

# National Retail Federation ARTS

(Association Retail Technology Standards)

**Data Management from source through  
Business Intelligence with KPI's via ARTS  
standards**

# Presenters

- Graham Hill - PCMS
  - ARTS XML Technical Committee Member
  - ARTS Data Model Committee Member
- Edvard Gundersen - ProfitBase
  - Data Model Committee Member
  - Data Warehouse Workgroup Chairman

# Session Agenda

- Serving the business
- Business Data & Process
- The Smart CTO
- Modeling Business Operations
- Analyzing Business Performance
- Summary

# Serving the business

# Business challenges

- Retail change continues unabated
- FAST !
- Competition is ferocious
- Multi-format expansion continues unbounded
- Multi channel retailing prevalent
- New channels
- New products
- New services
- Business DEMANDS responsiveness to survive and prosper

**RELENTLESS !!!**

# The IT challenge

- Legacy systems
  - replacement
  - keeping the best
- Iterative replenishment of the estate
- Select best of breed
- Open Systems
- Flexibility
- Cost of ownership
- Not tied to one supplier for entire business
- Open systems
- Increasing choice
- Multi channel retailing – rate of business change
- Multi format

# Business Data & Process

# Helping the Business

- We need lean business processes
- Simple to adapt as the business adapts
- Clear and well defined
- Owned and well understood
- Based on sound information
- Cooperating with a common understanding

# The Smart CTO

# Its not easy

- Rising costs
- Business demands are high
- Expectations are high
- The right skills can be hard to find
- Timescales are short
- Choice is increasing
- Stakes are high



There is NO second place !!!

# Architecture – City Planning

- Shared common services
  - Roads, waste disposal, power, water, district heating
- Shared common policies
  - Planning guidelines, interface specifications . . .
- Enabling local solutions
  - Office buildings, shops, residential homes, private access roads . . .
  - Distributed, independent, constantly changing

***Objective is to establish a level of standardisation that will maintain integrity and enable high a level of adaptability and innovation.***



**Reduce the risk in delivering  
solutions that are fit for purpose.**

**How ?**

# Strength Through Working Together



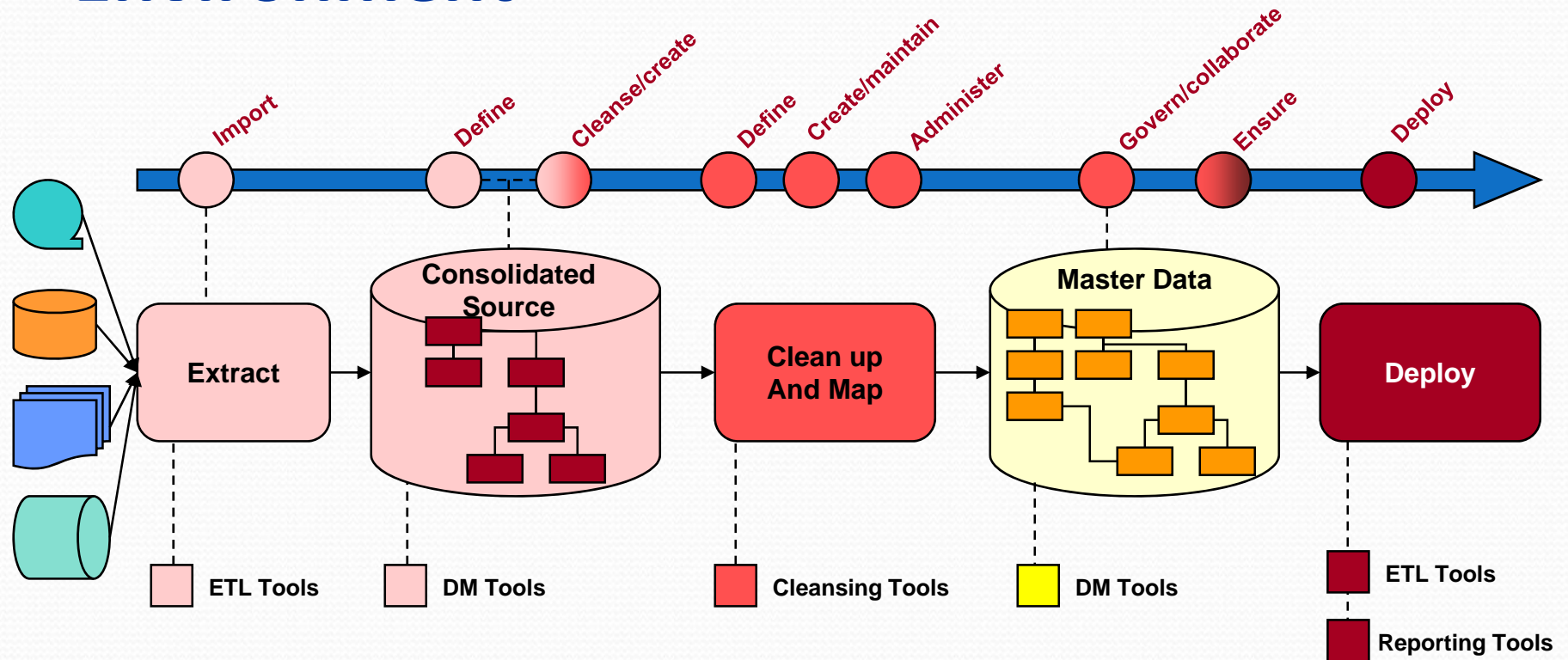
# RFP – Request For Proposal

- ARTS has a selection of pre-prepared RFP's
- These contain guidelines and templates for your own proposals
- Wealth of industry expertise from vendors and end users
- Examples:
  - **POS** : Point of Sale
  - **Loss Prevention** : Loss Prevention - POS Exception Reporting
  - **Warehouse Management** : Warehouse Management
  - **Master Data Management**

# Master Data Management (MDM)

- *Master data management* also known as Reference Data Management, is a discipline in Information Technology (IT) that focuses on the management of reference or master data that is shared by several disparate IT systems and groups. MDM is required to warrant consistent computing between diverse system architectures and business functions.
- Master data management activities:
  - *Define*: Aligning the definition of the master data
  - *Cleanse*: Cleansing the existing master data to create a clean copy (the gold copy)
  - *Maintain/Govern*: Defining the processes to manage the generation of master data (centrally or on-going in various systems)
  - *Distribute*: Distributing the master data to the various applications that need it
  - *Administer*: Extending the master data definitions

# Creating a Managed Master Data Environment



# ARTS Master Data Management RFP

- Provides *guidelines and templates* for choosing a Master Data Management solution
- Templates specify
  - List of business features and functions recommended for a MDM solution
  - Retailer may choose those that best fit their specific requirements
- Provides guidance on when and where standards (including ARTS) can best benefit the business
- Excellent reference for retail enterprise architectural planning and readiness assessment

# Sample of ARTS Master Data

## Master Data Areas

Master data is a set of core data elements—with their associated hierarchies, attributes, properties, and dimensions that span the enterprise IT systems and drive the business. Typical MDM areas include: Customers (CDI), Vendors/Suppliers, Location (e.g stores, distribution centers), Products (PIM) / Items, Hierarchy, Custom Attributes, Financial, etc. . These items should be edited or deleted and others may be added dependant on company business requirements.

*Functionality/Capabilities (Click on '+' on left to see details within each group)*

Base Functionality	Configurable	Custom	Future (Version # and Release Date)	Add-On	N/A
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## Customer Master Data

Create and maintain a customer master data hub that provides a unified, comprehensive consolidated view of all customer master records					
Create a unified, comprehensive consolidated view of all customer master records					
Create customer profile					
Configurable customer attributes					
Customer databases and customer information file imports from external sources					
Functionality to manage customer data over the lifecycle					
Consolidate unique data sources to create a unified view of customers					
Source data and history about the evolution of the customer profile					
Link profiles of similar customers					
Ability to create target markets based on customer segments					
Maintain a historical version of the customer profile that can be restored, audited or utilized for reporting					

Base Functionality	Identifies this functionality is a part of the base product
Custom	This functionality can be added specifically for the retailer (needs new code to be written)
Configurable	The system can be configured to provide this functionality
Future (version # and Date of Release)	This functionality will be added as a part of the base package at some future release
Add-On	This functionality is provided by a third party application and must be purchased separately, i.e. a report writer
N/A	This functionality is Not Available
Comments	Further explanation

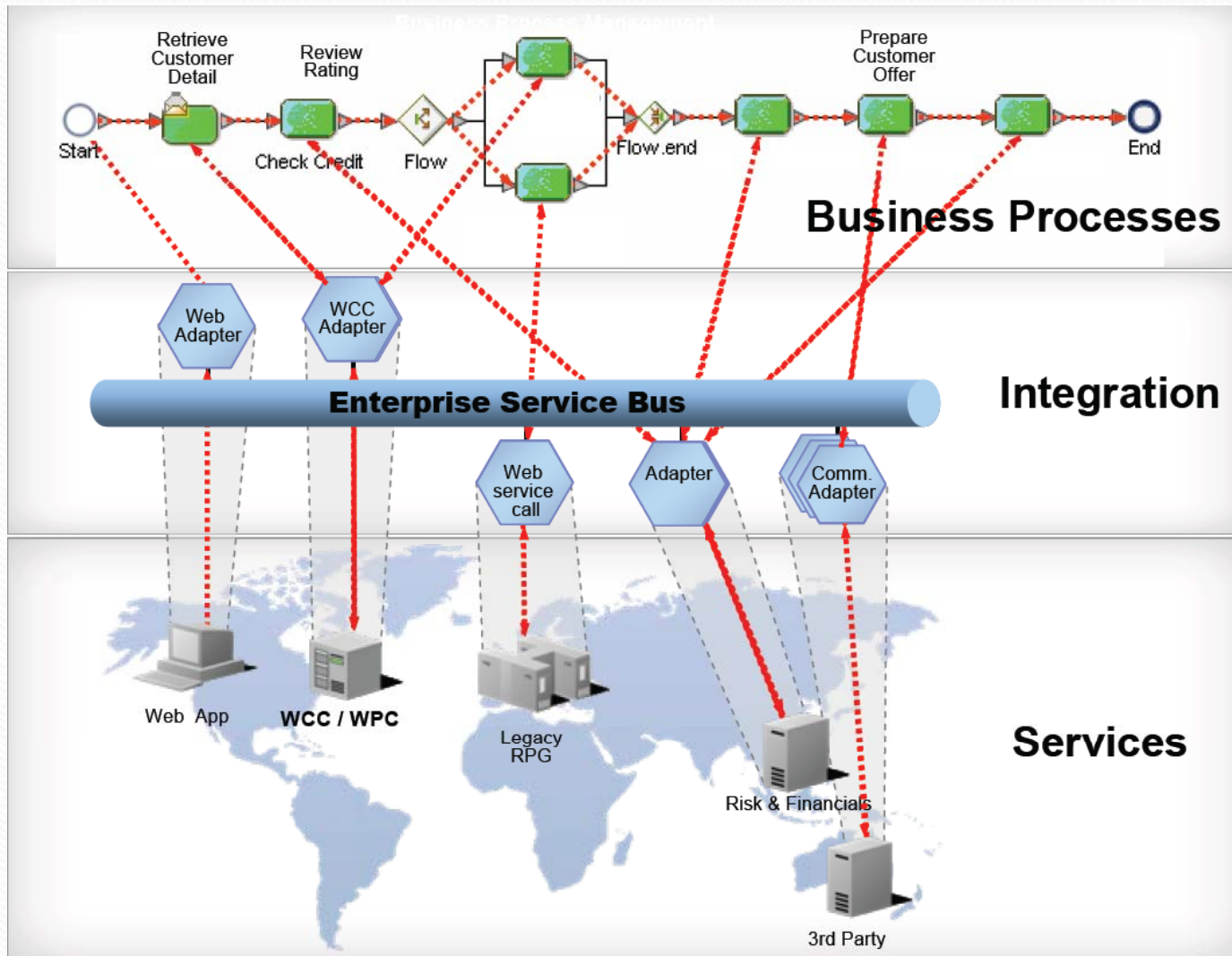
# Service Orientated Architecture

- Leading retailers have contributed to the production of the ARTS SOA Blueprint
- Some early adopters of SOA have shared their expertise
- Leading technology vendors including IBM, Oracle, SAP, Microsoft, ProfitBase and PCMS have contributed knowledge and expertise from their customer projects.

# Good for Retail ?

- Frequently changing business needs in retail requires IT architectures that are:
  - flexible
  - agile
  - responsive to change
- changes need to be seamless
- cost of responding to business changes needs to be low
- Most retailers however, have a patchwork of applications running in their businesses today.

# SOA – The Vision



# ARTS SOA – Realising the Vision

Education	ARTS SOA Boot Camp				<ul style="list-style-type: none"> <li>• Overall SOA information</li> <li>• Classroom format</li> </ul>
Overall Architecture	ARTS SOA Blueprint				<ul style="list-style-type: none"> <li>• Architectural component of a retail SOA</li> <li>• Required Tools</li> <li>• Example uses in Retail</li> </ul>
Standards Conventions	ARTS SOA Best Practices				<ul style="list-style-type: none"> <li>• Conventions and assumptions that will be used in all ARTS SOA standards</li> </ul>
ARTS Standards	Corp	Move	Sell  <div style="border: 1px solid black; padding: 2px; display: inline-block;">RTI</div>	Buy	<ul style="list-style-type: none"> <li>• Specific standards for logical domains</li> </ul>
<div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 20px;">WS-POS</div> Device Services					
ARTS SOA Common Services					

Training

Technical Reports

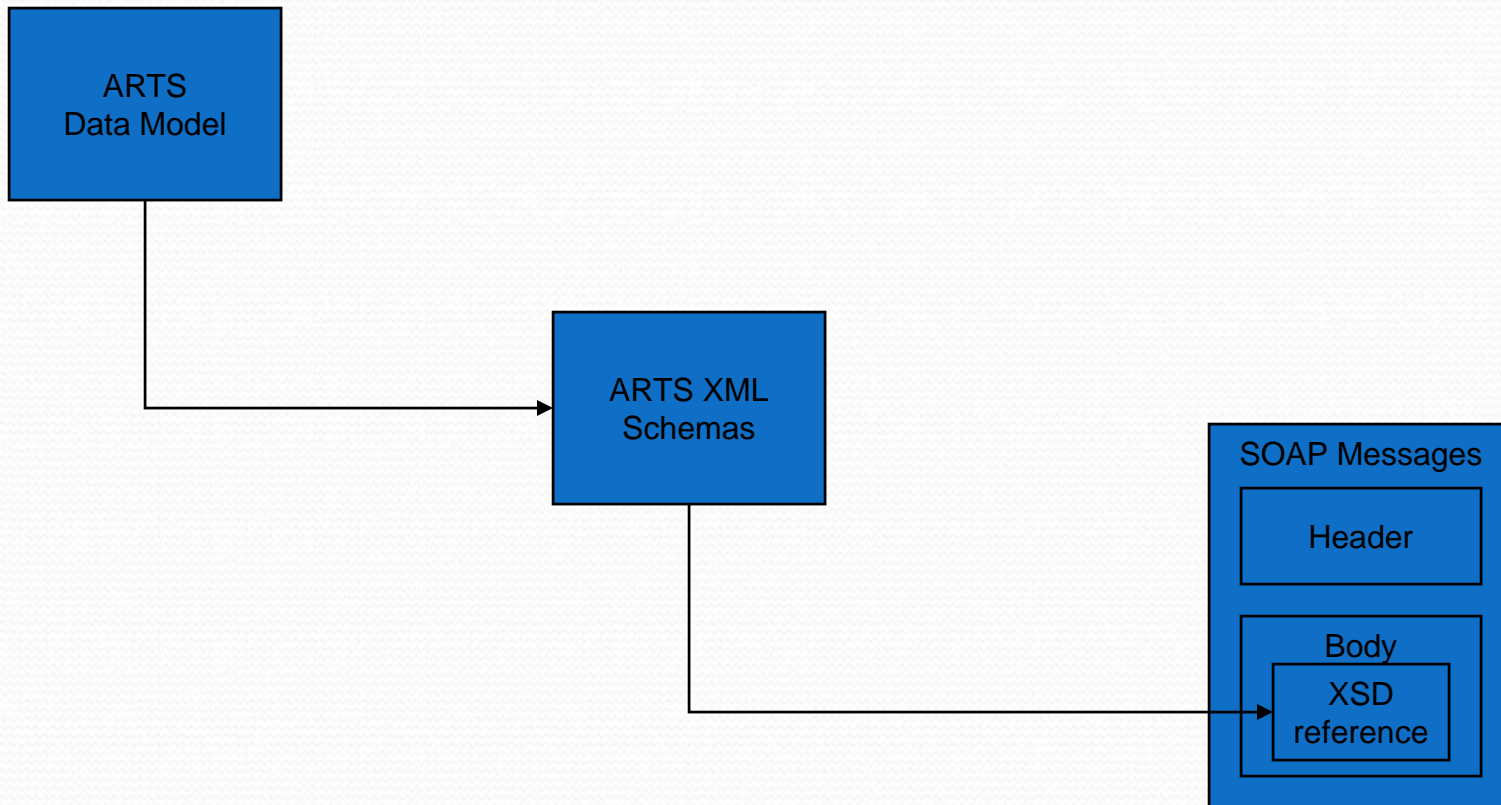
Technical Specifications

# Tracing ARTS Data Model to Web Services

Relational World

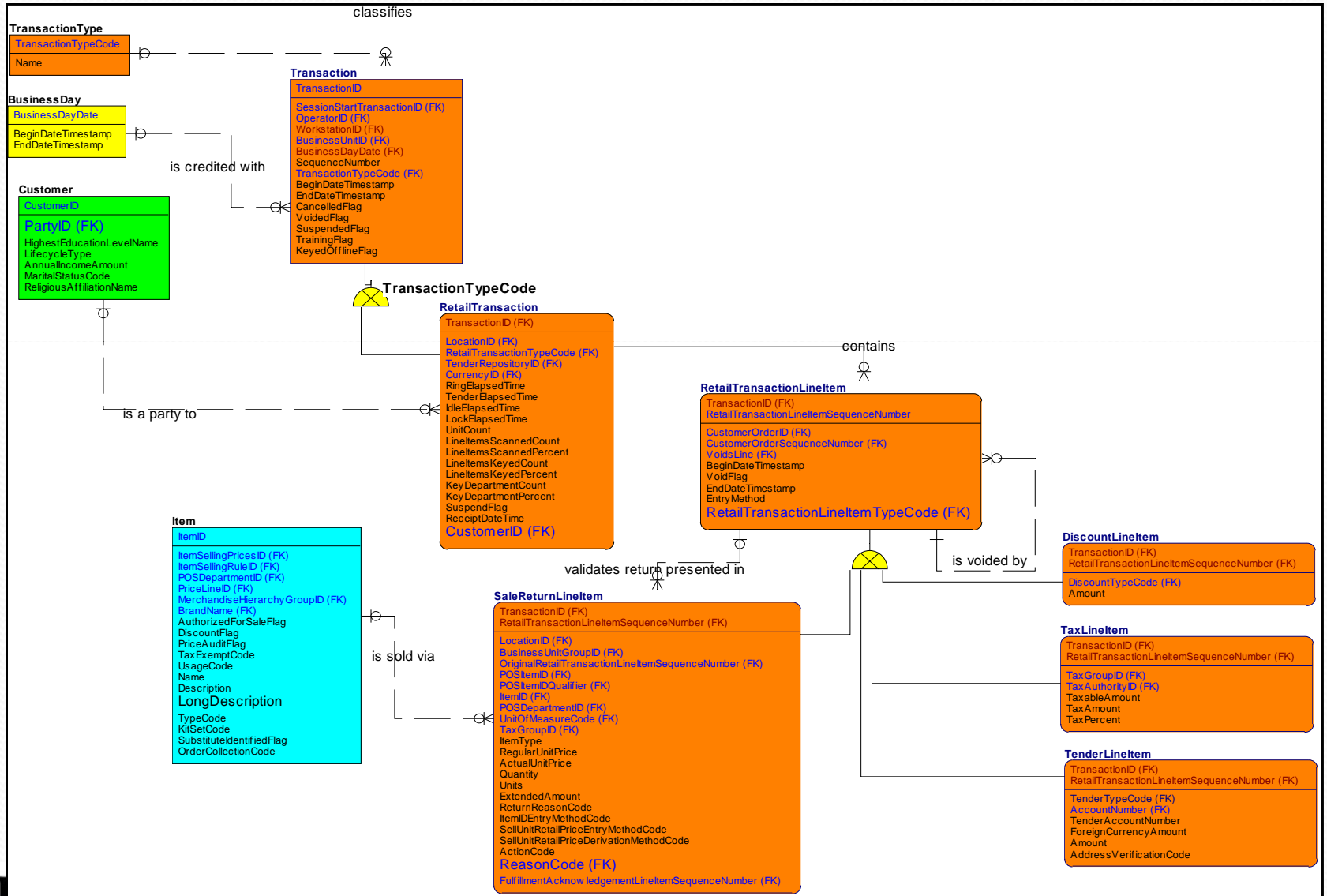
XML Schema

Web Services/SOA





# Retail Transaction - Attributes



# Data Model - Demo

# ARTS XML - Overview

- Based on a set of Retail Use Cases
- Use Cases developed in conjunction with Retailers
- Composite Schema
- Domain model
- Example XML Uses

# ARTS XML - Demo

# **ARTS Data Warehouse Model Edvard Gundersen - ProfitBase**

**Chair Data Warehouse Workgroup  
and  
Member of Data Model Committee**

# Summary

# Strength Through Working Together



# Summary

- **Unconstrained change or flexibility is undesirable** - creating duplication, inconsistency, complexity and cost
- **Standardisation is typically a function of industry maturity** - railway gauges, clothing sizes, building industry guidelines
- **Requirement for blend** of standard, and custom functionality
- **Flexibility comes from:**
  - **reduction in effort** through reuse of standard services and components
  - **governance over architectural integrity maintaining core SOA characteristics** of loose coupling, standardisation, modularity, abstraction and differentiation

# Thank You

Extend and invitation to come and talk

Graham Hill

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