



The Global Language of Business

GS1 US Product Images Application Guideline for the Retail Grocery & Foodservice Industries

*Prepared by the GS1 US Retail Grocery Initiative Product Information & Images Workgroup &
Foodservice GS1 US Standards Initiative GDSN Implementation Workgroup*

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About GS1

GS1® is a neutral, not-for-profit, global organization that develops and maintains the most widely-used supply chain standards system in the world. GS1 Standards improve the efficiency, safety, and visibility of supply chains across multiple sectors. With local Member Organizations in over 110 countries, GS1 engages with communities of trading partners, industry organizations, governments, and technology providers to understand and respond to their business needs through the adoption and implementation of global standards. GS1 is driven by over a million user companies, which execute more than six billion transactions daily in 150 countries using GS1 Standards.

About GS1 US

GS1 US®, a member of GS1 global, is a not-for-profit information standards organization that facilitates industry collaboration to help improve supply chain visibility and efficiency through the use of GS1 Standards, the most widely-used supply chain standards system in the world. Nearly 300,000 businesses in 25 industries rely on GS1 US for trading-partner collaboration that optimizes their supply chains, drives cost performance and revenue growth while also enabling regulatory compliance. They achieve these benefits through solutions based on GS1 global unique numbering and identification systems, barcodes, Electronic Product Code-based RFID, data synchronization, and electronic information exchange. GS1 US also manages the United Nations Standard Products and Services Code® (UNSPSC®).

The GS1 System

The GS1 System is an integrated suite of global standards that provides for accurate identification and communication of information regarding products, assets, services and locations. Using GS1 Identification Numbers, companies and organizations around the world are able to globally and uniquely identify *physical things* like trade items, assets, logistic units and physical locations, as well as *logical things* like corporations or a service relationship between provider and recipient. When this powerful identification system is combined with GS1 barcodes, eCom, EPC/RFID, and the Global Data Synchronization Network™ (GDSN®), the connection is made between these physical or logical things and the information the supply chain needs about them.

About the GS1 US Retail Grocery & Foodservice GS1 US Standards Initiatives

The GS1 US Retail Grocery Initiative and Foodservice GS1 US Standards Initiative serve as a strategic effort in which industry trade associations and individual companies may voluntarily join to assist their company's adoption and implementation of GS1 Standards. Nothing herein should be construed as constituting or implying an agreement among retail grocery and/or foodservice companies to adopt or implement GS1 Standards or regarding any company's prices, output, markets or dealings with customers and suppliers. Nothing herein is inconsistent with the proposition that each participating company must and will exercise its independent business judgment on all standards adoption.

To learn more about the initiatives, visit www.gs1us.org/retailgrocery and www.gs1us.org/foodservice

Introduction

This application guideline was prepared by the *GS1 US Retail Grocery Initiative* Product Information and Images Workgroup and Foodservice GS1 US Standards Initiative GDSN Implementation Workgroup to assist trading partners with the use of GS1 Standards for capturing, naming and styling images. It provides minimum guidelines for digital imaging as it relates to GS1 Standards. This guideline is based on the [GS1 Product Image Specification](#), and was developed using guidelines that were originally prepared by GS1®.

This document provides detailed guidance on how to create, manage and supply product images for use in commerce applications across foodservice and retail operations. To promote clarity, this guideline has been organized into three main sections:

- **Part 1: General Guidelines.** This section provides references to image specifications based on [GS1 Standards for product images](#).
- **Part 2: Product Image Style Guide.** This section defines the recommended set of product images for the retail/grocery and foodservice industries, and provides style guides for producing, saving and sharing images (including sample images and text explanations). This information will assist trading partners in their understanding of what images they need to capture and share.
- **Part 3: Publishing Images in the Global Data Synchronization Network™ (GDSN®).** This section provides instructions about sharing image files using the Global Data Synchronization Network (GDSN). This information will help brand owners understand key considerations for sharing files with data recipients.



Note: As with all GS1 Standards and solutions, the GS1 US Product Images Guideline for the Retail Grocery Industry and Foodservice Industries is voluntary, not mandatory. It should be noted that use of the words “must” and “require” throughout this document relate exclusively to technical recommendations for the proper application of the standards to support the integrity of your implementation.



PART 1: GS1 Product Image Standard

1 Overview

The [GS1 Product Image Specification Standard](#) defines GS1 Standards for the storage of digital images associated to products. The standard does not specify how the images should be delivered via electronic commerce. Image delivery is out of scope.)

2 Key Sections

2.1 Default Face

Section 1.1 of the [GS1 Product Image Specification Standard](#) describes how to determine of the default face of a product for image capture.

2.2 Marketing Image Types

Section 2 discusses identification, technical file components, and naming practices for marketing images. This includes (but is not limited to):

- Photographic Images
- Rendered Images
- Differentiation of Images
- Image Types
- Image Size/Formats
- Backgrounds
- Clipping Paths

2.3 File Naming

Section 3 presents the two naming conventions for image files:

- Image Files Names based on GS1 Global Trade Item Number® (GTIN®) and
- Image Files Names based on GS1 Global Document Type Identifier (GDTI).

2.4 Planogram Image & Data Field Specifications

Section 4 discusses planogram image identification, technical file components, naming practices, and data field specifications. This includes (but is not limited to):

- File Formats
- Views
- Cropping
- Image Size
- File Name Construction

2.5 Meta Data

Section 5 reviews meta-data and associated data.



PART TWO: Product Image Style Guide

3 Recommended Images for Each Category

The table below presents a quick overview of the minimum set of images recommended for each image category for end user or consumer packaging levels. *(Details about each category are provided throughout the remainder of this section.)*

Table 3-1 Recommended Images

Product Image Areas	
PlanOGRAM	Each Marketing Face for Display & Shelf Management
Functional	All Sides of Package (e.g. front, back, top bottom, left side, right side)
Primary	Each Marketing Face (on angle)
Informational	- Barcode - Nutrient Panel (as applicable) - Ingredient Line (as applicable)
Lifestyle	Staged, Styled, Modeled, Logo

The table above lists the set of recommended images for a given packaging level of an item. It is acceptable to provide more images as this will provide additional valuable information for the item to your trading partners and ultimately the consumer. With the exception of Planogram Images, all images can be used for any purpose by the end user, such as marketing and e-commerce applications, by utilizing a high-resolution image. A high-resolution image can be downscaled for uses that need smaller images.

4 Image Style Guide Organization

The remainder of this section provides a Style Guide for each of the product image categories: Planogram, Functional, Primary, Informational, and Lifestyle. Guidance is provided to further understanding about each type of product image. Guidance for the Lifestyle Product Images organizes products into different product categories, with image examples for each category in order to expand on the general guidelines presented earlier. The product categories are:

- Meats (Beef and Pork)
- Poultry
- Seafood
- Produce
- Dairy
- Beverage
- Dry Grocery, Seasonings and Ingredients
- Dry and Canned Fruits and Vegetables
- Frozen and Refrigerated Grocery
- Frozen Fruits and Vegetables
- Shortenings and Oils
- Supplies and Equipment
- Disposables
- Janitorial and Chemical

Specific instructions for every type of product offered would be unnecessarily complex and beyond the scope of the standard and this guide. The advice and examples provided in the following pages may help a brand owner determine the best way to represent their products according to their experience and expertise.

5 Planogram Product Image Style Guide (Retail Grocery)

Planogram Images are the marketing faces of the item which can be used for setting up aisles/shelves, displays and end caps as well as planning documentation. If a package has more than one marketing face, having an image of each face will assist demand side partners in determining how to best position the item for sale to the consumer. Provide one, zero-plunge, center image for each marketing face of the item utilizing the capture and naming convention for Planogram Images as defined in the [GS1 Product Image Specification](#) referenced in Section 4 *Planogram Image Specifications*. This discusses planogram image identification, technical file components, naming practices, and data field specifications. This includes (but is not limited to):

- File Formats
- Views
- Cropping
- Image Size
- File Name Construction

6 Functional Product Image Style Guide

Functional Product Images are high resolution images for use in marketing or e-commerce applications. They provide basic images of each of the item's faces to help users get a full representation of the packaging for their use. These images provide a detailed representation of each side of the product for use in catalogs and/or applications. Provide a zero-plunge center image for each side of the package (6 total: Front, Back, Left Side, Right Side, Top, and Bottom) utilizing the capture and naming convention for Marketing Images as defined in the [GS1 Product Image Specification](#) and referenced in the *Marketing Image Specifications* section.

6.1 Photography Guidelines

It is recommended that Functional Product Images conform to the following general guidelines. *(For technical requirements related to the image format, resolution, file name, etc., see the Marketing Image Specifications section of the [GS1 Product Image Specification](#).*

- **Composition:** Show a single item in its packaging. The complete product should be visible inside the frame, without being clipped or cropped, and without any unnecessary negative space.
- **Brands:** Product images should not be branded, except for company logos and branding already in place on product packaging. No additional brands, logos or watermarks may be added to the image.
- **Orientation:** The image frame should be in a square format, with equal dimensions both horizontally and vertically. The image may be cropped. Remove white space. The entire product must remain visible.
- **Lighting:** Full, well-balanced lighting helps to ensure that the product and surrounding background are evenly lit, with very slight or no shadows.
- **Shadows:** Subtle, natural shadows are acceptable. Do not alter the image to create artificial shadows or remove existing ones.
- **Angle of View:** Images should be taken using a straight-ahead or straight-down, zero plunge angle image.
- **Focus / Depth of Field:** The product should be clearly visible with an overall balanced focus.

- **Background:** The image background should be solid white and evenly lit. If necessary, background lighting can be reduced to provide contrast with the product.

6.2 Setup

Photos taken against an even, white background with the product, lights and camera placed appropriately render ideal results. Experienced photographers will know how to proceed.

6.3 File Naming Groups

The following table is a guide as to which values are most relevant for the 19th character of the GTIN file naming convention for Functional Product Images as set forth in the *GS1 Product Image Standard*.

Table 6-1 19th Character of the GTIN File Naming Convention for Functional Product Images

19 th Character	Description	Food or Non-Food
1	In packaging	Both
A	Case – A shot of the product in its case as it would appear to the operator upon delivery.	Both
B	Innerpack – A shot of the product as it would appear inside its packaging inside the case.	Both

6.4 Proper Usage

The images below provide examples of Functional Product Images that meet the general requirements identified below the image.



Front



Back



Left



Right



Top



Bottom



Front



Left



Right



Back



Top



Bottom

6.5 Improper Usage

These examples are not acceptable as Functional Product Images, for the reasons indicated.



Too Wide / Too Much Negative Space



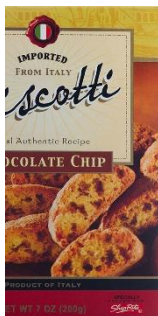
Super Imposed / Watermark Products



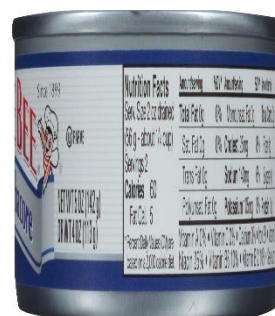
Multiple Items



Improper Background



Improperly Cropped Image



Improper Aspect Ratio

7 Primary Product Image Style Guide

Primary Product Images are perhaps the most important images that appear on each product page. These images set the customer's expectations and ultimately influences customer expectations.

Primary Product Images are high resolution images for use in marketing or e-commerce application. They are shot at angles across the marketing face(s) of the item. These images enhance the interest of the item and provide an attractive Marketing Image of the item for use in advertising. This group of images should consist of at least one left or right image for each marketing face of the package. If a package has more than one marketing face, having these images will help to ensure that demand side partners have an appropriate image to use for each face. These images are captured utilizing the capture and naming convention for Marketing Images as defined in the [GS1 Image Specifications](#) and referenced in the *Marketing Image Specifications* section.

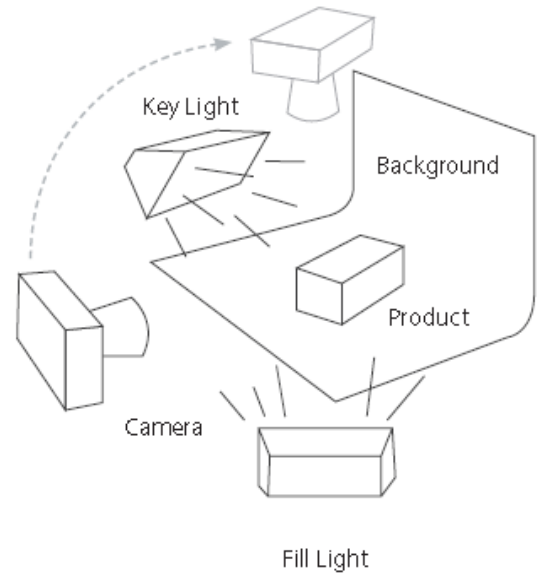
7.1 Photography Guidelines

Primary Product Images should conform to the following general guidelines. *(For technical requirements related to the image format, resolution, file name, etc., see the Marketing Image Specifications section of the [GS1 Image Specifications](#).*

- **Composition:** Show a single item (or a small serving size for items that typically appear in groups), as it first appears "out of the package." The complete product should be visible inside the frame, without being clipped or cropped, and without any unnecessary negative space.
- **Brands:** Product images should not be branded, except for company logos and branding already in place on product packaging. No additional brands, logos or watermarks may be added to the image.
- **Orientation:** The image frame should be in a square format, with equal dimensions both horizontally and vertically. The image may be cropped. Remove white space. The entire product must remain visible.
- **Lighting:** Full, well-balanced lighting help to ensure that the product and surrounding background are evenly lit, with very slight or no shadows.
- **Shadows:** Subtle, natural shadows are acceptable. Do not alter the image to create artificial shadows or remove existing ones.
- **Angle of View:** Images should be taken at a downward angle to show all three dimensions—depth, width and height. Avoid using a straight-ahead or straight-down image (although straight-down views are acceptable for soups, sauces and other liquids shown in bowls).
- **Focus / Depth of Field:** The product should be clearly visible with an overall balanced focus.
- **Background:** The image background should be solid white and evenly lit. For certain food items, a solid white plate or bowl may also be used. If necessary, background lighting can be reduced to provide contrast with the product.

7.2 Setup

For ideal results, photos should be taken against an even, white background with the product, lights and camera placed appropriately. Experienced photographers will know how to proceed. The illustration to the right is provided for the benefit of suppliers without the resources for professional photography.



7.3 File Naming Groups

The following table is a guide as to which values are most relevant for the 19th character of the GTIN file naming convention for Primary Product Images as set forth in the *GS1 Product Image Standard*.

Table 7-1 19th Character of the GTIN File Naming Convention for Primary Product Images

19 th Character	Description	Food or Non-Food
1	In packaging	Both
A	Case – A shot of the product in its case as it would appear to the operator upon delivery.	Both
B	Innerpack – A shot of the product as it would appear inside its packaging inside the case.	Both
M	Open Case – A shot of a case, flaps open, that shows how the product(s) would look when an operator receives the product and opens the case.	Both

7.4 Proper Usage

The images below provide examples of Primary Product Images that meet the general requirements identified below the image.



Packaged



Packaged



Item with No Package



Color



Group



Product angle



Full frame



Balanced lighting



Product representation

7.5 Improper Usage

These examples are not acceptable as Primary Product Images, for the reasons indicated.



Improperly cropped image



Super-imposed products



Multiple items



**Super Imposed/
Watermark
Products**



Poor product legibility



Product staging (non-white background only for primary image)



Artificial drop-shadow



Improper aspect ratio



Too wide / too much negative space



Improper background



Improperly Cropped Image



Improper Aspect Ratio



Too Wide / Too Much Negative Space

8 Informational Product Image Style Guide

Informational Product Images are high resolution images for use in marketing or e-commerce application. They provide basic images of specific portions of the item's packaging. Specific images of subsections of the packaging as an independent image enables issue resolution in the supply chain (e.g., bad barcode reads; no item in recipient system; etc.). This group of images consists of several zero-plunge, center images of specific information panels or sections of the package as relevant to the product. These images are captured utilizing the capture and naming convention for Marketing Images as defined in the *GS1 Image Specifications* for sectional or zoom view files. These images are typically of a subset of a panel or side of the packaging, and not necessarily the entire panel or side.

- All items should have one image of the barcode as would be visible on the packaging. If the level of packaging does not have a printed barcode with its own GTIN on it, but the barcode for a lower packaging level is visible, then the image would be of that lower level barcode (e.g., Hi-Cone packaging).
- Food items and certain non-food items such as chemicals should have an image of the Nutrition Panel and Ingredient Statement. These can be provided as either a single image or separate images.

8.1 Photography Guidelines

Informational Product Images should conform to the following general guidelines. *(For technical requirements related to the image format, resolution, file name, etc., see the Marketing Image Specifications section of the [GS1 Image Specifications](#).)*

- **Composition:** Show the information element as it is represented on the product packaging. The complete element should be visible inside the frame, without being clipped or cropped, and without any unnecessary negative space.
- **Brands:** Informational Product Images should not be branded, except for company logos and branding already in place as part of the information element on product packaging. No additional brands, logos or watermarks may be added to the image.
- **Orientation:** The image frame should be in a square format, with equal dimensions both horizontally and vertically. The image may be cropped. Remove white space. The entire product must remain visible.
- **Lighting:** Full, well-balanced lighting help to ensure that the element and surrounding background are evenly lit, with very slight or no shadows.
- **Shadows:** Subtle, natural shadows are acceptable. Do not alter the image to create artificial shadows or remove existing ones.
- **Angle of View:** Images should be taken using a straight-ahead or straight-down, zero plunge angle.
- **Focus / Depth of Field:** The element should be clearly visible with an overall balanced focus.
- **Background:** The image background should be solid white and evenly lit. If necessary, background lighting can be reduced to provide contrast with the element.

8.2 Setup

For ideal results, photos should be taken against an even, white background with the product, lights and camera placed appropriately. Experienced photographers will know how to proceed.

8.3 File Naming Groups

The following table is a guide as to which values are most relevant for the 19th character of the GTIN file naming convention for Informational Product Images as set forth in the *GS1 Product Image Standard*.

Table 8-1 19th Character of the GTIN File Naming Convention for Informational Product Images

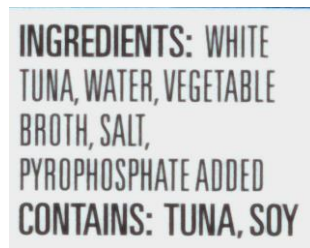
19 th Character	Description	Food or Non-Food
1	In packaging	Both
A	Case – A shot of the product in its case as it would appear to the operator upon delivery.	Both

8.4 Proper Usage

The images below provide examples of Informational Product Images that meet the general requirements identified below the image.



Barcode



Ingredient Statement



Nutrient Fact Panel



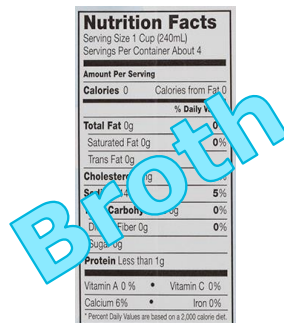
Nutrition Fact Panel

8.5 Improper Usage

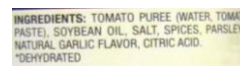
These examples are not acceptable as Informational Product Images for the reasons indicated.



Improperly Cropped Image



**Super Imposed/
Watermark Products**



Poor Product Legibility



Too Wide / Too Much Negative Space



Improper Aspect Ratio

9 Lifestyle Product Images

Lifestyle Product Images are high resolution images for use in marketing or e-commerce application. They show the item in use with other elements, actors or props, and provide a context around how the item would be used or consumed. These images may include images showing “endorsement” of the item from cultural icons or celebrities. This group of images should consist of at least one image to be used to promote the item. This type of image may not necessarily be an image for a specific promotion, although it can be. It is recommended that, at a minimum, a general “base” image should be available for use to promote or market the item. Images that are for specific promotions or campaigns can also be provided as additional information.

Lifestyle Product Images could be of the product as plated, styled, staged, or being used by a model. While the recommendation is for at least one image, it is acceptable for more than one image to be provided. These images provide more usability for demand side partners when promoting and presenting the item to end users and consumers. These images are captured utilizing the capture and naming convention for Marketing Images as defined in the [GS1 Image Specifications](#) and referenced in [Marketing Image Specifications](#) section.

9.1 Photography Guidelines

Lifestyle Product Images should conform to the following general guidelines. (For technical requirements related to the image format, resolution, file name, etc., see the [Marketing Image Specifications](#) section of the [GS1 Image Specifications](#).)

- **Composition:** The image should be completely visible inside the frame, without being clipped or cropped, and without any unnecessary negative space.
- **Brands:** Product images should not be branded, except for company logos and branding already in place on product packaging. No additional brands, logos or watermarks may be added to the image.
- **Orientation:** The image frame should be in a square format, with equal dimensions both horizontally and vertically. The image may be cropped. Remove white space. The entire image must remain visible.
- **Lighting:** Lighting should be tailored to the image being created. If the image is of the item without a model or background scene (e.g., food item plated on a kitchen counter), full, well-balanced lighting helps to ensure that the item and surrounding background are evenly lit, with very slight or no shadows. If the item is being depicted with a model or in a background scene, the lighting should be appropriate for the image (e.g., a nighttime scene would be darker overall than a daytime scene).
- **Shadows:** Subtle, natural shadows are acceptable. Do not alter the image to create artificial shadows or remove existing ones.
- **Angle of View:** The angle of the shot will be determined by the type of image being taken. See the following sections for guidance on angles.
- **Focus / Depth of Field:** The image should be clear with an overall balanced focus.

- **Background:** If the item is being depicted in a scene, a background is acceptable. However, if the item is not being depicted in a scene, the image background should be solid white and evenly lit. For certain food items, a solid white plate or bowl may also be used. If necessary, background lighting can be reduced to provide contrast with the product.

9.2 Setup

For ideal results, images should be taken with the product, lights and camera placed appropriately. Experienced photographers will know how to proceed.

9.3 File Naming Groups

The following table is a guide as to which values are most relevant for the 19th character of the GTIN file naming convention for Lifestyle Product Images as set forth in the *GS1 Product Image Standard*.

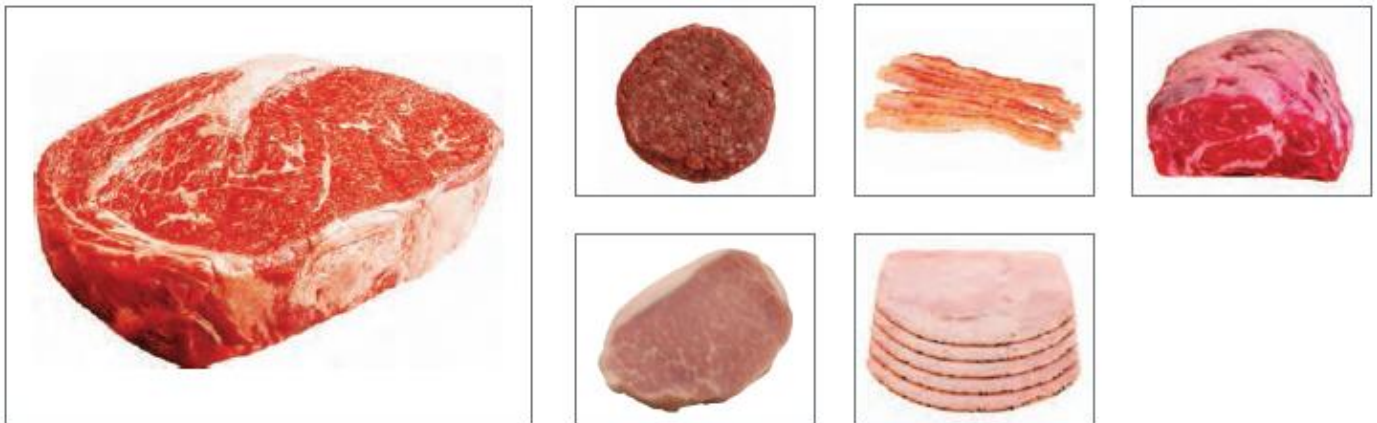
Table 9-1 19th Character of the GTIN File Naming Convention for Lifestyle Product Images

19 th Character	Description	Food or Non-Food
O	Out of packaging – A shot of the product as it first arrives “out of packaging” -- not how it appears after it has been processed or prepared.	Both
C	Raw/Uncooked – A shot of a product that has not been cooked or processed or that needs to be cooked or further prepared before it is considered edible.	Food
D	Prepared – A shot of a product that has been taken from a raw or uncooked state to a cooked state according to the appropriate method of preparation (e.g., baked, fried, grilled or boiled).	Food
E	Plated – Prepared food arranged simply on a serving plate, dish or bowl for better visibility. May include an additional step, such as garnishing, icing, seasoning or other enhancement.	Food
F	Styled – Carefully and artfully arranged for an attractive visual presentation, and designed to suggest the taste, aroma and appeal of the actual dish. May include complementary items (e.g., an entrée and sides) to present the impression of a complete meal. May also include an additional step, such as garnishing, icing, seasoning or other enhancement. May be presented with different backgrounds and at different angles.	Food
G	Staged – A shot of a product that has been arranged for display in such a way as to provide clear visibility. The product may be propped up if necessary for optimum viewing, but it should not be held or used in any way by a person.	Both
H	Held – A shot of a product that has been held out for display by one hand or a pair of hands. When relevant, proper grip should be demonstrated. Apart from the hands and forearms, no part of the person holding the item should be visible.	Both
J	Worn – A shot of a product, such as a protective item or article of clothing, which is worn by a person. The complete product should be visible inside the frame, but the individual wearing it should be cropped out as much as possible.	Non-Food
K	Used – A shot of a product as it is meant to be used in its appropriate environment. Small utensils may be held in a hand or hands and used for their intended purpose.	Non-Food
L	Family – A shot of a number of related products (e.g., matched sets, place settings) arranged together in a single picture.	Both
M	Open Case – A shot of a case, flaps open, that shows how the product(s) would look when an operator receives the product and opens the case.	Both

9.4 Meats (Beef and Pork)

For most meat, the ideal Lifestyle Product Image would be a single item, thawed to show color and marbling. Ensure that the color and texture appear both natural and fresh. Too much light may cause the product to look too red, or even washed out. Not enough light may cause the product to appear dark or aged.

9.4.1 Lifestyle Product Image Examples



9.4.2 Subcategories

- **Ground (Bulk, Patties):** It is usually important to show the color, size and shape of raw patties in the Lifestyle Product Image. Grind size can be relevant when ordering in bulk. Interior and exterior packaging may also be relevant, and should be covered by a supporting image.
- **Deli and Further Processed:** For deli meat (e.g., roast beef, ham, pastrami, etc.), the size and shape of the loaf are important. Be sure to show the cross-section in a face or slice. Again, packaging should be shown in a supporting image if it is relevant.
- **Primals/Subprimals/Commodity:** Large pieces of beef and pork should be shown as it will be delivered, whole or cut into portions. Color is important, as are fat and trim.
- **Cut/Portion Steaks:** Show pre-cut and portion-size steaks according to cut (e.g., ribeye, strip, filet, chop, etc.). Be sure to show color and marbling, as well as the width and thickness of the cut.

9.4.3 Additional Image Examples



Packaged

Prepared

Plated

Styled

9.5 Poultry

For most products in this category, the ideal image would be a single item, thawed to show its natural color. Even thawed, poultry products may still appear white, or nearly white. Use special care in arranging and lighting the product to show it clearly against a white background.

9.5.1 Lifestyle Product Image Examples



9.5.2 Subcategories

- **Commodity:** Show the product as it will be delivered, whole or cut into portions. Packaging can be shown in a supporting image, especially for items that are individually quick frozen (IQF).
- **Further Processed:** Breaded, battered and/or seasoned items may be cooked to provide a more accurate understanding of the product. Small groups of 3–5 like items (based on a typical portion size) may be used for products that generally do not occur singly.
- **Deli:** It is important to show the size and shape of the loaf in the Lifestyle Product Image. Supporting images should include a face or slice to show the cross-section.
- **Specialty:** Apart from chicken and turkey, this category includes specialty items such as poultry sausages and game birds like duck, quail, etc. No matter how exotic, these products are subject to the same guidelines as traditional items in this category.

9.5.3 Additional Image Examples



Multiple Items



Prepared



Plated



Styled

9.6 Seafood

Seafood is generally considered a center-of-plate item. The Lifestyle Product Image should display a single item in its raw, unprepared, thawed state. Prepared and styled photos should be reserved for additional images. With some exceptions (e.g., salmon), seafood is usually pale white, sometimes with a yellowish or brownish hue. Careful lighting may be required to show the product accurately against a white background.

9.6.1 Lifestyle Product Image Examples



9.6.2 Subcategories

- **Finfish:** Most seafood is sold pre-portioned. Some fish (e.g., salmon) are sold in larger portions or a whole fish, but the industry has moved toward sizing and cutting for labor and convenience. Do not show a whole fish if the product will be delivered pre-portioned, and vice versa. Show the exact portion size that the operator will receive. If portion of a fish is shot, show meat side up.
- **Shellfish:** Shrimp are provided in a wide variety of pack styles and sizes, making them the largest seafood subcategory. The Lifestyle Product Image should make clear exactly which variety is being ordered. Other shellfish should be shown as they would arrive to the operator, prior to any additional preparation. Please consider a supporting image featuring shellfish packaging if it is an important operator advantage.

9.6.3 Additional Image Examples



Packaged

Prepared

Plated

Styled

9.7 Produce

Products in this category should generally be shown in their fresh state, naturally picked. The example used in the Lifestyle Product Image should fairly represent the produce that will be delivered to the customer in shape, size and color. An idealized, unblemished image may unreasonably inflate customer expectations, leading to disappointment and dissatisfaction.

9.7.1 Lifestyle Product Image Examples



9.7.2 Subcategories

- **Commodity:** The Lifestyle Product Image should show a single, whole item or a small group of like items (depending on portion size).
- **Pre-Cut / Value-Added:** Pre-cut produce should be removed from its package and arranged for inspection.
- **Wet Salads:** Deli salads and other prepared wet salad mixes can be shown in a plain white serving bowl.

9.7.3 Additional Image Examples



Prepared



Plated



Styled

9.8 Dairy

Apart from cheese, most dairy items can be shown in their smallest unit of packaging, such as a single wrapped stick of butter, carton of milk, etc.

9.8.1 Lifestyle Product Image Examples



9.8.2 Subcategories

- **Cheese (Natural, Processed, Specialty):** The Lifestyle Product Image should show the color of the cheese to best effect. For cheeses sold in loaves or wheels, one additional image should show the cheese sliced or faced—especially if there are spices, seasonings or veins to reveal. For pre-sliced or shredded cheese, sizing can be important.
- **Butter:** Most butter is mild yellow in color. It is more important to show pack size and packaging in the Lifestyle Product Image. Styled shots and serving suggestions are supporting images.
- **Eggs:** Lifestyle Product Image should indicate how eggs are provided (e.g., sold in the shell or further processed, such as premixed liquid eggs in bags/cartons). Hard-boiled eggs may also be peeled and sliced/diced.
- **Fluid Milk:** The most important feature for fluid milk is pack size and container, ranging from half-pints to bulk 5-gallon dispensers.
- **Cultured:** Cottage cheese, sour cream, heavy whipping cream, and half and half are all predominantly white in color. Lifestyle Product Image should feature packaging. Additional images can be plated.
- **Ice Cream:** Show packaging, but remove the lid to reveal the color and texture of the product.

9.8.3 Additional Image Examples



Packaged

Family

Plated

Styled

9.9 Beverage

The Lifestyle Product Image for this category is the product in its most manageable form (e.g., individual bottles when appropriate; jugs or cartons for drink mixes and concentrates; small packages for dry mixes; etc.). Served in a cup is not appropriate except as a supporting image.

9.9.1 Lifestyle Product Image Examples



9.9.2 Subcategories

- **Coffee (Ground, Whole Bean, Concentrated):** For coffee beans and grounds, show a small quantity spilled on the white surface in front of the container as the Lifestyle Product Image.
- **Tea (Bulk, Bags, Premix Concentrates):** The ideal image for this subcategory would be a single, unwrapped tea bag, with individually wrapped bags and boxes included as supporting images. For dried tea leaves shipped in bulk, show a small quantity spilled on the white surface in front of the container.
- **Juice (Dispensed, Mixes, Portion Cups, Bottles):** The Lifestyle Product Image should be the smallest individually packaged item.
- **Miscellaneous (Bottled Water, Juice, Cappuccino Mixes):** The Lifestyle Product Image should be the smallest individually packaged item.

9.9.3 Additional Image Examples



Used



Family



Plated



Styled



Packaged

9.10 Dry Grocery, Seasonings and Ingredients

Products in this category are frequently shipped in bulk containers. The ideal “out of the box” view of the product is a small quantity displayed on a white background. Packaging may also be shown behind the sample when the package size is suitably small, but the center of attention should be on the contents.

9.10.1 Lifestyle Product Image Examples



9.10.2 Subcategories

- **Cereals and Grain:** Show a small sample spilled loosely on a white surface in front of the container. Individual grains should be clearly visible when the image is viewed at full resolution.
- **Dry Pasta:** For most uniform varieties of pasta, show a small group of 3–5 good, unbroken pieces, separated so the shape and color are clearly visible. For mixed varieties, ensure that each color and shape is fairly represented in the sample. Long, narrow pasta (e.g., capellini, linguine, spaghetti or vermicelli) can be shown in a thicker sheaf.
- **Sauces:** For the Lifestyle Product Image, sauces should be shown poured into a plain white serving bowl. As a supporting image, show the sauce in use as part of a finished dish.
- **Miscellaneous Canned (Entrees, Puddings, etc.):** Show the contents poured into a plain white serving dish or bowl. Supporting images should include a clear view of the packaging.
- **Seasonings:** Show a small quantity of the seasoning spilled on the white surface in front of the container. The sample should be clearly visible when the image is viewed at full resolution.
- **Dry Ingredients:** Show a small quantity of the dried ingredients spilled on the white surface in front of the container. For bulk containers that are too large to fit inside the frame alongside a reasonable sample of the contents, show the container separately as a supporting image.

9.10.3 Additional Image Examples



D

Packaged

Family

Plated

Styled

9.11 Dried & Canned Fruits and Vegetables

For dried products, a single item or small sample should be shown spilled onto a white surface. For wet, canned goods, the contents should be poured into a plain white serving bowl. The preferred angle of view should be just enough to show the depth and dimension of the bowl while still concentrating attention on its contents.

9.11.1 Lifestyle Product Image Examples



9.11.2 Subcategories

- **Canned Fruits and Vegetables:** Use a plain white serving dish or bowl as required to provide a clear view of the product for the Lifestyle Product Image. Supporting images should include the can or other packaging.
- **Dried Fruit (Raisins, Cranberries, etc.):** Show a small quantity spilled onto the white surface in front of the package.
- **Nuts and Seeds:** For uniform products, show a small group of 3–5 whole, unbroken pieces. For mixed varieties, ensure that each type is fairly represented in the sample.

9.11.3 Additional Image Examples



Packaged



Prepared



Plated



Styled

9.12 Baked Goods

For baked goods, such as cookies, cakes, bread, etc., a single item or small sample can be shown plated or spilled onto a white surface. The preferred angle of view should be just enough to show the depth and dimension of the bowl while still concentrating attention on its contents.

9.12.1 Lifestyle Product Image Examples



9.12.2 Subcategories

- **Breads, Cookies, Crackers, Cakes:** Use a plain white serving dish/bowl as required to provide a clear view of the product for the Lifestyle Product Image. Supporting images should include the can or other packaging. Or show a small quantity spilled onto the white surface in front of the package or alone.

9.12.3 Additional Image Examples



Used



Plated



Styled

9.13 Frozen and Refrigerated Grocery

This is a broad category, and many of the products are shipped in a “close to prepared” state. The ideal image for products in this category would be an individual item or small serving size, removed from its packaging, thawed, and presented in its natural state.

9.13.1 Lifestyle Product Image Examples



9.13.2 Subcategories

- Baked Goods
- Desserts
- Prepared Convenience Foods (Soups, Sauces, Gravies)
- Frozen Pasta
- Breakfast Foods
- Tortillas
- Appetizers

9.13.3 Additional Image Examples



Packaged



Prepared



Plated

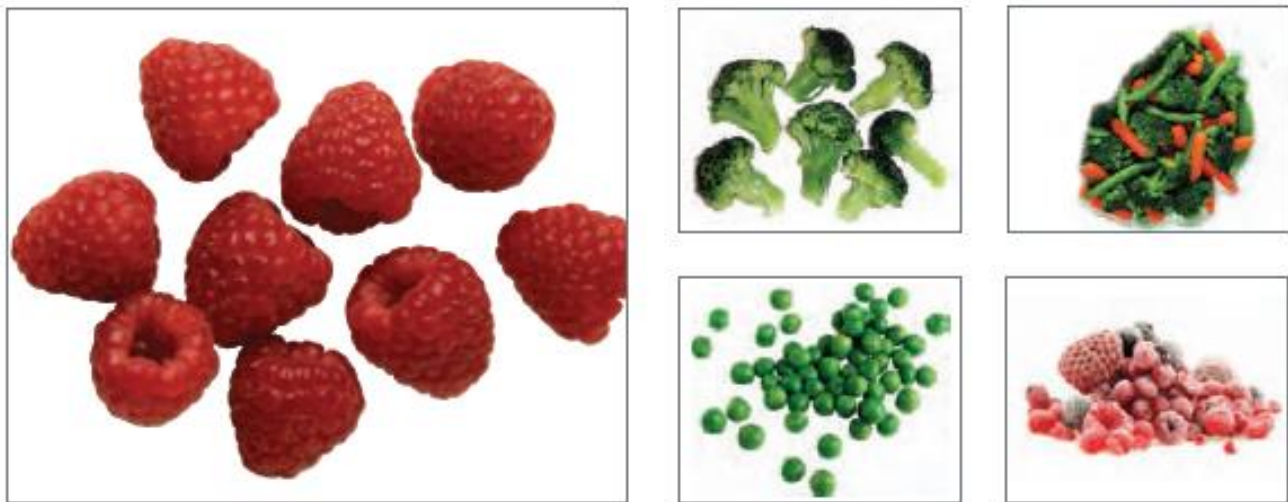


Styled

9.14 Frozen Fruits and Vegetables

Unlike other product categories, frozen items should not necessarily be thawed in the Lifestyle Product Image. When appropriate, these products can be shown frozen to differentiate them from fresh product. Color and size can be critical.

9.14.1 Lifestyle Product Image Examples



9.14.2 Subcategories

- **Fruits:** Individually quick-frozen (IQF) products can be displayed separately or in small groups of like items, depending on typical serving size.
- **Vegetables:** Most products should be shown out of their packaging. If necessary, frozen vegetables may be shown in a plain white bowl—use an angle that shows the depth and dimension of the bowl, but keeps most of the attention on its contents.
- **Potatoes:** Some varieties of pre-cut seasoned or coated potatoes may not be clearly visible unless thawed or even cooked. Use your judgment to provide potential buyers with the best understanding of the product.

9.14.3 Additional Image Examples



Packaged



Prepared



Plated



Styled

9.15 Shortenings and Oils

Most products in this category may be shown packaged in the Lifestyle Product Image. For dry ingredients, a small sample should be spilled onto the surface in the foreground whenever practical.

9.15.1 Lifestyle Product Image Examples



9.15.2 Subcategories

- **Oils and Fats:** A bottle, tub or other package may be used as the Lifestyle Product Image in this subcategory. The image should be taken at a slight downward angle to show the dimensions of the container (height, width and depth).

9.15.3 Additional Image Examples



Family



Plated



Styled

9.16 Supplies and Equipment

This is a very large category, with a broad range of products. Make sure that each product is completely visible and clearly identifiable in the Lifestyle Product Image.

9.16.1 Lifestyle Product Image Examples



9.16.2 Subcategories

- **Smallwares and Small Equipment:** The Lifestyle Product Image should generally show a single item. Supporting images can be used to show smallwares in use, as well as families of complementary products such as matching sets and full table settings.
- **Clothing and Protective:** Items designed to be worn should be laid out clearly for the Lifestyle Product Image. Supporting images can be used to show the item worn and/or in use. Certain products may not be clearly recognizable unless they are worn. For those products, the Lifestyle Product Image should be framed to show only the relevant product, not the person modeling it.
- **Heavy Equipment:** Large items (e.g., refrigerators and ovens) involve additional challenges for photography. Take care to keep the product completely in frame and in focus. Provide supporting images to show alternate angles, open doors and interior views.

9.16.3 Additional Image Examples



Packaged



Family



Worn



Used

9.17 Disposables

Whenever practical, small disposable items should be shown as single items “out of the box.” However, some products in this category (e.g., bags, films and foils) are essentially shapeless and therefore difficult to picture except when they are packaged or in use. The Lifestyle Product Image for these products should be a sample partially unrolled or withdrawn from its container, while supporting images can show the product in use and/or in combination with other products.

9.17.1 Lifestyle Product Image Examples



9.17.2 Subcategories

- **Paper and Foams:** Lifestyle Product Images should feature a single item ready to be used. Paper and foam to-go boxes should be assembled and positioned at an angle to show all three dimensions (height, width and depth).
- **Plastic:** Remove a single item from the package for the Lifestyle Product Image (e.g., a plastic fork). When different items are packed together, one sample of each type should be shown side-by-side in the Lifestyle Product Image (e.g., a plastic knife, fork and spoon). Packaging should be shown as a supporting image.
- **Food Storage and Safety:** Plastic films, plastic bags, foil and similar products should be shown with one example partially withdrawn from its container.

9.17.3 Additional Image Examples



Packaged



Family



Family



Held



Used

9.18 Janitorial and Chemical

Products in this category generally fall under the description of “cleaning supplies,” especially chemicals, most of which are best shown in their containers.

9.18.1 Lifestyle Product Image Examples



9.18.2 Subcategories

- **Dispensed:** These products are usually concentrated solids, such as detergents used in laundry or warewashing machines. The ideal Lifestyle Product Image would be a single packet.
- **Ancillary:** Cleaning supplies and other chemicals should be shown in their containers (e.g., bottles, cans, pumps, etc.). Show the container at a slight angle to convey dimensions (height, width and depth).

9.18.3 Additional Image Examples



Packaged



Staged



Held



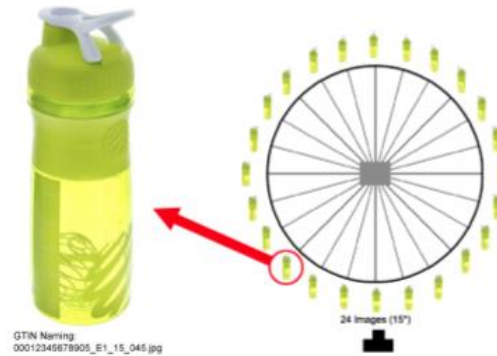
Used

10 Mobile Ready Hero Image (MRHI) (Retail Grocery)

A Mobile Ready Hero Image (MRHI) is a representation of a real-world product that may differ from a standard pack shot, but that maintains the majority of the physical pack’s key elements of design, shape and color, and is therefore recognizable on a Digital Shelf. The image should include, or be closely associated with, key elements customers are likely to use when making a purchase decision/choosing the correct product from search results. More information regarding the application and use of Mobile Ready Hero Images can be found by reviewing the [GS1 Mobile Ready Hero Images Guideline](#).

11 Product Image 360°

360-degree imaging is product photography on a single axis – the product rotates on a single axis while the camera takes pictures at specified degree intervals. All images should be captured with the same plunge angle to ensure a smooth 360° result. More information on 360° Image can be found in section 2.5.2.1 as well as section 5.1 360 Meta Data of the [GS1 Product Image Specification Standard](#).





PART THREE: Publishing Images in the GDSN

12 Publishing Images in the GDSN

Part Three of this guide outlines best practices for publishing images from an Information Provider to a Recipient. Topics include:

- Preparing image files for publication
- Populating the publication attributes
- Generating a valid URL for the image link
- Publishing image links in a multi-level product
- Understanding image lifecycle

12.1 Preparing Image Files for Publication

Parts 1 and 2 of this guide explain how to capture and store proper images with proper file naming convention. However, it is important to consider the needs of the recipient when preparing a file for transmission. Many of the recipients will be receiving thousands of images, so it is important to provide an image that recipients can use without overloading their servers or requiring interventions for converting or editing the file.

The recommended file type of full quality tiff files are excellent inventory for the manufacturer. This rich format enables the creation of any other format or size for downstream purposes. However, full quality tiff files can be very large (between 40 – 200 MB each), which can be challenging for the recipient to manage and pass between servers depending on the use. By providing the files in a lighter format such as jpg, the recipient will have more flexibility in uses within different systems internally. The jpg images can easily be created from the master tiff and still contain the pixel ranges provided in the Image Guidelines. A great analogy is how consumers share music. For inventory purposes, music can be kept at home on a compact disk. However, when sharing or placing on a mobile device, music is typically converted to an mp3 format.

12.2 Populating the Publication Attributes

There are a variety of attributes that need to be populated in order to effectively send an image to a recipient. The image name is just one component of the data that describes what is being sent and what is being communicated in the XML schema across the GDSN. It is essential that all of these attributes are consistent with each other in the transaction.

The first attribute is the **referencedFileTypeCode** attribute. This field is populated from a standard code list and the most common examples are **PRODUCT_IMAGE**, **OUT_OF_PACKAGE_IMAGE**, **PRODUCT_LABEL_IMAGE**, and **PLANOGRAM**. Consistency between this attribute and the 19th character in the file name will help to provide additional levels of validation during machine-to-machine connections.

The next attribute is **uniformResourceIdentifier**. This attribute is a string of characters used to identify a name or a resource over a network. For the purpose of this document, this is the URL which should link directly to the image file. Linking directly to an image is very important when establishing machine-to-machine connections. The **uniformResourceIdentifier** URL should only point to one file.

The third attribute is **fileFormatName** in the GDSN Schema. This attribute enables the sender to identify the type of file format in which the image will be sent. For example, if the user is sending a **tiff** file, this attribute would be populated with **tiff**. Again, it is important to correctly populate this attribute with the type of file being delivered by the URL.

The next attribute is the **fileName** attribute within the XML Schema. This is where the sender must specify the image file name. The *File Name* section in Part 1 of this Guideline goes into great detail

explaining how to properly name an image to be synced across the GDSN. It is very important that the **fileName** attribute match the actual image file name available in the link exactly.

The next is an optional attribute, **contentDescription**, which provides a short textual description of what the image is. For example, for a Lifestyle Product Image, the attribute **referencedFileTypeCode** might be **PRODUCT_IMAGE**. The attribute **contentDescription** might be populated with **"Product in cup on Kitchen Counter"**.

When working with product images over the life of an item, it will become necessary to take new images. For example when there is a packaging change (which does not require a new GTIN), or a seasonal/holiday packaging call out. For some of the images, the file name might be the same as a previous image because of the current file naming conventions. To help with this, the next attribute is **fileVersion**. This attribute provides a version number or code from the brand owner to denote that there is a difference in the images even though the file name might be the same.

To help define a window of time within which the file can be utilized, there are two attributes. The first attribute is **fileEffectiveStartDateTime**. While this is an optional attribute, it is highly valuable to a recipient receiving an image. Without this attribute, it is impossible for a recipient to tell if there has been an update to a previously synchronized image. This is the start date upon which the image can begin to be utilized.

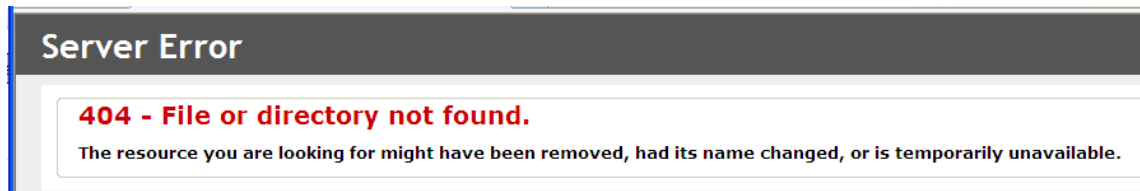
Finally, there is an optional attribute called **fileEffectiveEndDateTime**. While this only needs to be populated when the file has a sunset or "do not use after" date, it is highly valuable to a recipient receiving an image. Without this attribute, the image would be made available indefinitely.

12.3 Generating a Valid URL for the Image Link

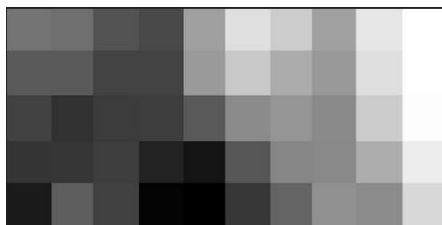
Generating a valid URL is the most critical part for enabling machine-to-machine connections without manual intervention to action the link. This is also the area with the greatest opportunity for improvement. A list of examples is provided below to show some of the more problematic links that have been observed in retail grocery.

NOTE: Please follow-up with your trading partner, GDSN-certified data pool and/or solution provider to confirm a list of error or corrections that need to be addressed.

- Dead links: page will not render



- Image files that are corrupted and cannot be opened
- Image files that can open, but are bad quality (e.g., pixelated blobs)



- Sending the same link for all products in catalog
- Image files that are .pdf, .doc, .ppt, etc., or link to a plain html page

- URLs that go to an html page that requires a login password

Username

Password

☐ Remember my username and password.

[New user registration](#) | [Forgot your password?](#)

- URLs that route through other code (redirects, etc.) that causes machine-to-machine processing to not work
- URLs that link to an image portal that is built for manual navigation, browsing and downloading

gdsn.companynamename.com - /images/

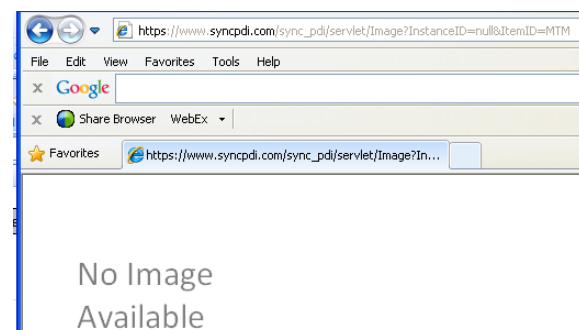
[To Parent Directory]

Monday, December 24, 2012 12:38 PM	1132101 00070919010030_A1RB_EN1235.jpg
Monday, December 24, 2012 12:38 PM	1109563 00070919010040_A1RB_EN1235.jpg
Monday, December 24, 2012 12:38 PM	1120200 00070919010090_A1RB_EN1235.jpg
etc.	

- URLs that link to a manual navigation page that has no images available



- URLs that link to a webpage that displays the image as part of the page background
- URLs that, when connected, don't pass back a valid file size (e.g., "-1" instead of actual size, which means unlimited. Bad/unsecure protocol)
- XML segment describes filename and extension, but the URL goes to a .bmp that is an image of "No Image Available"



- Downloaded filename is different than the XML fileName
- URL which renders a page with multiple image files

12.4 Publishing Image Links in a Multi-Level Product

Currently, there is some inconsistency in terms of what levels image links are attached to, as well as some repetition across levels.

Best practice guidance:

- Do not publish the same links at multiple levels. It creates extra processing and results in duplicate images being stored.
- Preference images should be provided at the specific hierarchy level of their relevance. For example, an image of an "each level" package should be published at the "each level," not at the "case level." If the appropriate level does not have an assigned GTIN, the image should be placed at the next higher level GTIN.
- Publish image links only once in a hierarchy.
- For variety packs, items where there are multiple children without an assigned GTIN, publish images at the next highest level with an assigned GTIN.

12.5 Understanding Image Lifecycle

The current GDSN XML schema provides attributes to identify the image lifecycle. It is recommended that the attribute **fileEffectiveStartDateTime** and **fileEffectiveEndDateTime** (when appropriate) be populated to enable recipients to understand when an image is valid and when an image is updated. Without these attributes, recipients can only assume that an image is valid forever. If the source removes or updates an image, the recipient will never know unless the date attributes are populated.

Scenario 1: An image (i.e., "Image1") currently exists, and it is going to be replaced with an updated image (i.e., "Image2").

- Change the **fileEffectiveEndDateTime** on the current image to reflect when it should no longer be utilized.
- Add the image new image as an additional image (with a new URL link). Populate the **fileEffectiveStartDateTime** to the start date for the new image.

Scenario 2: "Image1" currently exists. "Image2" is going to be added as an additional image, but contains the same file name.

- Load "Image2" as a separate set of image attributes. The data pool and recipients would notice the change and download "Image2" as an additional image.

Scenario 3: Removal of "Image1" without a replacement image.

- Change the **fileEffectiveEndDateTime** on the current image to reflect when it should no longer be utilized. Note that this may cause an item to fail recipient audits as it would be missing an image which might be required.



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