
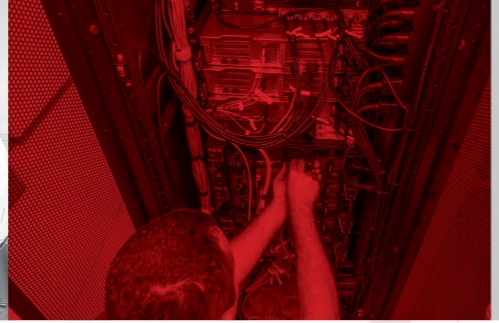

ROAMING
Networks

DISCOVER THE POWER OF OUR KNOWLEDGE




About Us

Roaming Networks is a system integrator company, a Digital General Contractor delivering high-end services in telecommunications and beyond across global markets. An 800 people-strong organization caters for design, build, integration, and other services, allowing clients to place their focus on what is important to them. We developed our capabilities over generations of sophisticated technologies and continue to do so by following customers' needs and expectations. Our own software development enables us to digitalize our work and through automation and standardization, efficiency and performance are continuously pushed ahead.

Forward is the only way for Roaming Networks, growing through state-of-the-art technology, aiming at a simpler and smarter future in an ever more connected world.

Come, roam with us!


EU
BR
BALKAN REGION
EUROPEAN UNION
SERBIA
2008
BOSNIA AND HERZEGOVINA
2009
MONTENEGRO
2011
AUSTRIA
2013
GERMANY
2017
CROATIA
2019

Network Operations Center

Roaming Networks is providing full scope of services for planning, operation, support and provisioning for managed networks under service agreement with Clients. The aim is to assure the availability and performance of the services, the network and services resources and to maintain the agreed service levels.

The planning and operational services are divided in the following functional blocks:

- **Network Planning Services**
  - Access Network Design
  - Transport Network Design
  - Core Network Design
  - Integration Analysis
  - Inventory Management
- **Service and Network Assurance**
  - Fault Management
  - Trouble Reporting
  - Problem Escalat ion
  - Network Tests
  - Planned Work Management

Network Operations Center

- **Network Performance Optimization**
  - Configuration Management
- **Service Provisioning**
  - Node/Site/Equipment Acceptance
  - Service Activation

Service and Network Assurance

Front Office

- **Integration and Acceptance of Equipment and Services**
  - Equipment and Services are getting integrated and accepted in accordance with the defined acceptance procedure
- **Service Quality Management**
  - Quality performance management including day-to-day performance monitoring in order to detect and correct exceptions or faults that have adverse affect on the service performance
  - Typical activities are key performance indicator analysis, hardware performance analysis, configuration checks, trend analysis and traffic analysis
  - Preparation of operational reports connected to the availability of the network nodes, sites
  - The aim is to reveal the real quality of the network performance, one that is seen from the point view of end customers and to reveal the root cause of any degradation in service performance
  - Quality performance optimization, to resolve day-to-day quality problems or possible future quality problems found in the quality performance management activity. Typical methods to be used for this are parameter optimization and troubleshooting

Service and Network Assurance

Front Office

- **Problem Management**
  - Service and Network problem management including remote real-time monitoring of service or network events/alarms
  - Reception and acknowledgement of complaints
  - Classification of problems/events and assigning of problem categories and initial analysis and fault location
  - Internal and external tool handling

- **Service Restoration**
  - Manage service-related problems raised by trouble tickets like problem analysis and fault location and remote corrective actions to restore faulty units or functions.
  - Problem escalation like technical escalation of problem to the 2nd and 3rd line support organization, initiation of emergency handling procedure, monitoring of progress of problem-solving activities and information escalation.
  - Management of on-site resource restoration like creation and assignment of work orders, dispatching and co-ordination of on site personnel, access clearance and support to field technicians, from the service center, during on-site corrective maintenance and follow-up on site activities and verification of intervention results

Service and Network Assurance

Front Office

- **Maintenance and repair**
  - Plan and schedule preventive maintenance and follow-up of maintenance results
  - Preparation and activation of scripts and commands utilized for preventive maintenance. Results are analyzed and discovered problems reported in form of trouble tickets.
- **Resource data collection and control**
  - Network and service performance data collection and assistance in specifzing performance measurement parameters, such as tzpe of data and collection frequency.
  - Performance data collection are initiated and administrated and the performance data are reported. The reporting shall be done by means of performance reports.

Service and Network Assurance

Front Office

- **Planned work management**
  - Planned work includes the following activities:
    - Backup Managment
    - Small expansion activities
    - Field Change Orders
    - Optimizing antenna performance
- **Planning and dispatching**
  - Dispatching encompasses the management of Field Maintenance Engineers in their daily job
  - Dispatching means setting priorities between corrective, preventive maintenance and planned work
  - Dispatching means to call engineers that have the right competence and the least travel time to site
  - Dispatching explicitly includes securing the safety of the engineers at all times

Network Performance Optimization

Back Office

- **Performance assessment**
  - The performance of the network is measured, monitored, reported and analyzed continuously to identify exceptions and trends in the system performance
  - The main focus of the system performance assessment is to identify the root cause of any possible poor performance. This includes, by means of statistical data and recording functions, identification and quantification of problem areas in the network
  - Collection of data for performance assessment is based on statistics collected from different nodes in the radio, core, and transmission domains. The data is normally collected from OSS of respective domains and usually includes: Drive tests, statistical analysis, system functionality analysis, system parameter analysis, user traffic analysis, capacity analysis, load sharing analysis, traffic routing analysis

Network Performance Optimization

Back Office

- **Performance Optimization Execution**
  - Performance optimization execution is the activity where proposed actions resulting from the performance assessments are implemented. The optimal solution is found by making the appropriate changes and verifying the results for each change indicated as required by performance assessments
  - Radio access network optimization
    - Radio resource reallocation, to optimize resource utilization when additional capacity is needed at a cell location, and at the same time, spare capacity exists at another cell location in the Network
    - Cell rearrangement, to optimize a cell from a cell planning point of view in order to optimize call quality when call performance cannot be maintained by conventional tuning.
    - Handover optimization, to tune and optimize neighbor relations for soft and hard handover
    - Frequency/code tuning, to optimize frequency and code allocations
    - System parameter tuning, to optimize system functionality when it is deemed effective by the system activity
    - Cell traffic tuning, to optimize call quality in the radio network when the action report from performance assessment involves loading of revised cell parameters into the system

Network Performance Optimization

Back Office

- **Performance Optimization Execution**
  - Transport network optimization
    - The transport network optimization provides an in-depth analysis of the actual load on the transport network nodes and links, thereby calculating the availability and quality of transport network. Included are also long term recommendations in order to optimize the total system dimensioning against the current demands and to provide input to future planning.
    - Transport capacity optimization, to optimize the capacity of the links in the access transport network, taking in consideration the current traffic demands as well as the future traffic growths
    - Transport performance optimization, to evaluate and optimize the performance of the transport network
    - Link test evaluation, to evaluate whether the result of the link test fulfils the performance objectives
    - Route test evaluation, to evaluate whether the route test fulfils the performance objectives
  - Core network optimization
    - In core network optimization the main objective is to maintain a high level of performance in all functional areas of the core network and to optimize and calibrate the system parameters for accurate performance monitoring
    - The performance optimization of the core network includes collection and analysis of the data collected from the core nodes. Recommendations for performance improvements are highlighted and presented, and decided improvements are implemented

Network Performance Optimization

Back Office

- **Network Performance Optimization**
  - All network configuration data needed for network planning, design and optimization are handled and network documentation is monitored and evaluated

Service Provisioning

Back Office

The scope of this process is to fulfil client service requests in cases where service provisioning requires activities towards the network. This process secures that such requests are fulfilled just in time.

- **Service Pre-provisioning**
  - Proactively ensuring that the services are available for allocation to end-users when order arrives from Customer's management function
  - Responsibility to ensure availability of the resources required for configuration of end-user services

- **Service and resource configuration**
  - Service configuration and activation to install and configure services or reconfiguration of services due to demands or problem resolution
  - Resource provisioning and allocation to service instance processes, encompass the configuration of resources and logical resource provisioning for individual instances
  - Management of service or resource provisioning including creation of work orders, dispatching and co-ordination of on site personnel, access clearance and support to field technicians
  - Site activities are followed-up and intervention results verified, and the resource inventory database is updated

Network Planning

- **Radio Network Planning**
  - RF coverage, capacity, cell parameter and neighbor planning for wireless and mobile cellular networks
  - Technology includes 2G, 3G, LTE, 5G radio network planning

- **Backbone Transmission Network Planning**
  - Backhaul network planning providing link planning, path profiling and routing and capacity optimization
  - End to end transmission capacity planning
  - Migration planning services to IP interfaces
  - Technology planning includes IP, IP/MPLS, WDM, SDH, PDH, ATM
  - High Level and Low Level Design documents

- **Core Network Planning**
  - System design and dimensioning
  - Planning and defining of new networks and services
  - Analyze traffic requirements and perform network element dimensioning including interfaces
  - Recommending and optimizing network topology

WE EMPHASIZE

Employee Skills & Tools Development

Every one of us strives towards a common goal of achieving what matters most — connecting and growing together.

Employee

- More than 800 good people
- More than 321 engineers
- More than 460 technicians

Digital Business

- Close Out

Education & Training

- Accredited training center
- Engineer of the future
- Practice program

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