Now Generally Available

RG Nets Transforms Broadband Networks with Disaggregated B-RAS/BNG/WAG on NVIDIA BlueField-3 DPUs

We're excited to announce that our next-generation disaggregated broadband solution is now generally available (GA)! After a successful proof-of-concept phase running since November, we're proud to deliver a platform that redefines how broadband networks are built and operated—powered by the advanced capabilities of NVIDIA BlueField-3 DPUs and the open-source Vector Packet Processing (VPP) framework.

Need help or have questions? please reach out to sales@rgnets.com

A NEW ERA FOR BROADBAND NETWORK FUNCTIONS

In today's broadband networks, **Broadband Remote Access Servers (B-RAS)**, **Broadband Network Gateways (BNG)**, and **Wireless Aggregation Gateways (WAG)** serve as the critical service edge, managing subscriber authentication, IP address allocation, policy enforcement, and traffic routing for millions of users. Traditionally, these functions were locked into monolithic, proprietary hardware appliances built around ASICs. While these legacy systems delivered high throughput, they often came with steep costs, limited flexibility, and the burden of vendor lock-in.

Our solution flips the script by disaggregating these functions—transitioning from specialized hardware to a software-driven architecture running on commercial off-the-shelf (COTS) hardware. By leveraging NVIDIA BlueField-3 DPUs and the high-performance VPP framework, we've created a platform that scales horizontally, offers rapid feature deployment, and dramatically cuts costs. This becomes even more important as networks prepare to serve the era of intelligence and an AI-ready edge network becomes the place to process AI inferencing traffic from consumer and enterprise applications.

Hardware Offloads, Acceleration & Isolation:
NVIDIA BlueField-3 DPUs offload critical network, security, and storage tasks from the main CPU, freeing up resources while delivering robust, hardware-based isolation, acceleration, and enhanced security.

Scalability and Flexibility:
Expand your capacity easily by adding more DPUs. Software updates and modular plugins in VPP mean that new features, such as advanced QoS or enhanced security policies, can be deployed seamlessly—no need for a full hardware refresh.

BUILT-IN FUNCTIONALITY

Data plane - B-RAS
Routing - Traffic shaping - L7 Firewall - SD-WAN - Content Filtering - VPN - cgNAT - DHCP / DNS / IPAM - BNG - BGP - Virtual RG

Control plane - B/OSS
End-user & Venue portals - Subscriber self-provisioning - Billing - NAC - Device posture - Location services - eDPSK micro segmentation

Management plane - NMS/EMS
Wireline & wireless auto-configuration - Zero touch provisioning - test & measurement automation - data warehousing - reporting

Twice the Throughput at Two-Thirds the Cost

At the heart of our platform is NVIDIA BlueField-3 DPU technology. Here's why collaborating with NVIDIA is a game changer for broadband network deployments:

Unmatched Performance:
Our platform delivers twice the gigabits per second (Gbps) compared to conventional solutions, ensuring that your network can handle the most demanding traffic loads.
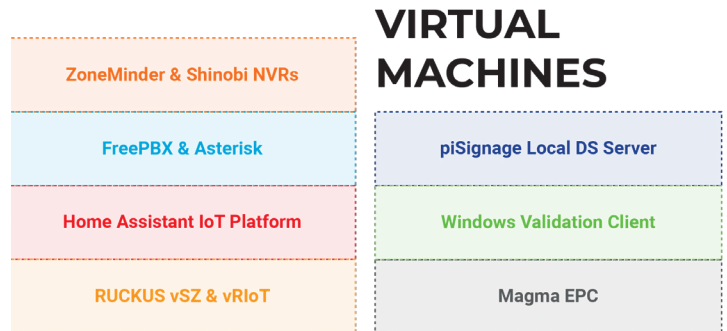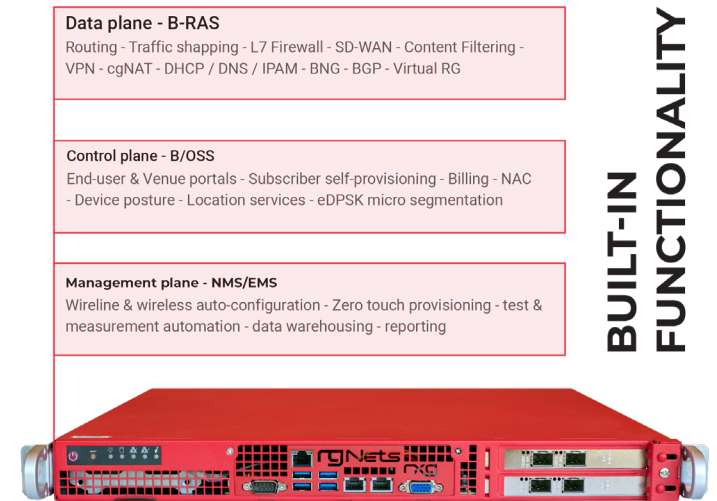
Cost Efficiency:
Achieve superior performance at just two-thirds the price of traditional ASIC-based systems—dramatically lowering your capital expenditures (CapEx) without sacrificing quality.

VIRTUAL MACHINES

ZoneMinder & Shinobi NVRs	
FreePBX & Asterisk	piSignage Local DS Server
Home Assistant IoT Platform	Windows Validation Client
RUCKUS vSZ & vRIoT	Magma EPC

Disaggregating B-RAS, BNG, and WAG: Key Benefits and Use Cases

By decoupling the traditional network functions from fixed hardware appliances, our solution offers a host of benefits:

Scalability & Flexibility:
Traditional appliances come with fixed capacity limits. Our disaggregated model allows operators to scale horizontally—adding DPUs or servers as subscriber demands evolve. This means you can keep pace with the rapid growth in broadband traffic without disruptive hardware overhauls.

Cost Savings & Vendor Independence:
Replace costly, ASIC-driven appliances with an open, software-centric solution. Leveraging open-source VPP not only cuts down on software licensing fees but also minimizes vendor dependencies and supply chain risks.

Rapid Feature Deployment:
In today's fast-paced broadband market, quickly rolling out new services is essential. Our platform supports continuous integration and delivery (CI/CD) practices, so you can introduce new services—like enhanced QoS tiers or dynamic policy enforcement—faster than ever.

Improved Security & Isolation:
With NVIDIA BlueField's hardware-level isolation, critical network functions such as encryption and deep packet inspection are offloaded from the main CPU, reducing the risk of security breaches and enhancing overall network resilience.

Enhanced Subscriber Experience:
Whether it's seamless roaming between Wi-Fi hotspots or robust support for IPv6, our solution ensures that subscriber sessions remain uninterrupted and secure, even as network traffic scales up..
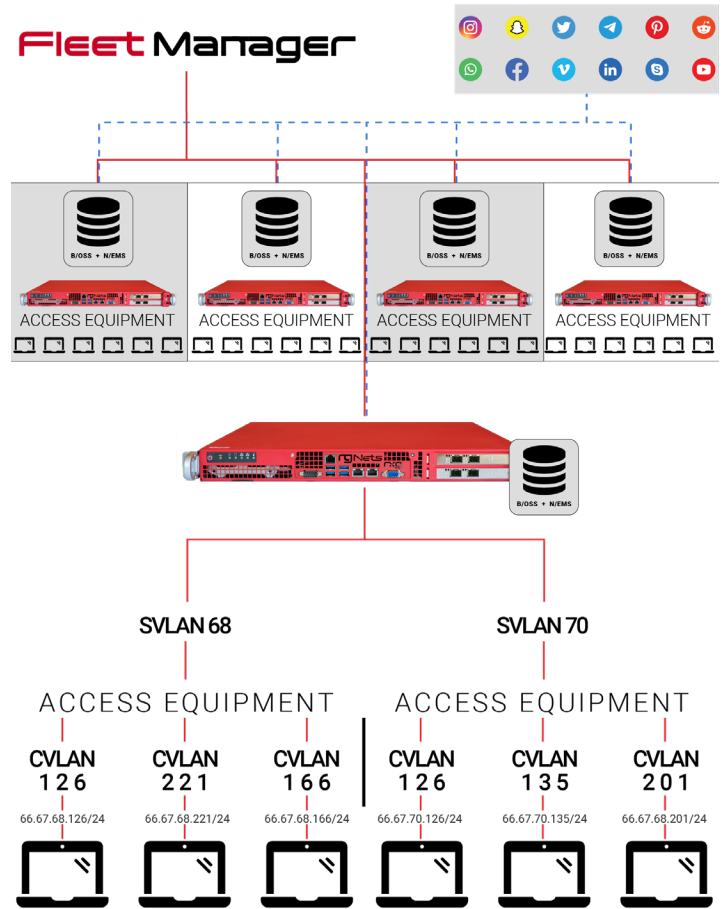
Operational & Economic Advantages

Beyond performance, our platform brings tangible operational and economic benefits:

Lower CapEx & OpEx:
Replace expensive proprietary hardware with cost-effective DPUs and reduce maintenance and support costs by leveraging a unified, software-driven infrastructure.

Faster ROI:
Rapid deployment of new features and service tiers accelerates revenue generation while keeping operational complexity to a minimum.

Vendor Flexibility:
Avoid the pitfalls of vendor lock-in and enjoy the freedom to innovate with an open ecosystem built around industry standards.

Ready for the Future

As broadband networks converge with emerging technologies like 5G, Wi-Fi 6/6E/7, and edge cloud services, our disaggregated platform is designed to evolve with the market, including being ready for the upsurge of AI Inferencing traffic at the distributed edge. The combination of high-speed data plane acceleration and flexible software enables seamless integration of AI and machine learning capabilities, ensuring that your network remains future-ready.

Join the Transformation

With our platform now GA and battle-tested since November, there's never been a better time to upgrade your network infrastructure. Embrace a future-proof solution that delivers twice the throughput at two-thirds the cost, enhances subscriber experiences, and paves the way for agile, scalable network operations.

Stay tuned for more updates as we continue to push the boundaries of network innovation!

rgNets