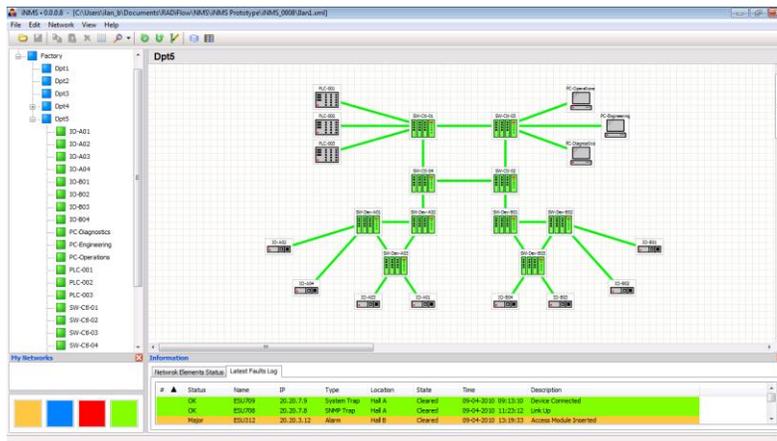# iSIM

Industrial Service Management tool

Intuitive Service Management of an Industrial Ethernet Network

- Automatic discovery of RADiFlow network switches
- Network topology management
- End-to-End Service provisioning
- Security rules configuration
- Aggregated network fault monitoring
- Network performance analysis
- Operator authorization levels

RAD*iflow*

iSIM

Industrial Service Management tool

The RADiFlow Service-aware Industrial Ethernet switches, combine a ruggedized Ethernet platform with a unique application-aware processing engine.

Such an integrated switch architecture simplifies the network solution including:

- Fit to the industrial environment
- Support for network resiliency schemes
- Support for both Ethernet and legacy serial interfaces
- Planning of a scalable network using service groups based on VLANs
- Distributed application-aware security measures

The RADiFlow switches are best utilized when used end-to-end in the network.
To facilitate the usage of the network-wide features of the switches the iSIM central management tool is used to minimize the required IT know-how.

TOPOLOGY MANAGEMENT

The iSIM presents the network topology in a logical tree structure and in a graphical map view. RADiFlow switches can be automatically discovered or manually configured.
 The user should then configure the links in the network between the switches and the end-devices connected to the switches. Furthermore the iSIM provides an intuitive wizard for the configuration and operation of G.8032 rings in the network.

SERVICE PROVISIONING

The iSIM is a powerful tool for provisioning of service connections between the industrial end-devices. Service groups are created connecting several industrial end-devices with the industrial protocols used between them. The iSIM translates the end-to-end service group provisioning to specific routing configuration in each of the affected switched in the network.
Tunnels between serial interfaces are also provisioned as service-groups with the appropriate mode of operation (transparent / bridge / translation).

SECURITY MANAGEMENT

For secured environments, a security matrix is created for each service group. In the security matrix the user configures application-aware security rules for each pair of end-devices starting from the protocol level and up to the specific parameters of the industrial protocols. The iSIM translates the security matrix rules to specific configuration rules for the embedded firewalls in each switch.
The iSIM also supports the configuration of the physical access rules such as association of specific end-devices per port in the network according to their MAC address.
For the integrated VPN gateway the iSIM provides a wizard for configuration of the remote tunnel parameters and the access rights per user.

For all the security mechanism the iSIM displays a dedicated log of the security violation events with analysis tools to determine the root cause.

NETWORK DIAGNOSTICS

The iSIM collects the alarm events from all switches in the network and presents them in an aggregated view with correlation to the impacted services. The alarm statuses are also presented graphically by the color of the switch icons and the links in the map.
The iSIM also contains powerful tools for analysis of the traffic flow in the network:

- Traffic statistics of links in the network selected by the service group or as a specifically subset
- Performance graphs over time for selected links with optional threshold crossing alarms to avoid congestion
- Service-Level-Agreement (SLA) verification for selected end-to-end services using OAM packets

NETWORK ADMINISTRATION

The iSIM provides tools to ease the administration of the network switches including software upgrades and data-base backup. These activities can be pre-scheduled and synchronized throughout the network.
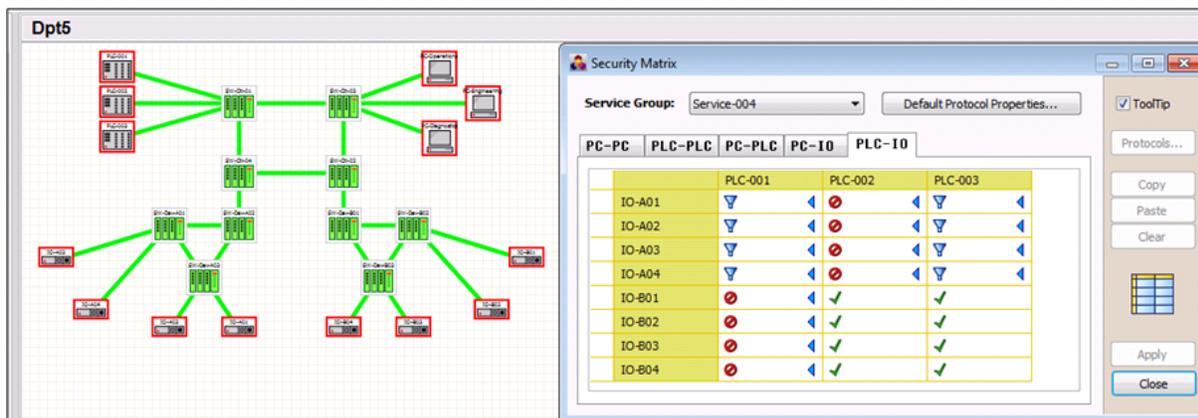

Figure 2. Distributed firewall configuration

Specifications

FUNCTIONALITY

Map topology management

Network elements auto-discovery

Network administration tools

Wizard for Ethernet ring configuration

End-to-End service groups provisioning

Security rules planning per service group

Secured VPN configuration

Log for security violations

Aggregated log for network alarms

Performance monitoring tools

SYSTEM ADMINSITRATION

Client-Server architecture
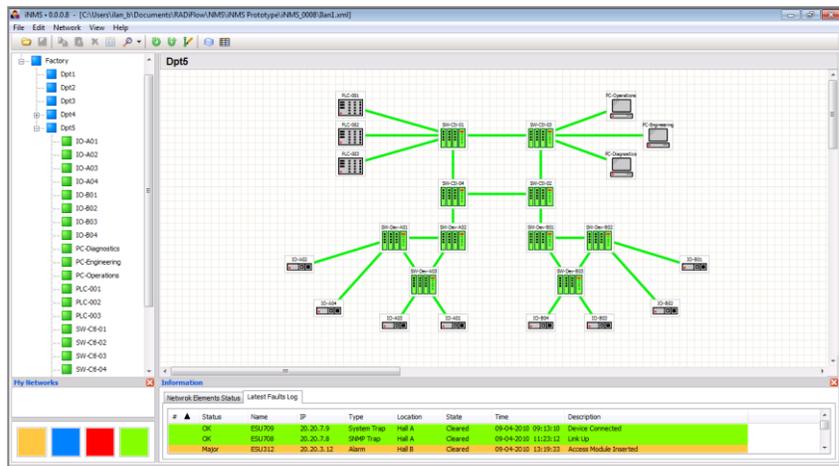
User authorization levels

Platform Requirements

Windows based platform with the following minimal requirements

Windows XP SP 3, Vista or Windows 7

Pentium 1GHz CPU or stronger

At least 1GB RAM

At least 64MB available disk space

Super VGA (800 x 600) or higher resolution

Ordering

iSIM license per managed switch

Minimum of 10 licenses in package

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