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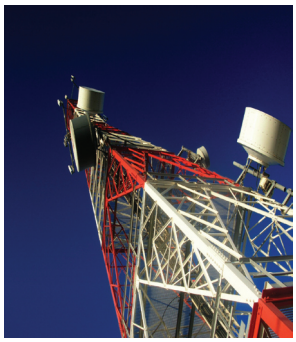

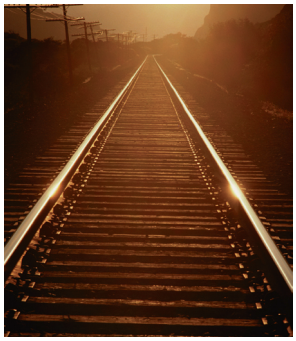

RTU32/BC6000
SNMP Alarm and Control Unit

What is SNMP?

SNMP (Simple Network Management Protocol) is the most common protocol used by network management systems to communicate with network elements. For this to work, the network element must be equipped with an SNMP agent. Successful network management is achieved by monitoring network events and reading and writing predefined values to the network elements (for instance BC6000 SNMP Alarm Unit, routers, switches etc.)

How does SNMP work?

SNMP exchanges network information through messages. The SNMP protocol is UDP based and each message consists of a version identifier, an SNMP community name, and a PDU (protocol data unit). PDUs provide two fundamental actions, GET a variable and SET a variable.

SNMP messages may be initiated by either the network management system (NMS) or by the network element.

An SNMP TRAP is a message (signal or alarm) which is initiated by a network element and sent (pushed) to the network management system. For example, a router could send a message if one of its redundant power supplies fails or a TRAP is sent when a station comes back online after a power failure. The end device acts as a master. Traps are generally triggered by a specific event.

An SNMP GET (Read) is a message which is initiated by the network management system when it wants to retrieve some data from a network element. A user issuing a GET is actually reading information from the networked device. The end device is the slave. For example, the network management system might query a router for the utilisation on a WAN link every 5 minutes. It could then create charts and graphs from that data, or it could warn the operator when the link was over-utilised.

An SNMP SET (Write) is a message which is initiated by the NMS when it wants to change data on a network element. A user issuing a write will send information to be written to a networked device. The end device is the slave. For example, the NMS may wish to alter a static route on a router, or a user tells a device to disable a network interface.

What is a MIB?

The MIB (Management Information Base), is a collection of variables which is shared between the NMS and the network element. The MIB is extensible, which means that manufacturers can add new variables to the MIB. These new MIB definitions must be added both to the network element and to the network management system. A MIB is a file, written in a specific language that lists variables. It assigns each variable a name, a number and a set of permissions. It may also provide a description of what the variable is supposed to represent.

What is an agent?

An SNMP agent is a program which is linked to a port and awaits requests from SNMP management software. Upon receiving a request, it processes the request, collects the requested information and/or performs the requested operations and returns the information to the sender.

What is a manager?

For SNMP to be useful, an NMS (Network Management System) must be present. The NMS collects data from the remote devices (agents) and may provide certain actions based on the information received. There are many NMSs available such as HP Open View.

RTU32/BC6000 SNMP Agent

As an SNMP agent, the RTU32/BC6000's primary role is to mediate remote site alarms to SNMP traps and forward them to an SNMP manager.

It is easy to filter out any unimportant data as you can select to not send a trap for each individual alarm, although of course all inputs can be mediated to SNMP traps.

The analogue inputs send traps for 2 thresholds. The SNMP Manager can retrieve live actual readings from analogue inputs by issuing Get and GetNext commands. Set commands issued to the RTU32/BC6000 will activate the control output relays, for turning on-site equipment on and off, locking and unlocking doors etc.

The RTU32/BC6000 SNMP can report up to 4 SNMP managers at different IP addresses simultaneously, which makes it easy for filtering alarms to different departments.

As the unit is using OS WinCE, the basic Microsoft WinCE agent provides you with additional device network information and statistics.

Flexible I/O

The RTU32/BC6000 offers flexible I/O but as standard comes with 16 alarm inputs, 4 analogue inputs, 2 Analogue outputs and 4 control output relays enough to provide solid alarm coverage for telecommunication equipment, power supplies, environmental conditions (temperature, humidity) and door/window alarms etc.

Expansion modules can be added if the site is bigger or you need to monitor more. Up to 5 expansion units can be daisy chained off a base RTU32/BC6000 giving numerous I/O options to suit your requirements.

Configuration for SNMP Alarm Unit

RTU32/BC6000 SNMP offers you full flexibility in configuration - and you can obtain almost any special SNMP function handling for TRAPs, Get/GetNext Set functions, and additional I/O etc. If you want special configuration you can do it with a PC programming tool - or we can do it for you based on your requirements.

Alternatively you can use the simple standard configuration via the built-in WebServer, where all necessary parameters for a simple SNMP alarm module can be configured.

The RTU32/BC6000 SNMP concentrates a lof of functions into just one unit, making it a valuable and cost effective choice for you SNMP remote alarm monitoring.