Paper for Consideration by S101 Project Team

S-101 Validation – a way forward

Submitted by: S100WG Chair
Executive Summary: There is a need for a data validation component of S-101, however, due to limited resources there has been very little progress.
Related Documents: S-58,S101PT1_4.1G
Related Projects: S-101

Introduction / Background
This is a major component of S-101 that has not had a whole lot of activity. This is due to the much needed update to S-58 edition 5.1.0 (now S-58 Edition 6.0.0) which will form the baseline for the S-101 Validation Checks and a lack of resources to devote to developing the S-101 validation checks.

Analysis/Discussion
This item was discussed at the S101PT1 meeting in March 2016 and a proposed way forward was scoped using the following:

1. Break out each category of check out by severity and concentrate on providing an initial baseline. So in order the checks should be looked at in the following manner:
   a. Critical errors
   b. Errors
   c. Warnings
   d. Assessment of Check 2000
   e. New checks related to S-101

2. Utilize the latest draft of S-58 as the baseline.
3. Develop an organization method. For example, switch the master file to landscape and add an extra column for disposition of the check. See the following example:
## 2.1 Checks relating to S-101 Data Structure

<table>
<thead>
<tr>
<th>Check description</th>
<th>Check message</th>
<th>Check solution</th>
<th>Conformity to:</th>
<th>Cat</th>
<th>S-101 Disposition/Comment</th>
<th>S-101 Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>For each edge which does not have a beginning or end node</td>
<td>VE edge missing beginning or end node.</td>
<td>Add nodes as required.</td>
<td>4.8.1</td>
<td>C</td>
<td>Keep</td>
<td>Same wording as S-58</td>
</tr>
<tr>
<td>For each record where the record identifier NAME (concatenation of the RCNM &amp; RCID subfields) is not unique within the file</td>
<td>Record identifier NAME is not unique.</td>
<td>Amend Record identifier NAME to be unique.</td>
<td>Part 3 (2.2)</td>
<td>C</td>
<td>Weirdly there is no reference to creating a NAME within S-101. Need to track down how this is done and create a new check</td>
<td></td>
</tr>
<tr>
<td>For each RCNM where the value is not in table 2.2 S-101</td>
<td>Invalid value of RCNM</td>
<td>Amend RCNM value</td>
<td>Part 3 (2.2.1)</td>
<td>C</td>
<td>This table no longer exists in S-100 – Delete Check</td>
<td></td>
</tr>
<tr>
<td>For each RCID which is Less than 1 OR Greater than 2^{32} (4294967294).</td>
<td>RCID is out of range.</td>
<td>Amend RCID value</td>
<td>S-100 Part 10a-3.4</td>
<td>C</td>
<td>Keep</td>
<td>Same wording as S-58</td>
</tr>
</tbody>
</table>
However, because there was no resource available to do the work, there has been no progress on S-101 validation. In general, the lack of resources to perform some of the fundamental work has slowed the progress of S-101.

**Recommendations**
In order to progress the work there are potential two paths forward:

1. Establish a sub project team to work on the S-101 validation checks and deliver a draft at the next S-101 Project Team meeting.
2. Establish a Statement of Work and ask a member state to contract out the development of the S-101 validation checks to an interested party – as many times, there may be more funding resources than people resources.

**Action Required of S101PT**
The S101PT is invited to:
   a. discuss the recommendations provided in this paper:
   b. agree to establishing a sub project team
   c. investigate funding possibilities within their organizations to move this work forward