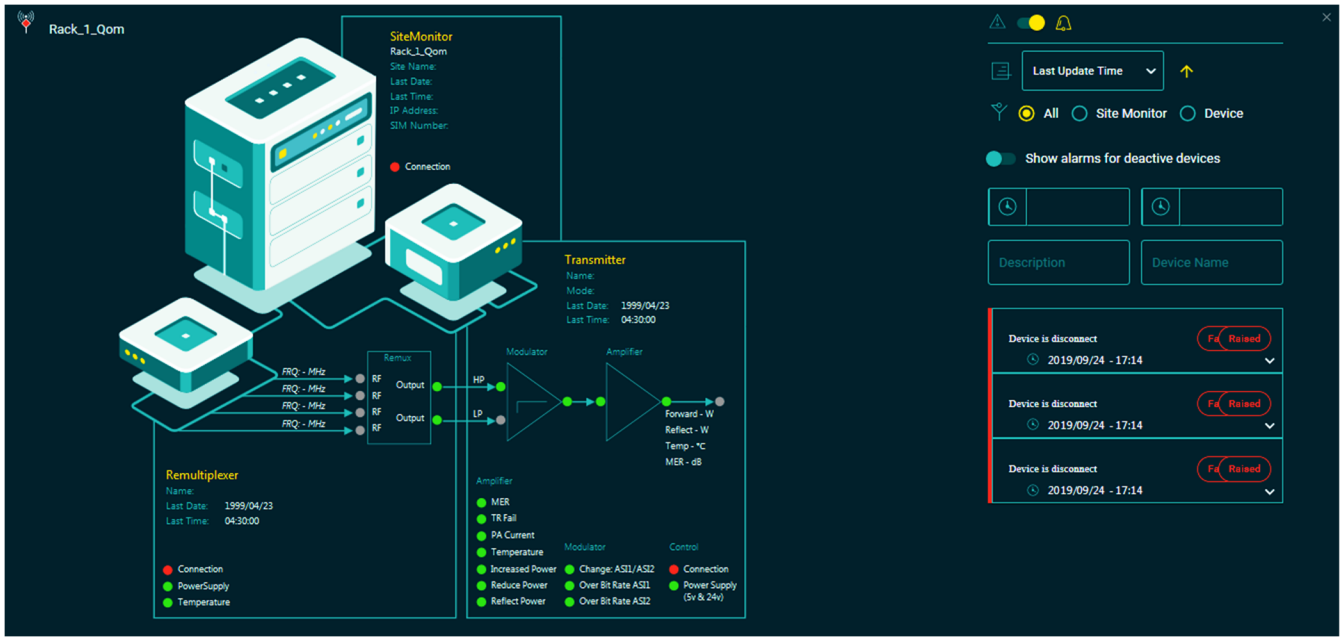
FANAMOJ

Network Management System



Version 1

Summer 2020

Descriptions

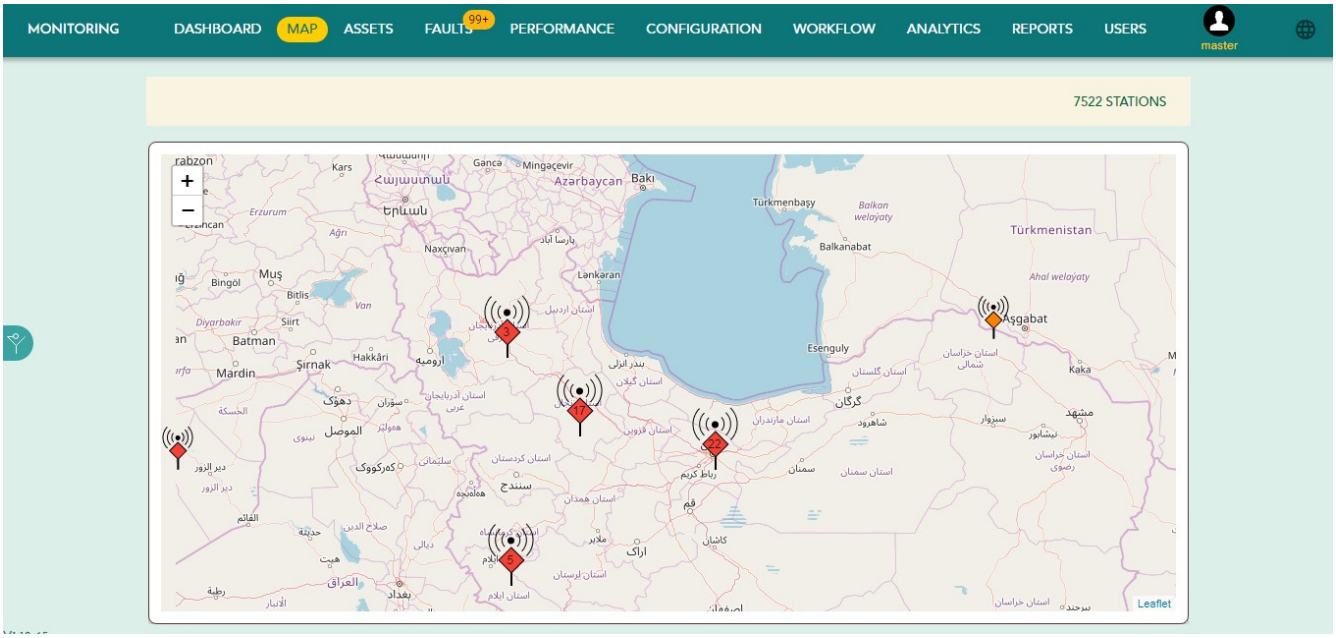
As a facility grows and its equipment multiplies, its infrastructure becomes large and decentralized. Thus, it faces an increasing need to monitor the equipment through an easy-to-use, integrated, central system.
As broadcast facilities grow in size from an individual building to geographically separate locations, broadcasters must be able to monitor the system in its totality from a central location in real time. FNJ-NMS-01 is a facility-monitoring and control system that offers ease of use to personnel of all skill.
The system consists of a software and a site monitor which is an interface between main server and remote equipment. The site monitor gathers and transfers data and command from and to equipment in the facilities. Supporting SNMP v.3 enables secure communication and even devices without SNMP protocol can be monitored via Modbus, RS232/485, SIO or other standard industrial communication protocols.

Features

- Web-based software based on microservice architecture including:
  - Configuration Management
  - Map
  - Fault Management
  - Data analysis (Error statistics, Error source, Error chain etc.)
  - Ticket Management
  - Performance Management
  - User Management
  - Asset Management
  - Workflow Management
  - Backup and restore
- Customized user dashboard
- Secure connection via SNMP v.3 protocol between equipment and server
- Monitoring and control on different levels based on location, permission etc.
- Site monitor with back up battery for reporting during power outage and last alarm option before system shut down
- User-definable faceplate signal chain
- Automatic alarm in case of failure via SMS and Email

Functions

- Monitoring and control in:
  - Broadcast including Terrestrial and Satellite signal chain, TV and Radio stations
  - Data centers
  - Gas, Water and Energy networks
  - Telecom networks



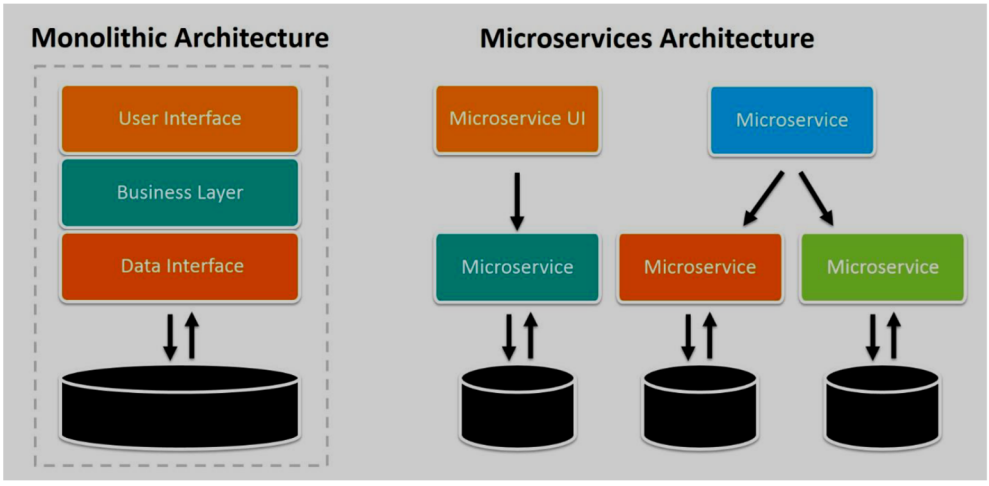
Technical descriptions

➢ Web-based access

NetManager software enables users to connect to the system server and directly monitor and control the equipment via a web browser based on the user permission. (No need for an extra software.)

➢ Micro service architecture

In the Micro service architecture software components have been implemented independently and finally connect via network. Consequently, modularity level increases, down time during system upgrade and maintenance are minimized and services can function independently. In case of developing facilities or devices, it is possible to deploy services (Modules) on different hardware and distribute processing load. System extension in such architecture is horizontal and new hardware could simply be added to the system without substitution with the old one.



➢ User dashboard

- Customizing user dashboard based on tasks and access zones
- Capable of adding unlimited widgets further to user-definable widget arrange
- Adding Map-, alarm list-, ticket- and received status chart- widgets capable of sorting and filtering
- All of these functionalities (Information display, add, remove etc.) are controlled by user access level.

➢ Map

- Displaying stations and summary of equipment status on the map
- Hierarchical display of stations, racks within the stations and installed equipment in the racks.
- Capability of searching and filtering the stations on the system map
- Hierarchical access to faceplates via system map
- Live status of faceplates including values, faults (LED) and alarms
- Displaying and managing faceplate faults and notifications
- All the actions including setting change, add or remove are limited to user access level

➢ Assets

- Managing and displaying all the equipment in the system
- Advanced search and sorting option based on the equipment name, serial number, owner, zone
- Access to site monitor faceplate via equipment information
- Capable of defining equipment type for an efficient management of assets (When setting: status send intervals, error type display, search or software update)
- Capable of group- change or upgrade in the network
- Add/Remove new equipment by identity verification
- Capable of editing equipment information
- All the mentioned options are limited to user access level

➢ Configuration Management

- Remote access to the equipment for changing system setting
- Displaying current settings of the equipment in the network
- Tracking implemented setting records and searching option
- All the mentioned options are limited to user access level

➢ Faults

- Displaying all system faults simultaneously capable of searching, managing and troubleshooting them
- Efficient filtering f faults based on equipment, zone and occurring time
- Displaying history of fault changes
- All the mentioned options are limited to user access level

➢ Performance Management

- User-friendly display of time charts of equipment status (Max/Min/ average analysis of status data in different time intervals)
- Comparing each equipment efficiency based on time charts
- Defining tasks for equipment debugging

- Reporting status information as excel file
- Server resources charts (CPU, RAM, Network)
- All the mentioned options/functions are limited to user access level

➢ Work flow management

- Capable of defining tickets for each fault
- Assigning responsible user to troubleshoot the tickets
- Ticket definition as chain
- Capable of defining priority and Severity of tickets
- Efficient search between tickets based on owner priority, time, sensitivity, tickets of one or more specific equipment, tickets of one or more specific alarm
- Displaying records of ticket changes
- Capable of changing informing channel
- Capable of assigning repair cycle for equipment faults
- All the mentioned options/functions are limited to user access level

➢ Analytical charts

- Capable of displaying(plotting) analytical charts in order to identify equipment with most common or repetitive faults

➢ User management

- Dynamic access role definition
- Dynamic access zones definition (Province, Station)
- Add/Remove users with different access levels
- Capable of connecting to other user management systems with web service API and standard protocol
- System log reports from user activities to managers
- All the mentioned options/functions are limited to user access level

➢ Other equipment monitoring and control

- NetManager enables users to control and monitor any device equipped with RS232/485 ،SIO ports

• Ordering

Product	Description
NetManager	NMS software including 11 main modules
NetManager Support Types	Signal chain customization (Faceplate) Monitoring and control of equipment without network ports

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