Integrated software application helps manage communication network products

Client

Our client is a leading manufacturer of RF on fiber communication network products for in-building, in-tunnel, and outdoor coverage extension systems serving the wireless, public safety, government, and military markets.

Challenge

The client wanted to build a network management system (NMS) to manage the network of its communication products. The network consists of 4 levels of equipment:

- Primary head end business support unit (BSU)
- Secondary head end interface unit, secondary head end transceiver unit
- Remote radio unit nodes containing uplink
- Downlink and system management devices

More than 2200 devices are connected to monitoring server through more than 32 inbound feeds with min of 1 sec frequency. Some of them are in two way communication mode. Client wanted to establish reliable communication between Server and 2200+ agents and process the device data for more than 2200+ devices every second.

Marlabs Solution

Marlabs studied the existing network and proposed an agent based network communication for faster responsiveness. The solution involved Simple Network Management Protocol (SNMP) and could manage and monitor most of the devices on the network and also deal with legacy devices.

Marlabs' solution helped establish reliable communication between Server and 2200+ agents and process the device data for more than 2200+ devices every second.

We created proprietary communication protocol for minimized communication and JQuery based RIA User Interface for faster updates. Marlabs' solution included Spring based core framework with In-Memory grid for lighter, faster and no vendor lock-in server, and Java based stack for cost effective solution.

Benefits

- Fast track development with JQuery based Web UI
- Quick delivery within 3 months with performance and load testing reports using spring based lighter framework
- Received extended business on SNMP based solutions and additional features

Technologies

- Network Agent: C/C++, Ubuntu Libboost C++ libraries
- Network Monitoring Server: Vaadin, HTML 5/CSS 3 / Ajax, Spring Core 3.x, Hibernate 3.x, MySQL.