

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
QEI, Inc	TDMS Plus SCADA System	7.0.0	SCADA	-	-	SCADA→EA
Milsoft Utility Solutions	WindMil	7.2	EA	-	SCADA→EA	-

Summary:

QEI's TDMS Plus SCADA system is capable of providing SCADA data to Milsoft's WindMil using MultiSpeak web services.

WindMil is able to request a list of SCADA points from TDMS Plus. The WindMil user can then map each SCADA point to the appropriate corresponding circuit element in WindMil. This is necessary in order to ensure that any SCADA data WindMil receives from TDMS Plus are associated with the correct circuit elements in the electrical model.

The interesting data WindMil can request from TDMS Plus are: breaker operations (known as SCADA status) and substation voltages and currents (known as SCADA analogs). The WindMil user may request SCADA statuses or SCADA analogs from TDMS Plus for some particular circuit element. TDMS Plus sends the requested information to WindMil and it is immediately available to the WindMil user for viewing or (in the case of fault current data) to run the Fault Locater utility.

Prerequisites:

For this interface to be successfully implemented, the TDMS Plus SCADA system must be configured as follows:

- A server subscription must be defined. This subscription specifies which status and analog points will be visible on the SCADA-EA web services server.
- Mappings must be configured for the following:
 - QEI Condition Codes → MultiSpeak Quality Qualifiers
 - QEI Engineering Units → MultiSpeak Units Of Measure
 - QEI Status Strings (Suffix Codes) → MultiSpeak Status Identifiers

Specific Vendor Assertions:

1) WindMil requests a list of SCADA points from TDMS Plus SCADA.

Importance to user: The SCADA points in the list can be mapped to WindMil circuit elements, allowing the user to specify which SCADA points should be associated with which devices in the WindMil model.

How Achieved: The WindMil user chooses “Get SCADA point list” from the Real-time menu. WindMil then calls the GetAllSCADAPoints method on the TDMS Plus server. The resulting list of SCADA points is displayed to the WindMil user in a list. The SCADA point IDs in this list can be dragged into the empty fields on the SCADA page of the circuit element editor for the appropriate WindMil circuit elements. This process creates the mapping between SCADA point IDs and WindMil circuit elements.

2) WindMil requests SCADA analog values from TDMS Plus SCADA.

Importance to user: The SCADA analog values such as fault currents and feeder currents can be used by an engineer for fault location and load allocation applications.

How Achieved: After SCADA point IDs have been assigned to their appropriate WindMil elements, the WindMil user can click the “Read SCADA analogs” or the “Read SCADA fault currents” button on the SCADA page of the circuit element editor of the device he wishes to read. WindMil then calls the GetSCADAAnalogBySCADAPointId method on the TDMS Plus SCADA server. The returned SCADA analog values are displayed in the circuit element editor and in the load allocation dialog.

3) WindMil requests SCADA status values from TDMS Plus SCADA.

Importance to user: The state of a SCADA status point is used to determine the state of a circuit model element.

How Achieved: After SCADA point IDs have been assigned to their appropriate WindMil elements, the WindMil user can click the “Read SCADA status” button on the SCADA page of the circuit element editor of the device he wishes to read. WindMil then calls the GetSCADAStatusBySCADAPointId method on the TDMS Plus SCADA server. The returned SCADA status(es) (possibly more than one if multiple phases are desired) are displayed in the circuit element editor.

Summary of Interoperability Test Results Interface #8 SCADA→EA

**Table 1
Recommended MultiSpeak Methods**

Method Name	Importance to User	Supported by Server ¹ (SCADA)	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
GetAllSCADAPoints	Returns a list of SCADA Point definitions.	X	X	X
GetSCADAAnalogBySCADAPointID	Returns a specific SCADA Analog by SCADAPointID.	X	X	X
GetSCADAStatusBySCADAPointID	Returns a specific SCADA Status by SCADAPointID.	X	X	X

**Table 2
Optional MultiSpeak Methods**

Method Name	Importance to User	Supported by Server ¹ (SCADA)	Supported by Client ² (EA)	Verified Inter-operable ³
GetAllSCADAAnalog	Returns all SCADA Analogs.	X		
GetAllSCADAStatus	Returns all SCADA Status data.	X		
GetDomainMembers	Returns a list of members of a specific domain supported by the server.			
GetDomainNames	Returns a list of domain names supported by the server.			
GetModifiedSCADAPoints	Returns a list of SCADA Point definitions that have changed since the session identified by sessionID.			

- 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.

Certified by:

For QEI, Inc.:

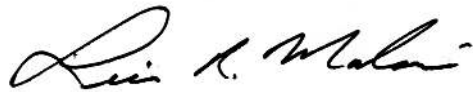


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Disclaimer:

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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