MultiSpeak Version 4.1 Interoperability Assertion

Vendor Neutral Statement of Interoperable Functionality using NRECA's independent laboratory's test harness:

Vendor(s)	Product	Product Version	Role	Batch Interface	Web Client Interfaces	Web Server Interfaces
Cognizant Technology Solutions India Pvt. Ltd.	SMMP	1.1	CD		CB->CD	CD->CB

Summary:

Web Service interfaces using MultiSpeak® 4.1 standards were developed in order to provide the following capabilities to utilities that have (CD) SMMP:
- Enable (CB) client application to command (CD) SMMP system to send a real time request to immediately disconnect or reconnect power at a meter or to 'Arm' the meter for manual reconnect.
- Enable (CB) client application to request (CD) SMMP system, all the meters that have Connect/Disconnect Capability.
- Enable (CB) client application to request (CD) SMMP system, the current state of a Connect/Disconnect device for given Meter Number.

Prerequisites:

- (CD) SMMP system must be deployed. The MultiSpeak interface must be enabled and configured in CB.

Specific Vendor Assertions:

1. **The (CB) application client initiates a remote disconnect or reconnection of service, which is executed via the (CD) SMMP system.**

   o **Importance to User:** The utility can perform a service disconnect on a single meter or list of meters remotely in situations such as move-out, termination of service or to suspend service for reasons of non-payment. The utility can reconnect service remotely in situations such as move-in, or to restore service following receipt of payment from a customer previously disconnected for non-payment.
   o **How Achieved:** Utility user initiates the command in the (CB) client application web user interface, at which time (CB) application

requests the (CD) SMMP system, via an InitiateConnectDisconnect, to send a real time request to immediately disconnect power or reconnect power. After the meter responds, (CD) SMMP system returns the new connect/disconnect state of the meter asynchronously with a CDStateChangedNotification.

2. **The (CB) application client requests all meters that have Connect/Disconnect Capability from the (CD) SMMP system.**

   o **Importance to User:** The Utility user can determine which consumers in (CB) have meters with Connect/Disconnect capabilities.
   o **How Achieved**: The Utility user calls GetCDSupportedMeters method of (CD) SMMP system. (CD) SMMP system returns all the meters that have Connect/Disconnect capabilities.

3. **The (CB) application client requests current state of a Connect/Disconnect device for given Meter Number from the (CD) SMMP system.**

   o **Importance to User:** The Utility user can retrieve the current state of a Connect/Disconnect device for a given meter number.
   o **How Achieved**: The Utility user calls GetCDMeterState method of (CD) SMMP system. (CD) SMMP system returns Current State of a Connect/Disconnect Device for a given the Meter Number.

Product: SMMP
Summary of Interoperability Test Results (CD->CB)

Table 1
MultiSpeak Methods (CD)

Object Name	CD-CB	Importance to User	Supported by Server[1] (CD)	Supported by Client[2] (CB)	Verified Inter-operable[3]
AccountChangedNotification	OPT	Provides notification of a change in customer account(s)			
CDDeviceAddNotification	OPT	Notifies CD to add the associated connect / disconnect device(s).			
CDDeviceChangedNotification	OPT	Notifies CD of a change in connect/disconnect device(s).			
CDDeviceExchangeNotification	OPT	Notifies CD that connect/disconnect device(s) has been deployed or exchanged.			
CDDeviceRemoveNotification	OPT	Notifies CD to remove the associated connect / disconnect device(s).			
CDDeviceRetireNotification	OPT	Notifies CD that the associated connect / disconnect devices(s) has been retired from the system.			
CustomerChangedNotification	REC	Notifies CD of a change in the Customer.			
GetCDMeterState	REC	Returns current state of a connect/disconnect device for a given meterID.	X		X
GetCDSupportedMeters	REC	Returns all meters that have Connect / Disconnect Capability.	X		X
GetModifiedCDMeters	OPT	Returns all meters that have Connect / Disconnect Capability and that have been modified since the last identified session.			
InitiateArmCDDevice	REC	Initiates arming of one or more Connect / Disconnect devices.			
InitiateCDStateRequest	REC	Initiates a switch status check directly from one or more Connect / Disconnect devices.			
InitiateConnectDisconnect	REC	Initiates connect or disconnect action.	X		X
InitiateDisableCDDevice	OPT	Initiates disabling of one or more Connect / Disconnect devices.			

InitiateEnableCDDevice	OPT	Initiates enabling of one or more Connect / Disconnect devices.			
MeterChangedNotification	REC	Notifies CD of a change in the Meter object			
ServiceLocationChangedNotification	REC	Notifies CD of a change in the Service Location.			
Discovery					
DomainMembersChangedNotification	OPT	Enables a client to have changed information on domain members published to it.			
DomainNamesChangedNotification	OPT	Enables a client to have changed information on domain names published to it.			
GetDomainMembers	OPT	Requests a list of items in a domain.			
GetDomainNames	OPT	Requests the names of all lists of items (domains). These can be used to make sure that two programs use the same codes or descriptions.			
GetMethods	REQ	Requests a list of web service methods supported by the application.	X		X
GetPublishMethods	REC	Requester requests list of methods to which this server can publish information.			
Subscription and Network Management					
GetRegistrationInfoByID	REC	Requests the return of existing registration information for a specific registrationID.			
RegisterForService	REC	Establishes a subscription using a previously requested registration ID.			
RequestRegistrationID	REC	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.			
PingURL	REQ	Queries status of the application.	X		X

Products: SMMP
Summary of Interoperability Test Results (CB->CD)

Table 2
MultiSpeak Methods (CB)

Object Name	CB-CD	Importance to User	Supported by Server[1] (CB)	Supported by Client[2] (CD)	Verified Inter-operable[3]
CDDeviceExchangeNotification	OPT	Notifies CB that connect/disconnect device(s) has been deployed or exchanged.			
CDDeviceInstalledNotification	OPT	Notifies CB that connect/disconnect device(s) has been installed.			
CDStateChangedNotification	REC	Notifies CB of state change for a connect/disconnect device By meterID and loadActionCode.		X	X
CDStateNotification	REC	Notifies CB of state of a connect/disconnect device.			
CDStatesChangedNotification	REC	Notifies CB of state change(s) for connect/disconnect device(s).			
CDStatesNotification	REC	Notifies CB of state of connect/disconnect device(s).			
GetAccountByMeterID	REC	Returns the requested customer account data given a meter identifier and service type.			
GetAccountByServiceLocationIDAndServiceType	REC	Returns the requested customer account data given a service location identifier and service type.			
GetAccountsByCustomerID	REC	Returns the requested accounts given the customer identifier.			
GetAllAccounts	REC	Returns account data for all customer accounts.			

GetAllCustomers	REC	Returns all required customer data for all customers.			
GetAllMeters	REC	Returns all required Meter data for all Meters.			
GetCustomerByCustomerID	REC	Returns customer details for a given customer identified by customer ID.			
GetCustomerByDBAName	OPT	Returns the requested Customer if it exists.			
GetCustomerByMeterID	OPT	Returns the requested Customer data given a meter identifier.			
GetCustomerByName	OPT	Returns the requested Customer(s) data given First and Last name.			
GetIHDGroupMembers	OPT	Returns from the server the members of a specific in home display group, identified by the IHDGroupName parameter.			
GetIHDGroupNames	OPT	Returns a list of names of in home display groups.			
GetIHDGroupNamesByInHomeDisplayID	OPT	Returns a list of names of in home display groups for a specific inHomeDisplay.			
GetMeterByCustomerID	REC	Returns the requested Meter(s) data given Customer ID.			
GetMeterByMeterID	REC	Returns the requested Meter data given meterID.			
GetMeterByServiceLocationID	REC	Returns the requested Meter(s) data given Service Location.			
GetMetersByAccountNumberAndServiceType	REC	Returns meters for a given account number and service type.			
GetModifiedCustomers	OPT	Returns all required customer data for all customers that have been modified since the specified sessionID.			
GetModifiedMeters	OPT	Returns all required customer data for all customers that have been modified since the specified sessionID.			

GetModifiedServiceLocations	OPT	Returns all required Service Location data for all Service Locations that have been modified since the specified session ID.				
GetServiceLocationByAccountNumber	REC	Returns the service location for a given account number.				
GetServiceLocationByCustomerID	REC	Returns the service location for a given customer ID.				
GetServiceLocationByGridLocation	OPT	Returns the service location for a given grid location.				
GetServiceLocationByMeterID	OPT	Returns the service location for a given meter identifier.				
GetServiceLocationByServiceLocationID	REC	Returns the service location data for a given service location identifier.				
GetServiceLocationByServiceStatus	OPT	Returns the service location(s) for a given service status.				
ModifyCBDataForCustomer	OPT	Allows client to modify CB data for customer objects.				
ModifyCBDataForServiceLocations	OPT	Allows client to modify CB data for the Service Location object.				
Discovery						
DomainMembersChangedNotification	OPT	Enables a client to have changed information on domain members published to it.				
DomainNamesChangedNotification	OPT	Enables a client to have changed information on domain names published to it.				
GetDomainMembers	OPT	Requests a list of items in a domain.				
GetDomainNames	OPT	Requests the names of all lists of items (domains). These can be used to make sure that two programs use the same codes or descriptions.				
GetMethods	REQ	Requests a list of web service methods supported by the application.		**X**		**X**

GetPublishMethods	REC	Requester requests list of methods to which this server can publish information.				
Subscription and Network Management						
GetRegistrationInfoByID	REC	Requests the return of existing registration information for a specific registration ID.				
RegisterForService	REC	Establishes a subscription using a previously requested registration ID.				
RequestRegistrationID	REC	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.				
PingURL	REQ	Queries status of the application.			**X**	**X**

REQ - Inclusion is required for this interface.
REC - Inclusion is recommended for this interface.
OPT – Inclusion is optional for this interface.

[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 Cognizant Technology Solutions India Pvt. Ltd:

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Date: 11/27/2012

Assertions Verified by:

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Date: 11/27/2012

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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