



The Global Language of Business

An Introduction to the Global Service Relation Number (GSRN)

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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®).

1 What is a Global Service Relation Number?

A Global Service Relation Number (GSRN) is the GS1 Identification Key used to identify the relationship between the organization offering the service and either the service provider or the service recipient. This unique identifier is comprised of a GS1 Company Prefix, a Service Reference, and a Check Digit.

2 What is a GSRN used for?

The GSRN is a simple tool used to identify a service relationship between a business and a client. GSRNs can identify business relationships between businesses or individuals. They do not identify a business or individual specifically for purposes other than the service being provided and therefore do not raise privacy concerns. In simple terms, a company or business will issue a GSRN to a customer to identify their relationship. The “customer” could be a club member, a member of a loyalty program, or a patient being admitted to a hospital. The GSRN will be the key that links the customer to a database to identify the specific detail of the service offered and the contract with the individual.

The function of a GSRN is to provide an identification point that can be used to retrieve information held in a database associated with that particular service relationship. The GSRN may be produced as a GS1-128 or GS1 DataMatrix barcode, encoded in an Electronic Product Code (EPC®)-enabled Radio Frequency Identification (RFID) tag, and printed on the document as a method of identification or for detail or information retrieval.

3 Key Attributes of the GSRN

The GSRN will identify each service relationship individually, thus assuring that relationships are always identified correctly anywhere within a business or throughout the world. An individual may have many GSRNs from different service providers. It is the organization offering the service that allocates the GSRN, therefore there is no danger of any of the individual’s other service relationships being linked. The GSRN itself has no meaning, so the service relationship can be looked up in a secure database and its associated information retrieved only by the service provider. Because GSRNs are based on the GS1 System, derived using a GS1 Company Prefix and a Service Reference, allocation of numbers is simple and uniqueness guaranteed.

If your business has service relationships with individuals and you want to be able to identify your customers accurately, GSRN is a simple tool to enable this capability. A GSRN can be assigned by a company anywhere in the world and can be used anywhere in the world.

4 Business Benefits of Using GSRNs

There are a number of benefits to using the GSRN to identify service relationships:

- The structure of the GSRN and its assignment rules are administered by GS1®, a not-for-profit standards organization, and is supported by implementation guidance, business examples, and maintenance.
- GSRN is a simple coding system used to facilitate service relationships with almost limitless capacity. It identifies the business relationship with the customer for the life of the service.
- The GSRN can be used throughout world with no need for trading partner(s) to assign proprietary numbers to ensure uniqueness.
- Already an established standard for identifying service relationships, the GSRN uses the same GS1 Standards that are used in many other business applications. If you are already using GS1 Standards to identify products or locations, it’s easy to extend your use to identify service relationships as well.

- The GSRN enables companies to scan an individual’s membership card to identify the service efficiently.
- The GSRN allows the organization offering the service, rather than a third party, to allocate GSRNs.
- The GSRN guards against mis-identification and fraud.
- The GSRN facilitates development of customer loyalty.
- GSRNs can be encoded in barcode symbols and/or EPC-enabled RFID tags and in human-readable text.


5 How is the GSRN formed?

GSRNs are composed of the following fields:

- **APPLICATION IDENTIFIER (AI):**
 - AI (8017) is used to identify the service relationship between the organization offering the service and the Service Provider.
 - AI (8018) is used to identify the service relationship between the organization offering the service and the Service Recipient. Example shown below.
- **GS1 COMPANY PREFIX:** A globally unique number issued to a GS1 member company
- **SERVICE REFERENCE:** The number allocated to identify the type of service provided
- **CHECK DIGIT:** A modulo 10 digit used to check for input errors

Figure 5-1 GSRN Structure

Application Identifier	GS1 Company Prefix								Service Reference								Check Digit	
(8018)	N ₁	N ₂	N ₃	N ₄	N ₅	N ₆	N ₇	N ₈	N ₉	N ₁₀	N ₁₁	N ₁₂	N ₁₃	N ₁₄	N ₁₅	N ₁₆	N ₁₇	N ₁₈

 **NOTE:** GSRN is an 18-digit numerical number, including the Check Digit. The combined length of the GS1 Company Prefix and Service Reference will always total 17 digits.

The following steps are used to form GSRNs:

1. **START WITH YOUR GS1 COMPANY PREFIX.** Your GS1 Company Prefix is the globally unique number issued to your company by GS1 US® or another GS1 Member Organization. GS1 Company Prefixes are assigned to companies in varying lengths. Some GS1 US members may have a prefix certificate that shows only a U.P.C. Company Prefix (formerly a UCC Company Prefix). A U.P.C. Company Prefix must be converted to a GS1 Company Prefix for use in the GSRN. This is accomplished by adding a zero to the front of the U.P.C. Company Prefix. The following table illustrates the conversion of a U.P.C. Company Prefix to a GS1 Company Prefix for use with GSRNs.

Figure 5-2 Conversion of a U.P.C. Company Prefix to a GS1 Company Prefix for GSRNs

U.P.C. Company Prefix	Converted to GS1 Company Prefix
801234	0801234
8412340	08412340
81123400	081123400

- 2. CREATE THE SERVICE REFERENCE.** The Service Reference is assigned by you, the holder of the GS1 Company Prefix, to uniquely identify a type of service within your company. The Service Reference varies in length as a function of the GS1 Company Prefix length. Note that the combined length of the GS1 Company Prefix and Service Reference Number is always 17 digits.



Hint: Assign your Service References sequentially, and do not build any intelligence into the number. The scheme that defines a particular Service Reference range as having a set meaning today will mean nothing a short time into the future when your company reorganizes, buys or merges with another firm, or another staff member takes over GIAI assignment duties.

- 3. CALCULATE THE CHECK DIGIT.** The Check Digit is a calculated one-digit number used to validate data integrity. To understand how this digit is calculated, refer to www.gs1us.org/checkdig.

6 Frequently Asked Questions About the GSRN

What is the relationship between a GSRN and a Global Trade Item Number® (GTIN®)?

There is no relationship other than the use of similar techniques to manage the uniqueness of the numbers. A GTIN will identify a trade item. The GSRN identifies a service relationship.

How is a GSRN assigned?

The exact method used to assign the GSRN is left to the discretion of the issuing organization. However, the GSRN must be unique for each individual service recipient and must remain unique for a period well beyond the lifetime of the records relevant to the service relationship. For ease of administration, GS1 and GS1 US recommend that GSRNs be allocated sequentially and not contain "classifying" elements. It is also recommended that a particular function or individual within the organization be given the task of assigning GSRNs. This same function or individual should have the responsibility of ensuring the integrity of the GSRN database/table.

How is a GSRN stored in a database/database table?

The GSRN is a stand-alone identifier. All information required by the service provider should be established in a computer file using the GSRN as the key to access the information. The type of information stored will be determined by the nature of the service relationship. Typical information would include the service recipient's full name and address, details on services rendered, etc. The GSRN should be stored in its own file/table.

Can you provide examples of how the GSRN is being used?

GSRNs can be used in businesses for which identification of recurring services is required, typically when the detail of a service that is sold or offered to a specific customer needs to be recorded in a database. The GSRN is the key to identify that particular service relation. Applications can then be developed to utilize further benefits from the use of GSRN by taking the option to encode the number in a barcode or EPC/RFID tag. The following examples identify ways in which the GSRN is used:

- **TO IDENTIFY THE RELATIONSHIP BETWEEN A STORE AND LOYALTY PROGRAM MEMBER.** In this case, the individual's membership card is scanned at point of sale or point of service.
- **TO IDENTIFY THE RELATIONSHIP BETWEEN A LIBRARY AND A MEMBER.** Here, the library records can be updated to the correct member when the GSRN on the card is scanned.
- **TO IDENTIFY THE RELATIONSHIP BETWEEN A HOSPITAL AND A PATIENT.** The GSRN is recorded on a wristband. Then, whenever the patient receives a service from the hospital, his or her records can be updated. This benefit can be extended by developing the application to ensure that the patient receives the correct treatment or drugs by use of the GSRN.

Within GS1, we use the GSRN to record specific certification test events, so there is a one-to-one relationship between a specific “test” and the company/product that was tested. We use the GSRN with our EPC certification marks, and specific tests can be looked up by knowing the GSRN.

What is the first step for public or private entities to assign GSRNs?

If the public or private entity does not have an assigned GS1 Company Prefix, contact GS1 US to obtain a membership application or visit www.gs1us.org/get-started. If a GS1 Company Prefix has already been assigned, the company can begin assigning GSRNs immediately.

What happens to the GSRN if there is a change in the service relationship?

From time to time the details related to a GSRN may change. The following situations may occur if the circumstances under which the GSRN was originally set up change:

- If a service provider ceases trading (possibly because of liquidation), any GSRNs allocated by that organization should be phased out.
- If the activity covered by the GSRN is transferred, the new service provider may continue to use existing GSRNs but should allocate future GSRNs using their GS1 Company Prefix.
- If the range of services identified by a GSRN changes, the service provider should change the details associated with the GSRN on the related computer file record. The assignment of a new GSRN is not required in this case.

A GSRN used to identify a particular service relationship that has terminated should not be reallocated for a period well beyond the lifetime of the relevant records.



Note: All GS1 identifiers use the same GS1 Company Prefix assigned to the company or organization.

7 Tools and Resources

GS1 US offers a number of easily accessible online tools and resources that can help guide you through the GS1 Standards and processes:

- [Check Digit Calculator](#): Helps you correctly calculate the check digit when forming GSRNs
- [Resource Library](#): Documents, videos, and other information to increase the value of standards for all trading partners in the value chain.
- [FAQs](#): Frequently Asked Questions about GS1 Standards, implementation, and how to get started.

For more information about GS1 US, GSRNs, and other GS1 Standards:

- **Email** info@gs1us.org
- **Call** 937.435.3870
- **Visit** www.gs1us.org



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IAPMO

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