OPTIMA SRM

INSTALLATION AND CONFIGURATION MANUAL

UCM 376740

ISSUE 2

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1. Purpose of Document

This manual describes the installation and setting up of software for the telent iOptima traffic signal controller which allows it to use the SNMP protocol to behave as a Remote Monitoring Unit (RMU) as described by the UTMC specifications.

2. Background

The RMU MIB allows for vaious data about traffic signal controllers to be monitored by a computer at a central location, the in-station, via SNMP. The iOptima traffic signal controller allows for this SNMP Remote Monitoring by the addition of a software application called SRM. This is not part of the core functionality and requires a licence to be purchased per site.

The iOptima traffic signal controller has an Ethernet port which must be connected via a suitable network to the in-station. This port is a standard RJ45 socket providing an auto MDI-X, full-duplex 10/100BASE-T interface. A suitable IPv4 IP address will be required on a network which can see, and be seen by, the in-station.

The telent Optima Package Manager application is required in order to install this software. See the handbook for this tool (reference [1]) for instructions on how to use it.

3. Installation

This section describes the installation of the software.

3.1 Connection

Run the Optima Package Manager on a PC or laptop PC connected to the traffic signal controller, as described in its handbook (reference [1]).

If it is not known, the IP address of the traffic signal controller can be found using the ETH command on the handset (see reference [3]).

The network configuration step (4.2) can be performed before this step if desired, in which case the IP address will be the one set during that step.

3.2 Package

Using the Optima Package Manager, check that the version of the iOptima software installed is compatible with the SRM package to be installed. It may be necessary to update the installed software first. Install the package for the SRM application.

3.3 Licence

Using the Optima Package Manager, add the licence string for this application. The licence is specific to the MAC address of the traffic signal controller, which can be found on the licences tab of the package manager.

4. Configuration

This section describes the configuration of the software.

4.1 Overview

Some configuration can be done by changing the traffic signal controller site configuration with the Optima Configurator (see reference [2]).

Further configuration can be done through the handset (see reference [3]).

4.2 Network Configuration

4.2.1 IP address

An IP address must be assigned to the traffic signal controller. This can be done through the handset (see reference [3]). Use the ETH command to set the required IP address, subnet mask, default gateway, and broadcast address. This must be supplied by the customer as it will be specific to the UTMC network.

Type ETH on the handset to see the current IP address. Use the + and – keys to switch between IP address, subnet mask, default gateway, and broadcast address (in that order). Use the = key to allow an alternative address or mask to be entered.

Note that the UG405 application also uses this IP address for SNMP. If both applications are installed, and configured to use the same port number, then they must use different IP addresses. To support this scenario the SRM software will use an IP address offset by 1 from the address set with the ETH command if UG405 is also installed. If this behaviour is not desired then it can be changed using handset commands (see section 4.3).

4.2.2 DNS

DNS is not required for this software to function. If required by the customer, up to two DNS server addresses can be specified in the site configuration. This allows in-station or NTP server addresses to be specified as host names rather than IP addresses.
The DNS server IP address[es] should be entered on the System Data page of the site configuration in the Configurator (reference [2]).

4.2.3 NTP

NTP is not required for this software to function. NTP configuration can be done in the Configurator or via the handset. If no NTP servers are defined then the SRM will assign default NTP server addresses of 10.163.72.23:123 and 10.163.80.22:123.

To configure NTP in the site configuration, use the Configurators System Data page. Set the clock source to network in order to use NTP. Enter the required NTP address[es]. Up to two addresses may be supplied.

To configure or change the NTP settings via the handset first type CLK to go to the clock settings. Then type CSR to see the clock source. Type NTP1 to see the first NTP server address. To set a new NTP server address, type NTP1= followed by the IP address (or host name if DNS is configured). Type NTP2 to see or change the second NTP server address. Typing NTP2= with no address will clear the second NTP server address. Typing NTP1= with no address will clear both NTP server addresses (SRM will then set the default values).

Note that the UG405 application can also set default NTP addresses. If both applications are installed then the NTP servers should be set in the configuration or entered via the handset rather than assuming that the correct defaults will be used. There is no defined precedence between the defaults of the two applications if NTP servers are not configured.

4.3 SRM Configuration

No further configuration is required for SRM to function as the in-station should now be able to use SNMP to perform any required changes to the SRM settings. However the handset can be used to set or change the following settings if required.

4.3.1 Site Name

To configure the site name via the handset first type SRM to go to the SRM settings. Then type PWD= followed by the password in order to allow changes. Then type SITE= followed by the new site name. This will be used by the in-station to identify the site.

4.3.2 In-station Address

To configure the in-station address via the handset first type SRM to go to the SRM settings. Then type PWD= followed by the password in order to allow changes. Then type INSTATION= followed by the new in-station address (in the form address:port).

4.3.3 IP Address

The controller IP address is usually set using the TSE handset command ETH. The SRM application can be set to use a separate IP address if required.

To configure the out-station IP address via the handset first type SRM to go to the SRM settings. Then type PWD= followed by the password in order to allow changes. Then type IPADDR= followed by the desired IP address, or a plus sign (+) followed by an integer offset from the controller IP address (as set by the ETH command). The IP address used for SRM should be in the same subnet as the controller IP address.

If the UG405 application is installed then the SRM application will, if this setting is empty, default to an IP address 1 higher than the controller IP address. Setting IPADDR to the same as the controller IP address, or setting it to a value of +0 (a zero offset), will mean that UG405 and SRM will use the same address. In this case the applications must be set to use different port numbers.

4.3.4 Port Number

To configure the SNMP port number via the handset first type SRM to go to the SRM settings. Then type PWD= followed by the password in order to allow changes. Then type PORT= followed by the new port number. The port number is initially 26161.

5. Document Control

5.1 Maintenance and Distribution

This document is subject to formal change and control procedures as required by the Quality Management System (QMS).

5.2 Amendment History

Issue	Date	Change Descriptions	Author
Issue 01	February 2016	Formal Issue	Andy Cooke
Issue 02	October 2016	2nd IP address option	Andy Cooke

5.3 Abbreviations

IP	Internet Protocol
IPOTU	Internet Protocol Outstation Transmission Unit
MIB	Management Interface Base
NTP	Network Time Protocol
OTU	Outstation Transmission Unit
PC	Personal Computer
QMS	Quality Management System
RMU	Remote Monitoring Unit
SCOOT	Split Cycle Offset Optimisation Technique
SNMP	Simple Network Management Protocol
UCM	Universal Content Management
UTMC	Urban Traffic Management and Control

5.4 Referenced Documents

Title	Doc Ref	Issue
[1] Optima Package Manager Handbook	UCM 369281	
[2] Optima Configurator Handbook	UCM 277158	
[3] Optima Handset Command Manual	UCM 239138	