

# NETWORK DESIGN & PLANNING



# REGION AUTHORITY CORP: YOUR INTELLIGENT ALTERNATIVE

Leveraging over 20 years' experience in the telecommunications industry, Region Authority provides comprehensive infrastructure engineering services, IT solutions, training, and management services. Tailored to meet the needs of various industries, our out-of-the-box thinking and innovative capabilities enable our clients to reinvent and rebrand themselves in the global marketplace.

## RAC SERVICES

Our management consulting services fall into four broad areas:

- Network Design & Planning
- Network Integration & Testing
- Network Maintenance, Modernization & Optimization
- Enterprise Learning Platform

## WHY RAC?

Based on extensive experience and a deep understanding of the industry, Region Authority Corp provides expert telecommunications infrastructure consulting, project planning, training, and management services. Using advanced, data-driven analytics and innovative software platforms, our highly skilled team offers the optimal technological solutions and knowledge sharing to help you realize your vision, drive competitive differentiation, and protect your business.

*To learn more, visit us at [regionauthority.com](http://regionauthority.com).*

## NETWORK DESIGN & PLANNING (NDP)

Telco operators are constantly challenged to provide new services requiring ubiquitous broadband access. Faced with ensuring optimal network coverage and the guaranteed quality of service (QoS), having the right design and plans in place from the beginning are crucial for success. An iterative process, comprising topological design, network-synthesis, and network-realization, network planning must focus on meeting the needs of both the subscriber and operator.

### RAC'S NETWORK DESIGN & PLANNING SERVICES:

- Provide consistent reliability and efficiency with immediate cost-effectiveness
- Address all scenarios for design and planning, including:
  - Greenfield
  - Expansion
  - Migration
  - Upgrade
  - Overlay
  - Optimization
  - Replacement
  - Rehome
- Reduced OpEx and CapEx with accelerated time-to-revenue
- Streamline consolidation, expansion, and migration across multiple technologies
- Ensure compliance with industry standards and health and safety regulations
- Support new next-gen technologies for best-in-class capacity and performance
- Ensure increased flexibility and scalability while reducing deployment risk
- Accelerate provisioning with vendor-agnostic technology expertise and experience

Depending on the type of network, numerous technological, economic, and demographic parameters have to be taken into account, with the right choices made to maximize efficiency, profitability, and reliability. In a hugely competitive market place, skills and resources are often limited. When combined with ever-increasing infrastructure complexity, optimal design and planning require an experienced, reliable team with a proven design and planning framework to deliver a high-capacity, scalable solution

RAC offers a comprehensive portfolio of design, planning, and proof of concept (POC) services, customized to meet the specific needs of your network. From information acquisition, to architectural and topological design, to site surveys and drawings, we take an end-to-end, multivendor approach, adding value at every phase to deliver the business and technological outcomes and competitive differentiation your consumers and stakeholders demand.



## FLEXIBLE, VENDOR AGNOSTIC MANAGEMENT CONSULTING SERVICES

Uniquely capable of providing the perspective and leadership your project demands, our holistic approach guides you through the process of evaluating and managing all of your audit, planning, and implementation needs. Focused on improving network KPIs, our experts assess performance data, recommend cost-saving maintenance best practices, and work with you to plan and execute optimization and modernization initiatives, minimizing risk and ensuring consistently high-quality outcomes.

Our end-to-end management services encompass the following components:

- **Knowledge:** Get to you, your business objectives, and your current environment
- **Strategy:** Explore current strategies and present alternative, value-based options
- **Assessment:** Comprehensive audit of your network topology, equipment inventory, and sites
- **Analysis:** Detailed report of findings and prioritized recommendations for modernization and/or optimization
- **Design:** Oversee the engineering design of new implementations and deployments
- **Project Planning:** Develop project plans for procurement, testing, deployment, and migration
- **Installation and Verification:** Oversee the installation, configuration, and testing of new equipment.
- **Migration:** Oversee the execution of the migration strategy, ensuring zero subscriber impact
- **Decommissioning:** Oversee the removal of legacy equipment as per corporate and government regulations
- **Maintenance:** Document cost-saving maintenance requirements and scheduling
- **Documentation:** Document all inventory, configurations, labeling, and procedural changes

# RAC'S NETWORK DESIGN & PLANNING SERVICE PORTFOLIO

In addition to our Network Integration & Testing (NIT) and Network Maintenance, Modernization & Optimization (NIT) services, our NDP portfolio includes—but is not limited to—the following services:

CODE	SERVICE TITLE	PAGE #
NETWORK PRE-DESIGN AUDIT & RISK ASSESSMENT *		
NDP-PDARA-1.1	Pre-Design Audit & Risk Assessment (incl. Site Visit)	8
FIXED & MOBILE NETWORK DESIGN/PLANNING		
NDP-FMNDP-1.0	Network Architecture Design	10
NDP-FMNDP-1.1	Network Engineering Design	10
NDP-FMNDP-1.2	Proof of Concept (PoC) Planning	11

\* **Note:** All design and planning services may require a network audit and site survey, especially when the purpose of the project is to expand, migrate, optimize, overlay, rehome, replace, or upgrade the network.





## SUPPLIER LIFE-CYCLE, PROCUREMENT & INVENTORY MANAGEMENT PLATFORM

To simplify the maintenance, modernization, and optimization of your network, we've developed an enterprise SaaS application for end-to-end field management reflecting years of experience and best practices. Packed with powerful but easy-to-use features, the application enables you to:

- Streamline and accelerate onboarding of new suppliers
- Manage the entire supplier life-cycle, including
  - Procurement
  - Inventory
  - Upgrades
  - EOL
  - Disposal
- Deliver cross-functional performance evaluations
- Assure effective governance and risk mitigation



## NETWORK PRE-DESIGN AUDIT & RISK ASSESSMENT

### DESCRIPTION

Based on industry best practices, a carefully compiled network audit assesses the risks and safety aspects of the proposed expansion, migration, optimization, overlay, rehomeing, replacement, or upgrade. Conducted by technology and process experts following a consultative approach, this service assesses and documents the proposed infrastructure, tools, and processes, identifies gaps, provides recommendations for improvement, and ensures contractor compliance. All installation requirements are recorded in a contractual format, ensuring all work is completed to the correct standard.

### APPROACH

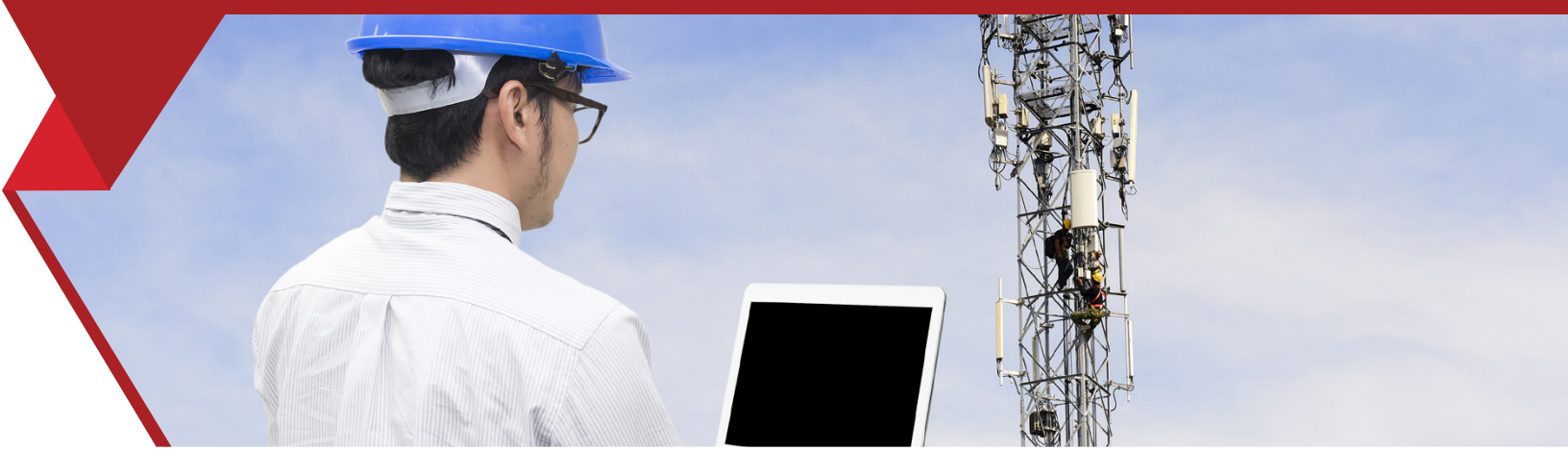
Our approach to conducting a thorough pre-design audit and risk assessment entails:

- Collecting all available data pertinent to the proposed installation
- Verifying the collected data during on-site and on-field inspections
- Documenting any discrepancies and informing the customer
- Incorporating updates as required during the project

### OUTPUT

Supported by a full set of digital photographs, the network audit report comprises a comprehensive list of observations and recommendations for the installation, integration, testing, and commissioning of the new infrastructure to ensure compliance, performance, and scalability to meet your operational and strategic goals. The report covers the following areas:

- Transport and delivery
- Logistics support
- Physical site survey
- Cabling requirements
- Power requirements
- Equipment installation
- Engineer certifications



## **PRE-DESIGN AUDIT & RISK ASSESSMENT**

Our pre-design audit includes the following option, along with its principal activities.

### **NDP-PDARA-1.1 PRE-DESIGN AUDIT & RISK ASSESSMENT (INCL. SITE VISIT)**

This installation audit and risk assessment ensure the work proposed can be completed to the highest possible standard, meeting—or exceeding—industry standards, regulatory compliance, and best practices. Tailored to the specific needs of each project, the inspection and risk assessment may comprise inspection and verification of any of the following options:

- Antenna mounts
- Cable installations
- Contractor staff certifications
- Datacenter power and cooling
- Equipment
- Equipment configuration
- Existing network testing
- Tower construction
- Transmission lines
- UPS systems





## NETWORK DESIGN & PLANNING

### DESCRIPTION

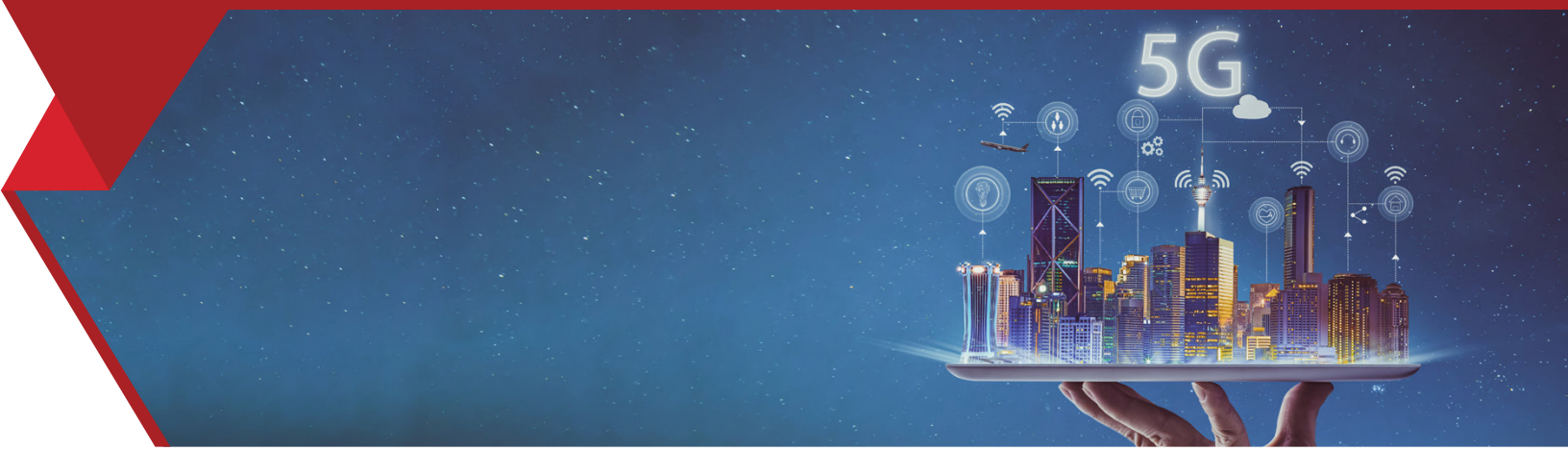
RAC provides a unique combination of design and planning expertise and experience. Leveraging proven architectural and engineering best practices, we utilize state-of-the-art design tools and innovative processes to propose an elastic, scalable network that exceeds subscriber requirements while optimizing costs and maximizing revenue.

### APPROACH

Crafted to meet rapidly growing and ever-changing traffic demands, our design services include:

- Complete or partial network design
  - Backbone
  - Cable broadband
  - Enterprise network
  - Fiber network
- Traffic dimensioning
- Access network planning
- Scenario planning
- Detailed, custom-designed reports
- Compliance with regulatory and service availability limitations

Leveraging extensive experience combined with innovative planning tools, our designs incorporate the latest proven technologies providing multi-vendor and multi-operator solutions.



## **FIXED & MOBILE NETWORK DESIGN/PLANNING**

Our design and planning services for fixed and mobile networks comprise the following options, listed together with their principal activities or benefits. All packages are customized based on the specific needs of the project. Each service can be purchased on its own or as part of a package comprising one or more services.

### **NDP-FMNDP-1.0 NETWORK ARCHITECTURE DESIGN**

From inception to completion, we'll deliver a high-level topological design with the necessary equipment and connectivity to meet your requirements. Our network architecture services encompass:

- Requirements and infrastructure analysis and architecture planning
- Topology, logical network, circuit, and network management design
- Cell planning, contract, and license application support
- Channel, traffic, and capacity demand planning
- Network architecture packages with network-level drawings
- Network modeling and simulation studies
- Technology recommendations and equipment list

### **NDP-FMNDP-1.1 NETWORK ENGINEERING DESIGN**

Following approval of the high-level network architecture, we'll deliver a detailed engineering design specification including circuit capacity, equipment BoMs, and other design details. Included as components of the engineering design are:

- Bill of materials (BOMs)
- Connectivity, and rack and stack design
- Network management systems (if required)
- Methods of Procedure (MOPs)
- Installation, integration, migration, and test specifications
- Engineering design packages with site-level drawings



## **NDP-FMNDP-1.2 PROOF OF CONCEPT (POC) PLANNING**

Building a PoC environment allows you to evaluate the capabilities of new technologies and solutions, providing the basis for informed decision making before making significant investments. It also allows you to identify and address potential issues and develop RFPs that reflect your real needs. Our consulting support services include:

- Expert advice from our technical engineers
- Recommendations for equipment testing and network designs prior to investment
- Ensuring compatibility between proposed and existing systems
- Knowledge sharing and transfer of new technologies and equipment
- Matching requirements and adjusting technical designs if necessary
- Addressing potential concerns before purchase and rollout

## WHY REGION AUTHORITY CORP?

**Maximum Network Uptime:** We excel at managing the provision of end-to-end solutions aimed at achieving maximum network uptime— one of the main concerns of most telecom service providers.

**Increased Performance:** Our innovative, proven tools help our clients increase productivity and optimize performances with highly-effective EPIT (engineer, provision, install, and test) Services.

**Expertise & Experience:** We're proud to count on a team of highly-skilled professionals with decades of training and experience handling all types of network equipment and communication systems.

**Vendor Network:** We work hard to maintain stable relationships with our equipment manufacturer and software vendor partners, enabling us to serve our global customers in the most efficiently and cost-effectively.

**Attention to Detail:** All of our customers receive detailed closeout documentation for every project we deliver, with full proof of compliance as required by the relevant authorities.

For any of the following management services, call us on 215.278.6955 or email us at [director@regionauthority.com](mailto:director@regionauthority.com)

- Document and Data Management Services
- Land Mobile Radio & BTS Systems
- Broadband Network Systems
- Wireline Access & Switching
- Optical Transport & Switching Systems
- DC Power & Infrastructure
- Rack & Stack

To learn more, visit us at [regionauthority.com](http://regionauthority.com).



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