

An Addvalue Based Remote Unmanned SCADA Solution Over BGAN

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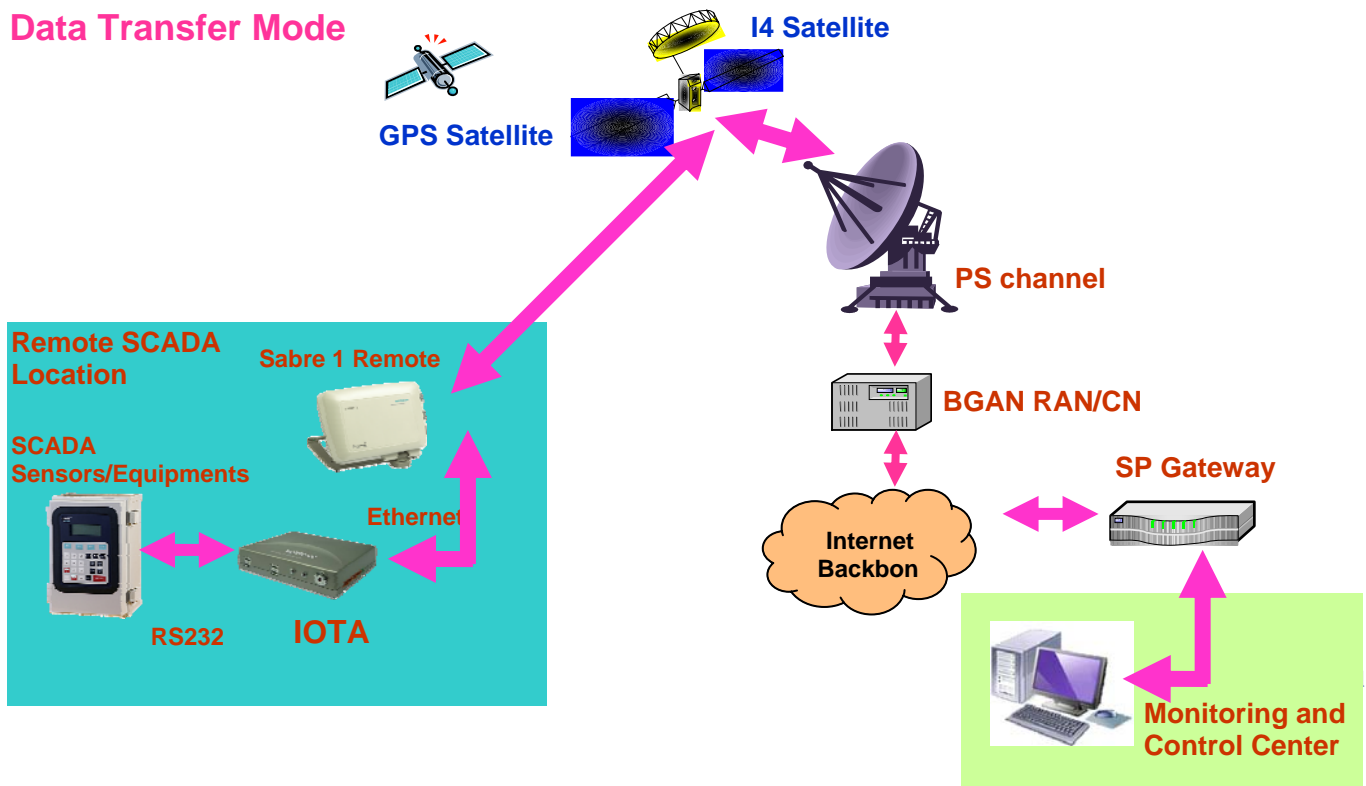
Overview



Addvalue has recently introduced an intelligent programmable accessory for use with its SABRE 1 BGAN Terminal. Dubbed the "IOTA", this device is an intelligent, programmable Machine to Machine (M2M) application enabler. The Addvalue SABRE 1 BGAN Terminal in conjunction with the IOTA programmable accessory form an equipment suite uniquely suitable for SCADA applications. This suite of Addvalue equipment can support unmanned SCADA applications in remote, hard-to-access or hazardous locations. The IOTA is specially designed to both control the Addvalue SABRE 1 BGAN Terminal and to interface with various types of SCADA equipment. The Addvalue IOTA supports programming in WinCE. Thus users can easily craft software applications to run on the IOTA tailored for command and control of their particular SCADA equipment and the Addvalue SABRE 1 Terminal. The entire equipment suite – SABRE 1, IOTA and the SCADA equipment itself - can then be remotely accessed from the user's headquarter via the Inmarsat BGAN network.

A Remote unmanned SCADA solution over BGAN example

Data Transfer Mode

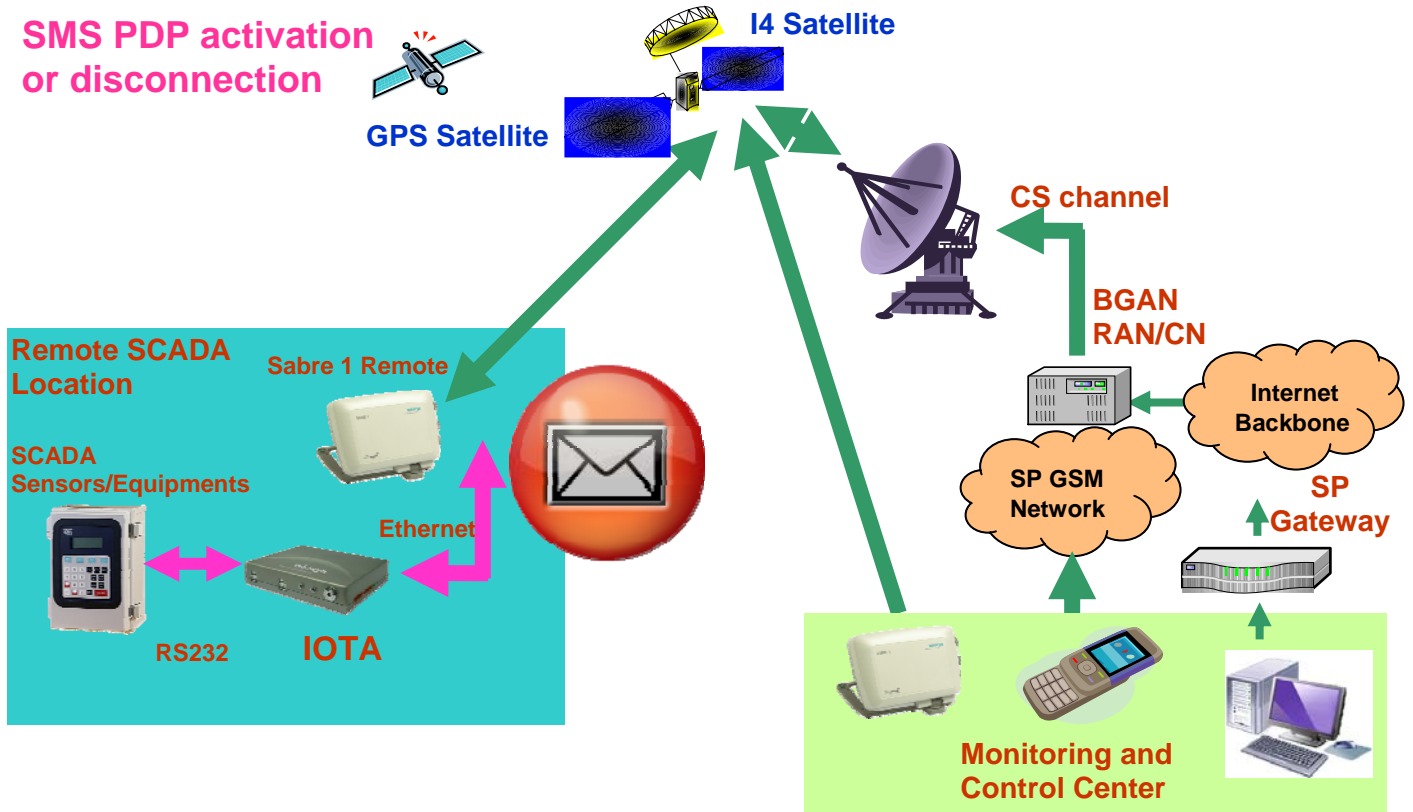


In the above setup, the Addvalue SABRE 1 Terminal is used as a standard communication channel for collecting and delivering SCADA data to the central Monitoring and Control Center (MCC) that typically is located far away from the remote SCADA location. In this application, the Addvalue IOTA is simply used as the Remote Communication Server (RCS). It will control the SCADA equipment for data collection and at the same time manage the transmission, whether periodically or continuously, over the Inmarsat BGAN Network via the Addvalue SABRE 1 Terminal. The IOTA can host applications to run regular diagnostic tests on the SCADA equipment where necessary or act as a gateway for remote access to perform diagnostic checks.

In the typical application, the IOTA based RCS will collect and compress data from the SCADA sensors and “push” them to the MCC. Likewise, the MCC can “pull” data from the RCS when necessary. In instances where the MCC needs to perform diagnostic checks on the SCADA sensors, it can do so via the IOTA based RCS.

The IOTA can also act as a watchdog on the health of the SABRE 1 Terminal. It can be configured to periodically reboot the SABRE 1 Terminal via power supply relays within the IOTA. In this way it can maintain the functional performance of the SABRE 1. The IOTA can also be programmed to periodically poll the status of the SABRE 1 Terminal and reboot it when necessary to re-establish the on air connection.

Remote SMS IP activation/de-activation feature



Benefits to SCADA application users

The Addvalue IOTA offers the following main benefits:

- Remote unmanned BGAN-based communications for SCADA applications
- A platform to develop user application software (WinCE)
- A configurable link between the SABRE 1 BGAN Terminal and the SCADA equipment
- A cost effective and low maintenance solution
- Achieves economy of scale by using the global coverage of the INMARSAT network rather than a private VSAT network
- A standard off-the-shelf equipment solution

Technical Specifications

The technical characteristics of the Addvalue IOTA are summarized below:

FEATURE	DESCRIPTION
Processor	200MHz ARM9 processor
Memory	64MB SDRAM, 64MB NAND FLASH
Network Support	10/100baseT Ethernet MAC (RJ45)
USB	x4 USB v1.1 host ports (four USB type A connectors). Supports Full Speed (12 Mbit/s) and Lo Speed (1.5Mbit/s) devices. Each port can source up to 100mA.
	USB v1.1 Client port (USB type B connector)
Serial ports	x3 RS232 (D-SUB 9) – up to 230.4Kbits/s – (16byte Tx/Rx FIFO) – Tx, Rx only via RS232
General purpose I/O	x4 Optically isolated digital inputs (Terminal Blocks) x4 Optically isolated digital outputs (Terminal Blocks)
LED	X2 User programmable LED
Video	VGA Connector (D-SUB15)
Input voltage	15V DC \pm 10%
Power Consumption(Max)	5W
Operating Temperature	-20C ⁰ to +60 ⁰ C
Humidity	10% to 90% (non-condensing)
Weight	420g
Size	187mm x 156mm x 42mm

For further information please contact:

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