

MultiSpeak Version 3.0 Interoperability Assertion

Statement of Interoperable Functionality Between:

Vendor(s)	Product	Product Version	Role	Web Client Interfaces	Web Server Interfaces
ALSTOM Grid	SCADA OMS Interface	1.0.0	SCADA	OA → SCADA	SCADA → OA
Milsoft Utility Solutions	Milsoft Web Server	8.2	OA	-	OA → SCADA
Milsoft Utility Solutions	DisSPatch	8.2	OA	SCADA → OA	-

Summary:

The ALSTOM Grid SCADA system interface is capable of providing SCADA analog and status point data to Milsoft's DisSPatch Outage Management System using MultiSpeak web services.

DisSPatch is able to request a complete list of SCADA points from Alstom's SCADA system. The DisSPatch user can then map each SCADA point to the appropriate corresponding phase on an element in the DisSPatch circuit model. Once this has been performed, any SCADA data received by DisSPatch from Alstom GRID is ensured that it's associated with the correct element in the electrical model.

Two categories of data DisSPatch can request from Alstom's SCADA system are SCADA status (for example breaker operations) and SCADA analog (substation voltages and currents). A DisSPatch user may request SCADA statuses or analogs for a particular circuit element. Alstom's SCADA system sends the requested information to DisSPatch and it is immediately available to the DisSPatch user for viewing.

Alternately, Alstom SCADA system may publish a changed SCADA status or a changed SCADA analog directly to the outage system as soon as the event occurs. If the outage system is down or the connection is interrupted, the messages will be queued and retransmitted when the connection is established again.

Prerequisites:

The Alstom's SCADA/MultiSpeak interface requires the following configuration:

- The Milsoft Web Server service will need to be setup to allow Alstom's SCADA system to communicate with the outage management system using MultiSpeak web services.
- The URL used to connect to Alstom's MultiSpeak web service is configured for the OMS using the DisSPatch client application. The URL is used when the OMS makes MultiSpeak web service requests for status and analog data from the Alstom SCADA system.
- The location of where to send notifications as SCADA analog and status values change needs to be configured.
- DisSPatch must request a complete download of the SCADA analog and status points and map them so the OMS is able to identify them within its circuit modeling.

Specific Vendor Assertions:

1. DisSPatch requests SCADA analog values from Alstom GRID SCADA.

Importance to user: The SCADA analog values, such as fault currents and feeder currents, can be used by the dispatcher to locate a fault.

How Achieved: After SCADA point Id's have been assigned to their corresponding DisSPatch elements, DisSPatch can call the GetSCADAAnalogBySCADAPointId method on the Alstom GRID SCADA/MultiSpeak server.

2. DisSPatch requests SCADA status values from Alstom GRID SCADA.

Importance to user: The status of a SCADA point tells the engineer whether a particular device is currently open or closed.

How Achieved: After SCADA point Id's have been assigned to their corresponding DisSPatch elements, DisSPatch can call the GetSCADAStatusBySCADAPointId method on the Alstom GRID SCADA/MultiSpeak server.

3. DisSPatch requests a list of SCADA points from Alstom GRID SCADA.

Importance to user: SCADA points in the list are mapped to DisSPatch circuit elements, associating the SCADA points within the DisSPatch model.

How Achieved: DisSPatch calls the GetAllSCADAPoints method on the Alstom GRID SCADA/MultiSpeak server.

4. Alstom GRID SCADA detects and reports changes in a device status to DisSPatch.

Importance to user: The time elapsed between the actual status change and forwarding of the notification to DisSPatch occurs immediately after the SCADA database has been updated.

How Achieved: When the Alstom GRID SCADA/MultiSpeak server detects a change in a status point, it calls the SCADAStatusChangedNotification method on the Milsoft web server to publish the change to DisSPatch.

5. Alstom GRID SCADA detects and reports changes of an analog device value to DisSPatch.

Importance to user: The time elapsed between the actual analog change and forwarding of the notification to DisSPatch occurs immediately after the SCADA database has been updated.

How Achieved: When the Alstom GRID SCADA/MultiSpeak server detects a change in an analog point, it calls the SCADAAnalogChangedNotification method on the Milsoft web server.

**Products: DisSPatch and SCADA OMS Interface
Summary of Interoperability Test Results (SCADA-OA)**

**Table 1
MultiSpeak Methods (SCADA)**

Method Name	SCADA-OA	Importance to User	Supported by Server¹ (SCADA)	Supported by Client² (OA)	Verified Inter-operable³
GetAllSCADAAnalog	OPT	Returns all SCADA Analog.			
GetAllSCADAPoints	REC	Returns a list of SCADA point definitions.	X	X	X
GetAllSCADAStatus	OPT	Returns all SCADA Status data.			
GetModifiedSCADAPoints	OPT	Returns a list of SCADA Point definitions that has changed since the session identified by the sessionID.			
GetSCADAAnalogByDataRangeAndPointID	OPT	Returns history records for a specific SCADA Analog by SCADAPointID within a range of times.			
GetSCADAAnalogByDataRangeAndPointID FormattedBlock	OPT	Returns history records for a specific SCADA Analog by SCADAPointID within a range of times.			
GetSCADAAnalogBySCADAPointID	REC	Returns a specific SCADA Analog by SCADAPointID.	X	X	X
GetSCADAStatusBySCADAPointID	REC	Returns a specific SCADA Status by SCADAPointID.	X	X	X
GetSCADAStatusesByDateRange	OPT	Returns history records for all SCADA Status points within a range of times.			
GetSCADAStatusesByDateRangeAndPointID	OPT	Returns history records for a specific SCADA Status by SCADAPointID within a range of times.			
GetSCADAStatusesByDateRangeAndPointID FormattedBlock	OPT	Returns history records for a specific SCADA Status by SCADAPointID within a range of times.			
OutageEventChangedNotification	OPT	Publisher notifies SCADA of a change in OutageEvent by sending an array of changed OutageEvent objects.			

Discovery					
DomainMembersChangedNotification	OPT	This method permits a client to have changed information on domain members published to it using a previously arranged subscription, set up using the RegisterForServiceMethod.			
DomainNamesChangedNotification	OPT	This method permits a client to have changed information on domain names published to it using a previously arranged subscription, set up using the RegisterForServiceMethod.			
GetDomainMembers	OPT	The client requests from the server the members of a specific domain of information, identified by the domainName parameter, which are supported by the server.			
GetDomainNames	OPT	The client requests from the server a list of names of domains supported by the server.			
GetMethods	REQ	Requester requests list of methods supported by SCADA.	X	X	X
GetPublishMethods	REC	Requester requests list of methods to which this server can publish information.			
Subscription and Network Management					
GetRegistrationInfoByID	REC	This method requests the return of existing registration information (that is to say the details of what is subscribed on this subscription) for a specific registrationID.			
RegisterForService	REC	This method establishes a subscription using a previously requested registrationID.			
RequestRegistrationID	REC	This service requests of the publisher a unique registration ID that would subsequently be used to refer unambiguously to that specific subscription.			
UnregisterForService	REC	This method deletes a previously established subscription (registration for service) that carries the registration identifier listed in the input parameter			

		registrationID.			
PingURL	REQ	Requester pings URL of SCADA to see if it is alive.	X	X	X

REQ – Inclusion is required for this interface.

REC – Inclusion is recommended for this interface.

OPT – Inclusion is optional for this interface.

¹Supported by Server means that the server has demonstrated in some interoperability test (not necessarily with this client) that it can support the method.

²Supported by Client means that the client has demonstrated in some interoperability test (not necessarily with this server) that it can call the method.

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

**Products: SCADA OMS Interface and Milsoft Web Server
Summary of Interoperability Test Results (OA-SCADA)**

**Table 2
MultiSpeak Methods (OA)**

Method Name	OA-SCADA	Importance to User	Supported by Server¹ (OA)	Supported by Client² (SCADA)	Verified Inter-operable³
GetActiveOutages	OPT	Returns the outageEventIDs for all active outage events.	X		
GetAllActiveCalls	OPT	Returns all active calls that have been processed by the outage management system in the form of an outageDetectionLogList.	X		
GetAllActiveOutageEvents	OPT	Returns all of the outageEvent(s) for all active outages.	X		
GetAllCrews	OPT	Returns all active crews that are available for dispatching if the parameter activeOnly is set to be true, otherwise all crews are returned.	X		
GetCallsReceivedOnOutage	OPT	Returns all calls that have been processed by the outage management system in the form of an outageDetectionLogList.			
GetCustomersAffectedByOutage	OPT	Returns all customers that are affected by a specific outage of interest, given the outageEventID.	X		
GetCustomerCallHistory	OPT	Returns all calls that have been processed by the outage management system for a given customer account and service location in the form of an outageDetectionLogList.			
GetCustomerCallsOnServiceLocation	OPT	Returns all calls that have been processed by the outage management system for a given service location in the form of an outageDetectionLogList.			

GetOutageDurationEvents	OPT	Returns all outage duration events that have been processed by the outage management system for a given outage identified by outageEventID, returned in the form of an outageDurationEventList.	X		
GetOutageEvent	OPT	Returns the outageEvent for the given outageEventID.	X		
GetOutageHistoryOnServiceLocation	OPT	Returns all outage duration events that have been processed by the outage management system for a given service location in the form of an outageDurationEventList.	X		
GetCustomerOutageHistory	OPT	Returns all outage duration events that have been processed by the outage management system for a given customer account and service location in the form of an outageDurationEventList.	X		
GetOutageEvent	OPT	Returns the outageEvent for the given outageEventID.	X		
GetOutageEventsByDate	OPT	Returns outage events within a range of times.			
GetOutageEventStatus	OPT	Returns the current status of an outage event, given the outage event ID.	X		
GetOutageEventStatusByOutageLocation	OPT	Returns the current status of an outage event, given the outage location.	X		
SCADAAnalogChangedNotification	OPT	Publisher notifies OA of changes in analog values by sending an array of changed scadaAnalog objects.	X	X	X
SCADAAnalogChangedNotificationByPointID	OPT	Publisher notifies OA of changes in a specific analog value, chosen by scadaPointID, by sending a changed scadaAnalog object.	X		
SCADAAnalogChangedNotificationForPower	OPT	Publisher notifies OA of changes in a specific analog value, limited to power analogs, by sending an array of changed scadaAnalog objects.	X		

SCADAAnalogChangedNotificationForVoltage	OPT	Publisher notifies OA of changed analog values, limited to voltage analogs, by sending an array of changed scadaAnalog objects.	X		
SCADAPointChangedNotification	REC	Publisher notifies OA of changes in SCADA point definitions by sending an array of changed scadaPoint objects.			
SCADAPointChangedNotificationForAnalog	OPT	Publisher notifies OA of changes in SCADA point definitions, limited to Analog points, by sending an array of changed scadaPoint objects.			
SCADAPointChangedNotificationForStatus	OPT	Publisher notifies OA of changes in SCADA point definitions, limited to Status points, by sending an array of changed scadaPoint objects.			
SCADAStatusChangedNotification	REC	Publisher notifies OA of changes in point status by sending an array of changed scadaStatus objects.	X	X	X
SCADAStatusChangedNotificationByPointID	OPT	Publisher notifies OA of changes in the status of a specific point, chosen by PointID, by sending a changed scadaStatus object.	X		
SetOutageElementStatus	OPT	This method allows a dispatcher or operator to verify or restore any circuit element by phase.			
UnassignCrewsFromOutage	OPT	Unassigns crew(s) from an outage given the outage event ID.	X		
UnassignOutagesFromCrew	OPT	Unassigns outages(s) from a crew given the crew ID.	X		
Discovery					
DomainMembersChangedNotification	OPT	This method permits a client to have changed information on domain members published to it using a previously arranged subscription, set up using the RegisterForServiceMethod.			
DomainNamesChangedNotification	OPT	This method permits a client to have changed information on domain names published to it using a previously arranged subscription, set up using the RegisterForServiceMethod.			

GetDomainMembers	OPT	The client requests from the server the members of a specific domain of information, identified by the domainName parameter, which are supported by the server.	X		
GetDomainNames	OPT	The client requests from the server a list of names of domains supported by the server.	X		
GetMethods	REQ	Requester requests list of methods supported by OA.	X	X	X
GetPublishMethods	REC	Requester requests list of methods to which this server can publish information.			
Subscription and Network Management					
GetRegistrationInfoByID	REC	This method requests the return of existing registration information (that is to say the details of what is subscribed on this subscription) for a specific registrationID.			
RegisterForService	REC	This method establishes a subscription using a previously requested registrationID.			
RequestRegistrationID	REC	This service requests of the publisher a unique registration ID that would subsequently be used to refer unambiguously to that specific subscription.			
UnregisterForService	REC	This method deletes a previously established subscription (registration for service) that carries the registration identifier listed in the input parameter registrationID.			
PingURL	REQ	Requester pings URL of OA to see if it is alive.	X	X	X

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Certified by:

For ALSTOM Grid:

A handwritten signature in blue ink that reads "Michael Yoas". The signature is written in a cursive style and is centered within a light beige rectangular background.

Senior Software Engineer

Name: Michael Yoas

Date: 4/11/2014

For Milsoft Utility Solutions, Inc.:

A handwritten signature in black ink that reads "Luis Malave". The signature is written in a cursive style and is centered on the page.

Board Director, Vice President

Name: Luis Malave

Date: 4/11/2014

Assertions Verified by:

A handwritten signature in black ink that reads "Hannu Huhdanpaa". The signature is written in a cursive style and is centered on the page.

Name: Hannu Huhdanpaa

UISOL, Inc.

Testing Agent

Date: 4/11/2014

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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