NETWORK INTEGRATION & TESTING

REGION AUTHORITY CORP
YOUR INTELLIGENT ALTERNATIVE

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.

NETWORK INTEGRATION & TESTING (NIT)

As the demand for new subscriber services escalates and underlying technologies evolve, expanding and upgrading your network needs to be rapid and seamless. New equipment needs to be installed, integrated, tested, and commissioned according to rigorous industry guidelines to ensure compliance. Optimum efficiency—combined with the highest levels of safety—is required to control costs and maximize productivity.

At the same time, limited skills and resources—compounded by increased infrastructure complexity—create challenges when it comes to building an experienced, reliable team that can deliver on time, within budget, and with minimal disruption to business operations.

RAC'S NETWORK INTEGRATION & TESTING SERVICES:

- Provide the consistent, reliable deployment of new infrastructure and services
- Plan the installation, integration, testing, and commissioning of new infrastructure
- Streamline consolidation, expansion, and migration across multiple technologies
- Ensure compliance with industry standards and health and safety regulations
- Support new next-gen technologies enabling bandwidth-intensive services
- Bring new nodes and network elements online quickly and efficiently
- Accelerate provisioning with vendor-agnostic technology expertise and experience

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 INTEGRATION & TESTING SERVICE PORTFOLIO

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

* Note: Installation, integration, and testing services may require a network audit, site survey, or troubleshooting prior to the deployment and commissioning of new equipment.

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

  o Procurement
  o Inventory
  o Upgrades
  o EOL
  o Disposal

- Deliver cross-functional performance evaluations
- Assure effective governance and risk mitigation

NETWORK PRE-INSTALLATION AUDIT & RISK ASSESSMENT

DESCRIPTION

Based on industry best practices, a carefully compiled network audit assesses the risks and safety aspects of the proposed installation. 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-installation 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-INSTALLATION AUDIT & RISK ASSESSMENT

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

NIT-PRARA-1.1 PRE-INSTALLATION 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 INSTALLATION, INTEGRATION & COMMISSIONING

DESCRIPTION

RAC offers expert oversight of installation, integration, and commissioning services according to rigorous best-practices to ensure the best possible outcomes in terms of technical performance and compliance.

APPROACH

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

- Collecting all available data pertinent to the proposed installation
- Oversee personnel contracted to install, integrate, and commission equipment
- Verify all equipment is installed correctly and performs according to specification
- Verify the end-to-end deployment complies with industry and government regulations
- Document and address all issues onsite with the contractor
- Inform the client of all actions, issues, and resolutions

INSTALLATION, INTEGRATION & COMMISSIONING

Our installation, integration, and commissioning management services 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.

NIT-IIC-1.0 EQUIPMENT PRE-STAGING & TESTING

Overseeing the pre-installation and testing of equipment cabinets, radio packs, and in-building equipment at your facilities prior to deployment. RAC's expertise and best-practices ensure increased resource management and logistics efficiencies, accelerating time-to-value for the implementation of in-field systems. Equipment pre-staging and testing offer the following benefits:

- Consolidated inventory receipt and verification
- Reduced in-field install and test time
- Improved deployment time and quality
- Simplified logistics for in-field part replacement

NIT-IIC-1.1 INSTALLATION SERVICE PACKAGE

Experienced RAC engineers and technicians will oversee the installation of a multi-vendor data, fiber, and voice equipment for providing telecommunications services over both wired and wireless networks. Our expertise encompasses the following areas:

- Logistics, transport, and delivery
- Secure site access and local government permits
- Streamlined turnkey rack and stack procurement
- External enclosure installations (incl. roadside and trackside)
- Equipment room infrastructure installations (incl. customized cabinets and racks)
- Telecoms equipment hardware installations (incl. frame rationalization)
- Fiber racking, cabling, and splicing (Balanced Cable / Coax / Fiber /Twisted Pair)
- Redundant equipment recovery

NIT-IIC-1.2 INTEGRATION SERVICE PACKAGE

Designed to bring network elements and nodes into commercial service swiftly, reliably, and efficiently, this service provides oversight of contracted commissioning engineers. While representing the interests of your organization in a professional capacity, we'll ensure that complex network upgrades—including consolidations, expansions, and migrations—leveraging multiple, multi-vendor technologies result in the capacity, performance, scalability, risk mitigation, and compliance you're looking for. Our services cover oversight of the following areas:

- Verification
    - o Network connections
    - o Rack layouts
    - o System settings
    - o System ID to Network-on-Chip (NOC)

- Testing
    - o Alarms
    - o Calls (data and/or voice)
    - o Fiber connections
    - o Nodal functionality
    - o Power
    - o Ring stability

- Fault diagnosis and rectification (where necessary)
- Removal/swap of obsolete/redundant equipment
- Test documentation completed and verified

NIT-IIC-1.3 COMMISSIONING SERVICE PACKAGE

Focused on ensuring flawless system performance, rapid return on investment (ROI), and positive business outcomes, RAC engineers and technicians are available to oversee the commissioning of your equipment into active service. Our expertise encompasses a wide range of equipment groups, including transmission equipment, routers and switches, fiber networks, and wireless 3G, 4G, and 5G networks. Our commissioning services include the oversight of:

- Configuration
- Connectivity
- Power-up

- Network trials
- Performance testing
- Testing and data analysis

NETWORK ACCEPTANCE TESTING (NAT)

DESCRIPTION

RAC conducts complete factory and field acceptance tests of the various components deployed. Using state-of-the-art testing equipment, our team of analytical experts monitor, measure, and optimize the performance of your equipment, networks, and systems.
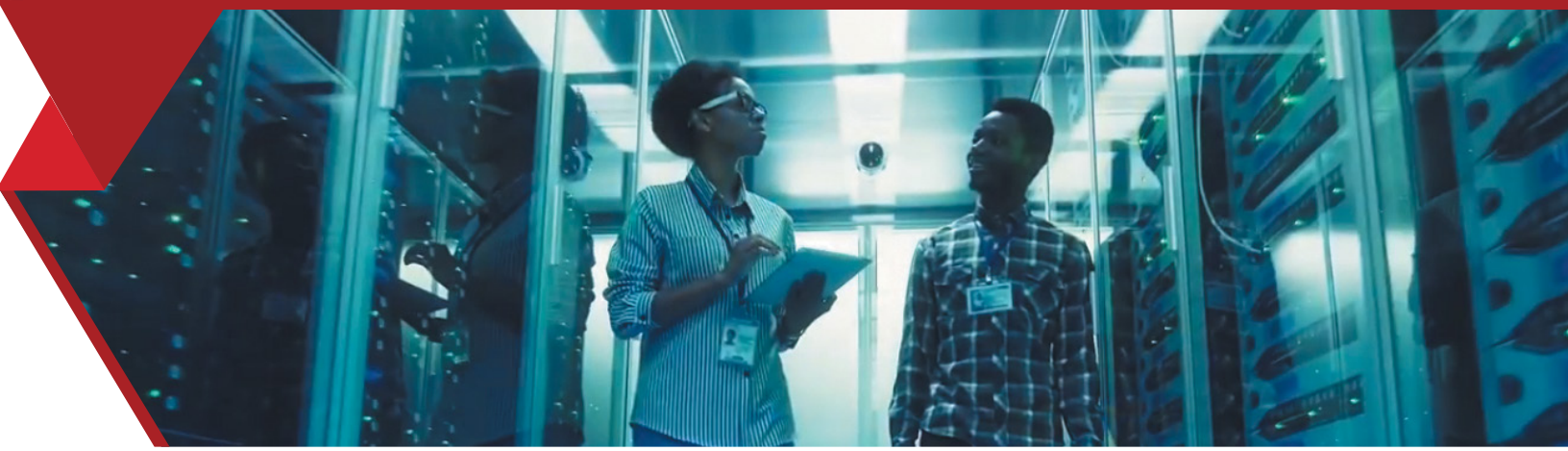
APPROACH

We offer a comprehensive approach to ensure thorough testing of all network components, including:

- Developing a tailored test strategy
- Designing manual and automated test cases
- Generating test scripts (if required)
- Employing various test automation frameworks
- Manage test cases across a multivendor environment
- Executing tests cases and tracking issues
- Load testing for data transmission
- Performance, functional, stress, and usability testing
- Interoperability and compatibility testing

OUTPUT

The output of each NAT project comprises a comprehensive list of tests completed, observations made, and recommendations for issues that need to be addressed.

ACCEPTANCE TESTING

Our network acceptance testing services include the following options, along with their principal activities.

NIT-NAT-1.1 NETWORK ACCEPTANCE TESTING (NAT)

Leveraging over 20-years' experience, RAC's experts leverage industry best-practices to ensure the work completed is installed, integrated, and operational as per the required specifications. Tailored to the specific needs of each project, the tests may comprise the following options:

- First-level verification
- Installation and upgrade tests
- Compatibility tests
- Integration and system tests
- Feature tests
- Performance tests
- Regression tests
- User acceptance tests
- Localization tests

NIT-NAT-1.2 TEST AND TURN-UP (TTU)

The last stage in network deployment, test and turn-up is required to activate the service and make it operational for use. Unique and site-specific, RAC's effective TTU process—based on best practices—ensures that equipment is installed and configured correctly, functional and performing efficiently as per agreed-upon specifications, and fully integrated into the network management system. The TTU is essential when:

- Bringing new technology online
- Checking for connectivity and utilization
- Monitoring performance and validating QoS
- Validating programs and applications utilizing the network
- Testing network characteristics and troubleshooting problems
- Certifying effective operation of the network

Note: A site survey may be required before the TTU to ensure site readiness.

NETWORK POST-INSTALLATION AUDIT & RISK ASSESSMENT

DESCRIPTION

Based on industry best practices, a carefully compiled network audit assesses the risks and safety aspects of the completed installation. Conducted by technology and process experts following a consultative approach, this service assesses and documents the installed and commissioned infrastructure, identifies areas of concern, and measures contractor compliance. All installations completed according to the project plan are recorded in a contractual format, ensuring all work is verified as meeting the correct standard.

APPROACH

Our approach to conducting a thorough post-installation audit and risk assessment entails:

- Collecting all available data pertinent to the completed 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 of 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

POST-INSTALLATION AUDIT & RISK ASSESSMENT

Our post-installation audit includes the following option, along with its principal activities.

NIT-POARA-1.1 PRE-INSTALLATION AUDIT & RISK ASSESSMENT (INCL. SITE VISIT)

This installation audit and risk assessment ensure the work completed meets—or exceeds—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

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

- 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.

REGION AUTHORITY CORP
YOUR INTELLIGENT ALTERNATIVE