



nano|engine[®]

Product family description

www.ipanematech.com

A unique technology that breaks the price/performance barrier to guarantee business application performance in branch offices

- For the first time it is possible to guarantee application performance with a device compatible with branch office constraints;
- The nano|engines fully integrate with the other components of Ipanema's ANS solution;
- Plug-and-Play devices, nano|engines are managed under SALSA;
- Real-time changes in network performance and each user's behavior are taken into account in real-time.

Algorithms embedded in the nano|engine automatically adapt to real-time changes as they happen on the network:

- Traffic from private data centers mixed with traffic from external public clouds;
- Hybrid networks combining MPLS and Internet;
- Unified Communications branch-to-branch flows;
- Virtual desktops and rich media delivery...

The nano|engine's ability to guarantee application performance at the branch maximizes productivity, prevents brownouts and protects the business.

Ipanema's **Autonomic Networking System™ (ANS™)** uses both software and hardware components. Hardware appliances come in two families called ip|engines and nano|engines. Ultra compact **nano|engine** appliances are tailored to provide full application control with an unmatched price/performance ratio in broadband branch offices.

The **nano|2** and **nano|5** devices target small branch offices and provide:

- Application aware **per connection Control and dynamic QoS** for public and private application flows to guarantee an excellent and stable Quality of Experience to each user;
- **End-to-end visibility** of application performance and network response for every flow with comprehensive KPIs and application quality scores;
- **Dynamic WAN selection** between up to 3 networks for optimized control of multi-attached branches, local Internet breakouts and hybrid networks.



The Ipanema nano|engine

These self-managed nano|engines are installed at edge locations in the WAN, typically between the CPE router and branch office LAN. Fully "Plug and Play," nano|engines require no on-site configuration. They operate under control of the central management software, SALSA. Customers simply plug the nano|engine in and all configuration and provisioning is managed by SALSA.

The nano family fits particularly well in B to C sectors like retail, finance and hospitality, where slow response times accessing customer data, or delays in processing an order lead to customer dissatisfaction and loss of productivity. The nano|engine's ability to guarantee application performance maximizes productivity, prevents brownouts and protects the business.



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The Autonomic Networking System™ (ANS™) links application performance over the network with the enterprise's business goals.

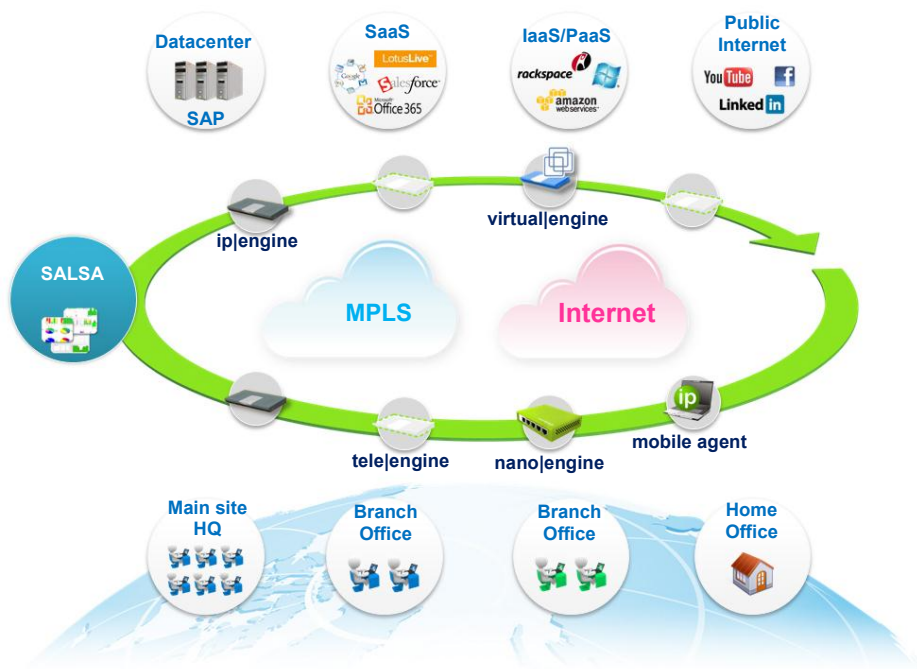
Self-learning, self-adapting and self-healing, ANS offers tightly coupled features that together bring a unique level of intelligence to the enterprise network:

- **Application Visibility** provides full understanding of application usage and performance over the global network - from the smallest detail up to SLA-based application performance management.
- **QoS & Control** dynamically adjusts network behavior and resources to the exact application traffic demand - guaranteeing critical application performance in the most complex and changing traffic situations.
- **WAN Optimization** accelerates application response times and offers additional virtual bandwidth to the network.
- **Dynamic WAN Selection** enables Hybrid Network Unification for multi-networked branch offices, selecting in real-time the best path according to actual performance and application traffic characteristics.

NANO|ENGINES IN THE AUTONOMIC NETWORKING SYSTEM

As components of ANS and managed from the central SALSA platform, **nano|engines** participate in the autonomic control plane that dynamically orchestrates every application flow end-to-end across the enterprise WAN.

- No on-site configuration; simple plug and play installation;
- Seamlessly support any private or public cloud applications;
- nano|engines simply connect between the ethernet port of the access router and the customer LAN.



The Ipanema Autonomic Networking System (ANS)

TECHNICAL CHARACTERISTICS

Characteristics	nano 2	nano 5
WAN Throughput ⁽¹⁾	4 Mbps	20 Mbps
Max # of users ⁽²⁾	< 20 users	< 50 users
Type of interfaces	10/100/1000 Base T	10/100/1000 Base T
# Interfaces ⁽³⁾	4 LAN and 1 WAN or 1 LAN and 4 WAN	4 LAN and 1 WAN or 1 LAN and 4 WAN
W x D x H (mm)	140 x 110 x 30	140 x 110 x 30
Weight	0,3 Kg	0,3 Kg
Format	Table top	Table top
Power Supply ⁽⁴⁾	External < 8W	External < 8W

(1) Maximum stated throughput is full duplex and achieved using typical mix of traffic within an environment not exceeding the maximum number of supported users.

(2) Maximum number of supported users is calculated assuming typical activity.

(3) nano|2 and nano|5 can be installed in either of the two ways: 4 LAN / 1 WAN port or 1 LAN / 4 WAN ports (up to three WAN ports can be active with DWS).

(4) All power supplies: 100-240V 47-63Hz.