![JUNIPER NETWORKS | Engineering Simplicity]

ADVANCED REMOTE MANAGED SERVICE

Service Overview

The convergence of legacy networks and multicloud environments, combined with the adoption of cloud-based applications and greater mobility, has increased network complexity. Operating such a network 24x7 with minimal disruption requires skilled staff, NetOps automation, and network analytics.

Juniper's Advanced Remote Managed Service is a predictive and proactive on-premises appliance-based network monitoring and management service with ITIL functions and AIOps capabilities. The service reduces network noise, improves network uptime, and lowers network operational costs while providing multivendor support, automation capabilities, and 24x7 remote access to experts.

Service Description

An effective network monitoring and management solution is critical to your IT infrastructure as you deal with the convergence of legacy networking and multicloud environments, as well as the adoption of emerging technologies like cloud-based applications, service, and mobility. Outsourcing your network operations center (NOC) service can accelerate your business transformation, significantly reduce OpEx, increase network visibility, and improve network uptime.

Juniper Networks® Advanced Remote Managed Service provides an on-premises appliance-based IT Operations Management (ITOM) platform that includes 24x7 full-stack network monitoring and management across multiple technology domains and vendors. The appliance is installed behind your network firewall, ensuring that no network management data leaves the premises, making it the ideal service for customers with strict data compliance and regulatory requirements.

Built on ITIL-based methodology, the service follows the IT industry-standard framework for network readiness and service delivery. The underlying ITOM platform provides AIOps capabilities, improving and automating network operations by applying machine learning to network management data while delivering advanced features such as automated event correlation, advanced root cause analysis, and workflow-based remediation.
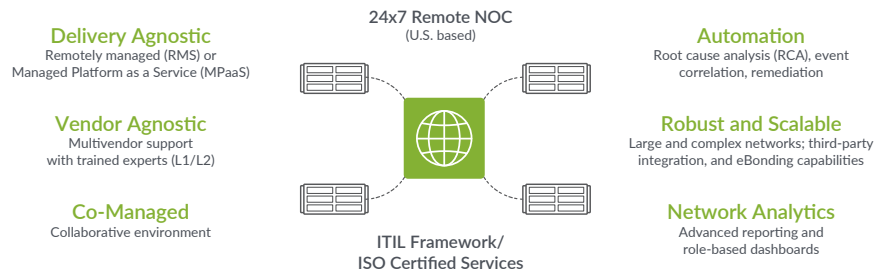

Delivery Agnostic
Remotely managed (RMS) or Managed Platform as a Service (MPaaS)

Vendor Agnostic
Multivendor support with trained experts (L1/L2)

Co-Managed
Collaborative environment

24x7 Remote NOC
(U.S. based)

ITIL Framework/ ISO Certified Services

Automation
Root cause analysis (RCA), event correlation, remediation

Robust and Scalable
Large and complex networks; third-party integration, and eBonding capabilities

Network Analytics
Advanced reporting and role-based dashboards

Figure 1: Juniper Remote Managed Service features and capabilities

The Advanced Remote Managed Service leverages network analytics to provide greater network visibility and access to a co-managed interface for real-time network visibility and control. Flexible deployment options allow you to choose the approach that best suits your needs—from a fully managed service delivered remotely by the Juniper NOC and powered by our ITOM platform, to a managed platform model (MPaaS) where Juniper manages the platform while your operations team leverages it to perform IT operations management.

Features and Benefits

Incident Monitoring and Management

The Advanced Remote Managed Service automatically discovers managed devices in your network, creates a comprehensive topology, and determines the relationship and dependencies between managed devices and the business services they support. When the platform detects an issue in your managed environment via polling, dynamic thresholding, correlation, or some other method, or when the platform predicts that an issue is imminent, it proactively creates a ticket. An L1/L2 support engineer is automatically assigned as single point of contact to resolve the issue.

The platform's automation capabilities, including rule-based event processing, event correlation, and root cause analysis, significantly improve fault isolation and first-time fixes while reducing mean time to repair (MTTR).
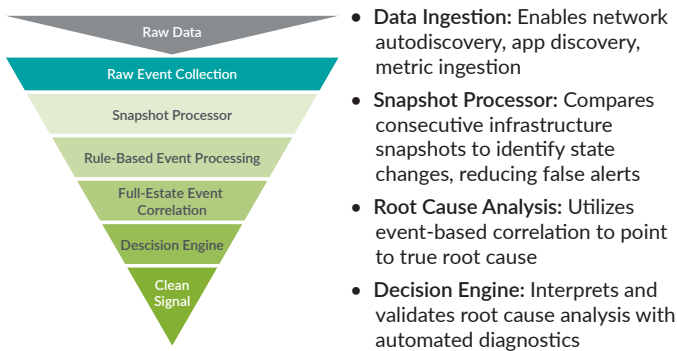

- **Data Ingestion:** Enables network autodiscovery, app discovery, metric ingestion
- **Snapshot Processor:** Compares consecutive infrastructure snapshots to identify state changes, reducing false alerts
- **Root Cause Analysis:** Utilizes event-based correlation to point to true root cause
- **Decision Engine:** Interprets and validates root cause analysis with automated diagnostics

Figure 2: From network noise to clean signal

Advanced Root Cause Analysis

Unlike traditional ITOM platforms that create tickets for every received event, the Juniper Advanced Remote Managed Service's ITOM platform isolates faults and runs automated tests that use topology awareness, an event correlation engine, and rule-based automation to pinpoint the root cause of service or infrastructure issues.

The automated event correlation capability creates an enriched ticket that reduces the number of cases to track, eliminates L1 diagnostics, and accelerates fault isolation and remediation for known issues. Over time, the combination of the platform's automated event correlation and machine learning capabilities minimizes the number of tickets escalated to Juniper-trained NOC personnel or onsite network operations resources, while providing additional troubleshooting information about escalated cases to the vendor's Technical Assistance Center (TAC), accelerating time to resolution.

Automated Remediation

The Advanced Remote Managed Service can be extended to perform automated audits, troubleshooting, and remediation—from both within the platform using established rules and by integrating and launching automations developed separately by other customer-specific automation platforms. This enables the platform to automatically resolve incidents by performing a wide range of remedial actions such as resetting servers, allocating resources, creating RMA tickets, restarting applications, and reconfiguring devices.

Performance Monitoring and Management

The Advanced Remote Managed Service collects and stores polling data to determine the performance and utilization of managed devices and their subcomponents. In the event a device falls below a best-practice or customer-specific threshold, a ticket is proactively created, and an engineer is assigned to work the issue through to resolution. Examples include bandwidth utilization, packet loss, network latency, and CPU and memory utilization.

The service ensures that your network is always working at optimal levels, is capable of handling transient loads without performance degradation, and is providing the greatest return on your infrastructure investment. Many issues can be resolved without requiring any intervention by operational staff, leaving valuable resources free to focus on other tasks.

Configuration Monitoring and Management

The Advanced Remote Managed Service provides a co-managed environment that allows end users and other approved vendors to retain control over managed components. The Advanced Remote Managed Service provides two different configuration backup strategies to capture and archive older configurations based on the managed components.

1. **Automated configuration backup:** The Advanced Remote Managed Service's ITOM platform can be configured to automatically acquire and store backups on the platform itself, eliminating the risk of human or configuration errors. You can rapidly roll back to a known good version, reducing or minimizing network interruptions due to unforeseen configuration errors.

2. **End-user managed backups:** The end user is responsible for configuring and maintaining the backup mechanism for managed components. Backups are directed to an end user-provided repository that remote service helpdesk personnel at NOC can access.

Because multiple parties can make changes to the environment, Juniper requires that anyone with access to the end user's managed components follow a consistent and documented change management process.

Integration and Orchestration

The Advanced Remote Managed Service can integrate with leading IT service management and orchestration offerings such as ServiceNow, Ericsson, OpenStack, BMC REMEDY, and others. This not only provides integrated event management, incident management, and automated remediation, it also creates a seamless response to any number of trigger mechanisms.

Reports and Dashboards

The Advanced Remote Managed Service features a variety of role-based dashboards and reporting capabilities that provide greater visibility into a network spanning multiple geographies, topologies, and network monitoring toolsets. The information can be displayed in real time or delivered as weekly or monthly tactical reports consisting of ticketing information and performance data from devices, identifying incidents, top talkers, and resolution status. Strategic reporting includes an assessment created from the analysis of ticket trends and performance data.

The reports can also identify and highlight highly strategic items such as End-of-Life (EOL) and End-of-Service (EOS) devices, as well as provide network insights for IT planning and budgeting purposes.

eBonding

Customers looking to automate operational tasks to achieve greater efficiency and reduce OpEx often seek eBonding capabilities. With Juniper's Advanced Remote Managed Service, you can add eBonding services for bidirectional data exchange between ticketing systems, ensuring a complete and synchronized view of the incident's progress that allows you to drive towards speedy resolution.

eBonding is an optional feature that can be purchased as a separate statement of work (SOW) or via moves, adds, changes, or deletions.

Co-Management of Devices

With the Advanced Remote Managed Service, Juniper technical experts work jointly with your IT staff to manage network changes, establishing a process for documenting what, when, and why changes are made as well as who is making them, leaving a comprehensive audit trail for all network modifications.

Multivendor Support

Training your IT staff on multiple vendors and device types while simultaneously providing 24x7 coverage is an expensive and complicated proposition. Juniper has extensive experience with multivendor support, and the rules in our Advanced Remote Managed Service platform support a wide variety of products and applications.

Streamlined Communication

When an issue is discovered in your network, Juniper's NOC team will immediately notify both your IT staff and TAC. The NOC staff knows exactly what information TAC engineers need to resolve a problem quickly and will provide that information in a streamlined manner. If there is an ISP issue, the NOC staff will deal directly with the ISP without your IT staff having to act as a go-between.
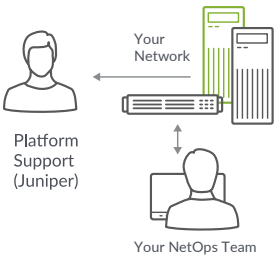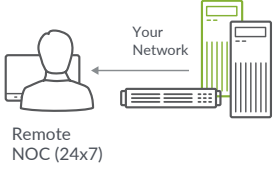
Moves, Adds, Changes, and Deletions

Moves, adds, changes, and deletions (MACDs) can be purchased in annual blocks, as well as in one-time blocks for special projects that include a high volume of change requests.

Delivery Options

The Advanced Remote Managed Service is a turnkey customized monitoring and management service that allows you to choose whether Juniper's remote NOC manages all or parts of your network, or if your onsite network operations resources leverage the underlying ITOM platform to manage your network.

Depending on your specific needs, this service can be delivered in one of two ways:

Your Network / Platform Support (Juniper) / Your NetOps Team	**Managed Platform as a Service (MPaaS)**: This option allows your onsite NetOps resources to leverage the automation and advanced capabilities of the underlying Advanced Remote Managed Service's ITOM platform to monitor and manage your network.
	Juniper ensures that the Advanced Remote Managed Service's ITOM platform is performing well and providing periodic upgrades. Additional automation integrations (e.g., eBonding or third-party) can be developed as an option.
Your Network / Remote NOC (24x7)	**Remote Managed (RMS)**: Juniper Networks remote NOC personnel provide 24x7 L1/L2 support as a first line of defense for your network, utilizing the Advanced Remote Managed Service's ITOM platform to monitor and manage your network in concert with your IT operations team.
	Juniper installs, configures, supports, and automates troubleshooting rules in the underlying ITOM platform as part of this full-management service.

Ordering Information

For more information and to understand how Juniper's Advanced Remote Managed Service can help address your operational needs, please reach out to your services account representative or e-mail Juniper at Juniper-RMS-Services-Team@juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

Corporate and Sales Headquarters

Juniper Networks, Inc.

1133 Innovation Way

Sunnyvale, CA 94089 USA

Phone: 888.JUNIPER (888.586.4737)

or +1.408.745.2000

www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.

Boeing Avenue 240

1119 PZ Schiphol-Rijk

Amsterdam, The Netherlands

Phone: +31.0.207.125.700