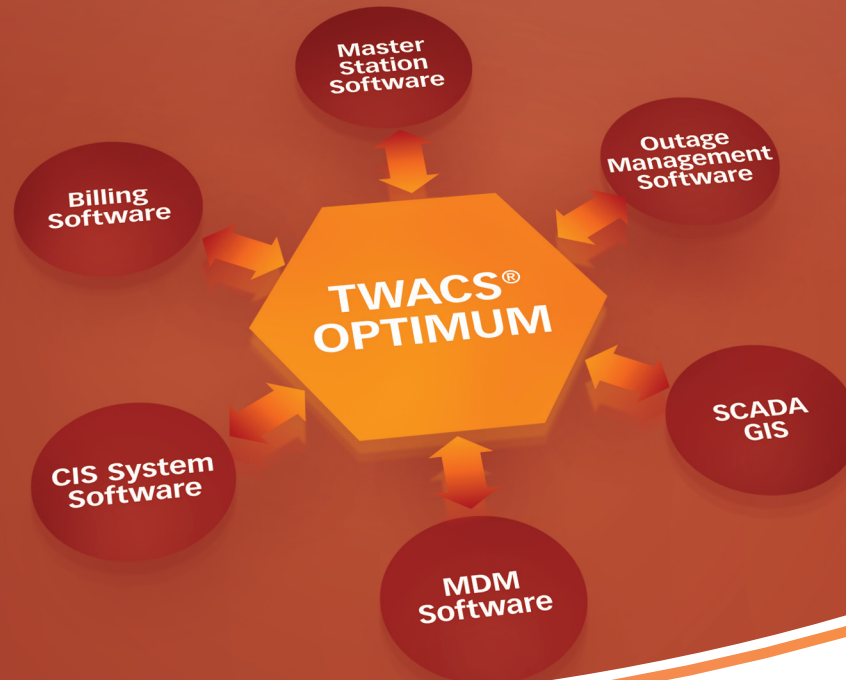


OPTIMUM™ Version 1.5



OPTIMUM™ is a new software solution that provides web service integration to third party software applications via the MultiSpeak 3.0 standard and “other” web service standards as developed by the utility industry. Unlike many prior interfaces, most of the OPTIMUM methods can be utilized in a real-time manner, enabling a utility to utilize multiple software platforms together in time-critical operational scenarios such as managing power outages and subsequent restorations and in the preparation of on-line billing.

To date MultiSpeak™ has identified many “standard” methods of implementation in order to provide the ability for Advanced Metering (AMI) systems such as DCSI’s TWACS® solution, to send and receive data to and from

systems such as outage management, customer billing, supervisory control and data acquisition, engineering analysis and other utility software systems. OPTIMUM 1.5 successfully implements a set of methods found to be most in demand. Subsequent releases will expand support for numerous interface options.

OPTIMUM version 1.5 has 25 methods implemented for customer billing, outage management, SCADA, engineering analysis and GIS. Many of these methods are shared methods such as “get all supported AMR meters”, “ping url”, etc. OPTIMUM 1.5 expands on the customer billing interface by now providing “real time” adds, deletes and modifies as well as real time support for the DSI for connects and disconnects. OPTIMUM

1.5 also expands on the “real time” functionality with outage systems by providing true outage detection. OASys™ must be installed to take advantage of this functionality.

Also included with OPTIMUM version 1.5 is a Batch process that allows groups of data to be periodically sent from a calling application to TNS. This batched data are fields such as meter number, serial number, bill cycle number, etc.

Implementation plans for this product are to provide current and new customers choices in the software and hardware deployment. DCSI will bundle the OPTIMUM software with a fully tested web services computer prior to shipping it to the customer. The customer will simply “plug” the web services machine into the

internal network and have instant integration with their third party software vendors, provided these vendors have subscribed to the web services applications. The customer also has the option of purchasing the OPTIMUM software application to integrate onto their existing web services machine. Since OPTIMUM is an ongoing effort, enhancements to the software are planned for approximately every six months. Once purchased, and depending on the support agreement, updates will be provided at no charge.

Methods and Definitions supported in version 1.5 of OPTIMUM:

Method	Definition
Initiate Disconnected Status	Customer Billing notifies Meter Reading of meters that have been disconnected and from which no AMR reading is expected
Cancel Disconnected Status	Customer Billing notifies Meter Reading of meters that should be removed from disconnected status
Initiate Planned Outage	Customer Billing notifies Meter Reading of planned outage meters, provides a list of meter numbers and start and end dates of the outage
Cancel Planned Outage	Customer Billing notifies Meter Reading of a cancellation of a planned outage, providing a list of meter numbers
Initiate Usage Monitoring	Customer Billing notifies Meter Reading of meters where zero usage is expected, as when someone vacates a residence
Cancel Usage Monitoring	Customer Billing notifies Meter Reading of a cancellation of zero usage monitoring, such as would be required when someone moves into a residence
Initiate Meter Read By Meter No.	Customer Billing requests a new meter reading from Meter Reading for meters selected by meter numbers
Customer Changed Notification	Customer Billing notifies Meter Reading of a change in a customer's profile, i.e. address, name, phone, etc.
Get AMR Supported Meters	Meter Reading returns all AMR meters to the calling application
Get Latest Readings By Meter No.	Meter Reading returns the latest meter reading to the calling application
Get Methods	Calling applications returns a list of methods supported by Meter Reading
Get Readings By Billing Cycle	Calling applications returns meter reading data for a given billing cycle and date range
Get Readings By Date	Calling applications returns meter reading data for all meters in a given data range
Get Readings By Meter No.	Calling applications returns meter reading data for a given meter number and date range
Is AMR Meter	Meter Reading informs calling application whether the meter is or is not an AMR meter
Meter Add Notification	Customer Billing notifies Meter Reading to add associated meters. OPTIMUM 1.5 now provides "real time" operation of this method
Meter Changed Notification	Customer Billing notifies Meter Reading of a change in the meter profile, i.e. meter number, serial number, etc. OPTIMUM 1.5 now provides "real time" operation of this method
Meter Removed Notification	Customer Billing notifies Meter Reading to remove the associated meter. OPTIMUM now provides "real time" operation of this method
Ping URL	Calling applications ping the web service to see if it is active and alive
Service Location Changed Notification	Customer Billing notifies Meter Reading of a change in the service location
Reading Changed Notification	Meter Reading notifies Customer Billing when a new meter reading is ready to be "picked up" by Customer Billing. This method works hand in hand with "Initiate Meter Read by Meter No."
Initiate Outage Detection Event Request	Calling application issues a meter ping request using either a serial TCT ping, or OASys™ if installed
Outage Detection Event Notification	OASys™ notifies an Outage Management System when a metering device has reported off line
Initiate Connect Disconnect	Customer Billing issues a command to connect or disconnect a DSI
Connect Disconnect Changed Notification	TNS notifies Customer Billing when the DSI has performed the operation of connecting or disconnecting.

ESCO - the leader in Advanced Utility Communications Infrastructure to support the utility of the future, TODAY

DCSI is a subsidiary of St. Louis-based ESCO Technologies (NYSE:ESE), a premier provider of highly engineered products operating in 3 business segments: Communications, Test, and Filtration. ESCO Technologies' Communications companies: DCSI, Hexagram, and Nexus Energy Software, provide market and technology leadership, employing the highest caliber, proven 2-way Fixed Network Advanced Metering Communication Systems (TWACS® by DCSI and Hexagram Star®), with enterprise software that stands apart in its ability to optimize what smart meter data can accomplish for utilities and their customers (Nexus MDMS™).

ESCO's 2-way Advanced Metering Technologies are the most widely deployed today, with proven benefits and seamless integration with other systems. ESCO's Focus on Innovation ensures that it will continue to lead in achieving all of the potential of a 21st Century utility communications infrastructure, delivering dramatically reduced operating costs, support for customers seeking to manage their bills, and success in achieving efficiency and demand response goals.

ESCO's innovative technology allows utilities to achieve superior operational performance at lower cost, delivering immediate value to the electric, gas and water utilities of the future - TODAY.