

## **CPFR® Interoperability Test**

GSRN:  [\(8018\) 08622830000000139](https://www.gsrs.com/086228300000000139)

## **Final Report**

CPFR®-4Q03 Interoperability

**February 2, 2004**

Sponsored by:

**Uniform Code Council, Inc. (UCC)**

[www.uc-council.org](http://www.uc-council.org)

Prepared & Facilitated By:

**DRUMMOND GROUP INC.**

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## **Cover Letter**

Drummond Group Inc. is pleased to announce that the following participants in the Collaborative Planning, Forecasting, and Replenishment (CPFR®) Interoperability & Conformance Validation Test 4Q03 (CPFR®-4Q03) have completed all requirements and passed tests (see Final Test Results) between each product, demonstrating interoperability and conformance to a subset of the EAN.UCC CPFR® version 1.3 specification (namely, Sales Forecasts, Sales Forecast Revisions, Product Activity and Retail Event Messages).

To fully understand what completing the test means in the use of the products in production, please read this document carefully.

Sincerely,

Rik Drummond  
CEO, Drummond Group Inc.

## **Disclaimer**

Drummond Group Inc. (DGI) conducts interoperability and conformance testing in a neutral test environment for various companies and organizations ("Participant"). At the end of the testing process, DGI may list the name of the Participant in the final test report along with an indication that the Participant passed the test. The fact that the name of the Participant appears in the final report is not an endorsement of the Participant or its products or services, and DGI therefore makes no warranties, either express or implied, regarding any facet of the business conducted by the Participant.

## Test Participants

The two participants, along with the products tested during this test round, are indicated below. These CPFR® products utilized an AS2 messaging product for data exchange during this test round. Please contact each participant directly to find out the version and name of the AS2 messaging product used, and the interoperability parameters specific to them to make these two products interoperable.

 <p><b>SAP AG</b></p> <p><a href="http://www.sap.com/">http://www.sap.com/</a>  <b>Product Name: SAP SCM Release 4.1</b></p>	 <p><b>Syncra Systems, Inc.</b></p> <p><a href="http://www.syncra.com/">http://www.syncra.com/</a>  <b>Product Name: Syncra Collaboration Suite v6.0</b></p>
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For the rest of this document the following names will be used for the products that were tested. During the testing process, DGI assigned these generic product names solely to ease communication and identification of the participants.

SAP	SAP SCM Release 4.1
Syncra	Syncra Collaboration Suite v6.0

## **Test History**

This is the second CPFR® Interoperability Test administered by DGI.

CPFR®-4Q03 Interoperability Test Oct 2003 - Jan 2004  
GSRN: (8018) 086228300000000139

Previous Tests included the following:

CPFR® 2Q02 Interoperability Test Feb 2002 - Aug 2002  
GSRN # (8018) 862283000000000050

## Interoperability Test Summary

The purpose of the Interoperability Test is to provide a venue for vendors to test and correct their software systems in a non-competitive environment. To accomplish this, the systems are put through a series of three Test-Steps, each containing Test-Groups. The Test-Groups are designed to discover and correct weaknesses with vendor systems and to build upon previous tests. The Test Groups begin by testing basic communications. While this is not strictly CPFR®, it is both necessary as a prelude to supply chain adoption and for data exchange requirements. Following communications verification, participants begin to exchange XML messages based upon data supplied by the Drummond Group.

In each new round of testing, more sophisticated tests are added allowing the community of vendors who support CPFR® to validate an increasing breadth of features with the assurance that these features can be implemented by end users in the field, intending to accelerate the adoption and high quality deployments of the standard.

The EAN.UCC XML Business Message Standards and Schemas v1.3 contain many XML message definitions including those required for implementing CPFR®. Only a subset of these messages was tested in this test round. Future rounds will add other messages.

CPFR® Messages tested in this test round are indicated below:

- **Forecast**
- **Forecast Revision**
- **Product Activity**
- **Retail Event**

CPFR® Messages not tested in this test round are:

- **Bulk Data for Forecast**
- **Bulk Data for Product Activity**
- **Event**
- **Exception Criteria**
- **Exception Notification**
- **Item and Party**
- **Performance History**
- **Others**

The specifications and schemas can be found at the UCC Solution Center <https://solutionscenter.uc-council.org/index.cfm>

The EAN.UCC Business Message Standards & Schemas V1.3 press release indicated that "...updates to existing Messages as well as the inclusion of messages to enable Item Synchronization as well as Promotional Planning. With the enhanced definition of the Foundational Messages, a Harmonization effort was made to update the existing message set to create a fully interoperable suite of Standards".

Due to this harmonization effort to the Schemas, a retest of the CPFR®-2Q02 Messages was required. This meant that both SAP and Syncra had to update their software solutions to support the modifications to the schemas for Sales Forecast, Sales Forecast Revisions and Product Activity and retest.

The Retail Event Message was introduced in this release of the schemas making this test round the first interoperability test which demonstrated Retail Event data exchange utilizing this new XML message.

The CPFR®-2Q02 round of testing indicated that error scenarios could not be tested because the EAN.UCC XML Business Message Standards and Schemas did not have support for error return messages. The V 1.3 schemas tested in this test round do not contain error return messages. Therefore, error scenarios could not be tested in this test round either because support for error handling is still in development by EAN.UCC.

## **Introduction to Testing for Interoperability**

Interoperability of B2B products for the Internet is essential for the long-term acceptance and growth of electronic commerce. To foster interoperability, Drummond Group Inc. (DGI) facilitates interoperability and conformance tests.

### ***Purpose of DGI Interoperability Test Rounds***

The DGI Interoperability Test Rounds verify conformance to a standard and then verify that members of the Product Test Group are interoperable among themselves. Interoperability is an all or nothing proposition among the Product Test Group over the Test Criteria. A product is either interoperable with all other products in the Test Group or not. Products-with-version which demonstrate complete interoperability among the passing members of the Product Test Group are given a Seal from the eBusinessReady™ program and listed on the [www.eBusinessReady.org](http://www.eBusinessReady.org) website. The seal contains a specific GSRN number that ties each of those products together. Those products that receive that same GSRN number are interoperable forever. However, interoperability Test Rounds must be periodically repeated to verify that as product names, versions or releases change, the product remains interoperable.

### ***The DGI Interoperability Test Process***

A DGI Test-Round progresses through a process designed to help participants discover and fix interoperability issues, then verify interoperability between each and every product, resulting in a group of products-with-version that are mutually interoperable over a well-defined suite of tests.

The Test Round has three related phases:

- **Debug Phase.** During this phase participants configure their systems and execute a large suite of tests between themselves and each and every other participant. The test suite is structured so that the early tests are simple transfers of small data files. This allows the participants to fix problems related to pure connectivity through firewalls and core message packaging requirements. Testing continues to build on the success of these early tests, progressing from testing connectivity to testing the Business Standard in question. Participants are allowed to make both code and configuration changes.
- **DryRun Phase.** This phase is entered when the vast majority of Debug Phase testing has proven successful. A representative subset of the most complex tests is chosen to form a smaller suite of tests. This test suite is executed by each participant against each other participant in order, during a limited timeframe. Code changes to products-with-version are discouraged, configuration changes are allowed if necessary for individual

implementations. This phase may be repeated. If a repeated DryRun is successful, with no code changes required and all tests executed successfully, the DryRun may be considered a Final Test.

- FinalRun Phase. A FinalRun is a formal repetition of DryRun that re-confirms the interoperability of the products-with-version over the DryRun/FinalRun Test Suite.

All results from the Final Test are formally reported and are used as the basis for issuance of the eBusinessReady™ seals. Interoperability issues encountered during the tests that are determined to be interesting and useful to the CPFR® community at large are described in this report under sections entitled Frequently Found Problems, Interoperability Issues Found and Fixed and Consensus Items.

## Final Run

### Test Summary

The following tests were identified as representative of the overall test suite and are composed of the most complex features. These tests comprise the CPFR® Dry Run/Final Run Test Suite and were executed as the Final Test. DGI provided the Test Data, which included Item information, Location Information, and all transactional data (Sales, Product Activity and Retail Event Messages). A total of 10 items (products) were used and the table below indicates which of the 10 items were used for each test case.

Test	Description	Items	Identifiers Used	
1	Base Sales Forecast Message	1-6	GTIN and GLN	Required
2	Base Sales Forecast Message	7-10	DUNS and Supplier No.	Required
3	Product Activity POS Message	1-6	GTIN and GLN	Required
4	Product Activity POS Message	7-10	DUNS and Supplier No.	Required
5	Forecast Revisions Message	1-6	GTIN and GLN	Required
6	Forecast Revisions Message	7-10	DUNS and Supplier No.	Required
7	Retail Event Message	1-6	GTIN and GLN	Required

### Test Results

Interoperability is determined by each product-with-version successfully sending and receiving each test case with the others. A test case is successful when the expected result is achieved according to the message specifications.

Between the days of Jan 9, 2004 and Jan. 12, 2004, all products-with-version listed on this test report successfully sent and received each test case. Results of the test cases were reported by the participants themselves and demonstrated by supplying the messages transmitted.

It should also be noted that no warranty of product interoperability is implied over and above the publishing of the results of the Test Round as completed by all vendors during the specified time period of testing.

## Test Requirements

In order to complete the test, each participant was required to meet the communications and XML technical requirements as described below. Both SAP and Syncra executed the Test Cases as described in this document and met both of these requirements.

### Trading Partner Communication Requirements

All participants were required to establish trading partner connectivity with each other. Each participant provided digital certificates (including SSL server certificates) to the other participants for storage in their trusted store.

Each certificate conformed to the X.509 standards but varied with respect to the fields used in the certificates. Participants were responsible for distributing their network information and configuring their firewalls to allow all participants access to their product-with-version.

### CPFR® XML Technical Requirements

Each participant successfully sent and received each required tests case with each and every other participant. These test cases, which can be found in the Appendix, cover the core requirements of the CPFR® XML Message that are widely implemented and or desired by end users for CPFR® interoperability. The effect is that both products-with-version are proven interoperable over the set of CPFR® messages tested and demonstrates that the products-with-version adhere to the technical requirements of eBusiness Standard and Schemas for these messages. For additional technical information regarding CPFR® requirements please see the eBusiness Standard and Schemas version 1.3 located at the UCC Solution Center <https://solutionscenter.uc-council.org/index.cfm>. You must be a member to have access to the schemas and documentation.

Each participant “played” the role of both Buyer and Seller. Therefore each test case was executed twice, once as a Buyer sending XML Messages, and once as a Seller receiving XML Messages.

All messages were sent over AS2 from the Buyer to the Seller and were signed and encrypted. In addition, a signed return receipt was requested. Depending on the Test Case, the item and location identifications were either GTINs/GLNs or DUNS/Supplier SKUs. The data used was preconfigured by the participants

The Seller validated the incoming XML Message and ensured that all of the data was correctly processed within their system and that the data had not changed. Furthermore, the seller confirmed that the received data matched the anticipated data from the test data set. No error conditions were introduced.

### **Sales Forecast Message**

The Buyer participant generated a Base Sales Forecast conforming to the EAN.UCC Business Schemas. The start of the week and end of the week (e.g., Sunday – Sunday) was agreed upon by the participants and was not varied during the course of the test round. In addition, the length of the time-series remained the same for all Test Cases, namely 13-week forecasts. The process was repeated for Promotional Sales Forecasts.

### **Product Activity Message**

The Buyer participant generated three types of Product Activity Message: Point of Sales (POS), Receipts, and On-Hand quantities, each for a 30-week period. The Product Activity XML Message included various configurations in regards to the number of items being reported.

### **Sales Forecast Revision Message**

The Buyer participant generated a Sales Forecast Revision which conveyed status change for one time period of a previously sent Sales Forecasts corresponding to one item. The Revision message included various configurations of number of items being reported.

### **Retail Event Message**

The Buyer participant generated a promotional Retail Event Message which included a description of the Retail Event, Start and End Dates, Event Status, and Promotional Price among other items. Tactic Types were not part of the test. Several items were included in the Retail Event Message.

## **Interoperability Issues During the Test**

Aside from the lack of an Error Notification Message as discussed earlier there were few Interoperability issues. In one case, an AS2 system had a disk crash which had to be repaired but this should not be considered an Interoperability issue.

One issue that was discussed during was the testing of Retail Event Message for revisions. The ability to send a revised promotional Retail Event cannot be readily indicated in the message because the Retail Event Status code does not include a "Revised" status code. Without a code specifically indicating a revision, a trading partner would be required to process any subsequent Retail Event Messages and detect modifications from previously received data.

Another alternative would be to devise a "Retail Event Revision Message" which would include only the Revisions to the Retail Event, with a revision date and time. This would be consistent with the Sales Forecast Revision Message.

## Appendix A Debug Phase CPFR® Test Suite

The Table below summarizes the entire CPFR® Test Suite which was executed by all participants during the Debug phase

<b>GROUP 1 TEST CASES</b>		
Test A	Exchange Certificate	
Test B	Basic Message Exchange	Simple XML Message
Test C	Basic Message w/ Certificate	Simple XML Message
Test D	Basic Message w/ Signed Receipt	Simple XML Message
<b>GROUP 2 TEST CASES</b>		
Test E	XML Schema Validation	
<b>GROUP 3 TEST CASES</b>		
Test F	Base Sales Forecast	GTIN, GLNs
Test G	Base Sales Forecast	GTIN's, GLNs (not same items as F)
Test H	Base Sales Forecast	DUNS, Retail SKU's
Test I	Promotional Sales Forecast	Repeat F,G,H w/ Promotional
Test J	Product Activity: POS, Receipts, On-hand	GTIN, GLNs
Test K	Product Activity: POS, Receipts, On-hand	DUNS, Retail SKU's
Test L	Forecast Revision: New Status only	GTIN, GLN's
Test M	Forecast Revision: New Status only	DUNS+4, Retail SKU's
Test N	Retail Event	GTIN, GLN's

## **About Drummond Group Inc.**

Drummond Group Inc. (DGI) is an independent, privately held company that works with software vendors, vertical industries and the standards community to drive adoption for standards by conducting interoperability and conformance testing, publishing related strategic research and developing vertical industry strategies. Founded in 1999, DGI represents best-of-breed in the industry on linking horizontal infrastructure technologies, standards and interoperability issues with the needs of vertical industries such as retail, grocery, health care, transportation, government and automotive. For more information, please visit [www.drummondgroup.com](http://www.drummondgroup.com) or email: [info@drummondgroup.com](mailto:info@drummondgroup.com).