

MultiSpeak Version 3.0 Interoperability Assertion

Statement of Interoperable Functionality Between:

| Vendor(s) | Product | Product Version | Role | Batch Interface | Web Client Interfaces | Web Server Interfaces |
|---------------------------|--------------------|-----------------|------|-----------------|-----------------------|-----------------------|
| Cannon Technologies Inc. | Yukon | 3.1.17 | OD | | | OD→OA |
| Milsoft Utility Solutions | DisSPatch | 7.1 | OA | | OD→OA | |
| Milsoft Utility Solutions | Milsoft Web Server | 7.1 | OA | | | OA→OD |
| Cannon Technologies Inc. | Yukon | 3.1.17 | OD | | OA→OD | |
| Milsoft Utility Solutions | DisSPatch | 7.1 | EA | | MR→EA | |
| Cannon Technologies Inc. | Yukon | 3.1.17 | MR | | | MR→EA |

Summary:

Milsoft's DisSPatch Outage Management System is capable of requesting the outage status for one or more AMR meters on Cannon's Yukon platform using MultiSpeak web services. Yukon is capable of notifying Milsoft of the current communication status of the meter(s). Milsoft can use this interface to "ping" Cannon AMR endpoints to determine their current communication status. Milsoft may also request the latest meter readings from Yukon.

Prerequisites:

For this interface to be useful, the Milsoft system must have knowledge of all Cannon AMR meters. Each meter number in the Milsoft model for which meter outage status is desired must correspond to a meter number in the Yukon software. Furthermore, Cannon's Yukon platform must be accessible from the machine on which Milsoft is running and vice versa.

Specific Vendor Assertions:

1) DisSPatch can request all AMR supported meters from Yukon

Importance to user: The user can determine which consumers in the DisSPatch model have Cannon AMR meters.

How Achieved: The user selects the "Import AMR vendor tags" box in the AMR Data Importer in DisSPatch. When the Run button is clicked, DisSPatch calls the

GetAMRSupportedMeters method on the MR-EA interface supported by Yukon. If Yukon reports that a meter is AMR supported, the appropriate AMR type will be visible in DisSPatch on the Consumer Data page of the Circuit Element Editor or displayed graphically with a Cannon AMR Icon for the consumer having that meter number.

2) Milsoft can request Yukon to provide the outage status of one or more meters

Importance to user: The user can determine the current outage status of a Cannon AMR meter without sending a line crew to the site. The user can select a particular meter or may select a group of meters downline from a selected circuit element and receive notification of the meters current outage status.

How Achieved: The user can select a meter or any number of meters downline a circuit element in order to verify power on or off conditions. This request can be performed graphically or from the Customer and Circuit Element Locate dialog. The Yukon server performs a ping (a request to communicate) to the meter(s), determines the communication status of the ping, and then sends an outage detection event notification containing the current communication status of each meter to Milsoft. Yukon pings *all* of the requested meters from Milsoft's outage detection initiation but sends the meter status back to Milsoft's Web Server for *each* individual meter as soon as the status is determined.

3) DisSPatch can request latest meter readings from Yukon

Importance to user: The user can retrieve the latest kW demand and/or kWh readings and the time the readings were collected for every AMR supported meter with an associated consumer in DisSPatch. This load data can be used directly by DisSPatch's engineering analysis functions, or it can be used indirectly to facilitate the allocation of load on the model. The DisSPatch user requests the latest readings archived by the AMR system.

How Achieved: The user selects the "Import AMR meter readings" box in the AMR Data Importer in DisSPatch and then chooses to import the latest meter readings. When the Run button is clicked, DisSPatch calls the GetLatestReadings on the MR-EA interface supported by Yukon. The returned load data for each meter is stored in the fields the user requested.

Products: Milsoft DisSPatch and Cannon Yukon platform
Summary of Interoperability Test Results
Interface #5
OD→OA

Table 1
Recommended MultiSpeak Methods

| Method Name | Importance to User | Supported by Server ¹ (OD) | Supported by Client ² (OA) | Verified Inter-operable ³ |
|------------------------------------|--|--|--|--------------------------------------|
| GetMethods | Requests a list of methods supported by the server. | X | X | X |
| PingURL | Verifies that the server is running and reachable. | X | X | X |
| GetAllOutageDetectionDevices | Returns all Outage Detection Devices. | | | |
| GetOutageDetectionDevicesByMeterNo | Returns an Outage Detection Device Associated with the Given Meter Number. | | | |

Table 2
Optional MultiSpeak Methods

| Method Name | Importance to User | Supported by Server ¹ (OD) | Supported by Client ² (OA) | Verified Inter-operable ³ |
|--------------------------------------|---|--|--|--------------------------------------|
| CancelODMonitoringRequestByObject | Cancel outage detection monitoring on the list of supplied circuit elements. | | | |
| DisplayODMonitoringRequests | Requests a list of circuit elements being monitored. | | | |
| GetDomainMembers | Requests the members of a given domain (type of fixed information, such as all of the counties in the database). | | | |
| GetDomainNames | Requests the domains (lists of fixed information, such as the counties served, or the acceptable status codes for this installation). | | | |
| GetOutageDetectionDevicesByStatus | Returns all outage detection devices with a given status. | | | |
| GetOutageDetectionDevicesByType | Returns all outage detection devices with a given type | | | |
| GetOutagedODDevices | Returns the outage detection devices that are currently experiencing an outage. | | | |
| InitiateODEventRequestByObject | Initiates an outage detection event request on service locations experiencing an outage downline from a circuit element. | | | |
| InitiateODMonitoringRequestByObject | Initiates an outage detection monitoring request on service locations downline from a circuit element at a given time interval. | | | |
| InitiateOutageDetectionEventRequest | Initiates an outage detection event request on the list of meter numbers. | X | X | X |
| ModifyODDataForOutageDetectionDevice | Allow OA to Modify OD data for a specific Outage Detection Device object. | | | |

- 1) Supported by Server means that the server has demonstrated in some interoperability test (not necessarily with this client) that it can support the method.
- 2) Supported by Client means that the client has demonstrated in some interoperability test (not necessarily with this server) that it can call the method.
- 3) Verified Interoperable means that both the client and server have demonstrated in this interoperability test that they can usefully transfer data using this method.

Products: Milsoft DisSPatch and Cannon Yukon platform
Summary of Interoperability Test Results
Interface #5
OA → OD

Table 3
Recommended MultiSpeak Methods

| Method Name | Importance to User | Supported by Server ¹ (OA) | Supported by Client ² (OD) | Verified Inter-operable ³ |
|---------------------|---|--|--|--------------------------------------|
| GetMethods | Requests a list of methods supported by the server. | X | X | X |
| PingURL | Verifies that the server is running and reachable. | X | X | X |
| ODEventNotification | Notifies a change in outage detection events | X | X | X |

Table 4
Optional MultiSpeak Methods

| Method Name | Importance to User | Supported by Server ¹ (OA) | Supported by Client ² (OD) | Verified Inter-operable ³ |
|--------------------------------------|--|--|--|--------------------------------------|
| GetActiveOutages | Returns the outage Event IDs for all active outage events. | X | | |
| GetAllCircuitElements | Returns all circuit elements. | X | | |
| GetChildCircuitElements | Returns circuit elements immediately fed by the given line section or node (eaLoc). | X | | |
| GetDomainMembers | The client requests from the server a list of names of domains supported by the server. | | | |
| GetDomainNames | Requests the domains (lists of fixed information, such as the counties served, or the acceptable statusCodes for this installation). | | | |
| GetDownlineCircuitElements | Returns all circuit elements downline from the given circuit element. | X | | |
| GetDownlineMeterConnectivity | Returns the meter connectivity for all meters down line from a given meter | X | | |
| GetModifiedCircuitElements | Returns all circuit elements that have been modified since the previous session identified | X | | |
| GetOutageEventStatus | Returns the current status of an outage event, given the outage event ID. | X | | |
| GetOutageEventStatusByOutageLocation | Returns the current status of an outage event, given the outage location. | X | | |
| GetParentCircuitElements | Returns circuit elements immediately upstream of the given line section or node (eaLoc). | X | | |
| GetSiblingMeterConnectivity | Returns all meters on the same transformer as the given meter. | X | | |
| GetSubstationNames | Returns all substation names | X | | |
| GetUplineCircuitElements | Returns circuit elements in the shortest route to source from the given line section or node (eaLoc). | X | | |
| GetUplineMeterConnectivity | Returns all meters from the first up line distribution transformer. | X | | |
| ODDeviceChangeNotification | Notifies of a change in outage detection events | X | | |

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3) Verified Interoperable means that both the client and server have demonstrated in this interoperability test that they can usefully transfer data using this method.

Products: Milsoft DisSPatch and Cannon Yukon platform
Summary of Interoperability Test Results
Interface #4
MR→EA

Table 5
Recommended MultiSpeak Methods

| Method Name | Importance to User | Supported by Server ¹ (MR) | Supported by Client ² (EA) | Verified Inter-operable ³ |
|---------------------------|---|---------------------------------------|---------------------------------------|--------------------------------------|
| GetMethods | Requests a list of methods supported by the server. | X | X | X |
| PingURL | Verifies that the server is running and reachable. | X | X | X |
| GetAMRSupportedMeters | Requests a list of all AMR supported meters. | X | X | X |
| GetLatestReadingByMeterNo | Requests the most recent meter reading for a given meter. | X | | |
| GetLatestReadings | Returns the most recent readings for all AMR supported meters. | X | X | X |
| GetReadingsByDate | Requests all meter readings taken between two dates. | | X | |
| GetReadingsByMeterNo | Returns all readings for a given meter taken between two dates. | X | | |

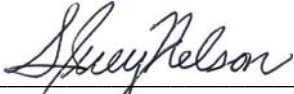
Table 6
Optional MultiSpeak Methods

| Method Name | Importance to User | Supported by Server ¹ (MR) | Supported by Client ² (EA) | Verified Inter-operable ³ |
|-------------------------------------|--|---------------------------------------|---------------------------------------|--------------------------------------|
| GetDomainMembers | Requests the members of a given domain (type of fixed information, such as all of the counties in the database). | | | |
| GetDomainNames | Requests the domains (lists of fixed information, such as the counties served, or the acceptable statusCodes for this installation). | | | |
| GetHistoryLogByMeterNo | Requests data about meter events for a specific meter. | | | |
| GetHistoryLogsByDate | Requests all outage events occurring between two dates. | | X | |
| GetHistoryLogsByDateAndEventCode | Requests data about meter events for a specific event type and date range. | | | |
| GetHistoryLogsByMeterNoAndEventCode | Requests data about meter events for a specific meter and date range. | | | |
| GetModifiedAMRMeters | Requests changes in AMR meters since a specific data exchange session. | | | |
| GetReadingsByUOMAndDate | Requests all meter readings taken between two dates for a specific type of reading (UOM = unit of measure, e.g. kW). | | | |

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- 3) Verified Interoperable means that both the client and server have demonstrated in this interoperability test that they can usefully transfer data using this method.

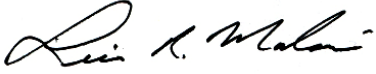
Certified by:

For Cannon Technologies, Inc.:


Name: Stacey Nelson Software Developer
Title

Date : 18 January 2006

For Milsoft Utility Solutions, Inc.


Name: Luis Malave Vice President of Development
Title

Date : 18 January 2006

Assertions Verified by:


Name: _____ Senior Architect _____
Title

UISOL, Inc.
Testing Agent

Date : 1/19/2006

Disclaimer:

The assertions made in this document are statements of the vendors offering the two products listed above. The Testing Agent has observed the software performing the tasks described in these vendor assertions.

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