GS1 Global Product Classification

Guidelines

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3	19 July 2006	Zoltan Patkai	Final revision based on Art's and Bas's feedback

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1. Introduction

1.1. Purpose

The purpose of the GPC Guidelines is to provide a reference document for GPC implementation..

1.2. Pre-requisite

There are no specific prerequisites that need to be adhered to prior to using this document.

2. What is GPC? - At a Glance

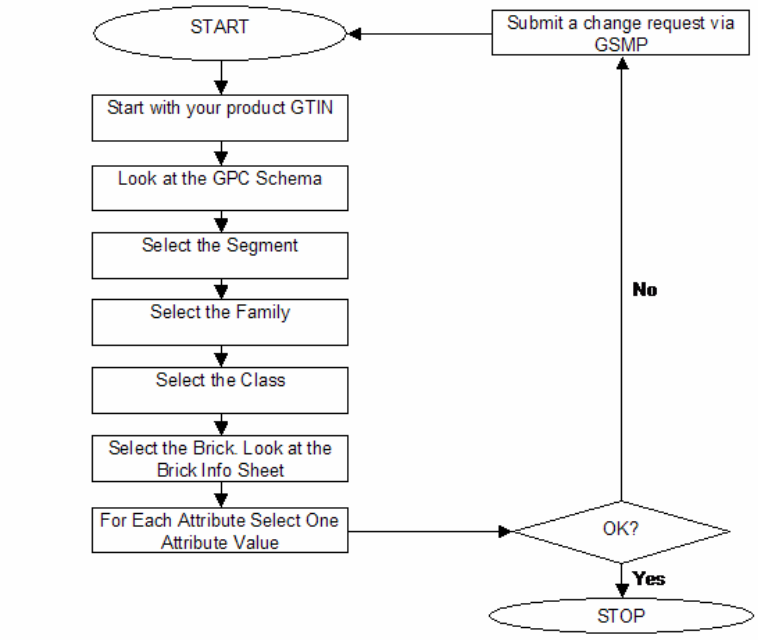
The Global Product Classification (GPC) is part of the GS1 System and a key enabler for the Global Data Synchonistation Network (GDSN) and category management. All current published GPC content is available free of charge, without any usage restrictions.

The three business objectives of GPC are to:

- Support buying programs by allowing buyers to pre-select groups of applicable products
- Provide a common language for category management, thus speeding up the ability to react to consumer needs
- Be a key enabler of the Global Data Synchronisation Network

Classification with GPC is the act of saying:

“This product belongs to this Brick, this Brick has hierarchy components (Segment, Family and Class), and this Brick can be further described with a Brick Attribute set and the associated Brick Attribute Values”.



GPC is a category classification system

It is not a single product identification or description system. GPC applies the principles of **logical grouping**, **generic product category description** and **unique placement**.

Products within a product group

- Serve a common purpose
- Are processed to similar methods
- Used and applied in a similar manner
- Are of a similar form or material
- Share identical category (Brick) attributes, which should be global standards, not target market specific.

Marketing and promotional claims or regionally specific descriptions are catered for in GTIN identification, which can be uniquely linked to GPC using the Brick code.

Thus, as long as a logical, universally applicable product group (Brick described through definition, attributes and values) is present within the GPC classification, product assignment is possible.

The brick code is a mandatory data field for GDS between GS1 compliant data pools and the Global Registry

Numbering and Structure

Example

Optional	Segment	72000000	Home Appliances
	Family	72010000	Major Domestic Appliances
	Class	72010300	Major Cooking Appliances
Mandator	Brick	10001950	Ovens
	Attribute Type	20001529	Energy Type
	Attribute Value	30008570	Electric

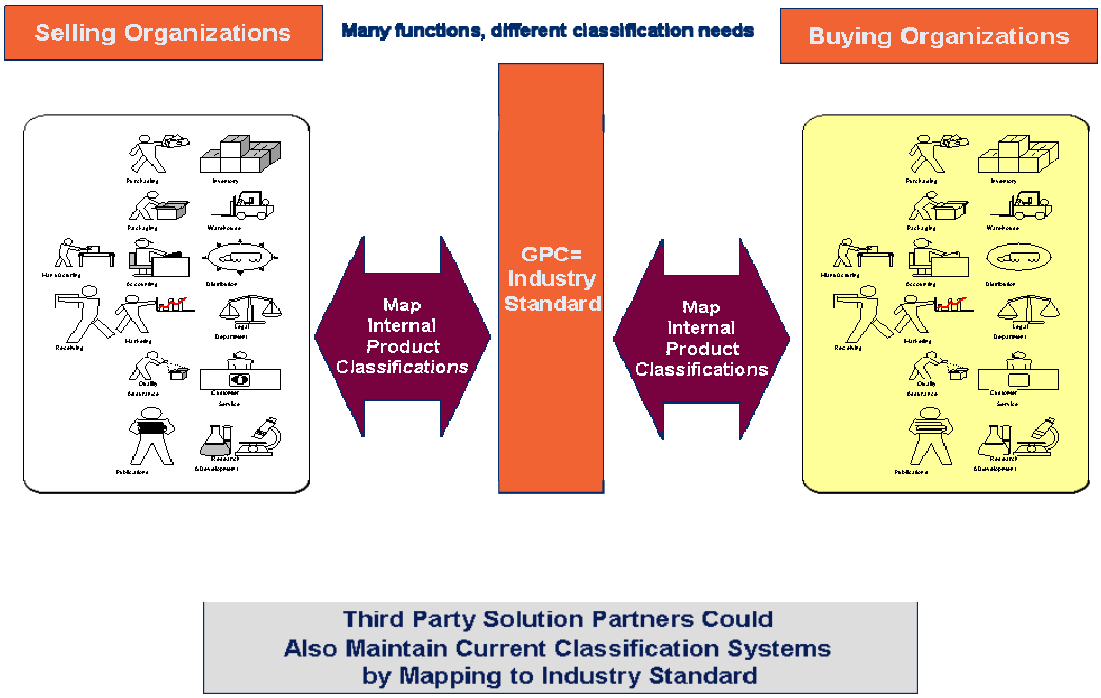
Concept of Brick Attribute (Attribute Type) Reuse By More Than One Brick

68000000 Audio Visual/Photography - Segment
68010000 Audio Visual Equipment - Family
68010100 Televisions - Class
10001402 Televisions – Hand-held - Brick
20001148 Screen Size - Attribute Type
30007878 4 INCH - Attribute Value

68000000 Audio Visual/Photography - Segment
68010000 Audio Visual Equipment - Family
68010300 Portable Audio/Video - Class
10001420 Portable DVD Players - Brick
20001148 Screen Size - Attribute Type
30007912 7 INCH - Attribute Value

Common Language

GPC is used as a common language to which participating parties map their legacy schemas, and through this process can easily understand how each local classification compares.



3. Why GPC?

3.1. What are the benefits of having the GPC in the GDSN?

The GPC provides one common system for classifying items globally. The classification system supports the publication subscription, validation and search processes in the GDSN.

The benefits provided by the GPC in the GDSN are listed below:

- GPC enables internal, external and network synchronisation processes by organising and validating data
- Allows globally standardised positioning of products by denoting what type of product it is
- Simplifies matching the publication data with subscription data.
- Enables category analysis and planning support.
- Eliminates redundant activities and improves accuracy of item set-up and maintenance.
- Allows mapping to different trading partners or third party solution providers – reducing costs.
- Improves integrity of the data.
- Provides an opportunity to group products with category specific product group attributes.
- Enables granularity and aggregation internally within a company and between trading partners.

3.2. Reasons to move to GPC

- Independent of internal reporting classifications (Today Retailers and Manufacturer classify products differently internally.)
- Allows to understand Global SKU mix down to attribute
- Language barriers could be eliminated
- Multitude of brands globally
- Normalization of class attributes
- Mapping
- Can be used to apply attributes for class specifics
- Faster implementation into GDSN
- Quarterly updates at aggregate level
- Ability for potential usage of POS data
- Exchanging attribute values in GDSN
- Fundamental and underlying business process is unlikely to change
    - Adoption of standards are not likely to change our raison d'être (reason for being)
    - Largely, the same fundamental information is required to execute our business process
- So, what changes? How we define, classify and code our information

    - Since information standards are largely implemented through IT applications and infrastructure, support processes in systems that store, manage, maintain and synchronize our data are likely to be impacted
- Senior Management support is essential
- Know your starting point as well as where you'd like to end up
- Set realistic targets and do the necessary preparation work
- Start with a Pilot exercise i.e. single category
- Make sure that it's "fit for purpose" - Implement in contextual environment and measure against targets and expected benefits --
- Continue maintenance & support activities
- Share your experience:
    - Contribute towards development of industry standards
    - Build professional networks in your industry

3.3. Supplier Recommendations

- All externally facing communication that references product data could use GPC
    - Product specs
    - Price Lists
    - Shipment and Share Reports
    - Inventory Positions
    - Product Image Management
    - Category Management
    - Point of Sale (POS) Data
    - Shelf Data (plan-o-grams)
    - Joint Business Plans
    - Order Acquisition & Shipment Status
    - Consumer Response
- Data Management – Product Information Management
    - Single source, high quality master data and services
        - Enter Data Once
        - Common Data Standards
        - Single Point of Accountability
        - Atomic Level Data Aggregation

3.4. GPC for Retailers

- GDSN Subscriptions
    - GPC Bricks could be used to allow buyers to subscribe by Brick to allow them to focus on the items they need to see.
- GDSN New Item Workflow
    - GPC could be used to route GDSN messages to the right buyer
        - Buyers assigned to GLN Supplier, Target Market and GPC Brick
        - If new items come in via GDSN the validation workflow is triggered and the item is routed to the buyer
- Category Management
    - Establish category level item attributes
    - Planning is needed to expand product categories for data received from GDSN

    - A process of a detailed comparison/mapping from GPC to internal hierarchy is needed
    - Live vendors to be publishing using GPC is feasible
    - Plan to complete mapping of GPC to internal hierarchy is feasible
- Reporting using GPC Brick and Brick Attributes as an industry standard that will cross all product silos.
- Product Information Management
    - Central classification role
    - Data cleansing facilitation
        - All items added before current standards need to be level set to include the right Brick codes
        - All items going forward should use the latest Brick code options
- Controls publications and helps to direct new items to the appropriate internal items

4. How do I Migrate? - Transition from Legacy to GPC

Trading partners are responsible for migrating their current classification system to the GPC. Many Data Pools and GS1 Member Organisations can assist their users in accomplishing this task.

- Best method to create GPC information
- Education users on standards
- Phased vs. a ‘sunrise’ date approach
- Required support services to be implemented e.g. help desks or mapping work etc.
- How change will be managed
- Who will manage changes – internal or external
- Ensuring ‘pipeline’ can manage GPC
- Adding translation services – set up and ongoing
- Which trading partners are driving it and what are there timelines
- Sending change requests into other standards e.g. EANCOM…

Considerations for migration in a GPC lifecycle such as

- Create / Validate Information
- Transmit / Store Information
- Use Information

4.1. Create / Validate Information

Applicable to

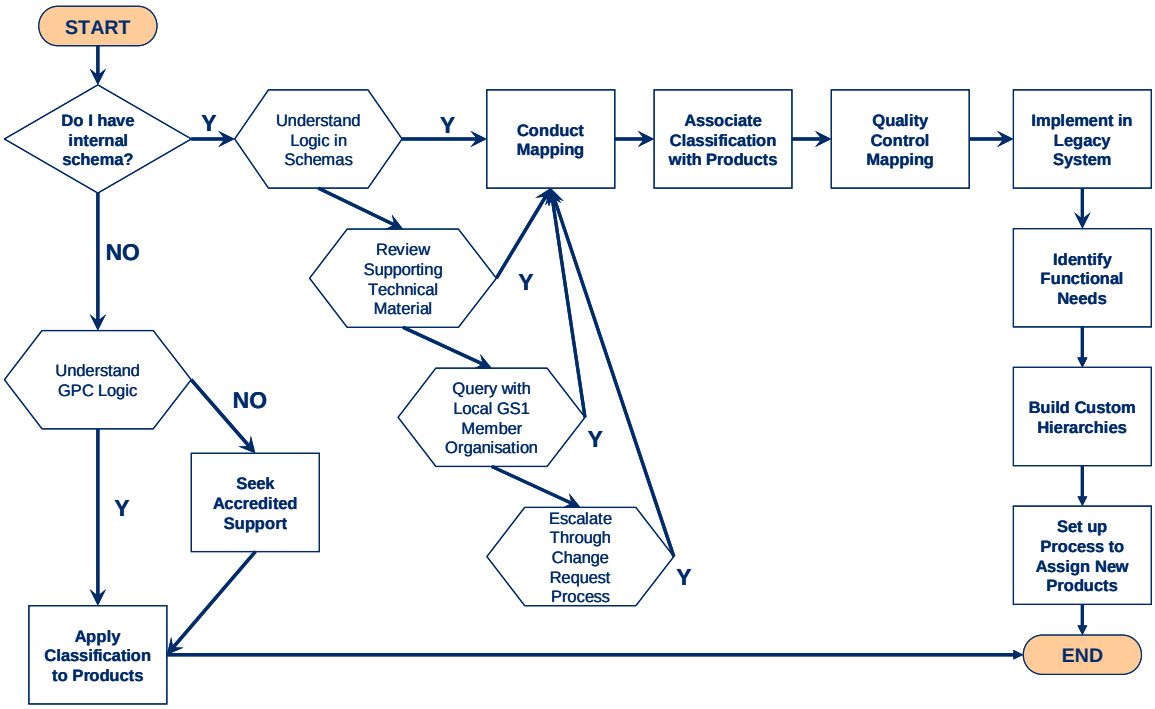
- Suppliers (they own the product)
- Retailers (who hold a lot of legacy information)

- 3rd parties (who either help create or hold legacy information too)

3 main ways to approach this (either in-house or with support)

- Identify the GPC information at an atomic level i.e. associating it with individual products or similar groups of products
- Creating a 'map' between local/own schema and GPC and then associating the GPC information to products via a system algorithm
- Cross referencing 'meta data' from 3rd parties who can identify the GPC information on behalf of the supplier or retailer

Individual Information versus Mapping



Before mapping - understand the GPC logic:

- As a guide: look for the primary and secondary rules which have been used
- to build GPC and your schema
- In some cases the logic may not be readily apparent, especially if the
- hierarchy has been based on a subjective basis – in such a scenario it may
- be difficult to map to the schema

Mapping may vary

- One Brick may align to one internal group
- One Brick may align to more than one internal group
- Many Bricks may align to one internal group
- Combinations – Alignment through using different levels, i.e. bricks and attributes, and available levels within the internal schema
- No map

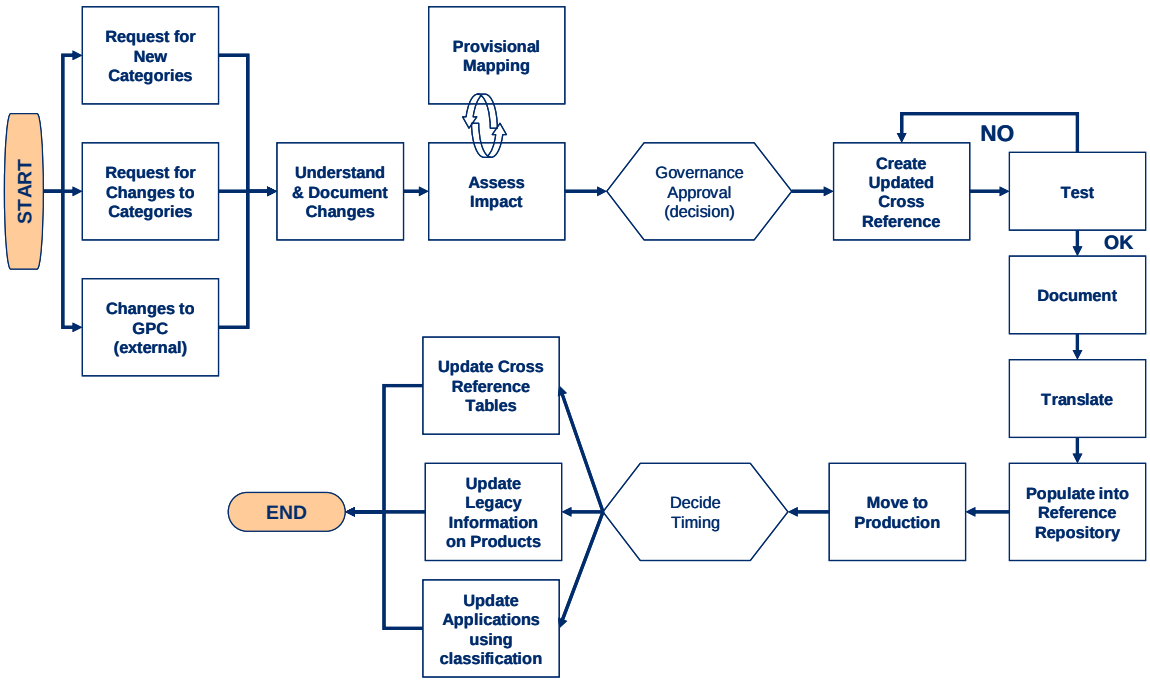
Mapping also depends on source data

- Depth/granularity
- Subjectivity
- Nature – Classification vs. description
- Technology bias

Mapping Examples

- One Brick = One Internal Group
  - Brick=Sandwiches-Filled Rolls and Wraps (10000255)
  - Internal =Sandwiches, Cold Ready to Eat, Fresh
- One Brick = More than One Internal Group
  - Brick = Fruit - Prepared and Processed (Frozen-10000204
  - Internal=Fruit - Apple / Pear Family - Frozen
  - Fruit - Citrus - Frozen
- Many Bricks = One Internal Group
  - Brick = Extracts (1000050) + Soups - Prepared (Shelf Stable) 10000262)
  - Internal - Soup / Bouillon / Stock - Ambient
- Combinations within GPC
  - Internal Foreign Pilsner Beer maps to Brick =Beer (10000159)
  - Attribute - Style of Beer (20000170) - Pilsner (1890)
- Combinations
  - Internal Premium Pilsner Beer maps to Brick =Beer (10000159)
  - Attribute - Style of Beer (20000170) - Pilsner (1890)
  - GDD Attribute – Brand or Price to determine “premium”

Once a map is set up it must be maintained.



4.2. Transmit / Store Information

Placeholders are required

- As attributes (Bricks and Brick Attributes…possibly hierarchy)
- And as a schema in the system

Validation

- It is a 'normalised' field, therefore it can be checked automatically and used when information is loaded into systems and catalogues (data pools)
- The field will drive category specific fields e.g. % alcohol

Publishing

- Hold information in a ready state to be sent into the GDSN

Ensuring the 'pipeline' is able to manage GPC

- It may that the information is converted along the way and that the quality is lost – what's sent is not received!

- Encouraging all to use GPC and for all other standards to have basics in place e.g. EANCOM

4.3. Use Information

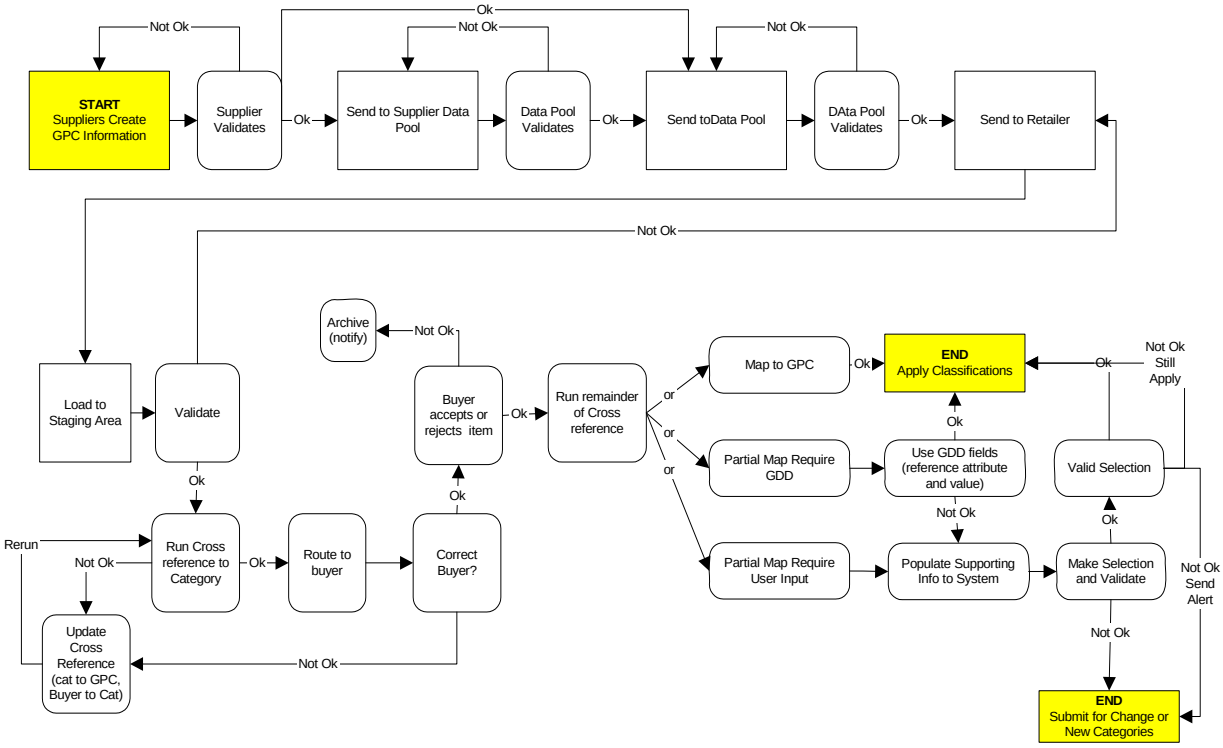
As part of the Pub / Sub process

- Provides a common categorisation to subscribe against
- Initially using brick…later using the hierarchy and attributes
- If cross referenced to local category buyer can select local category and subscribe (system will convert and send out subscription)

As part of GDS for retailers

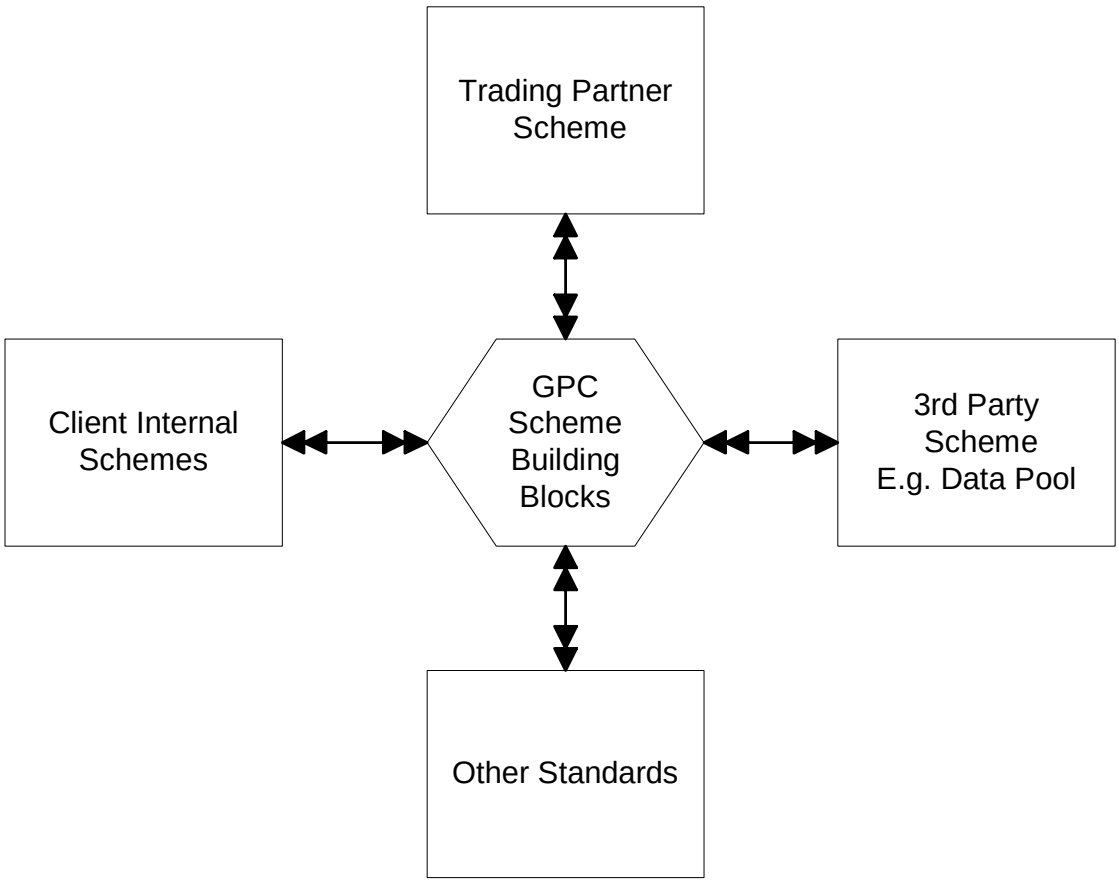
- Use the standards to automate internal process flows and also address quality issues at the same time

Let's look at a typical process flow:



Using GPC - as a common language

- **Category management**
  - Reduce mapping work
  - Reduce costs
  - Allow more alignment
  - Increase flexibility to create new views
- **Benchmarking and Routing**
  - Used to group similar products for sourcing exercises
  - Comparing assortments and performance across countries
  - Measuring company performance based on categories
  - Using a key to route information automatically in organisations



5. Where Can I Find GPC? - Document Inventory

5.1. GPC Published Standards

Description: Global Product Classification (GPC) is a mandatory standard for GDSN that enables global search and reference, category analysis and global data synchronisation.
Target Audience: GS1 MOs, Data Pools, Implementers, Software Developers
Format: Excel, Word, XML
http://www.gs1.org/services/gsmp/technical/gpc/

5.2. GPC Browser

Description: The GPC browser allows you to browse all components (Segment, Family, Class, Brick, Brick Attribute and Brick Attribute Values) of the current GPC schemas. To view Attribute information, click on Brick definitions. Attribute information will open in a new window.
Target Audience: GS1 MOs, Data Pools, Implementers, Software Developers
Format: HTML
http://gpcbrowser.gs1.org/

5.3. GPC Basics

Description: GPC Basics provides users with essential information:

- What is Global Product Classification (GPC)?
- How to use GPC
- Description of the role of GPC within GDSN
- How GPC fits with other GS1 standards
- The next steps for using GPC

Target Audience: GS1 MOs, Data Pools, Implementers
Format: HTML
http://www.gs1.org/services/gsmp/technical/gpc/

5.4. GPC Access Guide

Description: shows users in 9 simple steps how to access the GPC schemas online, identify the GPC Brick and extract all relevant information:

- Go to the GS1 standards site
- Find the published GPC schemas
- Select Segment where your product could be found
- Open or Download the files
- Search the hierarchies and Brick definitions to find your Brick
- Locate the GPC Brick definition
- Review the GPC Brick definition to confirm your product falls in this category
- Record the information that will be required for data synchronization
- Use / apply via your internal systems or selected data pool

Target Audience: Biz Exec; GS1 MOs, Data Pools , Implementers

Format: HTML
http://www.gs1.org/productssolutions/gdsn/gpc/training/access.html

5.5. GPC Brochure

Description: GPC Overview
Target Audience: Business /Executive Users / GS1 MOs
Format: HTML
http://www.gs1.org/docs/gdsn/GS1_Global_Product_Classification.pdf

5.6. FAQs

Description: GPC Questions and answers
Target Audience: Business /Executive Users / GS1 MOs
Format: HTML
http://www.gs1.org/helpdesk/

5.7. eroom

Description: work in progress GPC related documents
(if you are new to eroom you can get access by using login/password = guest/guest)
Target Audience: Implementers, Software Developers
Format: various
http://eroom.uc-council.org/eRoom/facility/AlignDataBusinessModelingGroupBMG/0_2cde0

5.8. Helpdesk

GPC categorises correspondence into the following 3 levels:

- **First Level** @ GS1 Member Organisation

- **Second Level** @ GS1 Global Office
  - For the GS1 Member Organisations: helpdesk@gs1.org
  - For the User community: gpcuserhelp@gs1.org

- **Third Level** @ GPC Service Provider: classification.feedback@acnielsen.co.uk
  - Input from industry participants during the development of new Segments
    - Change Requests for published Segments submitted on the appropriate form
    - General queries about published Segments

6. How is GPC Governed?

- GS1 user community is the owner of GPC
- GPC business support – GS1 and GS1 GDSN Inc
- GPC Programme Management
    - GPC Business Requirement Group (BRG)
        - Governance, business management
    - GPC process support
        - GSMP BRG
            - Development, maintenance of GPC Standards
        - Service Provider (ACNielsen)
            - Technical Support, Maintenance, Distribution

The GPC BRG is led by the GPC Leadership Committee (previous leaders for GPC Task Group). The GPC Leadership Committee is comprised of 14 Members: Retailers, Suppliers, and Others (data pool, solution provider, MO, etc.), who are nominated by members of the BRG and elected via an official vote. Leadership Members can be re-elected after serving a 1-year term. There is a term limit of 3 consecutive years.

Key roles of the leadership team include:

- GPC Program Management
- GPC BRG governance and business management
- Voting Authority for all Change Requests routed to the team
- Coordinate between GPC and other BRGs
- Prioritising agenda items for the BRG
- Consult on the general GPC issues
- Communicating to the BRG and to the external community
- Supervising GPC Service Provider
- Coordinate GPC sponsored Work Group activities

7. GPC Development and Maintenance Process

Global Product Classification (GPC) Process Flows

GPC is hosted and maintained in a database. Across 35+ industry categories 'from Food to General Merchandise and Hardlines' the same business rules are applied.

A change request in GPC can refer to:

- Initiate a complex New Segment Development
- Ongoing maintenance
    - Simple Rules Compliant Minor Change
    - Complex Major Change
        - Rules Compliant Major Change
        - Non-Rules Compliant Major Change

The GPC Service Provider is responsible for assessing (both from technical and impact point of view) whether the content of a particular CR is considered to be 'Simple' or 'Complex'.

GPC Schema Components to be changed:

- Hierarchy Structure (Segment, Family, Class and Brick)
- Brick,
- Brick Attribute,
- Brick Attribute Value,
- Documentation

7.1. How to Submit a Change Request?

Consistent with the Global Standards Management Process (GSMP) the standard form 'GLOBAL STANDARDS MANAGEMENT PROCESS (GSMP) CHANGE REQUEST' is used to initiate the change management processes for the Global Product Classification (GPC).

The objective of the GSMP is to bring together users from all industries, from anywhere in the world, to allow for a uniform approach and methodology for global standards management. This includes, but is not limited to, standards development, standards maintenance, and implementation support.

The GSMP consists of six steps:

1. Statement of Business Need
2. Requirements Gathering & Analysis
3. Business Solution Design
4. Technical Solution Design
5. Piloting (optional - not used at GPC)
6. eBallot

Any individual, company or organisation may submit CRs. The on-line Change Request Form can be accessed through the GSMP website at

http://www.gs1.org/services/gsmp/support/cr.html

Upon submission, the CR is automatically recorded and registered by assigning a tracking number to the request. The tracking number will be composed of YY-nnnnnn where YY is the year that the CR was initiated and nnnnnn is a six-digit sequential number.

Upon successful completion of the Change Request Form, the submitter receives a system-generated acknowledgement of successful submission. GSMP Central Operations is responsible for the formalisation of the CR. A quality control check is preformed.

GPC CRs are assessed by the GPC Service Provider unlike in other CRs. In other words for GPC you need to submit only a simple CR using the online form. See further details in the Process Flows below.

7.2. Simple GPC Change Request (CR) Process Flow

A **simple change** is one where a value is added to the schema or if we interpret this another way, the schema is evolved to accommodate user needs but has no impact on its structure (ontology).

The GPC Service Provider assesses a CR as a 'simple change' then generates a final version of the proposed resolution that is rules compliant minor change and the GPC Leadership Committee signs it off and the CR is closed. That final version is implemented in the GPC database and published at the following due publication (typically quarterly).

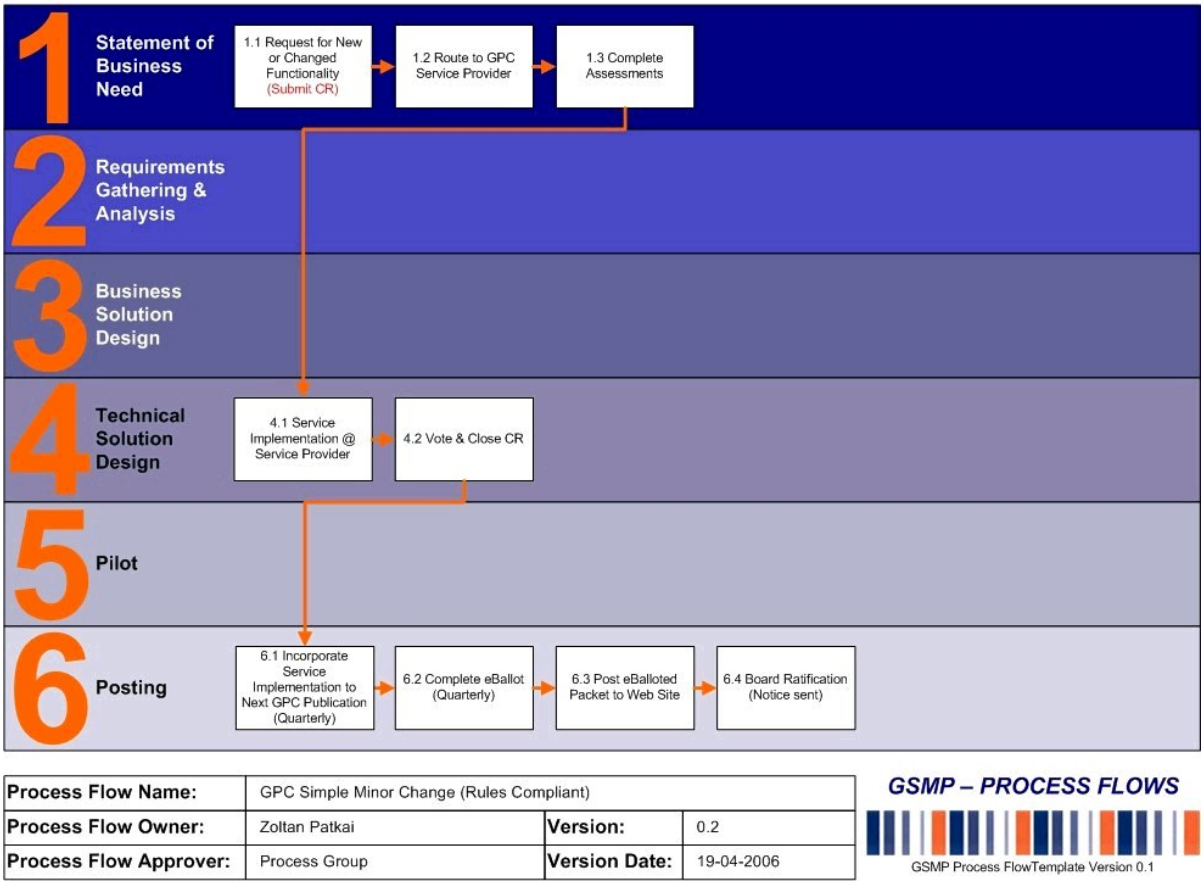


Figure 1: Simple Minor Change GPC Process Flow (Rules Compliant)

7.3. Complex GPC Change Request (CR) Process Flows

A **complex change** is one where there is a fundamental change to the schema or if we interpret this another way, the schema is evolved to accommodate user needs but has major impact on its structure (ontology).

If the GPC CR is classified as a complex change then there are 2 process flows

Complex Major Change (Non-Rules Compliant or Rules Compliant)

Complex New Segment

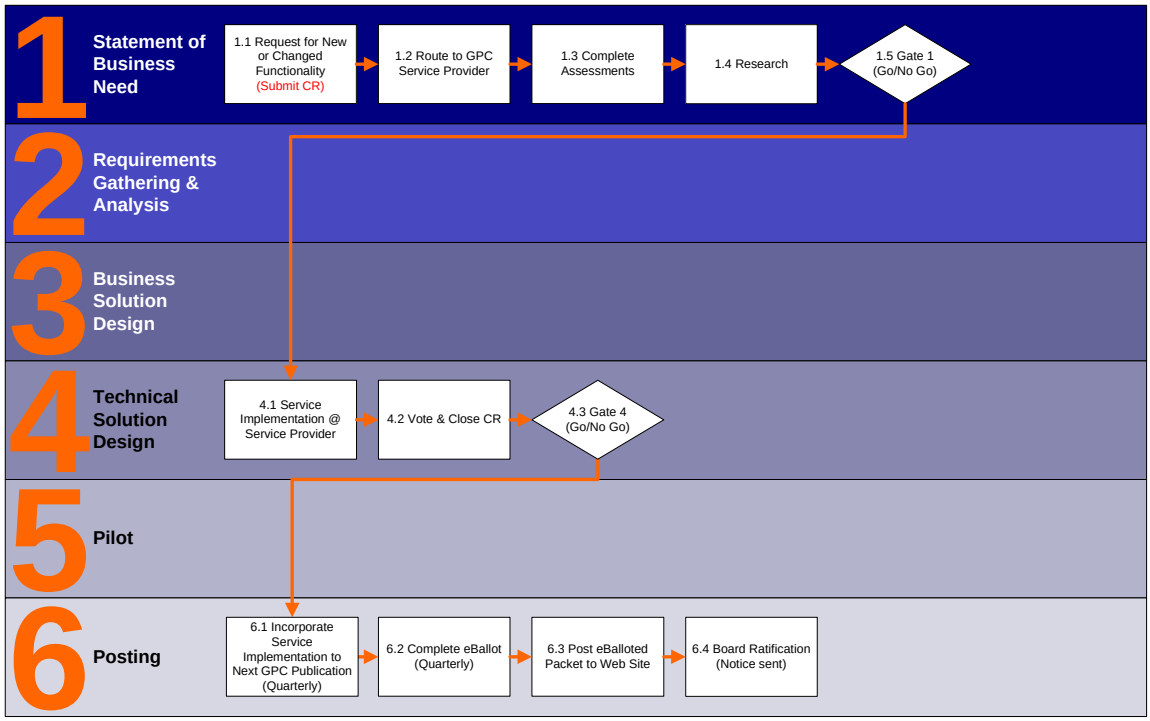
7.3.1. Complex Major Change (Non-Rules Compliant or Rules Compliant)

- Non-Rules Compliant major change requires GPC Leadership Committee sign-off typically involves complex and comprehensive modifications within the schema due to the level of severity the change it requires.

- Rules Compliant refers to all changes that fit the existing rules and principles of the schema, therefore change is legitimate and its implementation can be justified by its compliance to the schema rules

In both cases the following steps are followed:

- Proposal for Business Plan approval
- Service implementation
- CR resolution incorporation into next publication release



Process Flow Name:	GPC Complex Major Change (Non-Rules & Rules Compliant)		
Process Flow Owner:	Zoltan Patkai	**Version:**	0.11
Process Flow Approver:	Proces Group	**Version Date:**	27-Jun-2006

GSMP – PROCESS FLOWS

GSMP Process FlowTemplate Version 0.1

Figure 2: Complex Major Change GPC Process Flow (Non-Rules & Rules Compliant)

7.3.2. Complex Major Change - New Segment

In GPC the new segments are developed in Work Groups and signed off and eballoted by the GPC Leadership Committee. Key stages:

- Develop and review Straw man
- Share Hierarchy Visual Map followed by comments integration from the public review
- Add Attributes & Values to the Bricks followed by comments integration from the public review

- Add definitions
- Service Implementation
- GPC Leadership Committee eBallot
- Publication (quarterly)

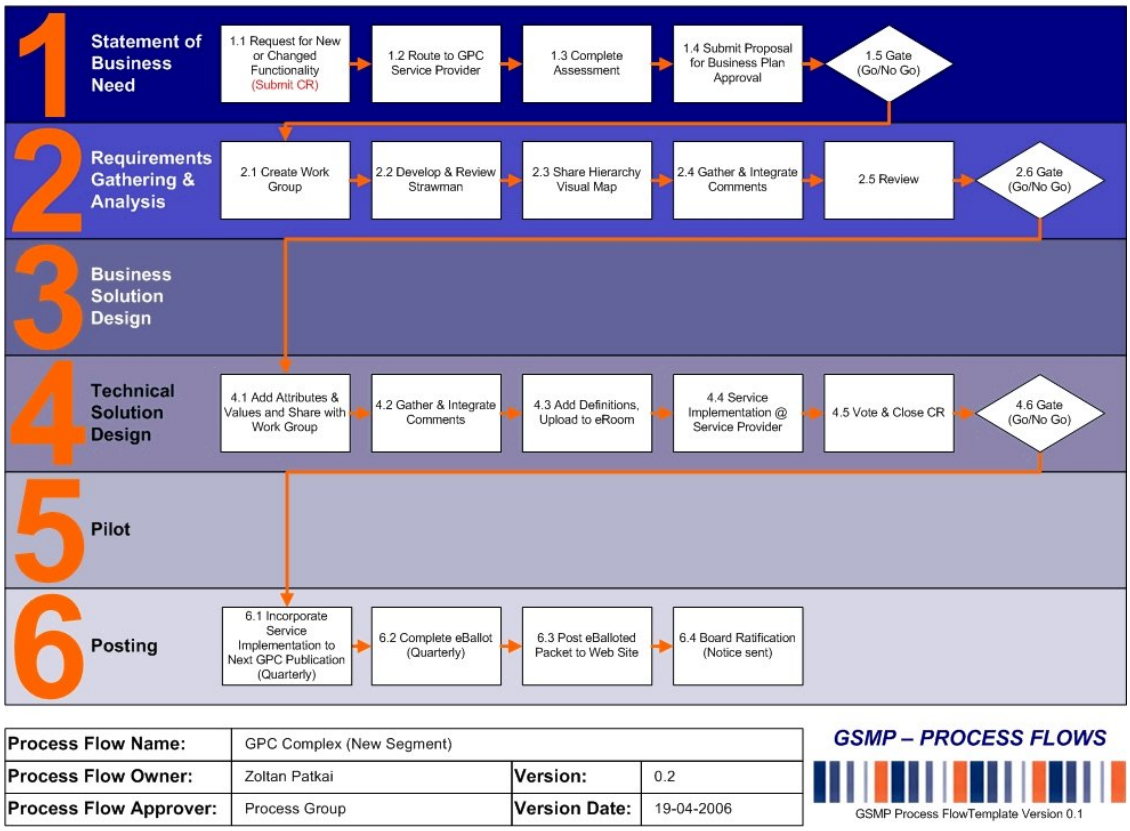


Figure 3: Complex GPC Process Flow (New Segment)

8. GPC Implementation Process in GDSN

Purpose: The purpose of this process is to communicate the process of GPC implementation in GDSN.

Scope: This process addresses the steps whereby a Trading Partner, or a Solution Partner on behalf of a trading partner, cannot find an appropriate GPC code.

Prerequisites: Published GPC standards.

- **Start** A code MUST be supplied as it is mandatory in the network for a product to be registered
    - The network will validate codes
    - Valid codes are 8 nines or any published GPC code
    - The network will not/cannot validate if the code used is valid in context i.e. this Brick code is valid for this product
    - 8 nines will always be a valid code as there will always be a need to provide a temporary code for Segments that either have not been developed or for new products that do not fit with the current schema
    - Thus, the network is relying on peer pressure and CRs development to drive out 8 nine codes
- Whether 8 nines or another code is assigned depends on the relationship between the trading partners (TP) and solutions providers (SP)
    - If the relationship is a good one...
        - The TP/SP will make every attempt to find the correct code
        - If they cannot find a code then they are forced to use 8 nines until an appropriate code is made available
        - The next step would be to submit a CR, monitor the progress and once an appropriate code is made available the TP/SP updates their system
        - We have of course made every publication available on the Internet so codes should be relatively easy to find. However, if they have any doubt they should always ask an expert
- If the relationship is NOT a good one
    - Then the least we could expect is the TP/SP assigns 8 nines and forgets about it
    - Then it will be up to peer pressure in the user community to drive out the 8 nines and get it updated to a valid code
- The GPC schema can only evolve when CRs are received. Every CR is processed individually and so categories can evolve separately at any time. In fact this is the driving force behind our publication approach where we do not publish segments with version numbers. They are instead date stamped.

- **END.** Updates to codes once a product has been registered are dependent on the TP/SP implementing changes as they are defined and published in the Delta reports. GDSN has put out a process for implementing GPC updates within the network. This means that GPC Brick Codes will not be implemented into GDSN as soon as they are released, but as per this implementation process, although it is intended to make these more timely over the coming year.

9. GPC Integration Process into the GDSN

Purpose: The purpose of this process is to communicate the steps of integrating GPC codes into the GDSN.

Prerequisites: Published GPC standards.

- **Start** The GPC Service Provider (SP) publishes to schedule GPC Standards. The SP sends to a GDSN contact two files; XML Schema and XML Delta documents.
    - **Definition of XML Schema:** An XML documents that is a complete snapshot of all active nodes in all published standards in the GPC Schema at the point of publication. The purpose of this document is to provide a complete and correct view of what is contained in the GPC Schema at the point of publication.
    - **Definition of XML Delta**: An XML document that contains all of the changes between the current and previous publications. The purpose of this document is to enable automatic changes/updates to GPC data contained in the GDSN.

- The XML Schema and Delta documents are sent to the GDSN contact
- The GDSN will integrate/process the XML Delta document only.
- The XML Delta identifies changes to the GPC Schema by identifying the type of change using change codes and the level of change (Segment, Family, Class etc)
    - Additions are identified with the tag <additions>
        - Definition of Addition: The introduction of a new code.
    - Deletions are identified with the tag <deletions>
        - Definition of Deletion: The absence of a code that was previously published.
    - Modifications are identified with the tag <modifications>
        - Definition of Modification: When the code has NOT changed but the textual description HAS changed AND the definition has NOT changed. GPC Codes are NEVER modified and once deleted can never be re-used. If the Brick impacted has a significant definition change the normal process is to Add new codes and Delete old codes.
        - Definition of Replacement: In development. When a code has been Replaced by another code in a 1:1 relationship.
        - Definition of Split: In development. When a code has been Split into other codes in a 1:many relationship.
            - Definition of Move: In development. When a code has changed its

hierarchy in a 1:1 relationship.

- A Sunset Date will be identified in the XML document schema header and will be applied for all Deletions.
- For every Addition the GDSN will add the new codes to their database.
- For every Modification the GDSN will update the descriptions of the codes impacted in their database.
- For every Deletion the GDSN will flag each node with the Sunset Date.
- The GDSN will communicate all changes to their user community.
- The GDSN user community has 182 days from the Sunset Date to rid their systems of all nodes flagged for Deletion.
- The GDSN will NOT Delete any node UNTIL the Sunset Date has been passed.
- End: The GDSN and their user community have been updated to the latest GPC publication.

10. Key Talking Points on GPC

10.1. GPC is the classification system used in the GDSN

The classification system used in the GDSN is the GPC. Only items classified according to the GPC will be registered in the GS1 Global Registry i.e. GPC Brick is mandatory in GDSN.

According to the GCI Scorecard:

- **Today: In catalogues 8.6 % of GTINs are classified with GPC.**
- **By 2007 in catalogues 80 % of GTINs will have classified with GPC.**

10.2. GPC can be the driver of category specific Trade Item Attributes

There is no overlap between GPC Brick Attributes and GDD Trade Item GTIN Attributes. They are maintained in two different databases separately.

- GTIN Attributes are linked to GTIN
- Brick Attributes are linked to Brick Code

It is a current practice during GPC Sub group activity that if an attribute is declined for GPC the industry support must submit a CR to GDD to ensure the attribute is present.

It is envisaged that

- The development and maintenance of the 2 datasets could follow the same governance model to ensure integrity.
- They could also reside in one comprehensive central repository in a way when Brick code can act as a driver of category specific Trade Item attributes.

10.2.1. Single Product Identification vs. Category Identification

		SINGLE PRODUCT Identification	CATEGORY (PRODUCT GROUP) Identification
IDENTIFICATION KEY	**Key Name**	**GTIN**	**GPC Brick Code**
	Key Size and Type	**14 digit, non-negative integer**	**8 digit, non-negative integer**
	Business Objective	Single Product Identification Tracking, tracing Recall Record keeping	Category (Product Group) Identification Finding groups of products Comparison, benchmarking Enable trade processes, GDSN
	Purpose	Unambiguously identifies an individual product.	Unambigously identifies the category incorporating products that share the same set of Brick Attributes
	Codes	One-to-one relationship between GTIN and the product. Codes have no other meaning.	Linked to the other hierarchy elements of which the Brick is a member together with Segment, Family and Class.
	Characte-ristics	Uniqueness (together with GLN and TM)	Category Uniqueness

- GTIN is linked to the GPC Brick Code i.e. Each GTIN is always assigned to One Brick code. (I.e.: there is no dual classification with GPC)
- GTIN as a key identifies the **single product**. (Uniqueness is guaranteed by GTIN, GLN and Target Market code combination).
- GDD Attributes describe further the individual products. E.g. Brand Name, Weight, Price, Colour etc.
- GPC Brick Code is the key to identify the **product group**

10.2.2. Single Product Properties vs. Category Properties

- Brick Attributes and Brick Attribute Values provide the required granularity by describing further the properties of the Brick.
- The repeatability of Brick Attributes >1. Typically there are 4-7 Brick Attributes per Brick.
- Segment, Family and Class are the hierarchy components together with the Brick

		SINGLE PRODUCT Properties	CATEGORY (PRODUCT GROUP) Properties
DESCRIPTION ATTRIBUTE	**Purpose**	To describe the GTIN properties.	To describe the Brick properties in order to provide more granularity for the category.
	Property	Single Product - GTIN Attributes (Typically 30-50 Attributes per GTIN in a catalogue) Not classification attributes Global or Global/Local or Local Basic/Specific (TM, Category, Manufacturer, Relationship) Across industries Can be free text Can be legislation specific Can be external code Mandatory / optional / dependent Not necessarily glossary	Category (Product group) - Brick Attributes (Typically 1 -7 Brick Attributes per Brick) No overlap with Single Product Attributes Global always (not Target Market specific) Category specific only Relevant to a specific industry Unique, objective, mutually exclusive Non-legislation specific 8 digit non-negative integer code Optional (may be mandatory in the future) Proactive glossary
	Attribute Values	Various types from free text to codes and dates.	Normalised value pick list. Only one Brick Attribute Value could be populated per each Brick Attribute. Coded: 8 digit non-negative integer code

10.3. Future GDSN Functionality: Multiple Level Subscription with GPC at Data Pools

- **Rationale:** Retailers and suppliers may want to enable data synch at levels in the classification hierarchy that are appropriate to their specific needs (e.g. organisation structure, merchandising groupings, etc.).
- **Objective:** Provide functionality to allow trading partners to subscribe at all levels in the GPC schema. Today, we can only subscribe at the "Brick" level without taking the Brick Attributes and Brick Attribute Values into consideration. The GPC schema has three levels above the Brick. These tiers are: Segment, Family and Class. The GPC schema was designed with the intent of subscribing at all levels.
- **Subscriptions** at levels inconsistent with retailers custom needs results in either too much data being passed or not enough. In the former situations, buyers or other retailer personnel, frequently will receive information on products that they are not interested in

- And must sort out manually. In the latter situation, buyers must subscribe to many bricks when trying to collect information on a wide category of products. This results in unnecessary subscriptions vs. simply subscribing at a higher level in the hierarchy. The GPC schema was designed to accommodate retailers' custom needs by providing a hierarchy of product groupings ranging from the lowest level – Brick Attributes such as liquids, powders, etc., at the highest level – Families such as health care products, or at one of three levels in between. Each value at each level has a unique code assigned to it. The codes themselves are not parsed or structured in relationship to other levels in the hierarchy. This should accommodate subscriptions at any level. For the immediate time period, GDSN subscriptions are made at the Brick level only (4th level in the hierarchy). This will suffice for GDSN start-up only. However, trading partners are already requesting pub/sub capability at all levels to take full advantage of the richness of the data and to streamline their internal processes.
- GDSN could consider this CR as follows:
  - Subscriptions for Segment, Family or Class
  - Subscriptions for Bricks, Brick Attributes and Brick Attribute Values (This can be either within one Brick and/or a user can subscribe via a Brick Attribute for multiple Bricks, if these bricks share the same Brick Attribute)
  - Both solutions require a change to the subscription message (RCIR).

10.4. What happens to data not covered by the GPC?

All items will be covered by the GPC. New products can be classified as "Temporary Classification" (Brick number 99999999) until the classification is defined and published by the GPC Task Group.

10.5. What are the considerations of the possible alignment of GPC and UNSPSC?

- GPC has well-proven, robust business rules; is managed through GSMP and has support from GCI, the GS1 community, solution providers, data pools and the Global Registry.
- UNSPSC covers many verticals, including products and services and a globally recognised brand.
- UNSPSC and GPC are complementary. They do not compete; GPC provides essential detailed classification and attribute information.
- The potential business need for the alignment of GPC and UNSPSC requires validation. A Change Request has been submitted and it could trigger the whole process. The most critical component is the alignment of the different governance models. Without this arrangement GPC and UNSPSC can be aligned via only a rather static mapping.
  - There are times when there may be alignment between Commodity and Bricks,
  - At times Bricks may replace Commodity,
  - At times Bricks may sit above Commodity at the Class level and
  - At times where there is no map between Commodity and Brick.
- An Integration Project Plan will be required to work from the development of a roadmap to detailed development activities.
- Potential Alignment Benefits

Users

- Better communication
- Access to both the schemas
- Efficiency improvement with complexity reduction

GPC

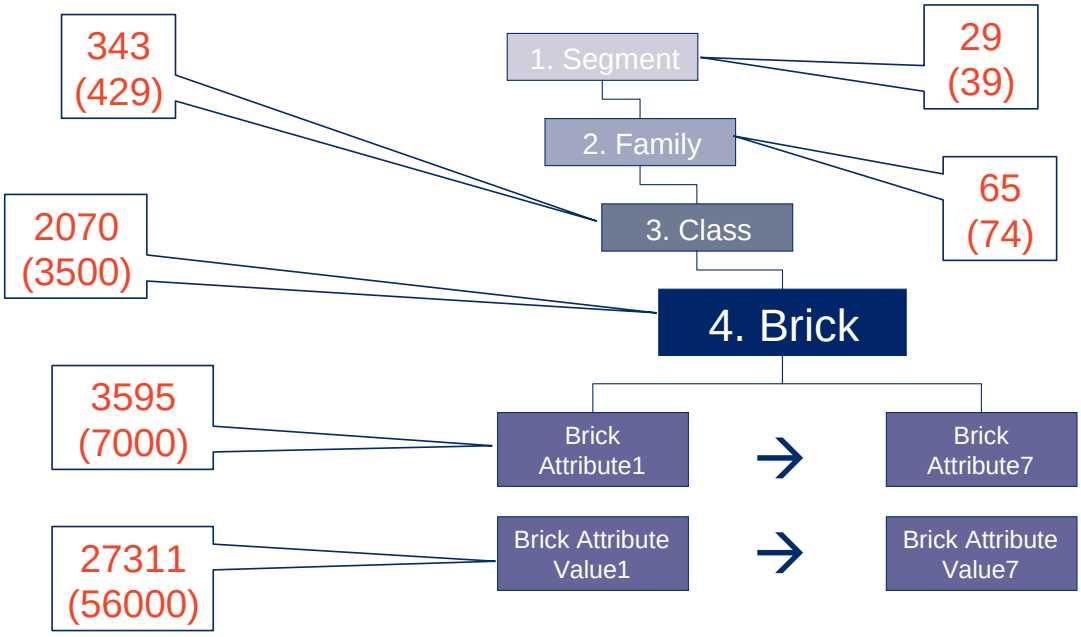
- Is linked to a broader global standard
- Establishes a role in UNSPSC to define commodities
- Enable a higher classification or “roll-up” of Bricks

UNSPSC could

- Allow the UNSPSC community to leverage the expertise of GPC to improve / maintain the code
- Provide users with greater specificity or “drill-down” for commodities

11. Appendix

11.1. GPC Key Figures – Published and (Projected)



11.2. GPC Category Coverage - 2006

Arts / Crafts/Needlework	Lawn / Garden Supplies
Audio Visual / Photography	Live Animals
Automotive Light Application	Lubricants
Baby Care	Music
Beauty/Personal Care / Hygiene	Personal Accessories
Building Materials	Pet Care / Food
Camping	Plumbing
Clothing	Safety/Protection - DIY
Communications	Safety / Security / Surveillance
Computing	Sports Equipment
Electrical	Stationery, Occasional Supplies
Food / Beverage / Tobacco	Textual / Printed / Reference Materials
Footwear	Tools Storage/Workshop Aids
Fuels	Tools Equipment - Hand
Healthcare	Tools Equipment - Power
Home Appliances	Toys/Games
Homecare	
Household Kitchen Merchandise	Cross Segment
Household / Office Furniture / Furnishings	Combined Published Schema