GS1 Proposal to the SEC, CFTC, and OFR Regarding Unique Identification and Reference Data – Technical Details

8 June 2011
GS1 Solution Outline

- GS1 System in use for nearly 40 years by over 25 industries
- **Existing** legal entity identifier (the ſGLNɵ) <gln>0614141000012</gln>
  - Over 1.5 million in use today
  - Self-assignment based on GS1 Global Company Prefix
- **Existing** US registry for legal entity identifiers (the ſGS1 US GLN Registryɵ)
  - Nearly 300,000 legal entity identifiers self-registered
  - Core set of 28 reference data attributes including 10 of the 19 identified in the SIFMA-led requirements document
- **Existing** global reference data synchronization network (the ſGS1 Global Data Synchronization Networkɵ)
  - 6.8 million identifiers self-registered worldwide
  - 1000s of reference data attributes for each identifier
  - 132 countries served
  - 28 federated data pools worldwide
- Identification system extensible to instrument / contract, financial event / corporate action, and transaction identifiers
How It Works – Use Cases

These slides illustrate typical use cases for allocation and use of LEIs and their reference data, as they would work under the GS1 proposal.

Use case #1: A company wants to create new LEIs for two operating divisions.

Use cases #2 – 3: A company wants to register an LEI for use in financial transactions
  - Use case #2: core attributes only (short term solution)
  - Use case #3: extended attributes, using RDRA (long term solution)

Use case #4: A company wants to obtain reference data regarding an LEI it encountered in a financial document

Use case #5: A data provider assists in enhancing a company’s legacy data with LEIs, in the context of a regulatory request for information

Use case #6: A regulator audits the reference data associated with an LEI

Use case #7: A company spins out a new corporate entity
Identifier Self-Assignment Using GS1 Global Company Prefix (GCP)

A GS1’s Legal Entity Identifier (the ñGLNò) is a 13-digit number:

0614141 00001 2

First few digits assigned by GS1 to a company — globally unique. Company now has capacity to self-assign many LEIs

Remaining digits self-assigned by a company to create a single LEI

13th digit is a ñcheck digitò calculated from the other twelve digits (helps avoid keying errors)
Use Case #1: A company wants to create new LEIs for two operating divisions

GS1 Member Organization

1. Company needs an LEI for its XYZ division
2. Company requests a GS1 Company Prefix (GCP)
3. GS1 confirms identity and status of requesting organization including validating financial regulatory jurisdiction and certification authority
4. GS1 allocates a unique GS1 Company Prefix (6-11 digits) and records the GCP in its GCP Registry
5. Company records its GS1 Company Prefix
6. Company creates an LEI for XYZ division by adding digits to its GCP to form a 13-digit LEI
7. Company needs an LEI for its ABC division
8. Company creates an LEI for ABC division by adding digits to its GCP to form a 13-digit LEI

Company

GCP Request

GCP

The GS1 Company Prefix gives the company the capacity to issue 10,000,000 LEIs.

A 11-digit prefix gives capacity for 10 LEIs, a 10-digit prefix gives capacity for 100 LEIs, and so on. Capacity is matched to company’s needs.

Candidate LEI for XYZ: 0614141000012

Candidate LEI for ABC: 0614141000029

GCP: 0614141

The company did not need to return to GS1 to allocate the new LEI. LEIs are self-allocated once a GS1 Company Prefix is obtained faster, lower cost.

A company may obtain another GS1 Company Prefix if it exhausts the capacity of the first.

The actual LEI creation is done by the company acting on its own

This is just a candidate LEI at this stage; it must be registered prior to use in financial transactions (see Use Case #2)
Variable-Length GCP Accommodates Varying Capacity Needs

**GS1 Company Prefix Database**

- **Large Company**
  - GCP = 0614141
  - 7-digit GCP
    - 5-digit Entity # (capacity for 100,000 different LEIs)
      - 0614141 12345 2
    - LEI = 0614141123452

- **Small Company**
  - GCP = 0869999999
  - 11-digit GCP
    - 1-digit Entity # (capacity for 10 different LEIs)
      - 08699999999 1 3
    - LEI = 0869999999913

- **Tiny Company**
  - GCP = 0869999999
  - One LEI
    - Individual LEI = 0181234567894

LEI = 0614141123452
LEI = 0869999999913
LEI = 0181234567894
“Non-intelligent” Numbers

- The GS1 Global Company Prefix is a means to allocate numbers, not to encode their relationships
  - The meaning of a number is contained in its reference data
  - Two LEIs sharing common prefix are not necessarily related
  - Two related LEIs do not necessarily share common prefix

- Example: Merger
  - Company A (LEI = 0614141000012) buys Company B (LEI = 0333330000005), and operates it as a subsidiary
    - Afterward, B’s LEI is still 033333000005

- Example: Spin-out
  - Company A (LEI = 0614141000012) spins out its XYZ subsidiary (LEI = 0614141000029)
    - Afterward, XYZ’s LEI is still 0614141000029

- Conclusion: corporate relationships are understood through reference data, not by parsing the numbers
Use case #2: A company wants to register an LEI for use in financial transactions – core attributes only

1. Company creates a new candidate LEI (Use Case #1)
2. Company defines reference data for LEI
3. Company submits LEI and reference data to its preferred auditor / certifying authority
4. Auditor / authority certifies accuracy of core reference data
5. Company registers LEI and core attributes with GS1 LEI registry

- The content of reference data is set by industry standards (e.g., minimum data sets, XBRL templates). The standards take regulatory mandates into account.
- This step may be subject to local regulation

- GS1 verifies LEI’s GCP, certification
- GS1 records LEI, and core attributes

GS1 LEI Registry stores a small number of core attributes
Use case #3: A company wants to register an LEI for use in financial transactions – with extended attribute using RDRA

1. Company creates a new candidate LEI (Use Case #1)
2. Company defines reference data for LEI
3. Company submits LEI and reference data to its preferred auditor/certifying authority
4. Auditor/authority certifies accuracy of reference data
5. Company submits LEI and certified reference data to its preferred RDRA
6. RDRA confirms incoming reference data has certification
7. RDRA registers LEI and core attributes with GS1 LEI registry on behalf of Company
8. GS1 validates LEI’s GCP
9. GS1 records RDRA #1 as “home” RDRA for this LEI, plus core attributes
10. RDRA stores extended ref data, acknowledges
11. RDRA synchronizes with other RDRAs via GS1 Global Data Sync Network
12. All other RDRAs worldwide now have copy of reference data for this LEI

Company chooses which RDRA to work with; RDRAs can compete for business. In some countries, one RDRA may be government mandated.

In this case, the reference data includes core attributes, plus extended attributes.

This step may be subject to local regulation.

A company’s choice of “home” RDRA doesn’t affect ability to access reference data worldwide.

GS1 LEI Registry stores a small number of core attributes, and a pointer to the “home” RDRA, not the extended reference data.
Use case #4: A company wants to obtain reference data regarding an LEI it encountered in a financial document

1. Company sees unknown LEI in a financial document

2a. Company requests core reference data from GS1 LEI Registry

2b. Company requests extended reference data from its preferred RDRA

3a. GS1 looks up LEI in LEI Registry, responds with reference data

3b. RDRA looks up LEI in its own database, responds with reference data

4. Company now has reference data for this LEI

Core Reference Data

Extended Reference Data

5. Repeat as necessary

The reference data for the first LEI may contain other LEIs; e.g., LEIs of subsidiaries, parents, etc. These can be looked up as needed.

Some companies may subscribe to a data feed from their preferred RDRA, avoiding the need to do individual lookups.

RDRAs may compete on the basis of subscription and other data services that they offer.
Use case #5: A data provider assists in enhancing a financial institution’s legacy data with LEIs, in the context of a regulatory request for information.

1. Regulator requests info from financial institution

2. Company retrieves info from its legacy systems not yet using standard LEI

3. Company requests legacy translation from its preferred RDRA

4. RDRA translates legacy identifiers to standard LEIs

5. Company forwards LEI-enhanced info to regulator

In the short term, individual financial institutions avoid having to migrate legacy systems to standard LEIs; the short term need is met by data specialists (RDRAs). Or, financial institution can do this itself.

Over time, individual financial institution records migrate to direct use of LEIs.
Use case #6: A regulator audits the reference data associated with an LEI

1. Regulator initiates ad hoc investigation regarding a specific LEI
2. Regulator looks up LEI to find core attributes and "home" RDRA for this LEI
3. GSI LEI registry responds with pointer to "home" RDRA for this LEI and core attributes
4. Regulator examines core attributes
5. Regulator makes inquiry to "home" RDRA for this LEI to investigate extended attributes

Reference Data Registration Authority (RDRA)
GS1 System Extended to Instrument, Event, and Transaction Identifiers

GS1 Member Organization

GS1 Company Prefix Database

GS1 Member Organization Issues GS1 Company Prefix to Company

Company

Company assigns entity portion to create Legal Entity Identifier

0614141000012 Legal Entity Identifier

Company / contract market assigns instrument portion to create instrument / contract identifier

0614141123452 Financial Instrument/Contract Identifier

Company assigns event portion to create financial event identifier

06141411234520000001 Financial Event Identifier

Company assigns transaction portion to create financial transaction identifier

0614141123452000000002 Financial Transaction Identifier
Use case #7: ABC Corp spins out new XYZ Corp, with common & preferred shares

1. ABC Corp begins with:
   - GS1 Company Prefix 0614141
   - ABC Corp LEI 0614141000012
   - ABC Common Stock FII 0614141111115

2. ABC Corp creates new LEI for XYZ corp:
   LEI = 0614141000028

3. ABC Corp creates new FIIs for XYZ corp common and preferred shares:
   XYZ common FII = 0614141222224
   XYZ preferred FII = 0614141222231

4. ABC Corp creates new FEI for ABC Corp for the event associated with spin-out:
   FEI = 0614141000012000001

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LEI Database

<table>
<thead>
<tr>
<th>LEI</th>
<th>Company Name</th>
<th>Predecessor LEI</th>
<th>Other Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0614141000012</td>
<td>ABC Corp</td>
<td>[none]</td>
<td>é</td>
</tr>
<tr>
<td>0614141000028</td>
<td>XYZ Corp</td>
<td>0614141000012</td>
<td>é</td>
</tr>
</tbody>
</table>

Financial Instrument/Contract Identifier Database

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Instrument/Contract Name</th>
<th>Issuer LEI</th>
<th>Other Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0614141111115</td>
<td>ABC Corp Common</td>
<td>0614141000012</td>
<td>é</td>
</tr>
<tr>
<td>0614141222224</td>
<td>XYZ Corp Common</td>
<td>0614141000028</td>
<td>é</td>
</tr>
<tr>
<td>0614141222231</td>
<td>XYZ Corp Preferred</td>
<td>0614141000028</td>
<td>é</td>
</tr>
</tbody>
</table>

Financial Event Identifier Database

<table>
<thead>
<tr>
<th>Event Identifier</th>
<th>Issuer LEI</th>
<th>Type</th>
<th>Parent LEI</th>
<th>Spun-out LEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0614141000012000001</td>
<td>0614141000012</td>
<td>Spin-out</td>
<td>0614141000012</td>
<td>0614141000028</td>
</tr>
</tbody>
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