Customer Data Format Specification

Version 1.0

1. Overview

This document describes the Customer Data Format v1.0, a standardized format for exchanging customer information between systems. The format supports customer profiles, order history, and product catalog data.

2. Customer Entity

The customer entity contains the following fields:

- **customer_id** (integer, required): Unique identifier for the customer
- **first_name** (string, required): Customer's first name, max 50 characters
- **last_name** (string, required): Customer's last name, max 50 characters
- **email** (string, required): Customer's email address, must be valid email format
- **phone** (string, optional): Customer's phone number in format XXX-XXXX
- **registration_date** (date, required): Date customer registered, format YYYY-MM-DD
- **status** (enum, required): Customer status, values: 'active', 'inactive', 'suspended'

3. Order Entity

The order entity represents customer purchases:

- **order_id** (string, required): Unique order identifier, format ORD-XXX
- **customer_id** (integer, required): Reference to customer entity
- **order_date** (date, required): Date order was placed, format YYYY-MM-DD
- **total_amount** (decimal, required): Total order amount with 2 decimal places
- **currency** (string, required): Currency code, ISO 4217 format (e.g., USD, EUR)
- **status** (enum, required): Order status, values: 'pending', 'completed', 'cancelled'
- **items** (array, required): Array of order items, each containing product details
- **shipping_address** (object, required): Shipping address information

4. Product Entity

The product entity describes items in the catalog:

- **product_id** (string, required): Unique product identifier, format PROD-XXX
- **name** (string, required): Product name, max 100 characters
- **category** (string, required): Product category
- **price** (decimal, required): Product price with currency attribute
- **description** (string, optional): Product description, max 500 characters
- **specifications** (object, optional): Technical specifications

• **availability** (object, required): Stock and availability information

5. Data Types and Constraints

The following data types and constraints apply:

• **Dates**: Must be in ISO 8601 format (YYYY-MM-DD)
• **Email**: Must be valid email format with @ symbol
• **Phone**: Optional field, format XXX-XXXX when provided
• **Currency**: Must be valid ISO 4217 currency code
• **Enumerations**: Only specified values are allowed
• **Required fields**: Cannot be null or empty
• **String lengths**: Must not exceed specified maximum lengths

6. Usage Examples

Sample data files are provided showing the format in CSV, JSON, and XML formats. These demonstrate the relationships between entities and proper field formatting.