

NanoNID™

At a time when global network operators are demanding performance assurance across their entire network, they face many restrictions; such as physical limitations with their small cells deployments or with legacy equipment which does not provide the same service assurance functionality as newer equipment - thereby limiting the network operators visibility into their network performance. By offering OAM functionality, NanoNID avoids the installation of additional networks devices and preserves an established footprint.



Feature Highlights

Layer-3 RFC-5357 TWAMP

In-service or out-of-line performance monitoring endpoint enabling accurate end-to-end IP service delivery metrics for Small Cell and LTE deployments.

Remote Management

Fully automated discovery and management on both Layer-2 and Layer-3 allowing remote configuration and feature upgrades.

Intelligent Loopbacks (LBM/LBR)

In-service loopbacks per-flow, defined by NanoNID MAC address, enabling connectivity verification between two service end points.

Multi-Mode Operation

NanoNID can operate in out-of-line mode (no traffic dependency) or in in-line mode (wirespeed pass-through, no added latency)

Compatibility

Compatible with Accedian MetroNID, MetroNODE and V-NID products as well as popular 3rd party portable and centralized test instruments supporting IEEE 802.3ah, RFC-5357 and ITU-T Y.1731 OAM loopback commands.

Intelligent NID on a SFP

The Accedian NanoNID provides NID service performance management capabilities such as Remote Troubleshooting, Performance Measuring and Capacity Planning. With its small footprint, the NanoNID is ideal for locations that are limited in rack-space and/or power capacity. Furthermore, the Accedian NanoNID empowers network operators to easily perform in-line and off-line service performance assurance through RFC-5357 TWAMP and Y.1731 with LBM and LBR capabilities, all from a single device. More specifically, in an off-line configuration, the NanoNID allows service providers to upgrade legacy networks by seamlessly adding performance assurance capabilities in an in-service fashion.

NanoNID can be rapidly installed, making it easy to use and maintain (OPEX) for a low-cost solution (CAPEX). The NanoNID has Plug and Go™ instant provisioning functionality; this automated zero-touch discovery, auto-configuration and inventory tracking capabilities makes integration into a network element simple.

The NanoNID can be deployed in:

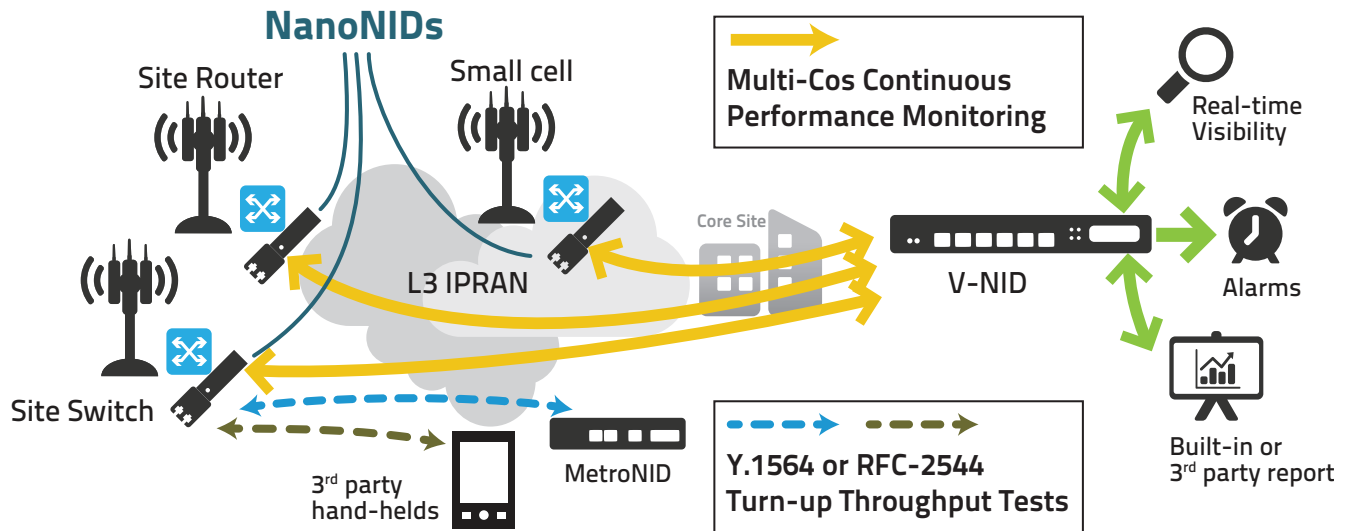
- Mobile Backhaul (MBH)
- Small Cells
- Business Services (CPE)

By adding the Accedian V-NID™ to the network the NanoNID acts as a reflector and can help you to gain visibility in your multi-vendor network environment regardless of the infrastructure differences. Why is this important?

Bringing the V-NID and NanoNID together, delivers an all-in-one, end-to-end active performance monitoring solution. Now Service Providers and Mobile Operators can fully monitor and maintain the performance of their multi-vendor network environment regardless of the infrastructure differences. This is a huge feat especially when utilizing standard performance monitoring responders that are already built-in to the existing network components; thus eliminating the need of truck rolls to perform wide reach SLA and service monitoring.

The rich feature set of the NanoNID include

- Future Proof Field Programmability: New functionality can easily be downloaded remotely to the NanoNID, without the need for a truck roll
- Remote management: With its unique design, the NanoNID can be managed remotely without the need for an embedded software agent
- Allows for the seamless integration with existing Accedian Networks suite of V-NID™ Actuators
- Layer 3 performance management and troubleshooting with a TWAMP-Lite option
- Integrated FPGA offers modular, as-needed functionality that is highly configurable
- Allows for RFC-2544 and ITU-T Y.1564 automated Service Activation Testing capabilities
- IEEE 802.1ag Service Layer OAM (Connectivity Fault Management)



Turn-up Service Activation

When used together with Accedian MetroNID and MetroNODE products, the NanoNID provides a small form factor test and turn-up point by leveraging industry-standard throughput test methods. With support for both full wire-speed RFC-2544 and Y.1564 tests together with Y.1731 OAM for troubleshooting, the NanoNID offers powerful tools helping the mobile operator track down performance bottlenecks and streamline network rollouts.

Performance Monitoring

Together with the Accedian V-NID suite of products, the NanoNID delivers end-to-end IPRAN performance visibility to mobile macro and small-cell deployments. With over 50 detailed one-way metrics for Layer-3 network KPIs, coupled with automatic SLA monitoring, built-in reports and 3rd party reporting APIs, the V-NID+NanoNID solution enables the operator to take full control of their backhaul and ensure service quality around the clock.

Product Name	Rated Distance	Data Rate	Fibre Type	Transmit Wavelength	Supply Voltage	Supply Current	Hardened Temp Range	DDMI	Average Output Power	Extinction Ratio	Receiver Sensitivity
ANN-1000-CX	10 km	1Gb	SM	1310nm	3.3V	355 mA	-30 to 85°C	Yes	-9.5 to -3 dBm	9dB	-21 dBm
ANN-1000-CT	550 m	1Gb	MM	850nm	3.3V	370 mA	-30 to 85°C	Yes	-9.5 to -4 dBm	9dB	-17 dBm

NanoNID Characteristics

Features

- **Interface Type ANN-1000-CX:**
IEEE 802.3z 1000 Base-LX
- **Interface Type ANN-1000-CT:**
IEEE 802.3z 1000 Base-SX
- **Connector Type:**
Duplex LC Interface

Timing

- **Clock Rate:** 400kHz
- **Time to initialize:** 300ms

Physical Specifications

- **Dimensions:** 2.8"L x .8"W x 0.55"H

Environmental

- **Storage temperature:** -40 to +85°C
- **Operating/storage humidity:**
5-85% RH non-condensing

Regulatory and Certification

- CFR Title 21, Parts 1040.10 and 1040.11 Compliant
- FCC Part 15 Class A Compliant
- INF-8074i Rev 1.0 Compliant
- SFF-8472 Rev. 11.0 Compliant
- IEC-60950-1 2nd Edition Compliant
- IEC 60825-1 2nd Edition Laser Class 1 Compliant

Accedian Networks Inc.

2351 Alfred-Nobel, Suite N-410
 St-Laurent, Quebec, Canada H4S 2A9
 Toll free: 1-866-685-8181

© 2013 Accedian Networks Inc. All rights reserved. Accedian Networks, the Accedian Networks logo, High Performance Service Assurance, Performance Assurance Agent, MetroNID, EtherNID, MetroNODE 10GE, NanoNID, Fast-PAA, PAA, SLA-Meter, Plug & Go, Multi-SLA, Traffic-Meter, Vision EMS, VisionMETRIX, V-NID are trademarks or registered trademarks of Accedian Networks Inc. All other company and product names may be trademarks of the respective companies. Accedian Networks may, from time to time, make changes to the products or specifications contained herein without notice. Some certifications may be pending final approval, please contact Accedian Networks for current certifications.