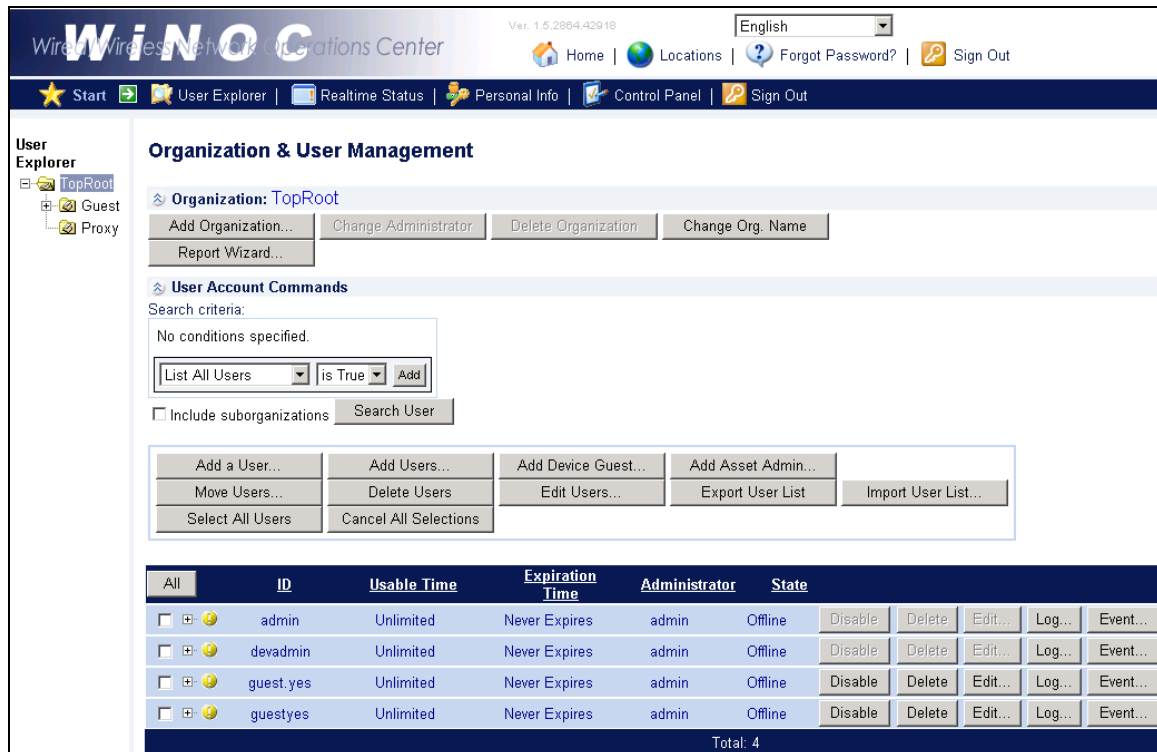# WiNOC (Wired/Wireless Network Operations Center) Specifications

Effortless wireless user and device management at your fingertips

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Introduction

Thanks to the continuous decrease of cost and the general acceptance of WLAN, the scales of deployed WLAN-based networks grow up rapidly. However, because WLAN is still an evolving technology, it is inevitable that the firmware of deployed devices need to be upgraded to support new features. In addition, identification of wireless users and network access must be controlled and monitored for security and management reasons. All of these requirements are challenging tasks for administrators of large-scale wireless networks.

YesTurnkey WiNOC (Wired/Wireless Network Operations Center) server software platform is aimed at satisfying the needs of large-scale wireless user and device management. Based-on HTTP (HyperText Transfer Protocol) and SNMP (Simple Network Management Protocol) technologies, WiNOC enables effortless management of large-scale wireless networks. After properly configuring WiNOC to recognize the devices

by IP address or domain, the administrator can perform various *batch* management commands to simultaneously alter the settings of several devices. In addition, WiNOC can continuously monitor the status and performance statistics of devices, and alert the administrator when any anomaly occurs. Furthermore, WiNOC supports RADIUS (Remote Access Dial-In User Service)-based AAA, so that wireless users must be authenticated before network access permissions are granted. This AAA capability also enables the administrator to analyze user access time and the amount of user traffic.

The versatility and flexible for-fee and free hotspot business models support of WiNOC make it suitable for large-scale WLAN management in schools, enterprises, governmental institutions, and WISPs. Not only can WiNOC be useful in tracking the progress of WLAN deployment at construction phase, but it can help administrators effortlessly manage wireless users and devices at maintenance phase. Therefore, WiNOC significantly relieves the burden of system integrators and reduces the conflicts between system integrators and WLAN proprietor.

Features

- Multilingual support. Every user of this system can use his/her own favorite language.
- Flexible and definable role-based authorization control. For example, system functions accessible by hotel IT managers, by clerks, and by guests are different.
- *Hierarchically* grouping wireless users and devices by *organization* and *location*.
- Uploading location (or floor) maps and device-specific images for managing devices graphically.
- Support large-scale outdoor devices management integrated with Google map.
- Scheduling management tasks to run regularly or at specific times.
- Billing integration with hotel property management system (PMS).
- Multiple WiNOC servers can work in tandem for load balancing, data backup, and disaster recovery.
- RADIUS roaming support for inter-service provider roaming.

- **Building and manipulating device list:**

  - The following properties can be manually associated with each device list item:

    - Device ID
    - Device Name
    - IP Address
    - Management Port
    - DNS Domain

- RADIUS Shared Secret
- Description
- Location coordinates

- The following properties can be automatically retrieved from devices:

  - MAC Address
  - Firmware Version
  - System Up Time
  - WLAN SSID (Sevice Set Identifier)

- Intuitive and powerful device list sorting and searching.
- Adding device list items by IP address range.
- Device list import and export.
- Printing device lists.

- **Network device management**

  - Management commands: (In the following "batch" means managing several devices at a time.)

    - Launching Web browser to configure devices.
    - Batch Checking device health by Ping, HTTP, SNMP, or TCP.
    - Batch configuring RADIUS server settings.
    - Restart device
  - Background device health monitoring and anomaly alerting by Email.
  - Device status logging.
  - SNMP-based device status and performance statistics reporting and analysis.
  - Multi-vendor, multi-model, multi-device-type support. Various types of devices are supported, including wireless access point, access controller, Power-over-Ethernet switch, router, Webcam, digital video recorder, video server, etc. Therefore, not only WiNOC can be used for managing wireless networks for Internet access, but it can also be used for managing digital surveillance systems.

- **Wireless user management**

  - Automatic user account and password generation for quickly creating a large quantity of user accounts.
  - User session time, idle time, logon hours, and simultaneous logon control.
  - On-line user status monitoring.
  - Flexible and powerful user list sorting and searching.

- User logon and logoff time reporting.
- By-location, by-online-time, or by-user-account traffic statistics and analysis.
- User account information configuration.
- Flexible by-organization, by-location billing policies.
- Flexible pre-paid and post-paid billing support.
- User list import and export.
- Printing user lists.
- "Black list" manipulation.
- Customizable logon, authentication success, authentication failure, and logoff pages for captive Web portal redirect.
- *One-time logon* accounts for hotspot service promotion. This kind of account can only be used to log on once.
- *Non-stopped accounting* accounts support. Once an account is activated, the available hours of this account are continuously counted down no matter whether the wireless user is online or not.

Hardware Requirements

- Intel Core 2.3GHz or above
- 2048MB RAM (4GB recommended)
- 100GB HDD

Software Requirements

- Microsoft Windows Server 2003/2008

- Microsoft SQL Server 2005/2008