthorized="true" ForceOnline="true" ElectronicSignature="true">
               <RequestedAmount>4.89</RequestedAmount>
               <AuthorizationCode>234</AuthorizationCode>
               <ReferenceNumber>1234</ReferenceNumber>
               <MerchantNumber>2323-2342</MerchantNumber>
               <ProviderID>A Bank</ProviderID>
               <AuthorizationDateTime>2001-08-13T09:02:50</AuthorizationDateTime>
               <AuthorizingTermID>Terminal ID</AuthorizingTermID>
            </Authorization>
            <CreditDebit CardType="Credit">
               <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
               <ExpirationDate>2005-08</ExpirationDate>
            </CreditDebit>
         </Tender>
         <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

6.4   Scenario: Contactless Payments (Differente Discount Rates Apply) (V6.0)

Brief Description

Cutomer buys food and pays by a contactless payment device (a credit card, mobile phone or key fob with an embedded RFID or NFC chip) by waving the device infront of the reader. Transaction is completed once the payment is authorized.

e.g: ExpressPay, PayPass, VisaWave (ISO 14443b), ApplePay

Data

A flag should be set to note that the transaction was paid by a contactless card. This information should be passed on to the processor to qualify for a different discount rate.

6.4 Conformance XML Instance Document – Contactless Payment

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
```

```xml
                <ExtendedAmount>4.89</ExtendedAmount>
                <Quantity>3</Quantity>
              </Sale>
              <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem>
              <Tender TenderType="RFID">
                <Amount>4.89</Amount>
                <CreditDebit>
                  <PrimaryAccountNumber>123123</PrimaryAccountNumber>
                </CreditDebit>
              </Tender>
              <SequenceNumber>2</SequenceNumber>
            </LineItem>
          </RetailTransaction>
        </Transaction>
</POSLog>
```

6.5   Scenario: Mobile Payments (Differente Discount Rates Apply) (V6.0)

Brief Description

Cutomer buys food and pays by a Mobile device (by either waving an NFC or RFID-enabled mobile device or approving the SMS request for authorization or by transferring the mobile wallet from the mobile device to the POS terminal via Infrared or via bluetooth). Transaction is completed once the payment is authorized.

Scenario Description

Customer buys a sandwich from a vending maching using his mobile phone.

Data

A flag should be set to note that the transaction was paid by a Mobile device. This information should be passed on to the processor to qualify for a different discount rate.

Transaction should also capture mobile phone number in this case.

6.5 Conformance XML Instance Document – Mobile Payment

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
```

```xml
        <Quantity>3</Quantity>
      </Sale>
      <SequenceNumber>1</SequenceNumber>
    </LineItem>
    <LineItem>
      <Tender TenderType="Mobile">
        <Amount>4.89</Amount>
        <Mobile>
          <Telephone>
            <AreaCode>450</AreaCode>
            <LocalNumber>123-3456</LocalNumber>
          </Telephone>
        </Mobile>
      </Tender>
      <SequenceNumber>2</SequenceNumber>
    </LineItem>
   </RetailTransaction>
  </Transaction>
</POSLog>
```

7.   USE Case: Japanese Credit Card (V2.2)

Credit card transactions in Japan differs from that in Europe and the United States on several points. The differences and the required entities are described here.

In Japan, the credit card transaction is performed on the Credit Authorization Terminal (CAT) or the POS terminal. When the CAT is used, the POS terminal sends tendering amount to the CAT, the operator swipes the card through the card reader provided on the CAT. The CAT performs a dial up to ask for an authorization of the transaction, issues a slip, and then returns the result to the POS terminal. In this case, what the POS terminal should store into the POSLog is limited information, such as the credit card company name, tendering amount, result, etc.

In other cases, the POS terminal performs credit card processing, which is adopted by relatively large retail sellers. The operator swipes the credit card through the card reader provided on the POS terminal. The POS terminal processes the information stored in the magnetic strip to identify the credit card company. When the operator enters the payment method, the POS terminal communicates with the authorization server by using TCP/IP, etc., to ask for an authorization of the credit card, and then informs the operator of the result. In this case, various information such as, not only credit card company name, tendering amount, result, but also membership number, payment method should be stored into the POSLog.

7.1   Scenario: Japan Unique Credit Card (JUCC) and Manual Entry (V2.2)

Brief Description
In Europe and the United States, the information stored in the 3 tracks on the back of the credit card is used for the authorization of the card. Meanwhile, the information stored in the front side of the card (i.e. Track 4 defined in the UPOS specification) is mainly used in Japan. Depending on the retail seller, the information on both the front side and the back side are used for identifying the card. In case the information stored in the credit card is not read correctly, the operator should manually enter the information according to the embossed characters on the card. Accordingly, the information below are required for the POSLog.

Information stored in the JUCC (i.e. Track 4 data defined in the UPOS specification):

- Whether the identification of the credit card was performed using the information stored in the front side of the JUCC or in the back side.
- Or whether the information was manually entered

Pre-Conditions
Post-Conditions
Data

7.1 Conformance XML Instance Document – Japan Unique Credit Card (JUCC) and Manual Entry

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <Transaction>
     <BusinessUnit>
        <UnitID>HighStreet</UnitID>
     </BusinessUnit>
     <WorkstationID>POS5</WorkstationID>
     <SequenceNumber>4294967295</SequenceNumber>
     <OperatorID>John</OperatorID>
```

```xml
<RetailTransaction>
    <LineItem>
        <Sale ItemType="Stock">
            <POSIdentity>
                <POSItemID>01234567890123</POSItemID>
            </POSIdentity>
            <ExtendedAmount>4.89</ExtendedAmount>
            <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
    </LineItem>
    <LineItem EntryMethod="Keyed">
        <Tender TenderType="CreditDebit">
            <Amount>4.89</Amount>
            <Authorization>
                <AuthorizationCode>234</AuthorizationCode>
            </Authorization>
            <CreditDebit CardType="Credit">
                <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                <ExpirationDate>2005-08</ExpirationDate>
                <Track4Data>0F80</Track4Data>
            </CreditDebit>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
    </LineItem>
</RetailTransaction>
</Transaction>
</POSLog>
```

7.2   Scenario: Cancellation JUCC with reason (V2.2)

Brief Description
If a real-time credit card transaction is performed, the already charged transaction should be able to be canceled. For example, when a transaction is interrupted after a part of tendering with the credit card was performed, and when the operator charged incorrect amount, the cancellation is required. When canceling, the reason is written on the slip or is entered into the system.

Pre-Conditions
Post-Conditions
Data
The information below is required for the POSLog.

• Reason of cancellation

7.2 Conformance XML Instance Document – Cancellation JUCC with reason

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID>HighStreet</UnitID>
        </BusinessUnit>
        <WorkstationID>POS5</WorkstationID>
```

```xml
            <SequenceNumber>4294967295</SequenceNumber>
            <OperatorID>John</OperatorID>
            <RetailTransaction TransactionStatus="Canceled">
                <LineItem>
                    <Sale ItemType="Stock">
                        <POSIdentity>
                            <POSItemID>01234567890123</POSItemID>
                        </POSIdentity>
                        <ExtendedAmount>4.89</ExtendedAmount>
                        <Quantity>3</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem EntryMethod="Keyed">
                    <Tender TenderType="CreditDebit">
                        <Amount>4.89</Amount>
                        <Authorization>
                            <AuthorizationCode>234</AuthorizationCode>
                        </Authorization>
                        <CreditDebit CardType="Credit">
                            <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                            <ExpirationDate>2005-08</ExpirationDate>
                            <Track4Data>a6000039</Track4Data>
                        </CreditDebit>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
                <Reason>charged incorrect amount</Reason>
            </RetailTransaction>
        </Transaction>
</POSLog>
```

7.3   Scenario: Signature-less Transaction (V2.2)

Brief Description
Depending on the retail sellers, the signature is omissible only when small amount of transaction is processed with the credit card.

Pre-Conditions
Post-Conditions
Data
Accordingly, the information below is required for the POSLog.

- Signature-less flag

7.3 Conformance XML Instance Document – Signature-less Transaction

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID>HighStreet</UnitID>
        </BusinessUnit>
```

```xml
            <WorkstationID>POS5</WorkstationID>
            <SequenceNumber>4294967295</SequenceNumber>
            <OperatorID>John</OperatorID>
            <RetailTransaction>
                <LineItem>
                    <Sale ItemType="Stock">
                        <POSIdentity>
                            <POSItemID>01234567890123</POSItemID>
                        </POSIdentity>
                        <ExtendedAmount>4.89</ExtendedAmount>
                        <Quantity>3</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem EntryMethod="Keyed">
                    <Tender TenderType="CreditDebit">
                        <Amount>4.89</Amount>
                        <Authorization SignatureRequiredFlag="false">
                            <AuthorizationCode>234</AuthorizationCode>
                        </Authorization>
                        <CreditDebit CardType="Credit">
                            <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                            <ExpirationDate>2005-08</ExpirationDate>
                            <Track4Data>12341234asdf</Track4Data>
                        </CreditDebit>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
            </RetailTransaction>
        </Transaction>
    </POSLog>
```

7.4   Scenario: Track Sales Items by Credit Card (V2.2)

Brief Description
The retail seller running a credit card company may require the information about what items were purchased with the credit card. This information is utilized for sales promotion by direct mail. Generally, the information about part of the purchased items, for example the most expensive item, is collected.

Pre-Conditions
Post-Conditions
Data
Accordingly, the information below is required for the POSLog.

- Main item

7.4 Conformance XML Instance Document – Track Sales Items by Credit Card

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID>HighStreet</UnitID>
```

```
      </BusinessUnit>
      <WorkstationID>POS5</WorkstationID>
      <SequenceNumber>4294967295</SequenceNumber>
      <OperatorID>John</OperatorID>
      <RetailTransaction>
        <LineItem>
          <Sale>
            <POSIdentity>
              <POSItemID>01234567890123</POSItemID>
            </POSIdentity>
            <ExtendedAmount>4.89</ExtendedAmount>
            <Quantity>3</Quantity>
          </Sale>
          <SequenceNumber>1</SequenceNumber>
        </LineItem>
        <LineItem>
          <Sale>
            <POSIdentity>
              <POSItemID>asdf1239487</POSItemID>
            </POSIdentity>
            <ExtendedAmount>500.00</ExtendedAmount>
          </Sale>
          <SequenceNumber>2</SequenceNumber>
        </LineItem>
        <LineItem EntryMethod="Keyed">
          <Tender TenderType="CreditDebit">
            <Amount>4.89</Amount>
            <Authorization>
              <AuthorizationCode>234</AuthorizationCode>
            </Authorization>
            <CreditDebit CardType="Credit">
              <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
              <ExpirationDate>2005-08</ExpirationDate>
              <PurchasedItem>
                <ItemID>asdf1239487</ItemID>
              </PurchasedItem>
            </CreditDebit>
          </Tender>
          <SequenceNumber>2</SequenceNumber>
        </LineItem>
      </RetailTransaction>
    </Transaction>
</POSLog>
```

7.5   Scenario: Authorized Credit Card Company Code (V2.2)

Brief Description

When the credit card is swiped through the card reader provided on the POS terminal, the POS terminal identifies the credit card company according to the information stored in the card. Generally, the POS terminal does so from the company code (integer) assigned by individual retail seller, but this company code is not interchangeable with that assigned by others. It might be not interchangeable even within a same retail seller. Therefore, this company code is useless for the authorization server of the credit card company which receives the request of authorization from several retail sellers. Meanwhile, the authorized credit card company code composed of 6-digit

alphanumeric is assigned to individual credit card company, so it is interchangeable between the retail sellers.

Pre-Conditions
Post-Conditions
Data
Accordingly, the information below is required for the POSLog.

- Authorized credit card company code – not to be confused with the merchant code or the Provider ID (Authorizor)

7.5 Conformance XML Instance Document – Authorized Credit Card Company Code

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID>HighStreet</UnitID>
        </BusinessUnit>
        <WorkstationID>POS5</WorkstationID>
        <SequenceNumber>4294967295</SequenceNumber>
        <OperatorID>John</OperatorID>
        <RetailTransaction>
            <LineItem>
                <Sale>
                    <POSIdentity>
                        <POSItemID>01234567890123</POSItemID>
                    </POSIdentity>
                    <ExtendedAmount>4.89</ExtendedAmount>
                </Sale>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem>
                <Tender TenderType="CreditDebit">
                    <Amount>4.89</Amount>
                    <Authorization>
                        <AuthorizationCode>234</AuthorizationCode>
                    </Authorization>
                    <CreditDebit CardType="Credit">
                        <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                        <ExpirationDate>2005-08</ExpirationDate>
                        <CreditCardCompanyCode>123456</CreditCardCompanyCode>
                    </CreditDebit>
                </Tender>
                <SequenceNumber>2</SequenceNumber>
            </LineItem>
        </RetailTransaction>
    </Transaction>
</POSLog>
```

8. USE CASE: EuroPayMasterCard Visa (EMV) (V2.2)

8.1 Scenario: Fuel Purchase at Customer Operated POS using EMV 4.0.1 Payment Card (V2.2)

Brief Description

Customer initiates a payment transaction by inserting EMV 4.0.1 compliant identification card into reader. The EMV card is validated and the card holder authenticated using a PIN. A loyalty identification card can (optional) be inserted and validated. The payment transaction (tender) is authorized and a fuelling and tender transaction initiated. Customer selects a fuel grade and fills his vehicle. Fuelling transaction is terminated, retrieved and matched with the associated payment transaction (tender). The completed retail transaction is passed to the Sales/Stock recording system, Sales History and Payment recording systems.

Data

Transaction header data, including attributes EMVDebugFlag and VATReceiptFlag

- Identifiers for store, workstation, till, currency code and operator performing sale .. in this case set to "Unattended".

Retail Transaction header data including attribute version identification of POSLog

- contains *one and only one* FuelSale LineItem - which defines the fuelling transaction
- contains *one and only one* Tender LineItem - which defines the payment transaction

Data Items which are necessary for this Use Case are

FuelSale - ServicePointID (Identifier of FuellingPoint) name and type are attributes. In this case type is "FuelDispenser" and Name is "Pump1". This allows for future where a customer operated POS with car valet, lubricant or other vending machines.

FuelSale - NozzleID (identifier of nozzle from where grade was delivered)

FuelSale - TankID (identifier of tank which stored the fuel grade delivered - to enable sales by storage location (tank)

Note if the ItemType=Blend; there are two+ <TankID> elements with BlendRatio, e.g. by default BlendRatio=100

<TankID BlendRatio=40>1</TankID>

<TankID BlendRatio=60>3</TankID>

This would mean the SalesVolume is proportioned 40% to Tank 1 and 60% to Tank 3.

Tender - Additional attributes defined in example provided. Necessary for EMV accreditation

Tender/EMVDebug - Additional Tender Attributes mandated by EMV

Tender/FleetData - Additional data required for Fleet Information.

8.1 Conformance XML Instance Document - Fuel Purchase at Customer Operated POS using EMV 4.0.1 Payment Card

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction EMVDebugFlag="true" VATReceiptFlag="true">
        <BusinessUnit>
            <UnitID Name="Shell Plumstead Common">100</UnitID>
            <Address PrimaryFlag="true" AddressType="Work">
                <AddressLine TypeCode="Street">160-168 Plumstead Common
Road</AddressLine>
```

```xml
                <City>London</City>
            </Address>
            <Telephone PrimaryFlag="true" TypeCode="Work">
                <AreaCode>020</AreaCode>
                <LocalNumber>8317 6570</LocalNumber>
            </Telephone>
        </BusinessUnit>
        <WorkstationID>pos1</WorkstationID>
        <SequenceNumber>1123412341234123</SequenceNumber>
        <VATRegistrationNumber>235 7632 55</VATRegistrationNumber>
        <RetailTransaction>
            <LineItem>
                <FuelSale>
                    <POSIdentity>
                        <POSItemID>01234567890123</POSItemID>
                    </POSIdentity>
                    <Description>DIESEL</Description>
                    <ExtendedAmount>4.89</ExtendedAmount>
                    <ServicePointID Name="Pump1[FP1]">1</ServicePointID>
                    <TankID>1</TankID>
                    <!-- what are we tring to do here?
                    <TaxRate>A</TaxRate> -->
                </FuelSale>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem EntryMethod="IntegratedChipCard">
                <Tender TenderType="CreditDebit" TypeCode="Sale">
                    <Amount>4.89</Amount>
                    <Authorization ElectronicSignature="true" ForceOnline="false"
                        VerifiedByPINFlag="true">
                        <AuthorizationCode>123412</AuthorizationCode>
                        <AuthorizationDateTime>2005-06-
16T15:18:08</AuthorizationDateTime>
                        <ReceiptText>Please retain for your records.</ReceiptText>
                        <TerminalSoftwareVersion>0002</TerminalSoftwareVersion>
                        <EMVDebug TerminalActionCode="Denial">
                            <ApplicationIdentifier>A0000000041010</ApplicationIdentifier>

    <ApplicationInterchangeProfile>5C00</ApplicationInterchangeProfile>

    <ApplicationTransactionCounter>055A</ApplicationTransactionCounter>
                            <ApplicationUsageControl>FD00</ApplicationUsageControl>
                            <ApplicationVersionNumber>0002</ApplicationVersionNumber>
                            <AuthorizationResponseCode>00</AuthorizationResponseCode>

    <CardholderVerificationMethodResults>410302</CardholderVerificationMethodResults>
                            <Cryptogram>F6B7EF1AF081F791</Cryptogram>
                            <CryptogramInformationData>40</CryptogramInformationData>
                            <IssuerApplicationData>06FE0A03640000</IssuerApplicationData>
                            <POSEntryMode>35</POSEntryMode>
                            <TerminalCapabilities>6098C0</TerminalCapabilities>
                            <TerminalType>25</TerminalType>

    <TerminalVerificationResults>0000008800</TerminalVerificationResults>
                            <TranCryptogramType>00</TranCryptogramType>
```

```xml
<TransactionStatusInformation>F800</TransactionStatusInformation>
                <UnpredictableNumber>CB27C654</UnpredictableNumber>
            </EMVDebug>
            <ApplicationID>A0000000041010</ApplicationID>
            <DiagnosticCode>0</DiagnosticCode>
        </Authorization>
        <CreditDebit CardType="Credit">
            <PrimaryAccountNumber>12341234</PrimaryAccountNumber>
        </CreditDebit>
    </Tender>
    <SequenceNumber>2</SequenceNumber>
        </LineItem>
    </RetailTransaction>
    </Transaction>
</POSLog>
```

9. USE CASE: Check Tender

9.1 Scenario: Customer Tenders Purchase with Check Tender without Cash Back (V2.1)

Brief Description
Customer selects one or more items and purchases them with a check.

Scenario Description
Customer orders a $10 pizza and pays for it with a check.

Data
- Tender Type = Check
- Type = Sale
- Tender Amount
- Check Information
  - Bank
  - Check Number
- Customer Verification Information
  - ID Type
  - Personal ID Number

9.1a Conformance XML Instance Document - Check Tender without Cash Back

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Check tender without CashBack  -->
<!-- Note: Inclusion of online authorization -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Check">
          <Amount>4.89</Amount>
          <Authorization>
            <RequestedAmount>4.89</RequestedAmount>
            <AuthorizationCode>234</AuthorizationCode>
```

```xml
                    <ReferenceNumber>1234</ReferenceNumber>
                    <MerchantNumber>2323-2342</MerchantNumber>
                    <ProviderID>A Bank</ProviderID>
                    <AuthorizationDateTime>2001-08-13T09:02:50</AuthorizationDateTime>
                    <AuthorizingTermID>Terminal ID</AuthorizingTermID>
                </Authorization>
                <CustomerVerification>
                    <PersonalID IDType="DriversLicense">
                        <IDNumber>1234-56-7890</IDNumber>
                    </PersonalID>
                </CustomerVerification>
                <Check>
                    <BankID>0123</BankID>
                    <CheckNumber>1234</CheckNumber>
                    <AccountNumber>12345678-000</AccountNumber>
                </Check>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
        </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

9.1b Alternate Conformance XML Instance Document - Check Tender without Cash Back

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Check tender without CashBack  -->
<!-- Note: Inclusion of online authorization -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
    MajorVersion="6">
    <Transaction>
        <BusinessUnit>
            <UnitID>12</UnitID>
        </BusinessUnit>
        <WorkstationID TypeCode="POS">5</WorkstationID>
        <SequenceNumber>12345</SequenceNumber>
        <OperatorID>205</OperatorID>
        <RetailTransaction>
            <LineItem>
                <Sale>
                    <POSIdentity>
                        <POSItemID>01234567890123</POSItemID>
                    </POSIdentity>
                    <ExtendedAmount>4.89</ExtendedAmount>
                    <Quantity>3</Quantity>
                </Sale>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem>
                <Tender TenderType="Check">
                    <Amount>4.89</Amount>
                    <CustomerVerification>
                        <PersonalID IDType="DriversLicense">
```

```
          <IDNumber>1234-56-7890</IDNumber>
        </PersonalID>
      </CustomerVerification>
      <Check>
        <BankID>0123</BankID>
        <CheckNumber>1234</CheckNumber>
        <AccountNumber>12345678-000</AccountNumber>
      </Check>
    </Tender>
    <SequenceNumber>2</SequenceNumber>
  </LineItem>
 </RetailTransaction>
 </Transaction>
</POSLog>
```

9.1c Alternate Conformance XML Instance Document - Check Tender without Cash Back

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Check tender without CashBack  -->
<!-- Note: Inclusion of online authorization -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
  MajorVersion="6">
  <Transaction>
    <BusinessUnit>
      <UnitID>12</UnitID>
    </BusinessUnit>
    <WorkstationID TypeCode="POS">5</WorkstationID>
    <SequenceNumber>12345</SequenceNumber>
    <OperatorID>205</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Sale>
          <POSIdentity>
            <POSItemID>01234567890123</POSItemID>
          </POSIdentity>
          <ExtendedAmount>4.89</ExtendedAmount>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Check">
          <Amount>4.89</Amount>
          <Authorization>
            <RequestedAmount>4.89</RequestedAmount>
            <AuthorizationCode>234</AuthorizationCode>
            <ReferenceNumber>1234</ReferenceNumber>
            <MerchantNumber>2323-2342</MerchantNumber>
            <ProviderID>A Bank</ProviderID>
            <AuthorizationDateTime>2011-11-11T09:02:50</AuthorizationDateTime>
            <AuthorizingTermID>Terminal ID</AuthorizingTermID>
          </Authorization>
          <Check>
```

```xml
                <BankID>0123</BankID>
                <CheckNumber>1234</CheckNumber>
                <AccountNumber>12345678-000</AccountNumber>
              </Check>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
          </LineItem>
        </RetailTransaction>
    </Transaction>
</POSLog>
```

9.1d Alternate Conformance XML Instance Document - Check Tender without Cash Back

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Check tender without CashBack  -->
<!-- Note: Inclusion of online authorization -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
   MajorVersion="6">
   <Transaction>
     <BusinessUnit>
       <UnitID>12</UnitID>
     </BusinessUnit>
     <WorkstationID TypeCode="POS">5</WorkstationID>
     <SequenceNumber>12345</SequenceNumber>
     <OperatorID>205</OperatorID>
     <RetailTransaction>
       <LineItem>
         <Sale>
           <POSIdentity>
             <POSItemID>01234567890123</POSItemID>
           </POSIdentity>
           <ExtendedAmount>4.89</ExtendedAmount>
           <Quantity>3</Quantity>
         </Sale>
         <SequenceNumber>1</SequenceNumber>
       </LineItem>
       <LineItem>
         <Tender TenderType="Check">
           <Amount>4.89</Amount>
           <Authorization>
             <RequestedAmount>4.89</RequestedAmount>
             <AuthorizationCode>234</AuthorizationCode>
             <ReferenceNumber>1234</ReferenceNumber>
             <MerchantNumber>2323-2342</MerchantNumber>
             <ProviderID>A Bank</ProviderID>
             <AuthorizationDateTime>2011-11-11T09:02:50</AuthorizationDateTime>
             <AuthorizingTermID>Terminal ID</AuthorizingTermID>
           </Authorization>
           <Check>
             <BankID>0123</BankID>
             <CheckNumber>1234</CheckNumber>
```

```xml
                <AccountNumber>12345678-000</AccountNumber>
              </Check>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
          </LineItem>
        </RetailTransaction>
      </Transaction>
  </POSLog>
```

9.2   Scenario: Customer Tenders Purchase with Check Tender with Cash Back (V2.1)

Brief Description
Customer selects one or more items and purchases them with a check getting cash back.

Scenario Description
Customer orders a $10 pizza and pays for it with a check for $15 and gets $5 change.

Data
- Tender Type = Check
- Type = Sale
- Tender Amount
- Check Information
    - Bank
    - Check Number
- Customer Verification Information
    - ID Type
    - Personal ID Number
- Change Back to the Customer

9.2 Conformance XML Instance Document - Check Tender with Cash Back

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Check tender without CashBack  -->
<!-- Note: Inclusion of online authorization -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
  <Transaction>
    <BusinessUnit>
      <UnitID>HighStreet</UnitID>
    </BusinessUnit>
    <WorkstationID>POS5</WorkstationID>
    <SequenceNumber>4294967295</SequenceNumber>
    <OperatorID>John</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Sale ItemType="Stock">
          <POSIdentity>
            <POSItemID>01234567890123</POSItemID>
```

```xml
            </POSIdentity>
            <ExtendedAmount>10.00</ExtendedAmount>
            <Quantity>3</Quantity>
         </Sale>
         <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
         <Tender TenderType="Check" TypeCode="Sale">
            <Amount>15.00</Amount>
            <CustomerVerification>
               <PersonalID IDType="DriversLicense">
                  <IDNumber>1234-56-7890</IDNumber>
               </PersonalID>
            </CustomerVerification>
            <Check>
               <BankID>0123</BankID>
               <CheckNumber>1234</CheckNumber>
               <AccountNumber>12345678-000</AccountNumber>
            </Check>
         </Tender>
         <SequenceNumber>2</SequenceNumber>
      </LineItem>
      <LineItem>
         <TenderChange>
            <Amount>5.00</Amount>
         </TenderChange>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

9.3 Scenario: Full MICR for Check Tenders (V2.2)

Brief Description

For a check tender, provide Full MICR. Full MICR is the information returned when the check is electronically read at the POS. This information can be parsed into BankID, AccountNumber and CheckNumber, but I don't think this would be the preferred way to provide this information.

Scenario Description

Customer orders a $10 pizza and pays for it with a personal check.

Data

9.3 Conformance XML Instance Document – Full MICR for Check Tenders

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
```

```xml
            <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>
                        <Quantity>3</Quantity>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Tender TenderType="Check" TypeCode="Sale">
                        <Amount>4.89</Amount>
                        <Check>
                            <FullMICR Country="CA">0123 12345678-000 1234</FullMICR>
                        </Check>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
            </RetailTransaction>
        </Transaction>
</POSLog>
```

10. USE CASE: Voucher

10.1 Scenario: Customer Tenders Purchase with In-Store Coupon and Cash   (V2.1)

Brief Description
Customer selects one or more items and purchases them with in part with an in-store coupon and the remaining with cash.

Data
- **In-Store Coupon is a pre-tax discount**
- **Tender Type = Cash**
- **Type = Sale**
- **Tender Amount**

10.1 Conformance XML Instance Document - Tender with In-Store Coupon and Cash

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender of sale with Cash and a StoreCoupon -->
<!-- Note: StoreCoupon is recorded as RetailPriceModifer rather -->
<!--      than TenderLineItem.  (Because StoreCoupon reduces   -->
<!--      tax liability for the store)                  -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
  MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>10.99</ExtendedAmount>
          <Quantity>1</Quantity>
          <RetailPriceModifier MethodCode="Promotion">
            <SequenceNumber>1</SequenceNumber>
            <Amount Action="Replace">10.99</Amount>
            <ReasonCode>Coupon</ReasonCode>
          </RetailPriceModifier>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
```

```
            <Tender TenderType="Cash" TypeCode="Sale">
               <Amount>10.99</Amount>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
         </LineItem>
      </RetailTransaction>
   </Transaction>
</POSLog>
```

10.2 Scenario: Customer Tenders Purchase with Manufacturer's Coupon and Cash (V2.1)

Brief Description
Customer selects one or more items and purchases them with a manufacturer's coupon and cash.

 Data
 - **Tender Type = Coupon**
 - **Type = Sale**
 - **Coupon Tender Amount**
 - **Coupon Information**
 - **Coupon Type**
 - **Label**
 - **Expiration Date**
 - **Tender Type = Cash**
 - **Tender Amount**

10.2 Conformance XML Instance Document - Tender with Manufacturer's Coupon and Cash

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender of sale with Cash and a ManufacturerCoupon      -->
<!--  Note: ManufacturerCoupon is recorded as TenderLineItem -->
<!--      (Because retailer redeems Manufacturer Coupons   -->
<!--       which raises the Store's tax liability)        -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <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>10.63</ExtendedAmount>
```

```
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="ManufacturerCoupon" TypeCode="Sale">
          <Amount>2.00</Amount>
          <Coupon>
            <Quantity>1</Quantity>
            <PrimaryLabel/>
            <ManufacturerID/>
            <FamilyCode/>
            <ExpirationDate>2003-12-31</ExpirationDate>
          </Coupon>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Cash" TypeCode="Sale">
          <Amount>8.63</Amount>
        </Tender>
        <SequenceNumber>3</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

10.3 Scenario: Voucher Tender with Change as Voucher and Cash (V2.1)

Brief Description

Customer selects one or more items and purchases them with a gift certificate with the difference refunded as cash.

Scenario Description

Customer received a $50 gift certificate for his birthday. He bought a steak dinner for $45.00 and got $5.00 in change.

Data
- **Tender Type = Gift Certificate**
- **Type = Sale**
- **Tender Amount**
- **Gift Certificate Information**
- **Face Amount**
- **Serial Number**
- **Expiration Date**
- **Change**
- **Tender Type = Gift Certificate**
- **Type = Sale**
- **Change Amount**
- **Gift Certificate Information**
- **Face Amount**
- **Serial Number**
- **Expiration Date**

- **Tender Type = Cash**
- **Tender Amount**

10.3 Conformance XML Instance Document - Tender with Voucher with Change as Voucher and Cash

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender of sale with GiftCard (or other SVC) with SVC as change -->
<!--  Note mixed change requires two TenderChange elements        -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
  MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Voucher" TypeCode="Sale">
          <Amount>4.89</Amount>
          <TenderChange TenderType="Voucher">
            <Amount>5.00</Amount>
            <Voucher TypeCode="GiftCertificate">
              <FaceValueAmount>5.00</FaceValueAmount>
              <SerialNumber>12345678</SerialNumber>
              <ExpirationDate>2003-04-03</ExpirationDate>
            </Voucher>
          </TenderChange>
          <TenderChange TenderType="Cash">
            <Amount>0.11</Amount>
          </TenderChange>
          <Voucher TypeCode="GiftCertificate">
            <FaceValueAmount>10.00</FaceValueAmount>
            <SerialNumber>12345678</SerialNumber>
            <ExpirationDate>2003-04-03</ExpirationDate>
```

```
            </Voucher>
          </Tender>
          <SequenceNumber>2</SequenceNumber>
        </LineItem>
      </RetailTransaction>
    </Transaction>
</POSLog>
```

10.4 Scenario: Voucher Tender with Change as Voucher Only (V2.1)

Brief Description
Customer selects one or more items and purchases them with a gift certificate and getting a voucher for the remainder of the value of the gift certificate.

Scenario Description
Customer received a $50 restaurant gift certificate for his birthday. He bought a steak dinner for $22.00 and got $3.00 in change and another gift certificate for $25.

Data
- **Tender Type = Gift Certificate**
- **Type = Sale**
- **Tender Amount**
- **Gift Certificate Information**
- **Face Amount**
- **Serial Number**
- **Expiration Date**
- **Change**
- **Tender Type = Gift Certificate**
- **Type = Sale**
- **Change Amount**
- **Gift Certificate Information**
- **Face Amount**
- **Serial Number**
- **Expiration Date**

10.4 Conformance XML Instance Document - Voucher with Change as Voucher

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender of sale with GiftCard (or other SVC) with GiftCard as change -->
<!-- Note: Use of extra Tender line item to record change          -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <Transaction>
     <BusinessUnit>
       <UnitID>HighStreet</UnitID>
     </BusinessUnit>
     <WorkstationID>POS5</WorkstationID>
     <SequenceNumber>4294967295</SequenceNumber>
     <OperatorID>John</OperatorID>
     <RetailTransaction>
       <LineItem>
         <Sale ItemType="Stock">
```

```xml
            <POSIdentity>
              <POSItemID>01234567890123</POSItemID>
            </POSIdentity>
            <ExtendedAmount>4.89</ExtendedAmount>
            <Quantity>3</Quantity>
          </Sale>
          <SequenceNumber>1</SequenceNumber>
        </LineItem>
        <LineItem>
          <Tender TenderType="Voucher" TypeCode="Sale">
            <Amount>4.89</Amount>
            <Voucher TypeCode="GiftCertificate">
              <FaceValueAmount>10.00</FaceValueAmount>
              <SerialNumber>12345678</SerialNumber>
              <ExpirationDate>2003-04-03</ExpirationDate>
            </Voucher>
          </Tender>
          <SequenceNumber>2</SequenceNumber>
        </LineItem>
        <LineItem>
          <Tender>
            <Amount>0.00</Amount>
            <TenderChange TenderType="Voucher">
              <Amount>5.11</Amount>
              <Voucher TypeCode="GiftCertificate">
                <FaceValueAmount>5.11</FaceValueAmount>
                <SerialNumber>12345679</SerialNumber>
                <ExpirationDate>2003-04-03</ExpirationDate>
              </Voucher>
            </TenderChange>
          </Tender>
          <SequenceNumber>3</SequenceNumber>
        </LineItem>
      </RetailTransaction>
    </Transaction>
</POSLog>
```

10.5 Scenario: Customer Tenders Purchase with Voucher, Gift Certificate or Other Stored Value media with change as Cash Only. (V2.1)

Brief Description

Customer selects one or more items and purchases them with a voucher, receiving the change in cash.

Data

- **Tender Type = Gift Certificate**
- **Type = Sale**
- **Tender Amount**
- **Gift Certificate Information**
- **Face Amount**
- **Serial Number**
- **Expiration Date**
- **Change**
- **Tender Type = Cash**
- **Tender Amount**

10.5 Conformance XML Instance Document - Voucher with Change as Cash

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender of sale with GiftCard (or other SVC) with Cash change    -->
<!--  Note: TenderChange element to record change in Tender line item -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Voucher" TypeCode="Sale">
          <Amount>4.89</Amount>
          <TenderChange TenderType="Cash">
            <Amount>5.11</Amount>
          </TenderChange>
          <Voucher TypeCode="GiftCertificate">
            <Description/>
            <FaceValueAmount>10.00</FaceValueAmount>
            <SerialNumber>12345678</SerialNumber>
            <ExpirationDate>2003-04-03</ExpirationDate>
            <IssuingStoreNumberID/>
          </Voucher>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

10.6 Scenario: Voucher Tender with No Change (V2.1)

Brief Description
Customer selects one or more items and purchases them with voucher but tracking the unspent amount.

Scenario Description
Customer bought a chef salad with a $5.00 gift certificate for $4.90. There was no change back.

Data
- **Tender Type = Voucher**
- **Type = Sale**
- **Tender Amount**
- **Gift Certificate Information**
- **Face Amount**
- **Serial Number**
- **Expiration Date**
- **Unspent Amount**

10.6 Conformance XML Instance Document - Voucher without Cash Back

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender of sale with GiftCard (or other SVC) w/o change -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Voucher" TypeCode="Sale">
          <Amount>4.89</Amount>
          <Voucher TypeCode="Voucher">
            <Description/>
            <FaceValueAmount>5.00</FaceValueAmount>
            <SerialNumber>12345678</SerialNumber>
```

```xml
                <ExpirationDate>2003-04-03</ExpirationDate>
                <UnspentAmount Disposition="NoChange">0.11</UnspentAmount>
              </Voucher>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
          </LineItem>
        </RetailTransaction>
    </Transaction>
</POSLog>
```

10.7 Scenario: Presentation of a Company Loyalty Voucher

Brief Description

An Item Sale is recorded, then the customer presents a Voucher entitling them to a £ value or percentage off the item just sold. There is an EAN 128 barcode on the voucher which is scanned and which contains a 6 digit Offer ID, a 5 digit value or percentage (with last two digits to follow an implied decimal point, i.e.01000 is 10) a one character indicator to determine Loyalty or Promotion, a 12 digit Voucher Serial Number and finally a 4 digit Expiry value (which is the number of days from 31/12/99 to the expiry date. The Offer ID equates to Promotion ID and this promotion determines whether the value is a Value or Percentage Off and the Reason Code to be used.

Pre-Conditions
Post-Conditions
Data
- EAN 128 barcode
  - 6 digit Offer ID,
  - a 5 digit value or percentage (with last two digits to follow an implied decimal point, i.e.01000 is 10)
  - a one character indicator to determine Loyalty or Promotion,
  - a 12 digit Voucher Serial Number
  - a 4 digit Expiry value (which is the number of days from 31/12/99 to the expiry date.

2-24-04 Conformance XML Instance Document – Presentation of a Company Loyalty or Promotional Voucher

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    xmlns="http://www.nrf-arts.org/IXRetail/namespace/" MajorVersion="6" MinorVersion="0"
    FixVersion="0">
    <Transaction>
      <BusinessUnit>
        <UnitID>HighStreet</UnitID>
      </BusinessUnit>
      <WorkstationID>POS5</WorkstationID>
      <SequenceNumber>4294967295</SequenceNumber>
      <OperatorID>John</OperatorID>
      <RetailTransaction>
        <LineItem>
          <Sale>
            <POSIdentity>
              <POSItemID>01234567890123</POSItemID>
            </POSIdentity>
            <ExtendedAmount Currency="GBP">4.89</ExtendedAmount>
```

```xml
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Loyalty">
          <Amount Currency="GBP">4.89</Amount>
          <LoyaltyRedemption>
            <Voucher TypeCode="Voucher">
              <FaceValueAmount Currency="GBP">10.00</FaceValueAmount>
              <SerialNumber>123456789012</SerialNumber>
              <ExpirationDate>2001-08-13</ExpirationDate>
            </Voucher>
            <LoyaltyProgram TypeCode="Voucher">
              <OfferID>123456</OfferID>
            </LoyaltyProgram>
          </LoyaltyRedemption>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

11. USE CASE: Foodstamp/EBT Tender

11.1 Scenario: Customer Tenders Purchase with Food Stamps (V2.1)

(/EBT (TARGETED FOR GROCERY AND FAST FOOD COMBO TYPES OF BUSINESSES

Brief Description (US only scenario – further research is needed for applicability to other countries)
Customer selects one or more items and purchases them with food stamps in a location where the taxes are forgiven.

Scenario Description

Data
- **Tender Type = Foodstamps**
- **Type = Sale**
- **Tender Amount**
- **Food Stamp Serial Number**

11.1 Conformance XML Instance Document - Food Stamps Tender

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender of sale with FoodStamps without Change -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
  MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="FoodStamps" TypeCode="Sale">
          <Amount>4.89</Amount>
          <FoodStamps>
```

```xml
                <FederalID>23342</FederalID>
                <SerialNumber>1234568</SerialNumber>
              </FoodStamps>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
          </LineItem>
        </RetailTransaction>
      </Transaction>
</POSLog>
```

12. USE CASE: Store Account

12.1 Scenario: Customer Tenders Purchase to Store Charge Account (V2.1)

Brief Description
Customer selects one or more items and charges them to their store account.

Scenario Description
Customer eats lunch daily at the same restaurant. The restaurant has allowed him set up a store account and pay monthly. So today he had the blue plate special for $4.89.

Data
- **Tender Type = Store Account**
- **Type = Sale**
- **Tender Amount**
- **Store Account Information**
- **Account Number**
- **Account Name**

12.1 Conformance XML Instance Document - Tender to Store Account

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Tender of transaction against a Store or House Account   -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <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>
           <Quantity>3</Quantity>
         </Sale>
         <SequenceNumber>1</SequenceNumber>
       </LineItem>
       <LineItem>
         <Tender TenderType="HouseAccount" TypeCode="Sale">
           <Amount>4.89</Amount>
           <StoreAccount>
```

```
                    <AccountID>1234</AccountID>
                </StoreAccount>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
        </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

13. USE CASE: Gift card tender (V6.0)

13.1 Scenario: Customer uses gift card as tender

Brief Description
Customer purchases a product and uses a gift card as a tender with online Authorization to the Gift Card Provider

Scenario Description
Customer purchases a large coffee and presents a gift card to the cashier to pay for it.

Data
- Tender Type = GiftCard

- Type = Sale

- The amount of the tender

13.1 ARTS XML Conformance XML Instance Document – Customer uses gift card as tender

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Tender Gift Card  without Cash back -->
<!-- UseCase: with on line Authorization to the Gift Card Provider -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
  MajorVersion="6">
  <Transaction>
    <BusinessUnit>
      <UnitID>12</UnitID>
    </BusinessUnit>
    <WorkstationID TypeCode="POS">5</WorkstationID>
    <SequenceNumber>12345</SequenceNumber>
    <OperatorID>205</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Sale>
          <POSIdentity>
            <POSItemID>01234567890123</POSItemID>
          </POSIdentity>
          <ExtendedAmount>4.89</ExtendedAmount>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="GiftCard">
          <Amount>4.89</Amount>
          <GiftCard>
            <CardNumber>asdfs</CardNumber>
            <Authorization>
              <RequestedAmount>4.89</RequestedAmount>
              <AuthorizationCode>1</AuthorizationCode>
              <ReferenceNumber>3</ReferenceNumber>
              <MerchantNumber>Bank XX</MerchantNumber>
```

```
                    <ProviderID>EPSGiftCardProvider</ProviderID>
                    <AuthorizationDateTime>2011-11-01T00:00:00</AuthorizationDateTime>
                </Authorization>
            </GiftCard>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
    </LineItem>
  </RetailTransaction>
 </Transaction>
</POSLog>
```

14. USE CASE: Advance Payment (Credit Sales)

In Japan, there is an advance payment transaction process. It occurs when a customer has a transaction history or credit, and does not possess the funds to satisfy the entire settled amount, or wants to defer to a later payment in full. Payments are not settled in the store, but rather processed as an advance payment (accounts receivable). Advance payment (accounts receivable) is stored in the POSLog as one of the transaction types and will be segregated in the store's accounting procedures with the title of "accounts receivable."

14.1 Scenario: Performing Accounts Receivable Credit Sales (V2.2)

Brief Description

The operator carries out the payment process after scanning and registering an item. During the payment process, if the customer requests advance payment, "accounts receivable" is chosen among the transaction types. Instead of printing out a receipt showing loaned amount, the POS issues a receipt with the advance payment item and the amount.

Data

- Add the following entities to Tender type.
  - Charge
    Stores the advance payment amount

14.1 Conformance XML Instance Document - Performing Accounts Receivable Credit Sales

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <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>
                    <Quantity>3</Quantity>
                </Sale>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem>
                <Tender TenderType="AccountsReceivable">
                    <Amount>4.89</Amount>
                    <AccountsReceivable>
                        <AccountID>12341234</AccountID>
```

```
                    </AccountsReceivable>
                </Tender>
                <SequenceNumber>2</SequenceNumber>
            </LineItem>
        </RetailTransaction>
    </Transaction>
</POSLog>
```

15. Use Case: Payment Method (V2.2)

In Japan, several types of credit card payment are available. Except for payment in full and revolving payment commonly used also in Europe and the Unites States, three additional types of payment methods are described below.

15.1 Scenario: Credit Card Payment in Installment (V2.2)

Payment is made in monthly installments generally. The number of installments is selectable according to the credit card company.

Brief Description
Pre-Conditions
Post-Conditions
Data

15.1 Conformance XML Instance Document – Credit Card Payment in Installment

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID>HighStreet</UnitID>
        </BusinessUnit>
        <WorkstationID>POS5</WorkstationID>
        <SequenceNumber>4294967295</SequenceNumber>
        <OperatorID>John</OperatorID>
        <RetailTransaction>
            <LineItem>
                <Sale>
                    <POSIdentity>
                        <POSItemID>01234567890123</POSItemID>
                    </POSIdentity>
                    <ExtendedAmount>4.89</ExtendedAmount>
                    <Quantity>3</Quantity>
                </Sale>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem EntryMethod="Keyed">
                <Tender TenderType="CreditDebit">
                    <Amount>4.89</Amount>
                    <Authorization>
                        <AuthorizationCode>234</AuthorizationCode>
                    </Authorization>
                    <CreditDebit CardType="Credit">
                        <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                        <ExpirationDate>2005-08</ExpirationDate>
                        <NumberOfInstallments>5</NumberOfInstallments>
                    </CreditDebit>
                </Tender>
                <SequenceNumber>2</SequenceNumber>
            </LineItem>
        </RetailTransaction>
```

```
            </Transaction>
    </POSLog>
```

15.2   Scenario: Credit Card Payment out of bonus (V2.2)

In the Japanese salary system, most companies offer a bonus to all the employees once or twice a year in addition to monthly salaries. The amount of bonus varies depending on the company's situation; however, it is rarely unpaid. Accordingly the bonus in Japan quite differs from that in Europe and the United States.

There is a payment method of credit-card payment by bonus in Japan. Generally the bonus is paid in June as summer bonus and in December as winter one. However, the date of bonus differs depending on the company, so the date of bonus can be entered depending on the system.

Brief Description
The operator scans items, registers them, and performs a credit-card transaction. He or she receives a credit card from the customer then swipes it through the card reader provided on the POS terminal. The POS terminal identifies the credit card company, displays its name and available payment methods. The operator asks the customer of his/her desired payment method, and to enter "combination of payment in installment and payment out of bonus" in this case. Next, the operator enters the required information, i.e. the number of installments, the amount to be paid out of bonus, the date of bonus. The POS terminal transfers the data of authorization to the host system, completes the transaction, and then stores the entered data into the POSLog. (The data of authorization is beyond the scope of this document.)

Data
The following entities are added to TenderCreditDebit type.
 * **Track4Data - This data indicates the information stored in the JUCC.**
 * **PaymentMethod - This data indicates payment method.**
 * **Ndivided - This data indicates the number of installments.**
 * **BonusCount - This data indicates the number of payment out of bonus per year.**
 * **BonusPayAmount - This code indicates the amount to be paid out of each bonus.**
 * **BonusMonthDay - This data indicates the date of bonus.**
 * **ItemID - This data indicates the item purchased in the transaction.**
 * **EPC - This data indicates the EPC of the purchased item.**
The following entities are added to TenderAuthorization type
 * **AuthorisorCode - This data indicates the authorized credit card company code.**
 * **EntryMethod - This data indicates which track of the credit card was used for reading the card or whether the information was manually entered.**
 * **CancelReason - This data indicates the reason why the requested transaction was cancelled.**
 * **SignatureFlag - This data indicates whether the credit-card transaction is sign-less or not.**

Pre-Conditions
Post-Conditions
Data

15.2 Conformance XML Instance Document – Credit Card Payment Out Of Bonus

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
```

```xml
                    <UnitID>RetailStoreID</UnitID>
                </BusinessUnit>
                <WorkstationID>WorkstationID</WorkstationID>
                <SequenceNumber>1234</SequenceNumber>
                <OperatorID OperatorName="Taro">e11111</OperatorID>
                <RetailTransaction>
                    <LineItem>
                        <Sale ItemType="Stock">
                            <POSIdentity>
                                <POSItemID>4912345678901</POSItemID>
                            </POSIdentity>
                            <ExtendedAmount>489000</ExtendedAmount>
                            <Quantity>3</Quantity>
                        </Sale>
                        <SequenceNumber>1</SequenceNumber>
                    </LineItem>
                    <LineItem>
                        <Tender TenderType="CreditDebit">
                            <Amount>489000</Amount>
                            <Authorization SignatureRequiredFlag="true">
                                <RequestedAmount>489000</RequestedAmount>
                                <AuthorizationCode>172638</AuthorizationCode>
                                <ReferenceNumber>492301</ReferenceNumber>
                                <ProviderID>ProviderID</ProviderID>
                                <AuthorizationDateTime>2004-01-
08T12:00:20</AuthorizationDateTime>
                                <AuthorizingTermID>AuthorizingTermID</AuthorizingTermID>
                            </Authorization>
                            <CreditDebit>
                                <PrimaryAccountNumber>23412432</PrimaryAccountNumber>
                                <CreditCardCompanyCode>a63912</CreditCardCompanyCode>
                                <Track4Data>a6000039</Track4Data>
                                <PaymentMethod PaymentMethodCode="Revolving">
                                    <Ndivided>24</Ndivided>
                                    <BonusCount>4</BonusCount>
                                    <BonusPayAmount>50000</BonusPayAmount>
                                    <BonusMonthDay>--06-10</BonusMonthDay>
                                    <BonusMonthDay>--12-10</BonusMonthDay>
                                </PaymentMethod>
                            </CreditDebit>
                        </Tender>
                        <SequenceNumber>3</SequenceNumber>
                    </LineItem>
                    <Total TotalType="TransactionGrandAmount">489000</Total>
                </RetailTransaction>
            </Transaction>
        </POSLog>
```

15.3 Scenario: Combination of payment in installment and payment out of bonus (V2.2)

The combination of payment in installment and payment out of bonus described above can be used. The following shows an example.

Item price (including tax)	84,000 yen
Commission	4,000 yen

Amount to be paid out of bonus	30,000 yen
Date of bonus	June 10th, December 10th
Number of installments	12

Month	3	4	5	6	7	8
Amount to be paid	2,700	2,300	2,300	2,300 +30,000	2,300	2,300

Month	9	10	11	12	1	2
Amount to be paid	2,300	2,300	2,300	2,300 +30,000	2,300	2,300

As the example on the previous page shows, the amount of each installment including fraction rounding is calculated automatically in the host system. (In this example, the fraction was paid by the first installment.) Therefore, none of the data entry is required for the POS terminal here.

Brief Description
Pre-Conditions
Post-Conditions
Data
In consideration of the above situation, the data regarding credit-card payment method in Japan is as shown below.

Payment method
Number of installments
Frequency of bonus per year
Amount to be paid out of bonus

15.3 Conformance XML Instance Document – Combination of payment in installment and payment out of bonus

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID>HighStreet</UnitID>
        </BusinessUnit>
        <WorkstationID>POS5</WorkstationID>
        <SequenceNumber>4294967295</SequenceNumber>
        <OperatorID>John</OperatorID>
        <RetailTransaction>
            <LineItem>
                <Sale>
                    <POSIdentity>
                        <POSItemID>01234567890123</POSItemID>
                    </POSIdentity>
                    <ExtendedAmount Currency="JPY">84000</ExtendedAmount>
                </Sale>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem EntryMethod="Keyed">
                <Tender TenderType="CreditDebit">
                    <Amount>84000</Amount>
                    <Authorization>
```

```xml
                    <AuthorizationCode>234</AuthorizationCode>
                </Authorization>
                <CreditDebit CardType="Credit">
                    <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                    <ExpirationDate>2005-08</ExpirationDate>
                    <Track4Data>a6000039</Track4Data>
                    <PaymentMethod PaymentMethodCode="Revolving">
                        <Ndivided>24</Ndivided>
                        <BonusCount>4</BonusCount>
                        <BonusPayAmount>50000</BonusPayAmount>
                        <BonusMonthDay>--06-10</BonusMonthDay>
                        <BonusMonthDay>--12-10</BonusMonthDay>
                    </PaymentMethod>
                </CreditDebit>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
        </LineItem>
        <Associate>
            <AssociateID>qw2r</AssociateID>
            <Commission>
                <Amount Currency="JPY">4000</Amount>
            </Commission>
        </Associate>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

16. USE CASE: Traveler's Check Tender

16.1 Scenario: Customer Tenders Purchase with Travelers Check in a Foreign Currency (V2.1)

Brief Description

Customer, on vacation in a foreign country, selects one or more items and purchases them with a traveler's check in a foreign currency.

Data

- Tender Type = Travelers Check
- Type = Sale
- Tender Amount
- Foreign Currency Information
    - Date and Time of the Currency Exchange
    - Currency Code of the original Currency
    - Original Face Amount in the Original Currency
    - Exchange Rate
- Travelers Check Number
- Customer Verification Information
    - Type ID
    - Personal ID Number

16.1 Conformance XML Instance Document - Travelers Check in a Foreign Currency

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Travelers Check tender in foreign currency -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="TravelersCheck" TypeCode="Sale">
          <Amount>4.89</Amount>
          <ForeignCurrency>
```

```
                <DateTime>2001-08-13T09:03:00</DateTime>
                <CurrencyCode>AUD</CurrencyCode>
                <OriginalFaceAmount>9.78</OriginalFaceAmount>
             </ForeignCurrency>
             <Check>
                <BankID>American Express</BankID>
                <CheckNumber>1234567890</CheckNumber>
                <AccountNumber>1231-1231-12312</AccountNumber>
             </Check>
          </Tender>
          <SequenceNumber>2</SequenceNumber>
       </LineItem>
     </RetailTransaction>
   </Transaction>
</POSLog>
```

17. USE CASE: Mall Bonus Bucks

17.1 Scenario: Customer Tenders Purchase with "Mall Bonus Bucks" (V2.1)

Brief Description

A customer goes into a store in a mall and purchases an item with "Mall Bonus Bucks" she received at another store in the mall. She receives the change from the "Mall Bonus Bucks" as cash.

Data

- **Tender Type = Gift Certificate**
- **Type = Sale**
- **Voucher Information**
- **Description = Mall Bonus Bucks**
- **Face Value Amount**
- **Serial Number**
- **Expiration Date**
- **Change**
- **Tender Type = Cash**
- **Type = Sale**
- **Tender Amount**

17.1 Conformance XML Instance Document - Mall Bonus Bucks Tender

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Tender of sale using 'Mall Bucks'        -->
<!--  Note: Inclusion of TenderChange to record cash change -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
  MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Voucher" TypeCode="Sale">
          <Amount>4.89</Amount>
          <TenderChange TenderType="Cash">
            <Amount>5.11</Amount>
          </TenderChange>
```

```xml
            <Voucher TypeCode="GiftCertificate">
               <FaceValueAmount>10.00</FaceValueAmount>
               <SerialNumber>12345678</SerialNumber>
               <ExpirationDate>2003-04-03</ExpirationDate>
            </Voucher>
         </Tender>
         <SequenceNumber>2</SequenceNumber>
      </LineItem>
   </RetailTransaction>
 </Transaction>
</POSLog>
```

18. USE CASE: Purchase Orders

18.1 Scenario: Customer Tenders Purchase with Purchase Order (V2.1)

Brief Description
Customer selects one or more items and purchases them with purchase order.

 Data
- **Tender Type = Purchase Order**
- **Type = Sale**
- **Tender Amount**
- **Purchase Order Information**
- **PO Id**
- **Organization**
- **Date of the PO**
- **Identification of Person with Purchase Order**
- **Amount of the PO.**

18.1 Conformance XML Instance Document - Tender with Purchase Order

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Purchase Order Tender -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
  MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>
          <Quantity>3</Quantity>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="PurchaseOrder" TypeCode="Sale">
          <Amount>4.89</Amount>
          <PurchaseOrder>
            <PurchaseOrderID>1234</PurchaseOrderID>
            <OrganizationID>MIC</OrganizationID>
            <EffectiveDate>2001-08-13</EffectiveDate>
            <PartyID>Joe Cool</PartyID>
            <AuthorizedAmount>4.89</AuthorizedAmount>
```

```
                </PurchaseOrder>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
        </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

19. USE CASE: Co-Pay

19.1 Scenario: Customer Tenders Co-Pay Purchase, i.e. Drug Purchase (V2.1)

Brief Description
Customer selects one or more items and pays co-pay, instead of the total price, typically insurance picks up the remainder of the cost of the item(s).

Data
- **Tender Type = Co-Pay**
- **Type = Sale**
- **Co-Pay Tender Amount**
- **Total Amount**

19.1 Conformance XML Instance Document - Co-Pay Tender

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender sale with Cash as MedicalInsurance CoPay -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <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>25.00</ExtendedAmount>
        </Sale>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Cash" TypeCode="Sale" CoPayFlag="true">
          <Amount>10.00</Amount>
          <CoPay>
            <CoPayAmount>10.00</CoPayAmount>
            <TotalAmount>25.00</TotalAmount>
          </CoPay>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

20. USE CASE: Miscellaneous

20.1 Scenario: Multi-Currency Tender (V2.2)

Brief Description
Customer buys an item and pays for it with currency from two different countries.

Pre-Conditions
Post-Conditions
Data

20.1 Conformance XML Instance Document – Multi-Currency Tender

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <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>
                    <Quantity>3</Quantity>
                </Sale>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem>
                <Tender>
                    <Amount Currency="USD">2.00</Amount>
                </Tender>
                <SequenceNumber>2</SequenceNumber>
            </LineItem>
            <LineItem>
                <Tender>
                    <Amount Currency="ADP">2.89</Amount>
                </Tender>
                <SequenceNumber>3</SequenceNumber>
            </LineItem>
        </RetailTransaction>
    </Transaction>
</POSLog>
```

20.2 Scenario: Split Payment (V2.2)

Brief Description
Customer pays for part of the transaction with cash and part with credit card or coupon, etc.

Pre-Conditions
Post-Conditions
Data

20.2 Conformance XML Instance Document – Split Payment

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <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>
               <Quantity>3</Quantity>
            </Sale>
            <SequenceNumber>1</SequenceNumber>
         </LineItem>
         <LineItem>
            <Tender TenderType="CreditDebit">
               <Amount>3.89</Amount>
               <Authorization>
                  <RequestedAmount>3.89</RequestedAmount>
                  <AuthorizationCode>234</AuthorizationCode>
                  <ReferenceNumber>1234</ReferenceNumber>
                  <MerchantNumber>2323-2342</MerchantNumber>
                  <ProviderID>A Bank</ProviderID>
                  <AuthorizationDateTime>2001-08-13T09:02:50</AuthorizationDateTime>
                  <AuthorizingTermID>Terminal ID</AuthorizingTermID>
               </Authorization>
               <CreditDebit CardType="Credit">
                  <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                  <ExpirationDate>2005-08</ExpirationDate>
               </CreditDebit>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
         </LineItem>
         <LineItem>
            <Tender>
               <Amount>1.00</Amount>
```

```
            </Tender>
            <SequenceNumber>3</SequenceNumber>
         </LineItem>
      </RetailTransaction>
   </Transaction>
</POSLog>
```

20.3   Scenario: Offline Authorization (V2.2)

Brief Description
The connection to the authorization agent is down. So the operator authorizes the credit card purchases offline.

Scenario Description
Pre-Conditions
Post-Conditions
Data

20.3 Conformance XML Instance Document – Offline Authorizations

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Credit Card tender without CashBack   -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <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>
               <Quantity>3</Quantity>
            </Sale>
            <SequenceNumber>1</SequenceNumber>
         </LineItem>
         <LineItem>
            <Tender TenderType="CreditDebit" TypeCode="Sale">
               <Amount>4.89</Amount>
               <Authorization ForceOnline="true">
                  <AuthorizationCode>234</AuthorizationCode>
               </Authorization>
               <CreditDebit CardType="Credit">
                  <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                  <ExpirationDate>2005-08</ExpirationDate>
```

```
        </CreditDebit>
      </Tender>
      <SequenceNumber>2</SequenceNumber>
    </LineItem>
  </RetailTransaction>
  </Transaction>
</POSLog>
```

20.4 Scenario: Online and offline with respect to authorization (V6.0)

Brief Description

It is possible for a single transaction to be both online and offline with respect to authorization. For example, the connection could be available for a Gift Card sale early in the transaction to identify the customer and their loyalty status, but dropped by the time it came to credit card payment.

Scenario Description
Pre-Conditions
Post-Conditions
Data

20.4 Conformance XML Instance Document – Online and offline with respect to authorization

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Gift Card sale in Online Authorizations and Credit card in Offline Authorizations -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
    MajorVersion="6">
    <Transaction OnlineAuthorizationStatus="PartialOnline">
        <BusinessUnit>
            <UnitID>12</UnitID>
        </BusinessUnit>
        <WorkstationID TypeCode="POS">5</WorkstationID>
        <SequenceNumber>12345</SequenceNumber>
        <OperatorID>205</OperatorID>
        <RetailTransaction>
            <!-- iTunes $20 -->
            <LineItem>
                <SaleOfGiftCard>
                    <CardNumber>1f7%t6s3g1hj-11</CardNumber>
                    <DateSold>2011-11-11</DateSold>
                    <DateActivated>2011-11-11</DateActivated>
                    <InitialBalance>0</InitialBalance>
                    <CurrentBalance>20</CurrentBalance>
                    <OpenAmountFlag>false</OpenAmountFlag>
                    <Authorization>
                        <RequestedAmount>20</RequestedAmount>
                        <AuthorizationCode>1111</AuthorizationCode>
                        <ReferenceNumber>88f24856-542b-40aa-9072-
0adaee660005</ReferenceNumber>
                        <AuthorizationDateTime>2011-12-
05T15:14:38.6804241+02:00</AuthorizationDateTime>
                        <ReceiptText>CustomerReceipt text line1 CustomerReceipt text
                            line2</ReceiptText>
                    </Authorization>
                </SaleOfGiftCard>
```

```xml
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Tender TenderType="CreditDebit">
                        <Amount>20.00</Amount>
                        <Authorization ForceOnline="true">
                            <AuthorizationCode>234</AuthorizationCode>
                        </Authorization>
                        <CreditDebit CardType="Credit">
                            <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                            <ExpirationDate>2012-08</ExpirationDate>
                        </CreditDebit>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
            </RetailTransaction>
        </Transaction>
</POSLog>
```

20.5 Scenario: Presentation of a Company Loyalty Voucher (V2.2)

Brief Description

An Item Sale is recorded, then the customer presents a Voucher entitling them to a £ value or percentage off the item just sold. There is an EAN 128 barcode on the voucher which is scanned and which contains a 6 digit Offer ID, a 5 digit value or percentage (with last two digits to follow an implied decimal point, i.e.01000 is 10) a one character indicator to determine Loyalty or Promotion, a 12 digit Voucher Serial Number and finally a 4 digit Expiry value (which is the number of days from 31/12/99 to the expiry date. The Offer ID equates to Promotion ID and this promotion determines whether the value is a Value or Percentage Off and the Reason Code to be used.

Pre-Conditions
Post-Conditions
Data
- EAN 128 barcode
    - **6 digit Offer ID,**
    - **a 5 digit value or percentage (with last two digits to follow an implied decimal point, i.e.01000 is 10)**
    - **a one character indicator to determine Loyalty or Promotion,**
    - **a 12 digit Voucher Serial Number**
    - **a 4 digit Expiry value (which is the number of days from 31/12/99 to the expiry date.**

20.5 Conformance XML Instance Document – Presentation of a Company Loyalty or Promotional Voucher

```xml
<?xml version="1.0" encoding="UTF-8"?>
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID>HighStreet</UnitID>
        </BusinessUnit>
        <WorkstationID>POS5</WorkstationID>
```

```xml
            <SequenceNumber>4294967295</SequenceNumber>
            <OperatorID>John</OperatorID>
            <RetailTransaction>
                <LineItem>
                    <Sale ItemType="Stock">
                        <POSIdentity>
                            <POSItemID>01234567890123</POSItemID>
                        </POSIdentity>
                        <ExtendedAmount Currency="GBP">4.89</ExtendedAmount>
                    </Sale>
                    <SequenceNumber>1</SequenceNumber>
                </LineItem>
                <LineItem>
                    <Tender TenderType="Loyalty">
                        <Amount Currency="GBP">4.89</Amount>
                        <LoyaltyRedemption>
                            <Voucher TypeCode="Voucher">
                                <FaceValueAmount Currency="GBP">10.00</FaceValueAmount>
                                <SerialNumber>123456789012</SerialNumber>
                                <ExpirationDate>2001-08-13</ExpirationDate>
                            </Voucher>
                            <LoyaltyProgram TypeCode="Voucher">
                                <OfferID>123456</OfferID>
                            </LoyaltyProgram>
                        </LoyaltyRedemption>
                    </Tender>
                    <SequenceNumber>2</SequenceNumber>
                </LineItem>
            </RetailTransaction>
        </Transaction>
</POSLog>
```

20.6 Scenario: Entry of denomination and consolidation (V2.2)

Tendered amount on the receipt is shown in Tender class, where the details of denominations and the quantity at the cash payment should be consolidated.

The details of denominations and the quantity are utilized for cash-in-drawer management and for accounting process.

Brief Description
The operator scans items, registers them, and performs a tendering operation. At the cash payment, the denominations of received bills and coins are entered. (The coin dispenser connected to the POS terminal may perform this operation instead of the operator.)

The POS terminal consolidates the entered data, updates the consolidation area, then stores them into the POSLog.

Data
- The following entity contains the dominations and the quantities.
  - Item sales

20.6 Conformance XML Instance Document – Entry of denomination and consolidation

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

```
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <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>
            <Quantity>3</Quantity>
          </Sale>
          <SequenceNumber>1</SequenceNumber>
        </LineItem>
        <LineItem>
          <Tender>
            <Amount>4.89</Amount>
            <MonetaryKind>
              <Kind>1dollarBill</Kind>
              <Quantity>4</Quantity>
            </MonetaryKind>
            <MonetaryKind>
              <Kind>50centCoin</Kind>
              <Quantity>1</Quantity>
            </MonetaryKind>
            <MonetaryKind>
              <Kind>25centCoin</Kind>
              <Quantity>1</Quantity>
            </MonetaryKind>
            <MonetaryKind>
              <Kind>10centCoin</Kind>
              <Quantity>1</Quantity>
            </MonetaryKind>
            <MonetaryKind>
              <Kind>1centCoin</Kind>
              <Quantity>4</Quantity>
            </MonetaryKind>
          </Tender>
          <SequenceNumber>2</SequenceNumber>
        </LineItem>
      </RetailTransaction>
    </Transaction>
</POSLog>
```

20.7 Scenario: Chip and Pin Payment Record (V2.2)

Brief Description

At first review the fuelling transaction record looks OK (I do have very minor comments - the ItemType is called "grade", some grades are made by blending stock products.

We need to append to the payment record attributes for EMV chip+PIN cards.

We need sufficient data in the payment record to allow a receipt to be recreated/reprinted in the back office/head office. We don't need all the internal payment authorisation parameters, essentially just sufficient to re-print a paper receipt for a customer query.

ROWBERRY'S NURSERY	RetailStoreName
KIDDERMINSTER	Town
MRCH NO. 543457049005663	MerchantNumber
CARDHOLDER	
COPY	
VISACREDIT	TenderID
A0000000031010	
***********28415	IIN+PAN
VALID FROM 03/04	
EXP 0307 ISSUE 04 ICC	ExpirationDate, IssueSequence
THANK YOU	
AMOUNT £72.12	CurrencySymbol, Amount
VERIFIED BY PIN	
13:47 16/05/04	AuthorizationDateTime
TC:6C6E90272D431290 0011	TransactionCertificate
AUTH CODE:016919	Authorization Code
SN 03629562 TXN 1206	EFTReceiptTransactionSequenceNumber

Figure 3: UK Chip+Pin Receipt 1

PHOTOGRAPHY & ILLUSTRATI	RetailStoreName
Free School Lane	AddressLine1
CAMBRIDGE	Town
M8598666 TID26560680	MerchantNumber, TerminalID
AID: A0000000031010	Application Identifier
VISACREDIT	
VISA	TenderID
**** 1234	IIN + PAN
EXP 03/07	ExpirationDate
ICC	Integrated Circuit Card
Fred Smith	CardHolderName
SALE	Tender TypeCode="Sale"
AMOUNT £42.50	CurrencySymbol, Amount
VERIFIED BY PIN	
THANK YOU	
13:13 25/06/04 40DLR 20	AuthorizationDateTime, ???
AUTH CODE: 077080	AuthorizationCode
RECEIPT 0408	EFTReceiptTransactionSequenceNumber

Figure 4: UK Chip+Pin Receipt 2

UNIVERSTITY COMPUTING SRV	RetailStoreName
	AddressLine1
New Museum Site	AddressLine2
CAMBRIDGE	Town
M3089299 TID26206839	MerchantID TerminalID
AID: A0000000031010	Application Identifier
VISACREDIT	
VISA	TenderID
**** **** **** 1234	IIN + PAN
EXP 03/07	expirationDate
ICC	Integrated Circuit Card
CARRIER/JOHN	CardHolderName
SALE	Tender TypeCode
CARD HOLDER COPY	
Please keep this receipt	
for your records	
AMOUNT £19.75	CurrencySymbol, Amount
Verified by PIN	
THANK YOU	
13:22 25/06/04	AuthorizationDateTime
AUTH CODE: 094372	AuthorizationCode
RECEIPT 0234	EFTReceiptTransactionSequenceNumber

Figure 5: UK Chip+Pin Receipt 3

Data
- Fuel Transaction,
- How it was paid (credit card),
- loyalty
- Need encryption code
- the date time stamp used in the encryption.
- EFTReceiptTransactionSequenceNumber
- tie back to tank for wet stock management.
- identify percent from what tank
- sales by volume and amount
- Settlement through acquirer
- If receipt available and not printed, then must be able to go into the store and get receipt.
- receipt form number and version so the format of a particular receipt can be reprinted.

Pre-Conditions
Post-Conditions

20.7 Conformance XML Instance Document - Chip and Pin Payment Record

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UK Chip + Pin Receipt 2 example -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID TypeCode="RetailStore">Photography and Illustrati</UnitID>
            <Address>
                <AddressLine RelativeOrder="1">Free School Lane</AddressLine>
                <City>Cambridge</City>
            </Address>
        </BusinessUnit>
        <WorkstationID>1</WorkstationID>
        <SequenceNumber>0408</SequenceNumber>
        <RetailTransaction>
            <LineItem>
```

```xml
            <Sale ItemType="Stock">
              <POSIdentity>
                <POSItemID>01234567890123</POSItemID>
              </POSIdentity>
              <ExtendedAmount Currency="GBP">42.50</ExtendedAmount>
            </Sale>
            <SequenceNumber>1</SequenceNumber>
          </LineItem>
          <LineItem>
            <Tender TenderType="CreditDebit" TypeCode="Sale">
              <Amount Currency="GBP">42.50</Amount>
              <Authorization VerifiedByPINFlag="true">
                <AuthorizationCode>077080</AuthorizationCode>
                <MerchantNumber>m8598666</MerchantNumber>
                <AuthorizationDateTime>2004-06-25T13:13:00.000-
05:00</AuthorizationDateTime>
                <AuthorizingTermID>TID26760680</AuthorizingTermID>
                <EMVDebug TerminalActionCode="Online">
                  <ApplicationIdentifier>A000000000031010</ApplicationIdentifier>
                </EMVDebug>
              </Authorization>
              <CreditDebit CardType="Credit" TypeCode="Visa">
                <CardHolderName>Fred Smith</CardHolderName>
                <PrimaryAccountNumber>1234</PrimaryAccountNumber>
                <ExpirationDate>2007-03</ExpirationDate>
              </CreditDebit>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
          </LineItem>
        </RetailTransaction>
      </Transaction>
</POSLog>
```

21. Use Case: Money Order, Postal Order, International Money Order (V6.0)

21.1 Scenario: Money Order, Postal Order, International Money Order (V6.0)

Brief Description
A money order is a payment for a pre determined amount of money, and the payments have to be made beforehand so the merchant is covered and does not have to worry about checks bouncing.

Money orders can be purchased at post offices, banks, grocery stores or gas stations and now also online. These outlets typically impose a fee from 0.50 cents to about $2.00.

Scenario Description
Transfer money from the customer to his son's bank account.

Customer pays 100 USD in cash and transfers 100 USD to the son's bank account.

Data
Pre-Conditions
Post-Conditions

21.1 Conformance XML Instance Document – Money Order

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--Money Order  -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
    MajorVersion="6" MinorVersion="0" FixVersion="0">
    <Transaction>
        <BusinessUnit>
            <UnitID TypeCode="RetailStore">12</UnitID>
        </BusinessUnit>
        <WorkstationID TypeCode="POS">5</WorkstationID>
        <SequenceNumber>12345</SequenceNumber>
        <OperatorID OperatorName="John" OperatorType="Cashier"
WorkerID="029384757">205</OperatorID>
        <RetailTransaction TypeCode="RevisedTransaction">
            <LineItem>
                <Tender TenderType="Cash">
                    <Amount>100.00</Amount>
                </Tender>
                <SequenceNumber>1</SequenceNumber>
            </LineItem>
            <LineItem>
                <Tender TenderType="Cash" TypeCode="Refund">
                    <Amount>100.00</Amount>
                    <MoneyOrder TypeCode="Personal">
                        <BankID>1222</BankID>
                        <CheckNumber>111</CheckNumber>
                        <AccountNumber>12345</AccountNumber>
                        <FullMICR>232232332ssdfdfe</FullMICR>
                        <Count>222</Count>
                    </MoneyOrder>
                </Tender>
                <SequenceNumber>2</SequenceNumber>
```

```
            </LineItem>
        </RetailTransaction>
    </Transaction>
</POSLog>
```

22. USE CASE: EBT Cash & EBT Foodstamps

22.1 Scenario: EBT Cash & EBT Foodstamps (V6.0)

Brief Description

A customer affected by a flood wants to purchase necessities with EBT cash.

There is the EBT (electronic benefits transfer) government program with two flavors, FoodStamps and Cash.

The cash benefits include State General Assistance (GA), TANF (Temporary Aid for Needy Families) benefits, refugee benefits (RefugeeCashAssistance) and the Consolidated Emergency Assistance Program (CEAP).

They are very similar; a card with a pre-loaded account amount operating like a debit. One (Food Stamps) is restricted to food stamp-approved purchases while EBT Cash is more general, even allowing clients to get cash back with the card at grocery stores, etc...

No item lists are sent with the EBT Cash or food stamp tenders for validation to the host systems.

Scenario Description

Sarah needs some necessities and is using an EBT Cash card given to her family for emergency assistance due to a flood

Data

- o Tender information
    - o Tender amount
    - o Tender type
    - o Tender description
    - o Tender expiration date
    - o Tender account number

22.1 Conformance XML Instance Document – EBT Cash

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Gift Card sale in Online Authorizations and Credit card in Offline Authorizations -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
    MajorVersion="6">
    <Transaction>
        <BusinessUnit>
            <UnitID>12</UnitID>
        </BusinessUnit>
        <WorkstationID TypeCode="POS">5</WorkstationID>
        <SequenceNumber>12345</SequenceNumber>
        <OperatorID>205</OperatorID>
        <RetailTransaction>
            <LineItem>
                <Sale>
                    <POSIdentity>
                        <POSItemID>01234567890123</POSItemID>
                    </POSIdentity>
                    <ExtendedAmount>20.0</ExtendedAmount>
```

```xml
                <Quantity>1</Quantity>
            </Sale>
        </LineItem>
        <LineItem>
            <Tender TenderType="EBTCash">
                <Amount>20.00</Amount>
                <Authorization>
                    <AuthorizationCode>234</AuthorizationCode>
                </Authorization>
                <EBTCash>
                    <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                    <ExpirationDate>2012-08</ExpirationDate>
                </EBTCash>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
        </LineItem>
    </RetailTransaction>
</Transaction>
</POSLog>
```

23. USE CASE: Refund Tender

Brief Description

Customer returns an item to a store, and the number of those items available in inventory may or may not be incremented, depending on whether the returned item is put back into stock.

Data

- Transaction header data, including:
  - Identifiers for Store, Workstation, & Operator performing the transaction.
  - The date the transaction was performed
  - A workstation assigned sequence number identifying the transaction
  - Item data, including:
  - A department identifier for the item being sold.
  - Which level in the department hierarchy is being used to identify the item.
  - The number of multiples of the item being sold.
  - The current unit-price of the item
- Return data, including:
  - Transaction link information identifying the original purchase that validates the return.
  - Approval information identifying the manager who approved the return.
  - Disposal information identifying how the returned item is to be treated.

23.1 Scenario: Customer Gets Refund in Cash (V2.1)

Brief Description

Customer returns an item to a store, and gets the refund in cash.

Scenario Description

The customer's hamburger tasted bad, so My Hamburger Place gave the customer their money back and put the returned hambuger into waste.

23.1 Conformance XML Instance Document - Cash Refund

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Tender of refund with cash -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <Transaction>
    <BusinessUnit>
      <UnitID>HighStreet</UnitID>
    </BusinessUnit>
    <WorkstationID>POS5</WorkstationID>
    <SequenceNumber>4294967295</SequenceNumber>
    <OperatorID>John</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Return ItemType="Stock">
          <POSIdentity>
            <POSItemID>01234567890123</POSItemID>
          </POSIdentity>
          <ExtendedAmount>4.89</ExtendedAmount>
          <Quantity>3</Quantity>
          <Disposal Method="ReturnToStock"/>
        </Return>
```

```
            <SequenceNumber>1</SequenceNumber>
         </LineItem>
         <LineItem>
            <Tender TenderType="Cash" TypeCode="Refund">
               <Amount>4.89</Amount>
            </Tender>
            <SequenceNumber>2</SequenceNumber>
         </LineItem>
      </RetailTransaction>
   </Transaction>
</POSLog>
```

23.2 Scenario: Customer Gets Refund on Their Credit Card (V2.1)

Brief Description
Customer returns an item to a store, and gets the refund on their credit card.

Scenario Description
Customer charges a pizza to his credit card. Cutomer then complains about bad pizza and gets refund on their credit card.

23.2 Conformance XML Instance Document - Credit Card Refund

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Tender of refund to Credit card -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <Transaction>
      <BusinessUnit>
         <UnitID>HighStreet</UnitID>
      </BusinessUnit>
      <WorkstationID>POS5</WorkstationID>
      <SequenceNumber>4294967295</SequenceNumber>
      <OperatorID>John</OperatorID>
      <RetailTransaction>
         <LineItem>
            <Return ItemType="Stock">
               <POSIdentity>
                  <POSItemID>01234567890123</POSItemID>
               </POSIdentity>
               <ExtendedAmount>4.89</ExtendedAmount>
               <Quantity>3</Quantity>
               <Disposal Method="ReturnToStock"/>
            </Return>
            <SequenceNumber>1</SequenceNumber>
         </LineItem>
         <LineItem>
            <Tender TenderType="CreditDebit" TypeCode="Refund">
               <Amount>4.89</Amount>
               <Authorization>
                  <RequestedAmount>4.89</RequestedAmount>
                  <AuthorizationCode/>
                  <ReferenceNumber/>
```

```xml
                <MerchantNumber/>
                <ProviderID/>
                <AuthorizationDateTime>2004-02-08T12:03:43</AuthorizationDateTime>
                <AuthorizingTermID/>
            </Authorization>
            <CreditDebit CardType="Credit">
                <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
                <ExpirationDate>2005-09</ExpirationDate>
            </CreditDebit>
          </Tender>
          <SequenceNumber>2</SequenceNumber>
        </LineItem>
      </RetailTransaction>
    </Transaction>
</POSLog>
```

23.3 Scenario: Customer Gets Refund on Their Store Account (V2.1)

Brief Description

Customer returns an item to a store, and gets the refund on their store account

Scenario Description

23.3 Conformance XML Instance Document - Store Account Refund

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Tender of refund to HouseAccount -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
  MajorVersion="6" MinorVersion="0" FixVersion="0">
  <Transaction>
    <BusinessUnit>
      <UnitID>HighStreet</UnitID>
    </BusinessUnit>
    <WorkstationID>POS5</WorkstationID>
    <SequenceNumber>4294967295</SequenceNumber>
    <OperatorID>John</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Return ItemType="Stock">
          <POSIdentity>
            <POSItemID>01234567890123</POSItemID>
          </POSIdentity>
          <ExtendedAmount>4.89</ExtendedAmount>
          <Quantity>3</Quantity>
          <Disposal Method="ReturnToStock"/>
        </Return>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="HouseAccount" TypeCode="Refund">
          <Amount>4.89</Amount>
          <StoreAccount>
            <AccountID>1234</AccountID>
```

```
          </StoreAccount>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

23.4 Scenario: Customer Gets Refund in Merchandise Voucher (V2.1)

Brief Description

Customer returns an item to a store, and gets a store voucher.

23.4 Conformance XML Instance Document - Voucher Refund

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Customer Gets Refund in Merchandise Voucher  -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
    MajorVersion="6">
  <Transaction>
    <BusinessUnit>
      <UnitID>12</UnitID>
    </BusinessUnit>
    <WorkstationID TypeCode="POS">5</WorkstationID>
    <SequenceNumber>12345</SequenceNumber>
    <OperatorID>205</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Return ItemType="Stock">
          <POSIdentity>
            <POSItemID>01234567890123</POSItemID>
          </POSIdentity>
          <ExtendedAmount>4.89</ExtendedAmount>
          <Disposal Method="ReturnToStock"/>
        </Return>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Voucher" TypeCode="Refund">
          <Amount>4.89</Amount>
          <Voucher TypeCode="Voucher">
            <FaceValueAmount>4.89</FaceValueAmount>
            <SerialNumber>12345678</SerialNumber>
            <ExpirationDate>2012-04-03</ExpirationDate>
          </Voucher>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
    <BusinessDayDate>2011-11-11</BusinessDayDate>
  </Transaction>
</POSLog>
```

23.5 Scenario: Customer Gets Refund in a Check Sent to an Address (V2.1)

Brief Description

Customer returns an item to a store, and a check is sent to the customer's home address.

23.5 Conformance XML Instance Document - Send Check Refund

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- UseCase: Tender of refund by issuing of a check by retail enterprise -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ../POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <Transaction>
    <BusinessUnit>
      <UnitID>HighStreet</UnitID>
    </BusinessUnit>
    <WorkstationID>POS5</WorkstationID>
    <SequenceNumber>4294967295</SequenceNumber>
    <OperatorID>John</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Return ItemType="Stock">
          <POSIdentity>
            <POSItemID>01234567890123</POSItemID>
          </POSIdentity>
          <ExtendedAmount>4.89</ExtendedAmount>
          <Quantity>3</Quantity>
          <Disposal Method="ReturnToStock"/>
        </Return>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Check" TypeCode="Refund">
          <Amount>4.89</Amount>
          <CustomerIdentification>1234</CustomerIdentification>
          <Address>
            <AddressLine>123 Main Street</AddressLine>
            <City>Mustang</City>
            <Territory>Oklahoma</Territory>
            <PostalCode>123456</PostalCode>
            <Name>
              <Name Location="First">Joe</Name>
              <Name Location="Last">Cool</Name>
            </Name>
          </Address>
          <SendCheck>
            <ReasonCode>Too much money</ReasonCode>
          </SendCheck>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
  </Transaction>
</POSLog>
```

23.6 Scenario: Customer Gift Card Refund get change in cash (V6.0)

Brief Description
Customer bought a 20$ gift card for present and pay in cash, after 10 minutes customer decided to return the Gift Card and to get cash back

23.6 Conformance XML Instance Document - Gift Card Refund get change in cash

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--  Customer return Gift Card and get  Refund in a cash    -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <Transaction>
    <BusinessUnit>
      <UnitID TypeCode="RetailStore">12</UnitID>
    </BusinessUnit>
    <WorkstationID TypeCode="POS">5</WorkstationID>
    <SequenceNumber>12345</SequenceNumber>
    <OperatorID>205</OperatorID>
    <RetailTransaction>
      <LineItem>
        <!-- iTunes  -->
        <SaleOfGiftCard TypeCode="Refund">
          <CardNumber>21121133</CardNumber>
          <DateSold>2011-11-11</DateSold>
          <DateActivated>2011-11-11</DateActivated>
          <InitialBalance>20.00</InitialBalance>
          <CurrentBalance>0.00</CurrentBalance>
          <OpenAmountFlag>false</OpenAmountFlag>
          <Authorization>
            <RequestedAmount>20</RequestedAmount>
            <AuthorizationCode>1111</AuthorizationCode>
            <ReferenceNumber>88f24856-542b-40aa-9072-
0adaee660005</ReferenceNumber>
            <AuthorizationDateTime>2011-11-
11T15:14:38.6804241+02:00</AuthorizationDateTime>
            <ReceiptText>CustomerReceipt text line1 CustomerReceipt text line2</ReceiptText>
          </Authorization>
        </SaleOfGiftCard>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TypeCode="Refund">
          <Amount >20.00</Amount>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
    <BusinessDayDate>2011-11-11</BusinessDayDate>
  </Transaction>
</POSLog>
```

24. USE CASE: Tender Change Line Item – Gift Card

24.1 Scenario: Customer Item Refund get change in Gift Card (V6.0)

Brief Description
It is company policy to only give store credit for any return with a gift receipt, never cash. This is accomplished by charging a gift card with the amount of the return.

Scenario Description
Customer returns a toaster received as a gift. The cashier rings up the return and places the tender change on a gift card.

Data

24.1 ARTS XML Conformance XML Instance Document – Customer Item Refund get change in Gift Card

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Customer Return Item Gets  Change with Gift Card    -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
   <Transaction>
     <BusinessUnit>
       <UnitID TypeCode="RetailStore">12</UnitID>
     </BusinessUnit>
     <WorkstationID TypeCode="POS">5</WorkstationID>
     <SequenceNumber>12345</SequenceNumber>
     <OperatorID>205</OperatorID>
     <RetailTransaction>
       <LineItem>
         <Return ItemType="Stock">
           <POSIdentity>
             <POSItemID>01234567890123</POSItemID>
           </POSIdentity>
           <ExtendedAmount>39.99</ExtendedAmount>
           <Disposal Method="ReturnToStock"/>
           <Reason>Customer regret</Reason>
         </Return>
         <SequenceNumber>1</SequenceNumber>
       </LineItem>
       <LineItem>
         <Tender TenderType="GiftCard" TypeCode="Refund">
           <Amount>39.99</Amount>
         </Tender>
         <SaleOfGiftCard>
           <CardNumber>4434343</CardNumber>
           <DateSold>2011-11-11</DateSold>
           <DateActivated>2011-11-11</DateActivated>
           <InitialBalance>0</InitialBalance>
           <CurrentBalance>39.99</CurrentBalance>
           <OpenAmountFlag>false</OpenAmountFlag>
```

```
            <Authorization>
                <RequestedAmount>39.99</RequestedAmount>
                <AuthorizationCode>1111</AuthorizationCode>
                <ReferenceNumber>53017b51-c7fb-4517-8860-e368eac3def7</ReferenceNumber>
                <AuthorizationDateTime>2011-11-
11T19:04:19.4523926+02:00</AuthorizationDateTime>
                <ReceiptText>Gift Card Receipt</ReceiptText>
            </Authorization>
        </SaleOfGiftCard>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
    </RetailTransaction>
    <BusinessDayDate>2011-11-11</BusinessDayDate>
  </Transaction>
</POSLog>
```

25. USE CASE: Tender Exchange

25.1 Scenario: Tender exchange from cash to Credit card (V6.0)

Brief Description

The Cashier closes the ticket with cash, however, the customer requests to pay with a credit card and not with the cash.

The cashier will perform a Tender Exchange transaction.

25.1 ARTS XML Conformance XML Instance Document – Tender exchange from cash to Credit card

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Tender Exchange   -->
<POSLog xmlns="http://www.nrf-arts.org/IXRetail/namespace/"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://www.nrf-arts.org/IXRetail/namespace/ ..\POSLogV6.0.0.xsd"
   MajorVersion="6" MinorVersion="0" FixVersion="0">
  <Transaction>
    <BusinessUnit>
      <UnitID>12</UnitID>
    </BusinessUnit>
    <WorkstationID TypeCode="POS">5</WorkstationID>
    <SequenceNumber>12345</SequenceNumber>
    <OperatorID>205</OperatorID>
    <RetailTransaction>
      <LineItem>
        <Tender TenderType="CreditDebit">
          <Amount>4.89</Amount>
          <Authorization>
            <RequestedAmount>4.89</RequestedAmount>
            <AuthorizationCode>234</AuthorizationCode>
            <ReferenceNumber>1234</ReferenceNumber>
            <MerchantNumber>2323-2342</MerchantNumber>
            <ProviderID>A Bank</ProviderID>
            <AuthorizationDateTime>2011-11-11T09:02:50</AuthorizationDateTime>
            <AuthorizingTermID>Terminal ID</AuthorizingTermID>
          </Authorization>
          <CreditDebit CardType="Credit">
            <PrimaryAccountNumber>12345678</PrimaryAccountNumber>
            <ExpirationDate>2012-08</ExpirationDate>
          </CreditDebit>
        </Tender>
        <SequenceNumber>1</SequenceNumber>
      </LineItem>
      <LineItem>
        <Tender TenderType="Cash" TypeCode="Refund">
          <Amount>4.89</Amount>
        </Tender>
        <SequenceNumber>2</SequenceNumber>
      </LineItem>
```

```
        </RetailTransaction>
        <BusinessDayDate>2011-11-11</BusinessDayDate>
    </Transaction>
</POSLog>
```

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26. Document History

27. Version History

Version 1.0

Overview

New Features

Sections	Description of Change
	-

Minor fixes

Deprecation

Sections	Description of Change
	-

Compatibility/Dependencies Issues

Previous Document

28. GLOSSARY

Term	Definition