



GDSN Participation with a High Return on Investment

Creating a solid, flexible and cost-efficient foundation
for advanced trading partner electronic collaboration™

A LANSAS White Paper

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Introduction

On April 14, 2003 AMR Research predicted that “\$2.1B would be squandered over the next five years on B2B initiatives unless manufacturers and retailers develop a platform to support data synchronization first.”¹

CPG, FMCG, Hardlines, Food, Electronics and Office Supply manufacturers and retailers need to proactively engage in data synchronization with their trading partners for the full benefits of “trading partner electronic collaboration” to be realized (detailed in “Action Plan to Accelerate Trading Partner Electronic Partnership,” by AT Kearney).

Nearly five years after the start of the initiative, clear financial benefits of data synchronization, its position in Trading Partner Electronic Collaboration and the best strategies for successful Global Data Synchronization Network (GDSN) implementation are becoming clearer. Item Data Synchronization is not the final goal of trading partner electronic collaboration. It is the foundation upon which the success of trading partner electronic collaboration rests.

Item Data Synchronization provides 7-10 basis points of benefit on its own and lays the foundation for activities that can provide 200-300 basis points of benefit. The most intelligent Item Data Synchronization strategy is one that: (a) leverages companies’ existing investments in ERP software and infrastructure and (b) provides successful and rapid GDSN participation including ERP integration, with relatively low costs and short project timelines. The goal is for Global Data Synchronization (GDS) implementations not to exceed 3 months (supply-side) or 6 months (demand-side) and allow for cost recovery in the first one-to-two years in production.

What is Global Data Synchronization?

GDS is an industry-endorsed initiative intended to eliminate item data inaccuracies among trading partners throughout the retail supply chain. GDSN is the physical implementation of GDS and consists of the GS1 Global Registry, certified data pools (such as 1SYNC, CABASnet,Codigo, DATA.COD, etc.) and trading partners. The GS1 Global Registry serves as the hub while the data pools provide entry points into the network. Finally, trading partners exchange item information between one another through the certified data pools.

To publish via the GDSN, suppliers first gather their product information and assign a unique 14-digit Global Trading Item Number (GTIN) to each UPC/SKU. Because products may be packaged in many ways, a unique GTIN is required for all packaging levels of a product (i.e., eaches, inner packs, cases and pallets). Once product information has been prepared for publication, it can be registered in the GS1 Global Registry via one of the certified data pools. The data source then decides to which trading partner to publish the item data. To publish, the supplier uses a Global Location Number (GLN) that uniquely identifies each trading partner. The supplier may publish to the trading partner’s central organization or get more granular by publishing GTIN information to a single store, warehouse, or location.

The GDS initiative should be viewed as an investment in your trading partner relationships. Many Enterprise Resource and Planning (ERP) systems are the foundation for outward-facing transactions today. Within the item master file(s), data can be leveraged for synchronization. In many cases, all of the attributes required by demand-side trading partners (retailers, wholesale, distributors) are not held in the ERP Item Master File. These attributes must either be pulled from other existing electronic data sources in an organization and/or added to meet GDSN requirements.

In many larger organizations, Workflow will play an important role in managing that synchronization activity. For supply-side organizations, Workflow provides a meaningful way to manage the overall process of constructing, maintaining and communicating GTIN information to trading partners. For demand-side entities, Workflow provides a meaningful way to manage the process of evaluating and responding to GTIN publications from trading partners (suppliers) and adding approved GTINs to retail catalogs (Retail ERP Systems).

Why invest in Global Data Synchronization?

An AT Kearney study² for Grocery Manufacturers of America — Food Marketing Institute revealed the following:

- Correcting catalog errors costs \$60-\$80 per error.
- Thirty percent of item data in retail catalogs is incorrect.
- Each SKU requires 25 minutes of manual cleansing per year.
- Every invoice error costs \$40-\$400 to reconcile.
- Sixty percent of all invoices have errors and 43 percent of all invoices result in deductions.
- The average product roll-in takes six weeks.
- Percent of sales lost to inaccurate data is 3.5 percent.
- The net result is \$40B lost in supply chain inefficiencies each year.

What benefits can data synchronization bring to these trading partners?

- New products introduced to the marketplace more quickly
- Fewer occurrences of dispute resolution and deductions because of increased accuracy of information throughout the supply chain
- Better logistical operations, including loading of trucks and slotting of inventory in warehouses due to more accurate pallet weights and dimensions
- Improved customer shopping experience because of the synchronization of family coupon code data, thus creating a shorter and smoother checkout for customers
- The ability to communicate price and promotion information in a secure, consistent manner from one trading partner to another (currently scheduled to be part of GDSN in 2006 - 2007)

These results are supported by the GMA and FMI sponsored case studies, which outline the benefits of GDS participation by Kraft Foods North America, Procter & Gamble, Nestlé, Purina Pet Care, Wegmans Food Markets and many other GDS Participants. The benefits are further supported by Wegmans' presentation at Markettechnics in January 2006, which presented a more detailed calculation of the benefits.

Where is GDSN now?

Pete Alvarez, senior director of GS1 GDSN, Inc., reports that the last 12 months have seen big advances in the adoption of GDSN. The number of certified data pools has increased from 10 to 26, covering more than 30 countries. Registered GTINs have increased from 181,000 to over 450,000 and trading partners have grown from 180 to over 3,700.

1SYNC alone has almost 50 demand-side entities participating in the GDS effort, as well as nearly 4,000 suppliers. New industries have started actively working with GDSN. Current industry participation includes CPG, Grocery, Hardlines, Entertainment, Alcohol Beverage Industry (ABI), Office Supply, Direct Store Delivery (DSD), Health, Beauty and Over-the-Counter (OTC) Pharmaceutical (CVS, Walgreens, etc). Countries in Europe, Latin America and Asia have made significant efforts to advance data synchronization.

The spread of GDS may have cost more and taken longer than early participants had hoped for, but what major movement hasn't (computer usage, EDI, Internet)? The idea of implementing effective standards and doing things once and doing them right is hard to disagree with. This is the business model for which GDS provides the basis.

What to look for in a solution?

There are a number of data synchronization solutions available in the marketplace today. The one that is right for you is based on varying factors such as number of GTINs, how often GTINs change, size of organization, number of trading partners you are communicating with via GDSN, Workflow requirements, the GDSN-compliant data pool that will be used, users' language requirements and systems infrastructure (HW/OS/ERP/RDBMS). Options range from hosted ASP (re-keying information) to behind-the-firewall with different levels of integration.

As suppliers publish more and more GTINs to retailers, the need for certain capabilities becomes crucial. For a large Food, CPG, FMCG, ABI, Office Supply or Hardlines producer with many brand names, it's not uncommon for various brand managers to want to manage their own products. However, the parent company may want the final say on what is added and published through the network.

Back-end integration is also critical in maintaining accuracy when publishing item information to recipient trading partners. Before deploying any synchronization solution, a supplier should look for the following characteristics in any solution they may deploy:

- ERP Integration (Direct Integration Solution only)
- GTIN Management
- GLN Management
- Workflow and Messaging
- Query Capability
- Role-based Administration

For International companies, other key factors are critical:

- Multilingual Support
- Proven Ability to Support Key Data Pool Messaging Around the World

For large companies with different divisions on different HW/OS/RDBMS combinations, it is important to select a solution that is available, proven and efficient on a good variety of Operating Systems and RDBMS.

ERP Integration — The ultimate objective of the GDSN is to synchronize data in the supply chain. To be effective, you need to start with your own systems. Any solution you choose should provide the ability to access your Item-of-Record or ERP product master file(s) in real time. Because many ERP systems currently don't have all the attributes required by GDSN standards, the solution must also have the ability to store and maintain these attributes. For ease-of-use, the application should clearly show the relation between internal Item Number and GTINs.

GTIN Management — Because GTINs are at the heart of the GDS initiative, any solution chosen must make the task of managing this information easy for all users. An easy-to-use Graphical User Interface (GUI) needs to be accessible for any user who will be part of the synchronization Workflow.

A supply-side GDS solution should:

- Create and maintain GTINs
- Register GTINs with a certified data pool
- Publish new GTINs, GTIN changes, or removals to trading partners via a certified data pool, which are the base functions required for a supplier to publish via the GDSN

- Incorporate EAN.UCC Validation — A check of item attributes before registering them with a compliant data pool ensures that the data adheres to the EAN.UCC System. This avoids errors in your outbound synchronization messaging.
- Support Containment (Links) — Containment lets you link common GTINs together to form a logical containment structure (such as each to case to pallet). For those trading partners that only have their products defined in one packaging level (typically case), a clone feature is desirable to eliminate the need to rekey item information.
- Auditing Capability and Non-Repudiation — Auditing allows you to track which retailer you've published to and the response. Non-Repudiation establishes that any messaging, such as registering an item, has been successfully accepted by the data pool.
- Publication History — When many GTINs are being published to trading partners, a history log lets suppliers quickly view every individual trading partner's response to their publications.
- Workflow and Messaging — Building good GTIN data is a collaborative approach and, in large shops with thousands of GTINs, it becomes increasingly difficult to track a GTIN through its life-cycle stages. A good Workflow solution should ease new product introductions and product changes by moving GTIN life-cycle actions through the various stages of approval and escalation. As each task is completed, a good Workflow solution notifies the next group (or person) of what needs to occur in the GTIN life cycle.

A demand-side solution should have the following capabilities:

- GTIN Management — The application must allow for the retailer or wholesale distributor to easily receive the publication of GTINs (Catalog Item Notifications) from suppliers. It must be simple to search GTIN publications by suppliers by relative criteria (GTIN, GLN, Publication Status, etc.).
- GTINs must be able to be properly routed to specific buyers or product managers.
- GTIN Net Change — The application must allow “buyers” to easily see the “net change” in GTINs that have already been published and are being updated via item changes or corrections.
- Demand-side Responses (Catalog Item Confirmation) — The application must provide the ability to easily respond to trading partner publications with all of the status and response capabilities offered in the GDSN model.
- Publication Receipt and Confirmation History — The application must allow for the easy search/review/audit of publication receipt and confirm the response.
- Catalog Update — As demand-side ERP systems come in a variety of forms with varying levels of sophistication, it is imperative that the demand-side solution provides several flexible methods of updating the retail item catalog with synchronized GTINs. Supply- and demand-side Workflow should come preconfigured with the normal steps of the GDSN process. As each company has some feature(s) of its internal process that are different, it is important that the Workflow feature of GDS products be easily configured to create new Workflow events and enroll users, groups of users and/or applications to them.
- Workflow and Messaging — Evaluating and responding to GTIN publications can require a collaborative approach. In companies with thousands (or hundreds of thousands) of GTINs, it becomes increasingly difficult to track a GTIN through its life-cycle stages. A good Workflow solution should ease new product introductions and product changes by moving GTIN life-cycle actions through the various stages of approval and escalation. As each task is completed, a good Workflow solution notifies the next group (or person) of what needs to occur in the GTIN life cycle.

Required Features For Supply- and Demand-Side Applications

GLN Management — A GLN is a unique identifier for each trading partner in the supply chain (suppliers, distributors, brokers and retailers). Any solution should manage and group GLNs in a hierarchical manner, making it easy for suppliers to manage their publications. For example, by grouping retailers or stores by GLN, suppliers can publish to a group of retailers at one time rather than individually.

Role-based Administration — This works hand-in-hand with Workflow. With so much information to manage, role-based administration allows an organization to split tasks among individual users or groups of users (workgroups). Role-based permissions should control which users can access the various menu and messaging options. Additionally, it should control what Item Attributes can be viewed and/or maintained as well as the GLNs to which the information may be published.

As with any technology decision, you may achieve all of these functions by purchasing a single certified solution that offers all the capabilities or by integrating solutions from multiple vendors based on what you need. A third option is to write the system yourself, but be cautious when using this approach. Trading partners who choose to do so will need to certify that their in-house developed solution is compliant with the data pool they've selected. A typical development and certification cycle, however, is most likely measured in man-years — not man-months — depending on the level of functionality. Furthermore, development is not a one-time expense as the evolution of the GDS standards will certainly require ongoing maintenance and recertification efforts.

As data synchronization matures, new versions of data pool services are introduced. Solution partners must pass a new round of certification to demonstrate compliance. These certification rounds, which require considerable effort to obtain, are one reason the number of vendors with certified solutions has begun to drop off. Therefore, you should also closely examine a vendor's history of keeping up with its commitment to the evolving standard.

Another important consideration is to ensure that a specific solution runs on the servers that your IT staff is already familiar with. A vendor's proven track record with references on that platform is also important.

Summary

Similar to the introduction of the UPC and EDI, GDS is here to stay. GS1 US supports 25 distinct industry segments, of which Food, CPG, Hardlines, ABI, Chain Drug Stores, Consumer Electronics and Office Supply have formally embraced the initiative. Other industries ramping up quickly are Apparel, OTC, Produce and Pharmaceuticals. Combined with significant industry acceptance and the migration to a 14-digit GTIN, data pool services ensure that data within the supply chain will adhere to standards, are shared from a single registry and will be synchronized between all trading partners. Synchronization is truly the first step towards the expanding eCollaborative movement in the retail industry.

Trading partners need to make certain that the solution they choose leverages their existing infrastructure, integrates into their core business systems, is scalable and is up-to-date with the ever-changing GDS standards. If data synchronization is implemented properly, all members of the supply chain will benefit from reduced errors and deductions as well as greater speeds to market and lower overhead for item maintenance.

Why LANSA?

LANSA is an industry leader in GDSN solutions, and was one of the first companies to offer an efficient packaged solution with fixed cost implementations to solve the GDSN participation issue. LANSA has several hundred production implementations with LANSA Data Sync Direct, and was recently presented the IBM Beacon award as the best industry optimized solution not just for Item Synchronization, but for all industry optimized solutions offered by IBM Business Partners.

LANSA Data Sync Direct is one of the few solutions that is certified by 1SYNC for both supply- and demand-side implementation. LANSA Data Sync Direct is one of even fewer solutions that support multiple languages (English, Spanish and Portuguese are currently available with French, German and DBCS language options likely to be released). LANSA Data Sync Direct is also one of very few options available on most major HW/OS/RDBMS platforms (OS/HW: iSeries-AS/400, Windows, UNIX, Linux and RDBMS: DB2, ORACLE and SQL Server). LANSA Data Sync Direct has been widely implemented with most major ERP systems (SAP, JDE, MAPICS, BPCS, QAD, Custom-In House, etc.) in all industries currently supported by the GDS standards. In addition, as an initiative aimed at the continued worldwide adoption of GDS, LANSA Data Sync Direct has been adapted to provide on-boarding support to key international data pools. (Details available on request.)

A primary objective of LANSA Data Sync Direct is to provide easy-to-use GTIN management. Whether it's just a few items or several thousand, the attribute management is user friendly and efficient:

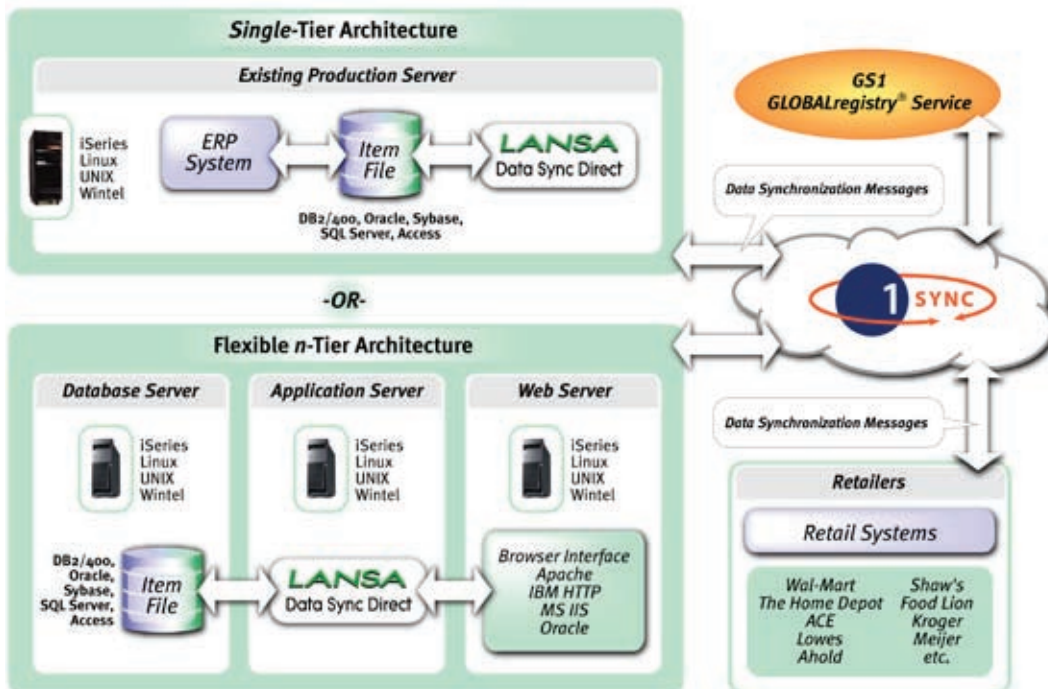
- Role-based administration, which enables common permissions to be enforced throughout the organization
- Workflow, which enables true collaboration for building GTIN data among user-defined workgroups
- Support for multiple certified data pools
- Full support for both Source and Recipient messaging requirements
- Full GTIN life-cycle management

LANSA Data Sync Direct has been integrated with most popular ERP solutions using a simple mapping module concept. On the supply-side, LANSA's solution integrates directly with the trading partner's product information file(s), while providing storage for item data supported by the GDSN standard that may not already exist in the enterprise. On the demand-side, LANSA provides all needed capabilities for GTIN publications receipt, evaluation, response and update to item catalog. LANSA has also demonstrated consistent compliance with each round of 1SYNC (and other data pool) testing, and is one of the few vendors to keep pace with the evolving data synchronization initiative.

Beyond the system advantages of LANSA Data Sync Direct, there are many organizational advantages of working with LANSA in GDSN. LANSA has been a leader in extending GDSN functionality, participating in various GS1/GDSN task groups and working with the GS1 industry in many countries around the world to efficiently expand the adoption of GDSN. It is our opinion that no other organization combines a better product with a deeper GDSN knowledge, industry commitment, reasonable costs and a proven track record of success.

LANSA Data Sync Direct

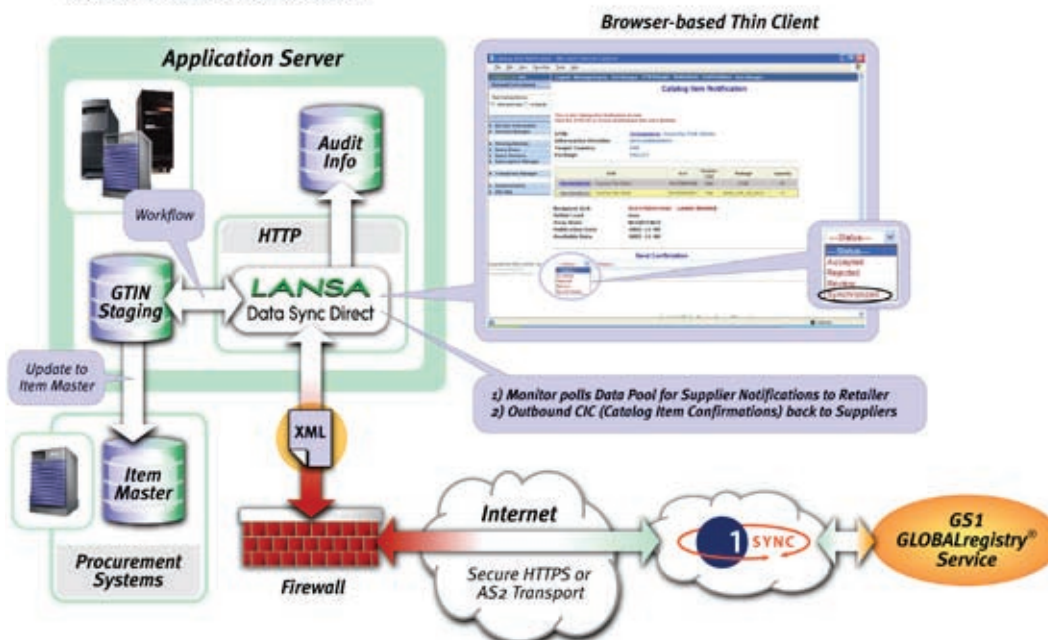
Supply-side Architecture



This diagram highlights LANSAs Data Sync Direct's supply-side deployment capabilities with respect to different platforms and Operating Systems (OS) that trading partners may employ in its enterprise. LANSAs Data Sync Direct can leverage existing infrastructure (as shown in the Single-Tier Architecture), enabling rapid implementation of synchronization services on production servers. However, for larger enterprises where there may be a mix of platforms and OS standards (i.e., n-Tier Architecture), LANSAs can deploy just as easily and meld with that infrastructure.

LANSA Data Sync Direct

Demand-side Architecture



This diagram shows LANSAs Data Sync Direct as deployed for demand-side capabilities. As with a supply-side implementation or one supporting both demand- and supply-side capabilities, LANSAs Data Sync Direct can be implemented on almost any OS that the trading partner may currently use.

Further Information

For more information on LANSA Data Sync Direct, please visit the following links:

Press Releases and Magazine Articles:

LANSA Wins IBM Beacon Award for Software Excellence: <http://www.lansa.com/press/20604.htm>

IBM PartnerWorld 2006 Beacon Awards confirm that LANSA has the best industry optimized solution:
http://www-304.ibm.com/jct09002c/isv/marketing/industrynetworks/howto/lansa-beacon_success.htm

Global Data Synchronization Network: An Update:
<http://www.mcpressonline.com/mc?1@98.cjICciZA1ZJ.184544@.6b368061>

LANSA Data Sync Direct Product information:

LANSA Data Sync Direct Product Overview: <http://www.lansa.com/products/datasyncdirect.htm>

LANSA Data Sync Direct Case Studies: <http://www.lansa.com/builtwithlansa/datasyncdirect.htm>

LANSA Seminar & Webinar Series: <http://www.lansa.com/events>

End Notes

- 1 “Data Synchronization Has Simply Become a Cost of Doing Business,” AMR Research Report, April 14, 2003.
- 2 “Source A.T. Kearney for GMA – FMI”