



**Global Data Synchronisation Network®
(GDSN) Operating Roadmap
for GS1**

Version 7.3

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1. PURPOSE

The purpose of this document is to clarify and update previous version(s) of the Global Data Synchronisation Network (GDSN) Roadmap and incorporate changes for the growth of the GDSN. Ongoing updates will be made as needed to support the community. This document will be reviewed and maintained annually with updates posted on the GS1 GDSN, Inc. website.

1.1 BACKGROUND

The GS1 Global Registry® (GR), as originally defined by the Global Commerce Initiative (GCI) vision, and now implemented as a GS1 standard, is the registry for Global Data Synchronisation. Ultimately, it is envisioned that GDSN may serve as a foundation to enable EPCglobal® to link the EPC number back to the item information via the GTIN. Other registries may join later to serve specific industries, geographical needs, or new types of master data alignment.

Access to the Global Data Synchronization Network (GDSN) is restricted to members of GDSN Certified Data Pools. The individual Certified Data Pool determines which of their members qualify to be members of the GDSN. All GDSN users are registered in the GS1 Global Registry®.

The Global Data Synchronisation Network consists of interoperable Certified Data Pools to enable data synchronisation. The result of GDSN execution is harmonized information exchange, and hence, trusted data, in all connected systems.

1.2 SCOPE

This document outlines the operating components and financial model of the Global Data Synchronisation Network.

1.3 GS1 GDSN, INC. - MISSION, VISION, PRINCIPLES AND RATIONALE

MISSION

Be the valued leader enabling a neutral, standards-based environment for reliable exchange of quality data across industry sectors, regions and markets.

VISION

Deliver business value to global value chains through continuous synchronization of product information among trading partners.

PRINCIPLES

1. The GS1 Global Registry® is the component of the GDSN that serves as the global directory for item, party, and price master data. It operates under single governance. The GS1 Global Registry® (GR) serves as GDSNs information directory to:
 - Perform as the repository for GS1 data keys and other core item attributes.
 - Identify trade item and party ownership.
 - Maintain registered subscriptions.
 - Guarantee the uniqueness of the registered Catalogue Items and Parties.
 - Ensure GDSN Certified Data Pools comply with GS1 Standards used in the GDSN System. This includes validation rules.
2. Access to the GDSN and the GR is limited to Data Pools (DPs) that are GDSN certified compliant. Certification requirements are defined in the GS1 GDSN, Inc. Certification Criteria Document and the Guidelines for Standard and Non-Standard Value Added Commerce policy. These documents are part of the GDSN Business Manual which is available on the GS1 GDSN, Inc. website.

Note: All Certified Data Pools need to uphold the vision of GS1 standards and successfully complete GDSN certification.

3. The GS1 GDSN Kato® Data Pool provides certification testing services for new and existing data pools for compliance with GS1 Standards. This standards-based Data Pool is also the certifying data pool for the GDSN Certification Process.
4. The President of GS1 GDSN, Inc. manages the operations of the GDSN and its affiliated services. The President is responsible for the certification of Data Pools as well as the execution of the GDSN Business Plan and Roadmap. The President engages a Board of Directors to set the GDSN Strategy, Business Plan and Roadmap.
5. GS1 GDSN, Inc. outsources technology services for support of the GDSN infrastructure. Currently, Summa Technology Group (STG) is contracted to provide GS1 Global Registry® service under a contract which can be extended on an annual basis. At the direction of the GS1 GDSN, Inc. Board of Directors, a Request for Proposal (RFP) can be created at any time to consider other service providers in order to lower costs of the network.
6. GS1 MOs may participate directly in the GDSN as a Certified Data Pool on a voluntary basis. GS1 MOs may also participate by engaging an independent, Certified Data Pool for their community. Every GS1 Member Organisation (MO)

and independent, Certified Data Pool need to uphold the vision of GS1 standards. All Data Pool service providers must successfully complete the GDSN certification process.

7. As a neutral, not-for-profit organization, GS1 GDSN, Inc.'s fees are established on a cost-recovery basis. These fees cover GS1 GDSN, Inc.'s global operational costs which include: GS1 Global Registry® hosting, development and maintenance; marketing; standards requirements gathering; and data pool certification. Fees for the GS1 Global Registry® and GDSN operations are derived annually and paid in two six-month instalments. The GDSN financial model is reviewed annually by the GS1 GDSN, Inc. Board of Directors as part of the financial planning cycle.
8. Any organisation using GS1 Standards and engaging in electronic commerce is encouraged to adopt the GDSN Model and send communications to their trading partners to join the GDSN.
9. The GS1 GDSN, Inc. financial model principle is to reflect full transparency of incomes and costs. GS1 GDSN, Inc. incomes must be equal to costs plus a reasonable reserve of not more than 20%. Currently the 20% reserve is held by the GS1 Global Office. The GS1 GDSN, Inc. Board of Directors (Finance Subcommittee) is responsible for reviewing the financial model annually and proposing any necessary changes for subsequent years to comply with the financial model principle.

RATIONALE

1. Global trading partners are using GDSN for standardised synchronisation of item, party and price data. Demand exists across a broad base of companies, industries, regions, and sectors for this service. Users need a neutral, secure environment and network where they can choose a GDSN Certified Data Pool partner and implement Global Data Synchronisation.
2. Global and Local Retailers have adopted GDSN and many are directing their Suppliers (including exporters) to communicate data using the GDSN. Many Retailers rely on Certified Data Pools for on-boarding, education, data alignment, and implementation services. Retailers and Manufacturers can choose any Certified Data Pool to connect to the network.
3. Using the Global Data Synchronisation Network with Electronic Product Code (EPC) increases operational efficiency. As major Retailers and Manufacturers implement EPC, users have stated that EPC, combined with GDSN, adds increased value. GS1 supports these and other initiatives.

4. The GDSN model is strategically aligned with GS1. The GDSN supports the GS1 principle to supply user driven functionality for both big companies and small to medium enterprises (SMEs). GDSN is managed and governed by GS1 which results in reduced costs, improved data quality, and added value to the supply chain.
5. The GDSN financial structure is supported by both users and GS1. As result of the GDSN financial model, users are not imposed with multiple fees from different Data Pools. The fees are global, transparent and factor in market readiness as well as country economic factors.

2. GDSN BACKGROUND

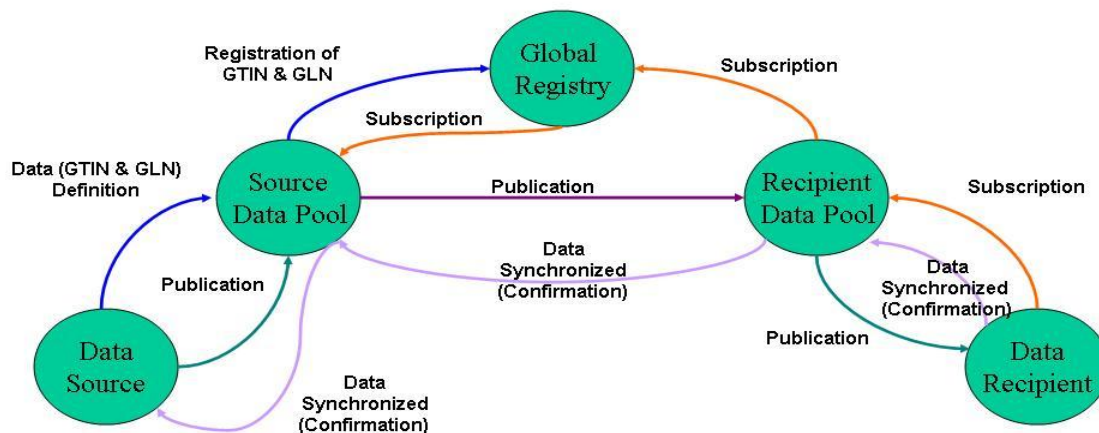
2.1 GDSN Vision

The GDSN vision is to deliver business value to global value chains through continuous synchronization of product information among trading partners.

The Global Data Synchronisation Network consists of interoperable certified data pools to enable the continuous synchronisation of data. The result of GDSN execution is harmonized information exchanged between two or more user systems, and hence, trusted data, in all connected systems. Exhibit 2.1 below depicts data exchange through the GDSN.

Exhibit 2.1 – GDSN Diagram

The GDSN Business Flow



1

GDSN Basic Requirements:

- Data exchanged via the synchronisation process must utilize GS1 Standards
- Data must comply with GDSN message extensions
- Receipt of Data must be acknowledge by the Data Recipient
- Updates to Data are continuously communicated to Data Recipients

GDSN Participants:

- GDSN Certified **Source** Data Pool Providers (this includes Trading Partners that elect to be their own Data Pool)
- GDSN Certified **Recipient** Data Pool Providers (this includes Trading Partners that elect to be their own Data Pool)
- Customers of GDSN Certified Data Pool Providers who use the network
- The GS1 Global Registry®

GDSN Functionality:

- Ability to enable and monitor technical interoperability within the Network through the certification of the DPs
- Support for GR registration of core item and party data to enable the uniqueness of item and party in the GDSN
- Method to support data sync beyond core item data (e.g. target market, relationship dependent data, price) among DPs and between respective Trading Partners
- A central repository of registered subscriptions
- Data Pool connectivity to the GR which serves as the central directory
- Implementation of GS1 Business Message Standards / Validations (mandatory and optional)
- Network entrance for Data Source and Data Recipients through a single point of entry (home DP); a Trading Partner may choose to use multiple DPs, but the single point of entry (SPE) is the founding premise
- Use of a standard global product classification method (GS1 Global Product Classification (GPC))

2.2 GDSN Infrastructure

The GDSN consists of certified interoperable Data Pools interconnected to provide users with two basic functions:

1. Global Publication and Subscription to make available item, party and price data.
2. A Functionality to ensure continuous synchronisation of master data.

2.3 GS1 Global Registry®

The role and function of the GS1 Global Registry® within the GDSN is summarized below. More detailed definition of the GS1 Global Registry® can be obtained from the GS1 Business Message Standards which are located on the GSMP website.

Role:

1. The GS1 Global Registry® is a global repository for the registration of items and parties (GS1 Keys).
2. The GS1 Global Registry® functions are distinct from those provided by the Data Pools within the interoperable network.
3. The technical operation of the GS1 Global Registry® is contracted to a neutral and separate service provider. Summa Technology Group (STG) is the current service provider. They are under a one year agreement which can be extended on an annual basis to support the GDSN Roadmap.

Key network features:

1. The access to and use of the GS1 Global Registry® is limited to Data Pools that are certified by GS1 GDSN, Inc. as compliant with the Global Data Synchronisation Network.
2. The GS1 Global Registry® contains GS1 standard-compliant data which includes all registered items (GTIN), parties (GLN) and product classification (GPC).
3. GS1 Global Registry® maintenance ensures the unique definition of each Catalogue Item (GTIN + GLN + Target Market) and GLN record in the Network.
4. The GS1 Global Registry® provides a reference to the home data pool for additional information about Items and Parties, including the routing of subscriptions.
5. Information from the GS1 Global Registry® is continuously synchronized with Data Pools.
6. The GS1 Global Registry® facilitates the Item-Subscription matching process for targeted distribution of information within the Network.
7. The GS1 Global Registry® enables global data validation for standard attributes synchronized in the GDSN, leveraging GS1 Standards and validation rules.

Functions:

1. Registration/Processing of Item and Party data:
 - Registration after successful GS1 Global Registry® validation in addition to Data Pool validation
 - Registration Response Notification with Success or Failure error identification

- Enables Publication by Data Pools after successful Registration
 - Provides continuous Data Status to reflect validation and registration status
 - Enables process maintenance (add, change, discontinue/cancel, and correct) for Item and Parties. Note: Delete/purge actions are handled manually via customer support to ensure the integrity of the item across the GDSN is maintained.
2. Global Validation:
- GS1 Standard Validations for GTIN/GLN formats
 - Uniqueness Validation for Catalogue Items, Parties and Certified Data Pools
 - Stores and maintains GS1 Business Message Standards produced through the GS1 Global Standards Management Process (GSMP)
 - Enables the execution of the GS1 Standard Validation Rules
3. Central repository for Subscriptions
- Receives and stores Subscriptions from Recipient Data Pools
 - Provides Subscription acknowledgement
 - Matches Subscriptions to item registrations
 - Forwards Subscriptions to destination Source Data Pools

2.4 Global Product Classification

The Global Product Classification (GPC) is a key component of the GS1 Package Standards and of the GDSN. It gives Data Sources and Data Recipients a common language for grouping products consistently across the globe.

The GPC serves as a standardised system for classifying products to:

- Enable data synchronisation
- Assist higher level business processes based on the Item, Party, and Price data received through the GDSN
- Provide a GTIN reference/ positioning
- Facilitate Category Analysis

The GPC is managed and governed by the GPC Standards Management Group (SMG) and is fully aligned with the GSMP Standards Development Process. GS1 France is the current service provider responsible for technical support, maintenance, and development of the GPC publication tool.

The GS1 user community is the 'owner' of the GPC. All current published GPC content is available to the community without any usage restrictions. No additional contractual arrangement is necessary to utilize a GPC.

The current GPC classification schema covers 36 categories. GPC is also aligned with the UNSPSC, (United Nations Standard Products and Services Code) a global, multi-sector classification system used in global procurement processes.

The GPC can be accessed on the web via: <http://www.gs1.org/gdsn/gpc>. There is also an online browser in 5 languages available at <http://gpcbrowser.gs1.org/>.

2.5 EPCglobal® Network and GDSN Relationship

The GDSN provides for the synchronisation of Item and Party master data created by data sources (manufacturers, distributors, other related 3rd parties) and shared/validated within the network. The EPCglobal® Network enables the identification, capture, and exchange of event (read, aggregate, quantity) data about individual, specific items as they pass through the supply chain.

GS1 envisions the GDSN to further enable the functionality of the EPCglobal® network. The anticipation is for these networks to resolve the EPC number back to the Item information received through the GDSN via the GTIN. By ensuring that the EPC structure includes the GTIN, this will enable GS1 users to apply EPC technology and be compatible with GDS implementations. User demand will drive the requirements timeline for this additional functionality.

3. Governance

Following are the Governance principles for the GDSN:

- The governance of the GS1 standards is the responsibility of the GS1 GSMP with direction from GS1 GDSN, Inc.
- The GS1 Global Registry® governance is the responsibility of GS1 GDSN, Inc. Board of Directors. The President of GS1 GDSN, Inc. leads and manages the GDSN business unit and day-to-day operations.
- The GS1 GDSN, Inc. Board of Directors works with the President of GS1 GDSN, Inc. to set the strategic direction for the Global Data Synchronisation Network (GDSN) and the GS1 Global Registry®.
- The governance of the GS1 Global Registry® finances is the responsibility of the GS1 GDSN, Inc. Board of Directors (Finance Sub-committee).
- The governance of the GDSN Roadmap is the responsibility of GS1 GDSN, Inc. Board of Directors and the President of GS1 GDSN, Inc. They work closely with GS1 Industry Engagement and the Standards Management Groups to execute and deliver the GDSN objectives via the GSMP Standards Development Process.

GS1 GDSN, Inc. Board of Directors

In order to ensure that the GS1 Global Registry® service meets the needs of the entire global community, GS1 GDSN, Inc. has created a Board of Directors (BOD). The majority of the BOD will be end users with adequate global and multi-sector representation, as well as Member Organisation Chief Executive Officers and Officers of independent (non-MO) Data Pools.

The following are provisions for the Board of Directors:

1. The purpose of the Board of Directors is:
 - a. To oversee the GS1 Global Registry® Programme.
 - b. Assure that Data Pool fees are cost effective, globally applicable, and equitable.
 - c. Make recommendations to the GS1 Management Board.
 - d. Ensure maintenance of industry Key Performance Indicators (KPI's) and scorecards.
2. A board members term is to be three (3) years with no limit on the number of terms served.

3. One third (1/3) of the BOD will be elected each year.
4. The BOD member's company, including MOs, must be a member in good standing in the GDSN community.
5. A member in good standing is defined as:
 - a. One who is current in its financial obligations to GS1 GDSN, Inc.
 - b. One whose company is utilizing, or is implementing plans to utilize the GS1 Global Registry[®] in a production environment.
 - c. A Member Organisation or Independent (non-MO) Data Pool that is implementing plans to offer a GDSN-certified data pool service to the community.
 - d. One who is in compliance with the criteria defined in this GDSN Roadmap.
6. Representation on the GS1 GDSN, Inc. Board is based on the individual and their company, industry sector or region. The individual appointed to the board is required to personally fulfil the time commitments of a GS1 GDSN, Inc. board member. If a committee member leaves his/her company, they are deemed to have submitted their resignation from the GS1 GDSN, Inc. Board. The rights and privileges of a GS1 GDSN, Inc. Board member are not transferable to another individual within the company without putting that individual's name forward to the GS1 GDSN, Inc. Board Nominating Committee for consideration alongside any other potential candidates.
7. The Chairman of the Board shall serve for a two (2) year term and may serve no more than two consecutive terms as the Chairman. It is anticipated that the Vice Chairman of the Board will succeed the Chairman at the end of his/her term or upon resignation.
8. The CEO of the GS1 Global Office or an appointee will attend board meetings as a non-voting observer.

4. Roles

4.1 GS1 Member Organisations

GS1 Member Organisations can participate in the implementation and support of the GDSN in one or both of the following roles:

Local Marketing and Support Organisation Role

Member Organisations (MO) promote the value of GS1 GDSN, Inc., the Global Registry[®], and Data Synchronisation. To ensure a consistent approach to implementation, communication and education of the GDSN, the GS1 Global Office, with the assistance of the GDSN community, has developed educational tools to be used by local GS1 MOs. These tools can be tailored for the local community at the guidance of the Member Organisation.

Certified Data Pool Role

Certified Data Pools may be operated by GS1 Member Organisations and other commercial entities. A Certified Data Pool is responsible for enabling Trading Partner implementations and ensuring users subscribe to the GDSN philosophy and its components. This includes the GS1 Global Registry[®], the key component of the GDSN.

Organizations serving as a Certified Data Pool are standards compliant sources of both data and synchronisation services for their members. These entities must interoperate with the GS1 Global Registry[®] and other certified data pools. Certification equals being compliant with current certification criteria, GS1 Standards and continued maintenance of certification compliance.

Participation as a certified data pool is voluntary. GS1 MOs and all other commercial entities must uphold the vision of GDSN and GS1 standards. A list of current certified data pools is maintained on the GDSN website.

GS1 Member Organisations are not required to sign a contract with GS1 GDSN, Inc. for GS1 Global Registry[®] unless they choose to become a GDSN Certified Data Pool.

The intent of the GDSN interoperability and Trading Partner “Single Point of Entry” (SPE) is to provide the best value to the participants in the GDSN while taking costs out of the process. As a result, MOs who operate data pools and sell data pool services are not entitled to make GR subscriptions and fees conditional on the use of their data pools.

4.2 Trading Partners (Users)

Trading Partners are the companies participating in the Global Data Synchronisation Network (GDSN). They have the right to choose any Certified Data Pool to fulfil their data synchronization requirements. A Certified Data Pool is normally selected to be a Trading Partner's service provider based upon the value proposition offered by the Data Pool.

A Certified Data Pool may be a commercial entity that operates in competition with, or as an alternative to a Member Organisation Data Pool. Trading Partner companies may also elect to be their own Data Pool provided they are compliant with the GS1 Standards through the certification process.

Trading Partners must accept the GS1 GDSN, Inc. Terms of Participation Agreement (TOPA) that is executed through their Data Pool in order to participate in the GDSN.

4.3 GS1

GS1 Global Office (GO) facilitates the cooperation between GS1 GDSN, Inc., Trading Partners and Member Organisations. The GS1 Global Office is also responsible for support, promotion, and the expansion of the GDSN as well as the support/development of sector engagement. The GS1 GO provides development resources for the GS1 Standards (GSMP) which are required for the functioning of the GDSN and its served industries. Additionally, the GS1 GO facilitates and supports the GS1 GDSN, Inc. Board of Directors (see Governance).

4.4 Board of Directors

The GS1 GDSN, Inc. Board of Directors (BOD) sets the strategic course for the Global Data Synchronisation Network (GDSN) and the GS1 Global Registry[®]. The BOD oversees the execution of the GDSN and the GR approved Roadmap. They ensure Certified Data Pool membership fees are cost effective, globally applicable and equitable. The BOD also approves the company('s) that performs Data Pool certification.

Various committees reside under the GS1 GDSN, Inc. BOD. Normally these committees:

- Consist only of GS1 GDSN, Inc. Board members
- Must be structured under a Chairman

- Work outside of the scheduled BOD meetings

To date, three standing committees, the Finance Committee, the Certification Committee and the Nominating Committee have been formed to support the GS1 GDSN, Inc. BOD. Other Ad hoc committees may be formed periodically to address specific business or technical matters. These are not permanent committees. Examples of Ad hoc committees which have previously existed to address specific GDSN issues are; Global Registry Technical Review Team, GDSN Strategy Team, and Network Impact Team.

Role of the GS1 GDSN, Inc. BOD Standing Committees:

- **Finance Committee** – The finance committee’s mission is to support the President GS1 GDSN, Inc. and GS1 GO CFO to develop a 3-year (minimum) financial plan for the GDSN/GR that covers on-going operational cost, as well as funding for future enhancements to the GDSN Model.
- **Certification Committee** – The certification committee’s mission is to support the President of GS1 GDSN, Inc. to improve upon the current data pool certification processes, ensure adherence to Certification Criteria Document and to drive down the annual cost of the GDSN Data Pool interoperability certification event.
- **Nominating Committee** - The Nominating Committee is responsible for identifying and vetting nominated individual qualifications and recommending nominees for election when GS1 GDSN, Inc. Board (BOD) seats become available. This committee also makes recommendations to the BOD concerning the appropriate size, function, needs and composition of the board.

5. Data Pool Certification

All Data Pools participating in the GDSN must be certified as interoperable with the GS1 Global Registry[®] and other Certified Data Pools. The entity (Data Pool) that receives GDSN Certification is considered to be a 'node of the network'. Additional certification procedures can be found in the GDSN Certification Criteria Document. A Multiple / Duplicate Data Pool will be subject to software code verification as outlined in the GDSN Multiple / Duplicate Data Pool (DDP) Certification Policy. Both of these policies can be found on the GDSN website under the GDSN Business Manual.

The fee structure outlined in this document incorporates any mandatory certification fees, GS1 Global Registry[®] fees and GDSN operations fees. Every Data Pool offering GDSN services is expected to underwrite their internal software development costs and all certification costs.

A clear understanding of a service provider's certification status and ability to support specific releases of the GS1 Global Registry[®] is essential. A Data Pool that passes Interoperability Testing cannot state or imply that they are an "Active" GDSN Certified Data Pool unless they are synchronizing data using the GDSN and the GR. Data Pools mis-communicating messages regarding GDSN Certification status will be subject to a Data Pool De-Certification Process.

The GS1 GDSN, Inc. Board of Directors, with direction from the President of GS1 GDSN, Inc., has the responsibility of determining which certification service(s) will be used. This could include one global programme or several compliant local/regional programmes.

6. Financial Model

As a neutral, not-for-profit organization, GS1 GDSN, Inc.'s fees are established on a cost-recovery basis. These fees cover GS1 GDSN, Inc. global operational costs which include: GS1 Global Registry® hosting, development and maintenance; marketing; standards requirements gathering; and data pool certification. Fees for the GS1 Global Registry® and GDSN operations are derived annually and paid in two six-month instalments. The GDSN financial model is reviewed annually by the GS1 GDSN, Inc. Board of Directors as part of the financial planning cycle.

6.1 Principles

The principles of the financial model are the following:

- Data Pools pay for the GS1 Global Registry® and GDSN service.
- The GS1 GDSN, Inc. Board of Directors is responsible for setting the fees applicable to Data Pools.
- The GS1 GDSN, Inc. Board of Directors is responsible for ensuring that the cost of the service and the data pool fees are; cost effective, globally applicable and equitable.

The financial model utilized by GS1 GDSN, Inc. is based on the best assessment of service costs in the market place and the demand forecast provided by Data Pools. The BOD (Finance Committee) reviews the financial model annually to ensure compliance with the financial model principles.

6.2 Objective

The objective of the GDSN pricing model, as set by the GS1 GDSN, Inc. Board of Directors in January 2011, is a pricing structure that is equitable, transparent, simple to apply, measurable and sustainable. The result of this objective produced a pricing structure that connects value and usage while providing an incentive to companies and data pools to participate in GDSN.

6.3 Trading Partner (User) Fees

Trading Partners (Users) are not required to pay a subscription fee directly to GS1 GDSN, Inc. in order to participate in the Global Data Synchronisation Network (GDSN) or access to the GS1 Global Registry®. Trading Partners must accept the GS1 GDSN,

Inc. Terms of Participation Agreement (TOPA) that is executed through their Data Pool as their GDSN service provider.

6.4 Data Pool Fees

Effective 1 January 2011, the GS1 GDSN, Inc. Board of Directors Finance Committee and the GS1 GDSN, Inc. Board approved a new pricing model which consists of a fixed component and a usage component as follows.

- Covers the period January – December 2011
- **A flat fee** of USD \$15,000 is billed to all Data Pools that provide and market distinct GDSN Certified Data Pool services, regardless of whether they do it via a separate GLN or the same GLN as their service provider. No flat fee will be assessed in countries for which a regional/global data pool only has customers synchronizing via a local country data pool.
- **A usage fee** will allocate of the balance of global operational budget of GS1 GDSN, Inc.(less the cumulative flat fee) to Data Pools based:
 - 40% on Recipient Data Pool Subscription matches
 - 40% on Source Data Pool Subscription matches
 - 20% on Registered GLNs in the GS1 Global Registry®

Subscription matches is a metric available through the GS1 Global Registry®. This metric provides the potential number of synchronizations that are available as a result of the match of items and subscriptions in the GS1 Global Registry®. For a full understanding of the usage fee calculation, refer to the Appendix 7.1 “GDSN Financial Model Supporting Material”.

On-going, usage statistics will be derived annually at the end of June. This will allow adequate time to calculate the model and communicate to Data Pools for budget preparation in the following year.

- Year-over-year, Data Pools should expect a variance in the usage component of their fee as the number of Data Pools changes and usage varies within each Data Pool.
- Flat fees will be assessed for new Data Pools joining during the year (on a prorated basis upon certification).

An initial fixed fee of USD \$15,000 will be charged to new or non-certified data pools (with distinct data pool GLNs) as pre-payment for certification. The purpose of this pre-payment is to help ensure commitment by data pools to the certification event and guarantee certification costs are covered.

GDSN Fees for 2012 are shown below in **Exhibit 6.1**

Exhibit 6.1 – 2012 - GDSN Data Pool Funding (USD\$)

Flat Fee = \$15k

Usage-based Fee: Pub/Sub (Cumulative) 80%; GLN 20%

Data Pool	Pub/Sub *	GLN's *	2012
	Cumulative		Total Fee
GS1 Argentina	194,405	671	38,644
GS1 Australia	1,097,899	1,901	108,812
GS1 Belg. & Lux.	-	-	15,000
GS1 Canada	1,036	46	16,018
GS1 China	54,852	31	18,341
CABASnet	58,941	15	18,205
GS1 Croatia	629,857	60	47,145
GS1 Czech	-	-	15,000
GS1 Denmark	-	-	15,000
GS1 France	136,781	227	26,481
GS1 Hong Kong	1,620	24	15,584
GS1 Hungary	2,646	4	15,214
GS1 Italy	-	-	15,000
GS1 Mexico	130,718	3,346	91,779
GS1 Netherlands	-	-	15,000
GS1 Portugal	-	-	15,000
GS1 Slovakia	-	-	15,000
GS1 Spain	207,331	435	34,314
GS1 Sweden	27,130	165	19,800
GS1 Taiwan	6,599	15	15,639
GS1 Thailand	-	-	15,000
GS1 UK	136,893	646	35,298
GS1 US (1SYNC)	22,883,728	9,516	1,337,164
GS1 Venezuela	-	-	15,000
SA2	5,353,385	1,218	303,102
Big Hammer	1,031,373	1,055	87,758
Commport	323,926	182	34,710
FSE	224,743	401	34,453
GHX	154,593	21	23,022
iTrade	21,808	34	16,784
GXS	1,664,725	5	96,730
Edicom	-	-	15,000
Kontur	-	-	15,000
TOTAL	34,344,989	20,018	2,600,000

Flat Fee	\$ 15,000
Usage %:	
GLNs (Trading Partners)	20%
Pub/Subs	80%

* Data as of 6/30/2011

Appendix

7.1. GDSN Financial Model Supporting Material

Following is the “GDSN Financial Model Supporting Material” publication which provides an in-depth explanation of the GDSN financial fees calculation and other supporting documentation.



GDSN Financial Model Supporting Material

Issue #1, February 11, 2011



Document Summary

Document Item	Current Value
Document Title	GDSN Financial Model ; Supporting Material
Date Last Modified	February 11, 2011
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Contributors

Name	Organization
	GS1 GDSN

Log of Changes in Issue #1

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1. Executive Summary

The GS1 GDSN Board of Directors has approved the 2011 Data Pool fee structure and new financial model for the GDSN. The new financial model represents a change from the previous model and is a result of focused and deliberate effort by the GDSN Board and Finance Committee. The pricing will be in place for 2011 and effective 1 January 2011. The GDSN financial model is reviewed annually by the GDSN Board of Directors as part of the financial planning cycle.

As a neutral, not-for-profit organization, GS1 GDSN, Inc.'s fees are established on a cost-recovery basis. Fees for GS1 Global Registry™ and GDSN operations are payable annually in two six-month installments and are based upon GS1 GDSN, Inc. operational costs. The collective fees from the certified Data Pool community will cover the total 3Q and 4Q FY 2010-11 and 1Q and 2Q FY 2011-12 global operational costs of the GDSN to include: Global Registry hosting, development and maintenance; marketing; standards requirements gathering; and Data Pool certification fees.

The process for establishing this model was a deliberate and comprehensive effort directed by the GDSN Board and led by the GDSN Finance Committee, involving many people. Many new model variations were analyzed and reviewed before arriving at the new model, structure and terms which was then communicated to all Data Pools in the 2011 GDSN Financial Model Bulletin (re: Appendix A). While the Bulletin provided details around the new model, components and calculations, there are still some questions requesting further detail for some of the components of the model and also regarding how calculations were performed. This document is intended to provide further clarity and details to the 2011 Financial Model to address Data Pool(s) questions regarding understanding of the model and their individual fees. Supporting information in this document include: activities, processes, and statistics of the Global Registry, and the key metrics and their method of calculation. While this document is intended to be comprehensive, it may be updated in the future as needed.

2. Financial Model Definitions

The Finance Committee and the GDSN Board approved a model composed of a fixed component and a usage component. This model is based on the following assumptions:

- This pricing model covers the period January – December 2011
- A flat fee of USD \$15,000 will be billed to all Data Pools that provide and market distinct GDSN-certified Data Pool services, regardless of whether they do it via a separate GLN or the same GLN as their service provider. No flat fee will be assessed for countries in which a regional/global data pool has customers doing sync via the home data pool.
- A usage fee will be assessed based upon the following principles:
 - Allocation of the global operational budget of GDSN Inc. less the cumulative flat fee:
 - 40% based on Recipient DP Subscription matches
 - 40% based on Source DP Subscription matches
 - 20% based on GLNs

2.1. Flat Fee (Fixed Component)

A flat fee of USD \$15,000 will be billed to all Data Pools that provide and market distinct GDSN-certified Data Pool services, regardless of whether they do it via a separate GLN or the same GLN as

their service provider. No flat fee will be assessed for countries in which a regional/global data pool has customers doing sync via the home data pool.

2.2. Usage Fee (Variable Component)

As previously outlined, the usage fee is distributed as follows:

- 40% based on Recipient DP Subscription matches
- 40% based on Source DP Subscription matches
- 20% based on Registered Parties (GLN's) in the Global Registry

The Usage Fee has two components: the Item / Subscription Matching and the number of Registered GLN's. Key points to consider:

- Usage = number of synchronizations
- We do not have access to any metrics to measure **actual** number of synchronizations
- Instead, we can measure the **potential** number of synchronizations by using the **cumulative** number of Item / Subscription matches
- The number of Item / Subscription matches in any given period is not in itself the activity that we are trying to measure. Thorough analysis has led to the conclusion that only the cumulative number can be seen as a good indicator of usage, when usage is defined as the number of synchronizations.

2.2.1. Global Registry Item / Subscription Matches

Usage is calculated using the Item / Subscription Matching Process (this is also sometimes referenced as Publication / Subscription, or "Pub/Sub"; however, this is not technically correct) as agreed by the Board in the early stages of Financial Model Option(s) assessment. Many different funding model and usage scenarios were submitted and analyzed (GTIN-based, GLN-based, etc.), and through the analysis and decision making process it was determined that Item / Subscription Matching Process is the best measure the GR has to give a quantitative definition of usage. Item / Subscription Matching is a cumulative snapshot in time and is representative of Subscriptions matched by item in the GR.

As the network has and continues to evolve, there are Data Pools that have been part of the network since its inception, Data Pools that have joined along the way and Data Pools that are brand new and are in the process of becoming active which means there will always be different levels of activity across that whole spectrum. It is acknowledged that some Data Pools have legacy implementations and first-to-market advantages resulting in installed customer bases and there are Data Pools who only have a few customers who have not yet implemented, the proposal seeks to provide a balance for those two extremes. It is the intent not to burden long-standing Data Pools while at the same time recognizing that there is an investment needed to successfully grow as a GDSN Certified Data Pool.

More mature Data Pools would typically have more customers and hence more existing usage of the Global Registry and the GDSN. The time taken to grow these user communities enables continued growth and allows for the model to adjust for that continued growth. Similarly, as a new Data Pool enters the network, the onboarding of customers over the initial entry period will allow for a self-correction to occur every year as the user community for that Data Pool grows. This is necessary as to not penalise either the mature Data Pools or the new Data Pools.

The Item / Subscription Matches are metrics available through the Global Registry that indicate the potential number of synchronisations that are available as a result of the match of items and subscriptions in the Global Registry.

In reaching the final decision the GDSN Board and Finance committee fully recognized that this only portrays the potential data synchronisations than can occur within the GDSN; but, it is the best indicator of usage for the GDSN.

At a high-level, the item synchronisation process occurs in a couple basic steps.

1. The Data Source (typically a manufacturer / supplier) registers a small set of data in the Global Registry (through their Data Pool) that includes the GTIN, GLN of the Information Provider, Target Market (TM) where the item is intended to be sold, and the Global Product Classification (GPC) of the item (GTIN, GLN, TM, and GPC)
2. The Data Recipient (typically a retailer) registers subscriptions (basically a request for information) in the Global Registry (through their Data Pool). The criteria for the subscription are any combination of GTIN, GLN, TM, and GPC.
3. The Global Registry performs a matching process any time either an item or a subscription is registered. This matching process looks at the criteria to see if there is a match. If there is a match, the subscription is sent from the Global Registry to each Data Pool that has an item registered that has matched the criteria. This is possible since the key to the GDSN item is the GTIN + GLN + TM, this is what uniquely identifies a GDSN Item. So you can have more than one entry for each GTIN that varies either by who registered the item (GLN) or the target market (TM). Also note, that it is possible for a registered subscription to not match any items as it is registered. Even though the subscription does not match any items at registration time, the subscription remains registered in the Global Registry.
4. When this process occurs, there are 4 different GDSN/Global Registry related metrics that are defined. These metrics are reported in the bi-weekly GDSN Reports (available at: <http://www.gs1.org/gdsn/statistics>)
 - a. “Subscriptions Sent” = The number of actual subscriptions registered by the Data Recipient (with any criteria)
 - b. “Subscriptions Matched” = The number of those subscriptions that match a registered item (remembering that it is possible to have a subscription be registered without matching an item. As a reference, as of August 2010, about 80% of subscriptions that are registered do actually match an item).
 - c. “Subscriptions Matched by Item” = the number of items that actually are matched by a subscription. Because the nature of the criteria, it is possible for 1 subscription to match up to many items, For example, if data source XYZ has registered 100 items and a data recipient registers a subscription with a criterion of GLN = XYZ (ref a. above), the match happens, the subscription itself only matches once (ref b. above), but the subscriptions matched by item would be 100. This metric gives an indicator as to which Data Pools are acting as Source Data Pools.
 - d. “Recipient DP Subscription Matches” = This is essentially the same metric as “Subscriptions Matched by Item”; however, the data is sorted by Recipient Data Pool. This is basically the same total number of matches as c. but it gives an indicator as to which Data Pools are acting as “Recipient Data Pools.

2.2.2. Registered Parties (GLN's)

Global registry reporting including all statistics and facts are updated on a biweekly basis and can be accessed at: <http://www.gs1.org/gdsn/statistics> . The reports provide this information on a data pool by data pool basis and are simply the number of trading partners registered in the Global Registry through the Basic Party Synchronisation process.

Below is a snapshot of the Statistics website:

[Products & Solutions > GDSN > Statistics & Facts](#)

Statistics & Facts

The GS1 Global Data Synchronisation Network is constantly growing.

Download the latest up-to-date statistics and facts about GDSN adoption, implementation and use.

- [Overview of GDSN adoption and use figures](#): Registered GLNs and GTINs, items and subscriptions sent, number of companies using GDSN today, and more. Updated monthly.
- [Overview of GDSN adoption and use figures in Healthcare](#)
- [Full statistics on data pool activity](#). Updated monthly.
- [Complete list of GS1-certified data pools](#)
- [Complete list of all the companies using the GS1 Global Registry](#)

Please note: **Quality data matters!** Many of our GDSN-certified Data Pools have recently undertaken their own data clean-up initiative, removing inactive or expired GLNs from their databases. The results of this can be seen in the recent GLN adoption statistics. Although the figures may appear to have dropped, this data is now, in fact, a much more accurate representation of the number of companies who are truly active in the GDSN.

The detailed Data Pool activity report can be accessed from the “Full Statistics on Data Pool Activity” link. The following is a sample of the report dated January 21, 2011. (This only shows page 1 of the 4 page report, other data pools are shown on the remaining pages).

**GS1 Global Registry Statistics
Detailed Report as of January 21, 2011**



	TOTALS	1SYNC ¹	SA2 Worldsync (Agentrics) ² (Sirfco) ³	GXS	GS1 UK	GS1 Columbia (CABASnet) ⁴	Big Hammer	Comport
Active Data Pools	23	1	1	1	1	1	1	1
Trading Partner GLNs	20,736	8,768	2,243	5	582	15	1,005	176
Data Recipients	416	230	48	2	9	3	12	4
Data Sources	20,320	8,538	2,195	3	573	12	993	172
Subscriptions Sent	931,845	656,060	1,918	7,262	319	890	253,446	199
Subscriptions Matched	733,848	524,863	3,911	64	368	281	189,786	360
Subscriptions Matched by Item	16,641,306	14,004,517	1,179,021	5	14,857	5,617	782,560	81,957
Recipient DP Subscription Matches	16,641,306	5,664,385	7,349,050	1,459,005	71,156	44,740	95,788	171,538
Registered Items (GTINs)	6,455,246	4,836,167	476,268	2	7,720	4,092	358,491	59,093
GTINs Coded with GPC	5,431,877							

84%

¹ 1SYNC includes activity for: Transora, GS1 Netherlands (GS1 DAS), Canada

^{2,3} SA2 Worldsync includes activity for US, Switzerland, Germany, Austria, Russia, Poland, and Belgium & Luxembourg (CDB)

⁴ Cabasnet includes activity for: Peru, Columbia, Costa Rica, El Salvador, Honduras, Nicaragua, and Guatemala

3. Baseline Establishment

A formal announcement of the new GDSN Inc Financial model, which was approved by the GDSN Board of Directors, was communicated on October 7, 2010.

This new model is effective beginning 2011. Since the effort was comprehensive in the analysis and decision making phases, there was an acknowledgement of both the GDSN Board and the Board Finance Sub-Committee for their hard work in establishing this new, equitable and transparent financial model for the network.

The establishment of a baseline was set by the GDSN Board to be based on the Global Registry Reports as of September 3, 2010 for use in calculations for the 2011 fee introduction. For future calculations, additional reports will be run at the end of June to recalculate the usage and the resulting fees. This provides for adequate time to communicate to Data Pools who can then prepare budgets and plans for the following year.

4. Supporting Material

4.1. Subscription Matching

Subscriptions:

There are a number of ways (criteria) to subscribe to items in the GDSN. As far as the matching process goes, a recent (Aug 2010) report showed that the subscription criteria distribution was:

GDSN Global Registry Subscription Criteria		
CRITERIA		# SUBSCRIPTIONS
GTIN		339
GLN OF INFO PROVIDER		12315
TARGET MARKET COUNTRY CODE		40
CLASSIFICATION		44
GTIN + GLN OF INFO PROVIDER		4045
GTIN + TARGET MARKET COUNTRY CODE		31
GTIN + GLN OF INFO PROVIDER + TARGET MARKET COUNTRY CODE		794404
GLN OF INFO PROVIDER + TARGET MARKET COUNTRY CODE		16086

GLN OF INFO PROVIDER + CLASSIFICATION + TARGET MARKET COUNTRY CODE		7517
CLASSIFICATION + TARGET MARKET COUNTRY CODE		5

It appears that most of the GDSN subscription activity is by GTIN + GLN + Target Market

This is true; however, this is done by a small number of companies in response to their specific business needs

CRITERIA		# SUBSCRIPTIONS
GTIN + GLN OF INFO PROVIDER + TARGET MARKET COUNTRY CODE		794404

- ✓ One company is responsible for ~75% of these subscriptions
- ✓ A very small minority of represent 99% of all subscriptions by the criteria of GTIN+GLN+TM
- ✓ All of these companies use these subscriptions in their item synchronisation internal business processes
- ✓ There are over 300 retailers in the GDSN. The use of the subscription criteria of GTIN +GLN+TM is very limited to a few recipient trading partners

This shows that the subscription criteria and resolution process currently performed by the Global Registry is integral for the success of the GDSN

This also shows that the Item / Subscription match is a valuable indicator of potential activity (recognizing that it is the best indicator that the Global Registry can provide for usage).

4.2. Intra-data pool Synchronisations

In the specific instance of intra-data pool (within data pool) usage, the one thing about the subscription criteria of GTIN+GLN+TM is that it can only match one catalogue item (GTIN+GLN+TM). If, when the subscription is registered in the Recipient Data Pool, that data pool also contains the Catalogue Item (combination of GTIN + Information Provider GLN+ Target Market), the subscription at that point in time does not technically need to go to the Global Registry as it can be fulfilled locally. It is possible that a data pool can build out specific logic to not send these types of subscriptions (the ones that match the catalogue items already registered in the same data pool). If that is the case, the data pool must ensure it would still send through the subscriptions with the same criteria for those catalogue items not registered in it, as it would require resolution from the Global Registry for routing to the proper Source Data Pool. It is true that if this logic were built in, it would reduce the number of Subscriptions Sent (and as a result the Subscriptions Matched). However, even if you subtract that number out of the metric for Subscriptions Matched by Item, it would only result in a < 5% reduction (~800k out of 19 Million- based on Aug 20, 2010 numbers, and assuming a 100% intra-data pool match), since for each Subscription Match there is exactly one Subscriptions Matched by Item and one Recipient DP Subscription Match as well.

5. Appendix A – GDSN Financial Model Bulletin

2011 GDSN Financial Model

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As a neutral, not-for-profit organization, GS1 GDSN, Inc.'s fees are established on a cost-recovery basis. Fees for GS1 Global Registry™ and GDSN operations are payable annually in two six-month installments and are based upon GS1 GDSN, Inc. operational costs. The collective fees from the certified Data Pool community will cover the total 3Q and 4Q FY 2010-11 and 1Q and 2Q FY 2011-12 global operational costs of the GDSN to include: Global Registry hosting, development and maintenance; marketing; standards requirements gathering; and Data Pool certification fees. The Data Pool Fee schedule for the 1 January 2011 term will be published in the GDSN Roadmap, located on the GS1 website (www.gs1.org).

Pricing Model Principles and Assumptions

The original objective set by the Board was to define a pricing model which would be **equitable**, **transparent**, **simple to apply**, **measurable by GDSN, Inc.**, and **sustainable** over the next 3 to 5 years. It was also expected that the new fee structure should be more closely connected to value and usage, while providing an incentive to companies and Data Pools to participate in GDSN. Over the last few months, several models were considered in this process, including a licensing model and a number of variations of a usage-based model (GLN-based, GTIN-based, etc.). The Finance Committee and the GDSN Board approved a model composed of a fixed component and a usage component. This model is based on the following assumptions:

- This pricing model covers the period January – December 2011
- A **flat fee** of USD \$15,000 will be billed to all Data Pools that provide and market **distinct** GDSN-certified Data Pool services, regardless of whether they do it via a separate GLN or the same GLN as their service provider. No flat fee will be assessed for countries in which a regional/global data pool has customers doing sync via the home data pool.
- A **usage fee** will be assessed based upon the following principles:
 - Allocation of the global operational budget of GDSN Inc. less the cumulative flat fee:
 - 40% based on Recipient DP Subscription matches
 - 40% based on Source DP Subscription matches
 - 20% based on GLNs
 - The number of **Pub/Sub** matches is a metric easily available through the GS1 Global Registry. Measured as a snapshot in time, it indicates the potential number of

synchronizations that are available as a result of the match of items and subscriptions in the Global Registry.

- For the 2011 model, usage statistics were calculated on September 3, 2010. In the future, usage statistics will be taken annually at the end of June. This will allow for adequate time to calculate the model, and communicate to Data Pools who can then prepare budgeting for the following year.
- Year-over-year, Data Pools should expect a variance in the usage component of their fee as the number of Data Pools changes and usage occurs within each Data Pool.
- Flat fees will be assessed for new Data Pools joining during the year (on a prorated basis upon certification).

An initial fixed fee of USD \$15,000 will be charged to new or non-certified data pools (with distinct data pool GLNs) as pre-payment for certification. The purpose of this pre-payment is to help ensure commitment by data pools to the certification event, and guarantee certification costs are covered.

GDSN Certified Data Pool Required Actions

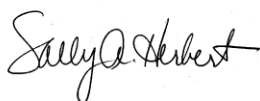
- Each Data Pool must execute a Global Registry Access and License Agreement (GRA&LA). The full GRALA and amendments can be found on the www.gs1.org web site under the GDSN Data Pool Online Support area.
- Each trading partner subscriber registered in the Global Registry must be presented and accept the “Terms of Participation Agreement”. There is no separate signature requirement as long as written acceptance is obtained through other means. For example, Data Pools can obtain the Trading Partner’s acceptance by including the Terms of Participation Agreement in their data pool services agreement with Trading Partners. The use of a “click wrap”, web-based agreement is also appropriate. A new Terms of Participation Agreement is not required for Trading Partners that have already previously signed a GRSA. However, Trading Partners that have signed a GRSA may execute the Terms of Participation Agreement if desired.
- Each GDSN certified Data Pool will be billed for their annual fee in two increments:
 - The first invoice with a cover letter will be mailed in November 2010 for 50% of the annual fee. Payment for the full amount as listed on the invoice is due no later than 3 January 2011. The invoice will reflect any prior payments such as certification pre-payments. This invoice will cover the first half of calendar year 2011 (Jan – Jun 2011).
 - The second invoice covering the balance of the annual fee will be mailed on or about 1 June 2011. Payment for the full amount as listed on the invoice is due no later than 1 July 2011. This invoice will cover the second half of calendar year 2011 (Jul – Dec 2011).
- Each Data Pool is responsible for:
 - Payment of fees to GS1 GDSN, Inc.
 - Notification to current Trading Partner customers of changes in the Terms of Participation Agreement (if applicable). Obtaining written acceptance to the Terms of Participation Agreement is optional for existing subscribers.
 - Acceptance of Terms of Participation Agreement for all NEW Trading Partner customers.

Additional Information

As part of maintaining certification status, Data Pools are responsible for their financial obligations to GS1 GDSN, Inc. Lack of fee payment will result in the initiation of the Data Pool Decertification Process. This process includes notification of breach of contract and commencement of the Decertification Process. The Certification Criteria Document can be found on the Data Pool Online Support web site.

We wish to express our sincere gratitude to the GDSN Certified Data Pools and many individuals in the GDSN community for contributing to the success of GDSN. Questions should be directed to Sally Herbert at sherbert@gs1gdsn.org or Bernard Fontaine, GS1 Finance Director, at bernard.fontaine@gs1.org.

Regards,

A handwritten signature in black ink that reads 'Sally A. Herbert'.

Sally A. Herbert
President, GS1 GDSN, Inc.
President, GS1 Standards and System Development