

What in The World is GDSN? Supply Chain Challenges Made Simpler with Global Data Synchronization Network (GDSN)

GDSN Webinar - January 12, 2022

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2 GENERAL INFORMATION ABOUT GDSN

2.1 WHAT IS GDSN?

The Global Data Synchronization Network (GDSN) is the electronic infrastructure that manufacturers around the world use to communicate product information to their customers. The data standards and infrastructure are maintained by GS1, a not-for-profit organization. You can learn more about GDSN and GS1 at www.gs1.org. In March, 2017 work began on an industry wide effort to adopt GDSN to the unique needs of the K-12 market. The project later became the Nourish to Flourish K-12 Data Sharing & Analytics Initiative.

2.2 WHAT IS A GTIN?

A Global Trade Item Number (GTIN) is the 14-digit unique identifier assigned to each product within GDSN and is often shown as a barcode on the side of packages for easy scanning. 12- or 8-digit UPC barcodes, commonly seen on products in the US, can be converted to the full 14-digit GTIN by adding leading zeroes.



2.3 HOW DO MANUFACTURERS PUBLISH AND UPDATE THEIR DATA INTO GDSN?

Manufacturers (“sellers,” in the image below) register with GS1 and select a certified “data pool” provider to which they use to upload their product information into GDSN. GDSN then acts as a single place for manufacturers to upload product data and to also keep it up to date.

Users of this data (“buyers,” in the image below) include food service distributors and aggregators, like the Nourish to Flourish K-12 Data Sharing & Analytics Initiative, who clean up and enhance the data for use by K-12 operators. Each recipient must also register with GS1 and electronically connect into GDSN through a data pool provider.

Manufacturers then explicitly specify which recipients can receive their product data.

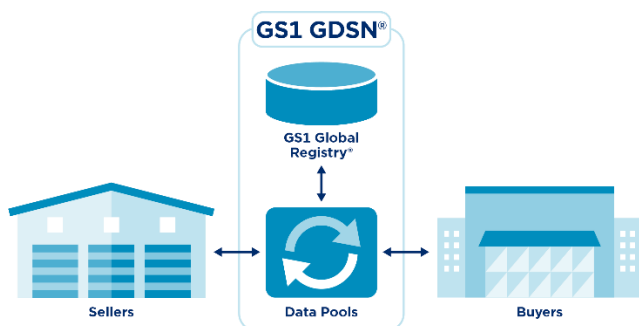


Image Source: <https://www.gs1.org/services/gdsn>

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2.4 IS THERE A “K12” FILTER SO WE’RE NOT SEEING ALL COMMERCIAL OR RETAIL PRODUCTS?

When manufacturers explicitly specify which recipient data pool can receive their product information, they specify which GTINs, or group of GTINs by product category, each recipient can receive. For example, the Nourish to Flourish K-12 Data Analytics & Sharing Initiative aggregator has worked closely with suppliers to focus on containing a more K-12-specific set of products. This is one reason why it is important to know how your software application is connected into GSDN.

2.5 IS EVERY PRODUCT AVAILABLE IN GDSN?

While GDSN can support nearly every type of product, including non-food items used by K-12 operators like equipment, supplies, and cleaning products, not every manufacturer has published their products into GDSN or has authorized a specific recipient data pool to receive their product data. Most major food manufacturers are already using GDSN, but items from some smaller manufacturers may not yet be in GDSN. Additionally, fresh produce, bakery, and dairy items may not be setup in GDSN, especially those from local suppliers.

2.6 IN WHAT WAYS IS USDA BEGINNING TO ADOPT GDSN?

In March 2021, USDA hosted a webinar in which they explained how manufacturers of some USDA Foods brown box products will be required to publish their product specifications through GDSN (<https://www.ams.usda.gov/selling-food/gs1-gdsn-requirement>). USDA will then make this information available to operators through a spreadsheet on their website.

USDA’s Food Data Central website (<https://fdc.nal.usda.gov/>) is also connected to GDSN for some products, although much of this product data contains non-K-12 products and it does not currently show the full set of product information needed by K-12 menu planners.

3 GDSN PRODUCT ATTRIBUTES

3.1 WHAT K-12 ATTRIBUTES ARE AVAILABLE IN GDSN?

The GDSN data standards has a certain set of minimally required fields with a much larger set of optional fields that are at the discretion of each manufacturer to populate. In some cases, the same data can be populated in different places within GDSN. The K-12 Data Sharing & Analytics Initiative has defined a set of K-12 standards needed by menu planners and works closely with suppliers to educate and train them on how to properly structure their data when they publish it to GDSN.

This product attributes includes the following type of information:

- General Product Info: Product names, brand names, product codes, product images, preparation instructions, and many other general product data is available.
- Nutrient Information: All nutrients available on a nutrition facts label are available in GDSN, along with the serving size.
- Meal Components, CN Labels, PFS Documents: Meal pattern credits are also available in GDSN for items, from either a CN Label or a Product Formulation Statement. These credits are available electronically, and depending on your menu planning software’s capabilities, can automatically convert to the same serving size as the nutrients. CN Label images as well as the Product Formulation Statement documents can also be transmitted through GDSN.

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- Allergens and Dietary Flags: GDSN not only supports the big nine allergens, including sesame, but also many additional dietary flags such as kosher, vegan, vegetarian, halal, etc.
- Safety Information: Min and max storage temperatures as well as shelf life are fields available for each product
- Procurement Information: Pack size, net weight, drained weight, servings per pack, country of origin, and other information is available that help streamline forecasting and procurement activities

3.2 WHAT ATTRIBUTES ARE NOT AVAILABLE IN GDSN?

At this time, commodity drawdown and pass-through values are not available through GDSN, but hopefully that will become available in the future. Additionally, any district- or distributor-specific information, like prices or vendor product codes, are not available through GDSN.

3.3 HOW DOES GDSN HANDLE MAJOR CHANGES TO A PRODUCT?

GS1's guidelines are that any time a product's attributes materially change, then the product should get a new GTIN. Obsolete products can be discontinued, with a replacement GTIN specified to help transition to the new product. Less significant changes can be updated automatically by the manufacturer, with those updates automatically pushed out to each recipient data pool.

4 ACCESSING GDSN

4.1 CAN I DIRECTLY ACCESS GDSN AS AN OPERATOR?

No, K-12 operators are not likely going to directly access GDSN, as that would require registering with GS1, connecting into a data pool, and then contacting every manufacturer and requesting that they publish their product data to you individually.

However, K-12 software providers are currently developing applications for operators to access GDSN. These applications can access GDSN through an aggregator that is already connected with GDSN, such as the K-12 Data Sharing & Analytics Initiative, or setup and maintain their own connection directly.

4.2 WHAT MENU PLANNING SOFTWARE AND ORDERING SOFTWARE DOES THIS INTEGRATE WITH?

There are software providers that are currently developing applications for K-12 operators to search GDSN and integrate this product data into their operations. However, because this is an educational webinar, specific software providers cannot be mentioned. The 2021 SNA School Nutrition and Industry Conference, and particularly the Innovative Solution Sessions, is a good reference place to find more information about companies and products currently developing products to provide operators with access to GDSN.

4.3 DOES IT MATTER WHICH DATA RECIPIENT OR AGGREGATOR MY SOFTWARE USES TO CONNECT TO GDSN?

Absolutely, because your software can only let you search for products that have been explicitly published to the data recipient used by your software. For example, nearly all major K-12 food suppliers and hundreds of brands are publishing to the Nourish to Flourish aggregator. Additionally, the K-12 Data Analytics & Standards Initiative has supplemented products from GDSN with additional items that provide nutrient and supply chain information

What in The World is GDSN? Supply Chain Challenges Made Simpler with Global Data Synchronization Network for products not found in GDSN. Any application that connects to this aggregator has access to all the products published to that data recipient as well as any enhancements.

5 USING GDSN IN A K-12 PROGRAM

5.1 HOW CAN GDSN HELP WITH MY FORECASTING AND PROCUREMENT? HOW DOES GDSN CUT DOWN ON THE BACK-END PROCUREMENT PROCESSES FOR FINDING NEW PRODUCTS, GETTING DISTRIBUTORS TO STOCK THOSE ITEMS, UNDERSTANDING LEAD TIMES FROM MANUFACTURERS, AND ULTIMATELY RECEIVING THOSE PRODUCTS?

When menu planners build menus and recipes using products from GDSN that contain GTINs, operators will be speaking the same language with supply chain partners. When a new product is found that is not currently carried by your distributor, providing the distributor with the GTIN of that product makes it very clear which item you want them to find as well as the product's specification for which they can find "or equal" products.

In addition to all the menu planning data, GDSN also provides pack size relationships so your software application can easily do the math to accurately calculate case quantities based on menu serving size and planned servings. Some software systems can even factor in inventory on hand or in transit for preparing forecasts and order quantities. Forecasts can be prepared months in advance and shared with distributors to align on which products are going to be needed and by when so the distributor can place the order with the manufacturer with enough lead time. If there are availability issues with any product, acceptable substitutes can be found and communicated back to the operator for easy side-by-side product comparisons and to update their menu and production plans to minimize surprises.

5.2 HOW CAN USE OF GDSN PROTECT AGAINST "HARD SPEC'ING"? HOW DOES SHOPPING FOR COMPARABLE ITEMS TIE IN TO USDA PROCUREMENT REGULATIONS FOR AWARDED BIDS?

"Or equal" products are always required in Federal procurement. You can make a bid more competitive by identifying and pre-approving equivalent products by GTINs, which can be found by searching for products which meet certain criteria like product category, meal credits, ingredients, and allergens. This can make the overall responses more competitive. Operators can also choose to permit vendors to offer equivalent products while requiring the GTIN so side-by-side comparisons can be made prior to award.

5.3 ARE THE PRODUCT SPECIFICATIONS SIGNED AND ACCEPTED BY STATE AGENCIES IN AN ADMINISTRATIVE REVIEW?

Yes, because USDA has adopted the same standards and protocols for its own purchases.

5.4 COULD STATE AGENCIES TAP INTO THE GDSN INFORMATION FOR ALL SFA'S IN THE STATE FOR PURPOSES OF COMPLIANCE REVIEWS?

Yes, the easiest way for states to provide SFA's with access to GDSN is through a statewide license to a software tool that connects into GDSN and aggregates and formats data specific for use by K-12 operators.