GS1 GDSN CERTIFICATION CRITERIA DOCUMENT
GS1 Data Excellence *Board of Directors Certification Committee*
Version 2.3

PURPOSE: "To protect the integrity of the GS1 GDSN through comprehensive interoperability testing and Data Pool Certification"

GDSN is an open and voluntary industry initiative. Each Data Pool's decision to adopt and be part of the initiative is completely voluntary as is any Data Pool's decision to continue or terminate its participation at any time. GS1 Data Excellence, Inc. has no direct control over any Data Pool's actions or decisions. Any agreement, expressed or implied, or any coercion, direct or indirect, indicating any obligation to adhere to the standards of GS1 is not permitted.

Definition of Certification:

GS1 GDSN CERTIFIED Data Pool – Each software release and each implementation of a software release for the data pool in question must complete / comply with the below performance criteria in order to receive and retain the GS1 GDSN Certification Seal. This includes Duplicate Data Pool instances. This document is intended to support and supplement the Global Registry Access and License Agreement, Acceptable Use Policy and the GDSN Roadmap. The performance criteria include:

- **Technical Performance:** The data pool must pass the GS1 GDSN Interoperability Tests for mandatory functionality as contained in the GDSN Certification Event process for a given certification event. Where a data pool offers optional functionality, the optional functionality must also pass the GS1 GDSN Interoperability Tests as contained in the GDSN Certification Event process. This testing is currently administered by the Drummond Group. Each certified data pool must maintain production-level connections to all other certified data pools, post certification. This will help ensure a fully interoperable GDSN landscape to meet business needs of retailers and manufacturers globally.

GDSN DPs are required to use the most recent version of AS2 products or one version prior. Without these minimum measures in place, interoperability between data pools will weaken over time.

Notes/Definitions: GDSN Compliant Connections: A connection is GDSN compliant when it includes subscriptions and publications through the GS1 Global Registry®. Those connections may be within one data pool or across more than one.

Global Registry Production Connection: A Production Connection to the GS1 Global Registry is the use of a standard Catalogue Item Synchronization BMS message to successful register either a Registry Catalogue Item (RCI) or Catalogue Item Subscription. The registration of an RCI is considered a prerequisite to communicating information through the GDSN. A Catalogue Item Subscription would also be a necessary prerequisite to receiving information through the GDSN.

GDSN Activity: Activity in the GDSN is the communication of standard Catalogue Item Synchronization BMS message to communicate either Registry Catalogue Item (RCI) information or a Catalogue Item Subscription (CIS). On the Source side, the

communication of registry catalogue item information involves sending a Registry Catalogue Item message from a data pool to the Global Registry. The RCI is acknowledged by the Global Registry by a Message Delivery Notification (MDN). Then, upon successful registration, the Global Registry sends a Catalogue Item Registration Response (CIRR) message back to the originating data pool. On the Recipient side, the communication of Catalogue Item Subscription information involves sending a Catalogue Item Subscription (CIS) message from a data pool to the Global Registry. The Catalogue Item Subscription is acknowledged by the Global Registry by a Message Delivery Notification (MDN). In either case, the Global Registry response communication completes the registration process.

GDSN Production Connection: A Production Connection in the GDSN is the communication of standard Catalogue Item Synchronization BMS message to communicate either a Catalogue Item Notification (Source) or a Catalogue Item Confirmation (Recipient). The communication of catalogue item information involves sending a Catalogue Item Notification message from one data pool to another. The CIN is acknowledged by a receiving data pool by a Message Delivery Notification (MDN). Then, upon successful processing, the data pool sends a Response message back to the originating data pool.

The communication of a Catalogue Item Confirmation involves sending a Catalogue Item Confirmation message from one data pool to another. The Catalogue Item Confirmation is acknowledged by a receiving data pool by a Message Delivery Notification (MDN). Then, upon successful processing, the data pool sends a Response message back to the originating data pool. This communication of information (which does not pass through the GS1 Global Registry) would complete the connection.

- **Operational Performance:** The data pool must show Demonstrated Capability through active use of the network. Demonstrated Capability will be defined as, and measured by, the "the number of trading partner relationships which the data pool enables through the exchange of information in the network". A minimum threshold of *50 trading partner relationships* is set for the metric. (Example – If a source data pool has 2 suppliers that have registered their GLNs and GTINs at the GS1 Global Registry and each of those suppliers have 5 retailers that have subscribed to those GTINs, then that source data pool would be supporting 10 trading partner relationships). If a data pool is serving as both source and recipient and the sync is taking place through the Global Registry, then this requirement is met for that single data pool. If a data pool total customer base is not large enough to achieve the operational performance threshold (e.g. 30 suppliers or retailers), then the data pool will not be held accountable to this measure until their customer base reaches this capacity.

  Note: Operational performance measurement will be measured from the DP GDSN production live launch date. Trading partner relationships will be evaluated on a quarterly basis. Existing DPs will have 2 quarters from the GDSN production live launch date, in which to comply. This measure will be part of the criteria for entry into the next and subsequent certification events (mandatory and optional).

- **Implementation Performance:** The data pool must demonstrate commitment to driving community adoption of the GDSN. Demonstrated Commitment is defined as, and measured by, "the ratio of the number of trading partners *contracted* with a Certified Data Pool versus the number of those *contracted* trading partners that are *subscribing to*, or *registering items in*, the GS1 Global Registry via that data pool." A minimum threshold for this ratio is *25 percent*. (Example – if a data pool has 1,000 trading partners contracted for data pool services, 250 of them need to be subscribing to, or registering items in the GR.

Note: Implementation performance measurement will be measured in conjunction with certification events, and may be evaluated on a quarterly basis. DPs will have 2 quarters from their GDSN production live launch date, in which to comply. This measure will be part of the criteria for entry into the next and subsequent certification events.

Note: Data Pools who have met all compliance criteria with exception of Operational and Implementation criteria due to market conditions may provide written documentation for review / acceptance by the Certification Committee. Documentation must convey the market conditions and the Data Pools specific plans to address demonstrating their commitment.

- **Data Pool Service Level Compliance:** The data pool must demonstrate cooperation within the GDSN from the perspective of notifying other data pools of DP software upgrades; responding to issues/trouble tickets in a timely manner; and transfer of trading partners from one DP to the next. **See DP to DP Service Level and Escalation Document in Attachment A for details.**

  The data pool must adhere to the implementation of standards which includes the population of data as defined by the standard to ensure consistent quality data in the network.

  The data pool must further demonstrate cooperation within the GDSN from the perspective of network deployments by participating in all deployment status calls. Data Pools not participating will be brought before the Certification Committee for review and action after 3 consecutive absences.

- **Security Performance:** The data pool must pass a security review performed by an independent third party security audit firm. The audit may be performed by a local audit company selected by the data pool. Certification must be scalable so that it considers security and auditing of sensitive relationship dependent data. Once that review is completed and the data pool has passed, documentation must be shared with GS1 Data Excellence. Data Pools must demonstrate meeting minimum security requirements as defined in the GDSN Audit Requirements Document by successfully completing an independent third party audit at a minimum of every 24 months. Security Guideline and Recommended Audit Requirement documents can be accessed at the following link

  http://www.gs1.org/productssolutions/gdsn/technical/index.html

Notice of De-Certification:
Any GS1 Data Excellence GDSN certified data pool found not to be in compliance with the GDSN Roadmap (http://www.gs1.org/productssolutions/gdsn/implementation/index.html#roadmaps) and the Certified Data Pool Services: Guideline for Standard and Non-Standard Value-Added Commerce Services policies and procedures will receive a notice of de-certification and will be entered into the de-certification process. (See section below on De-Certification Process)

Special Notes:
Effective with the 2006 Certification Event, any data pool that does not receive certification due to non-compliance with the above certification criteria (e.g. Technical, Implementation, and Operational) will be charged by GS1 Data Excellence, Inc. for the costs of the certification test. GS1 Data Excellence, Inc. and the subscriber community should not bear the cost of non-compliance. Data pools that successfully complete certification, but do not meet completely their annual data pool financial obligations will also be charged by GS1 Data Excellence, Inc.. for the costs of the certification test.

In response to a number of retailer and supplier requests, the following best practices are being included in this document. Please refer to the GDSN Certified DP Services: Guideline for Standard and Non-Standard Value Added Commerce Services to which all DPs are held accountable. It is strongly encouraged that Data Pools provide full transparency to the trading partner community on matters of standard GDSN-services and non-standard value-added commerce services offered by Data Pools. Transparency will not be held as criteria for maintaining certification status, but compliance with the guideline is. Users are encouraged to raise any such concerns to the GS1 Data Excellence Board.

   a. Clear definition and transparency of GDSN services offered should be provided by any GDSN-certified data pool.
   b. Data pools should publish delineation of GDSN services and non-GDSN services. The non-GDSN services are proprietary value-added services that can be purchased at the sole discretion of the trading partner for his own usage, and not imposed by any party as part of the GDSN vision or required to support the local operating model.

Timeline for Implementation:
Effective date for the criteria began with the 2006 certification event. GS1 Data Excellence, Inc.in conjunction with Operations and Technology Group and the Certification Committee is working with Data Pools to prepare for adoption and enforcement of these criteria.   The Certification Committee will propose a system of non-compliance warnings, termination steps and a reinstatement process.

In summary, to receive and retain the GS1 GDSN Certification seal, a data pool must comply with the following criteria areas summarized in this document:
   o Technical Performance Criteria
   o Operational Performance Criteria
   o Implementation Performance Criteria
   o Service Level Performance Criteria
   o Security Performance Criteria
   o Current in payment of all annual and certification fees
   o Continuing to uphold the vision and philosophy of GDSN and GS1 System Standards.

GS1 GDSN Certification Going Forward:
It will be the intent of the GS1 Data Excellence, Inc. Board of Directors to "raise the bar" on the definition of certification over time as technical capabilities improve and additional quantitative data is available upon which to base requirements. That being said, "Certified Once" does not mean "Certified Always**".**

GS1 GDSN De-Certification Process
GS1 Data Excellence Board Certification Committee

MISSION: "To protect the integrity of the GDSN through comprehensive interoperability testing and Data Pool Certification"

As the GDSN has become more mature and the guidelines by which Certified Data Pools must abide by for participation in the Network have become clearly defined, it has become apparent that we must invoke a process by which a Certified Data Pool could lose its GS1 GDSN Certification.

As defined above, a Certified Data Pool could lose its Certification by not meeting the Operational and Implementation goals described in the Certification Criteria.

As further Certification Criteria becomes defined around Service Level and Security, a Certified Data Pool could lose its Certification by failing to meet those minimum levels of Service and Security.
In addition, a Certified Data Pool could lose its Certification by operating in a manner that is outside the guidelines as set forth in the GS1 GDSN Roadmap. The De-Certification process defined below lays out the steps and timeframes for reporting, investigating, remedying, and ultimately de-certifying a GS1 GDSN Certified Data Pool.

Formal Complaint:
For any Data Pool that is operating outside of the guidelines of the GS1 GDSN Roadmap, it is required that a Formal Complaint be filed with the President and CEO of GS1 Data Excellence, Inc. . and the Chairman of the GS1 Data Excellence Board Certification Committee. The Formal Complaint must be submitted by either an End User of the Network or another Certified Data Pool within the Network. The Formal Complaint must clearly and factually describe how the offending Data Pool is operating outside of defined guidelines and describe how this behavior is negatively impacting the integrity of the GDSN.

Investigation Process:
Once the Formal Complaint has been received, GS1 Data Excellence, Inc.will notify the offending Data Pool of the complaint and initiate an investigation into the validity of the complaint. The investigation will determine whether proceeding to the next step of the process is necessary. If there is NO VALIDITY to the complaint, GS1 Data Excellence, Inc. will respond in writing to the issuer of the complaint and explain why the complaint is not valid. This will include 15 days in which to submit a plan for remediation and 60 days to correct.

Notification / Remediation Process:
If there is VALIDITY to the complaint, GS1 Data Excellence, Inc.. will notify the offending Data Pool of the outcome of the investigation and allow the offending Data Pool two weeks to produce a Plan for Remediation. The remediation plan will be reviewed and used to set the expectation for delivery of the resolution, including periodic updates to the Certification Committee. Part of the Remediation Plan must include a section on End-User Notification and Communication. If at the end of the prescribed time the issue is still open, the offending Data Pool will be De-Certified.

De-Certification Penalty:
The De-certified Data Pool will be charged by GS1 Data Excellence, Inc. for the costs of the most recent certification test GS1 Data Excellence, Inc. and the GDSN community should not bear the burden of non-compliance. The De-certified Data Pool must remain in this status until the next annual certification event or an arranged certification event with the KATO test data pool. Notification of the de-certification of the data pool to the GDSN community at large will be done through the GDSN website.

- all GDSN certification standards are to be "***generally made available to Company at least 120 days prior to its effective date***, or such earlier time as established by the GS1 Data Excellence Board of Directors "

- You also need to be mindful that "if GS1 Data Excellence, Inc. reasonably believes that Company is no longer certified, or if Company's certification has lapsed, according to the certification process and requirements administered by the Certification Authority, **GS1 Data Excellence, Inc. shall promptly notify Company**, and Company shall thereupon undertake re-certification (in whole or in part as determined in the reasonable judgment of GS1 Data Excellence, Inc.) to comply with this Agreement. In the event GS1 [Data Excellence, Inc.] reasonably determines that Company's certification status has lapsed, or that it requires "gap" certification or if GS1 Data Excellence, Inc. intends to suspend Company's certification status; ***GS1 Data Excellence, Inc. shall grant Company a period no less than sixty (60) days*** at the time of notice to take corrective actions or agree to a workaround with GS1Data Excellence, Inc. Company may file an appeal with the GS1 Data Excellence Board of Directors for an extension of time to complete corrective action. Said extension may be granted in the Board's discretion upon a showing by Company that corrective action cannot be performed within the requisite time period due to extenuating circumstances.

- Notwithstanding the above, if GS1 Data Excellence, Inc. determines that Company's failure to be certified at any time would be reasonably likely to affect the integrity of the GDSN or of Trading Partner Data and Company's action is considered a **Level 1 Critical Fault** as defined in the Service Level Agreement attached hereto as Exhibit B, GS1 Data Excellence, Inc. shall be entitled to suspend Company's access to the Global Registry without notice until such issue has been deemed resolved."

Attachment A to GS1 GDSN Certification Criteria Document

GDSN Service Level Compliance
Proposed by Certified Data Pools

When a GDSN Certified Data Pool is notified of an issue that requires follow-up by another GDSN member (e.g. Data Pool or GS1 Global Registry), the Data Pool will contact the organization that is engaged during point of failure. In certain scenarios, it may be difficult to identify the point of failure as multiple entities may be involved (e.g. GS1 GR and another Data Pool). If this is the case, the Data Pool should follow-up with the GS1 GR first until it is determined the issue is not with the GS1 GR. The following steps will be followed to address the issue:

1. Requesting party (i.e., the party experiencing the issue) to place a call and email to the customer support team of the receiving party (i.e., the recipient of the support request). The required contact information should be maintained in a central location that is easily accessible to all GDSN data pools and the GS1 GR.

2. Receiving party's customer support team to follow-up with a response. A response is defined as 1) notification of a ticket number for tracking purposes and 2) acknowledgement that the issue is being researched and status if available. Escalation timing begins once the requesting party receives the notification of a ticket number.

3. The following escalation process will be used only for Critical and Major faults (Severity 1 and Severity 2 issues) in the Production environment. A Critical Fault is defined as a service interruption for any Data Pool on GDSN. Message synchronization not accessible with no apparent work-around. A Major Fault is defined as a system fault for a Data Pool on GDSN with a defined workaround (i.e. degraded system or functional performance). There will be a single escalation point of contact for each data pool, and the escalation process will require that the follow-up be between the corresponding escalation points.

  a. If no response is received within 8 business hours, the requesting party will initiate a follow-up email or call into the customer support team of the receiving party.

  b. If no response is received within 16 business hours, the escalation process will involve the appropriate technical support manager from the requesting party contacting his/her counterpart at the receiving party. Escalation contacts will be maintained in a central location that is easily accessible to all GDSN data pools and the GS1 GR.

  c. If still no response after 24 business hours, escalation will involve the appropriate senior manager from the requesting party contacting his/her counterpart at the receiving party.

  d. The final escalation point will be Susie McIntosh-Hinson / Malcolm Bowden at GS1 Data Excellence Inc. Review and final decision will be made by GS1 Data Excellence, Inc..

Per the GS1 Global Registry Access and License Agreement and the Acceptable Use Policy, the GS1 GR and certified data pools reserve the right to request information of each other that is pertinent to the resolution of issues. Such information includes communications configurations such as retry sequences, timeouts, and general message choreography. It also includes actual data transmitted (e.g., MDNs, subscriptions, CINs, CICs, synch list reports). All GDSN Data Pools

are expected to provide this information in a timely manner to facilitate the troubleshooting of issues.

GDSN members should provide the requested information within 8 business hours of acknowledgement and response to the original request, after which the escalation process defined above, will be followed. Per the GS1 Global Registry Access and License Agreement and Acceptable Use Policy, Data Pools must provide around the clock (24X7) technical contact services. It is the Data Pool's responsibility to provide regular updates to their direct connect customers that are impacted by the issue at hand. Each data pool will determine the frequency of updates that are provided to their customers.

Production Level Connection Establishment:

A certified data pool must guarantee a maximum time of 10 business days to provide a production level connection and functionality to another DP which requests connectivity. A required production level connection consists only of in-network message sets with only in-network code lists and no optional extensions. The time limit starts after the AS2 set-up information (e.g. AS2 identifier, digital certificate, GLN, and URL) has been provided. This information must be included in the official request for connectivity. The clock stops at the point that the SDP gets either an EANUCCResponse or a GDSNException back from the RDP. More time will be allowed if AS2 connectivity issues occur.

Additionally, if connectivity testing will include trading partner data, the following must be complete before the clock starts:
  - Information Provider GLN has to be registered in the GR
  - Information provider GLN has to register GTINs for the specific Target Market in the GR
  - Data recipient has to submit a CIS to the GR