Product brief: NetBroker
ATM-grade SDN controller

NetBroker is an open standards-based software defined networking (SDN) controller tailored for air traffic management (ATM) networks. Combining real-time performance information from the network with application needs and pre-defined mitigation scenarios, it enables converged networks serving all applications – from safety-critical to administrative. It fills the technical gap between conventional IP networks and the very specific and heterogeneous requirements of different ATM applications.

Key features

Proactively prevent failure

NetBroker constantly measures key network performance indicators, such as packet loss, delay and jitter, using active network segment probes to detect degradation in performance. It continually compares the network conditions in the relevant traffic classes and network segments, and matches them with a set of application specific performance targets. Based on this information, it selectively re-routes high-demand application traffic to ensure that high-priority applications meet their SLAs and eases network load on the degraded link.

Maximize cross-layer quality of service

By monitoring transmission modulation changes and estimating the expected changes in bandwidth capacities across every layer of your network, NetBroker can pro-actively reroute traffic to meet necessary application service levels.

Make IP networks ATM-grade

Utilizing standard protocols such as OpenFlow, NetBroker is designed to integrate seamlessly into any forwarding plane environment, and can provide the control plane for almost any virtual or physical network device.

NetBroker at a glance

- The first software-defined network in Air Traffic Management was deployed in Brazil, and made possible by NetBroker

- NetBroker is part of vitalsphere, the Frequentis portfolio that helps ATM providers achieve the levels of performance, availability and safety that distinguish a network as ATM-grade

- NetBroker is built on top of the Open Network Operating System (ONOS) supported by a growing number of carriers and network companies, including AT&T, Cisco, Nokia, Huawei, Google and Fujitsu, among others

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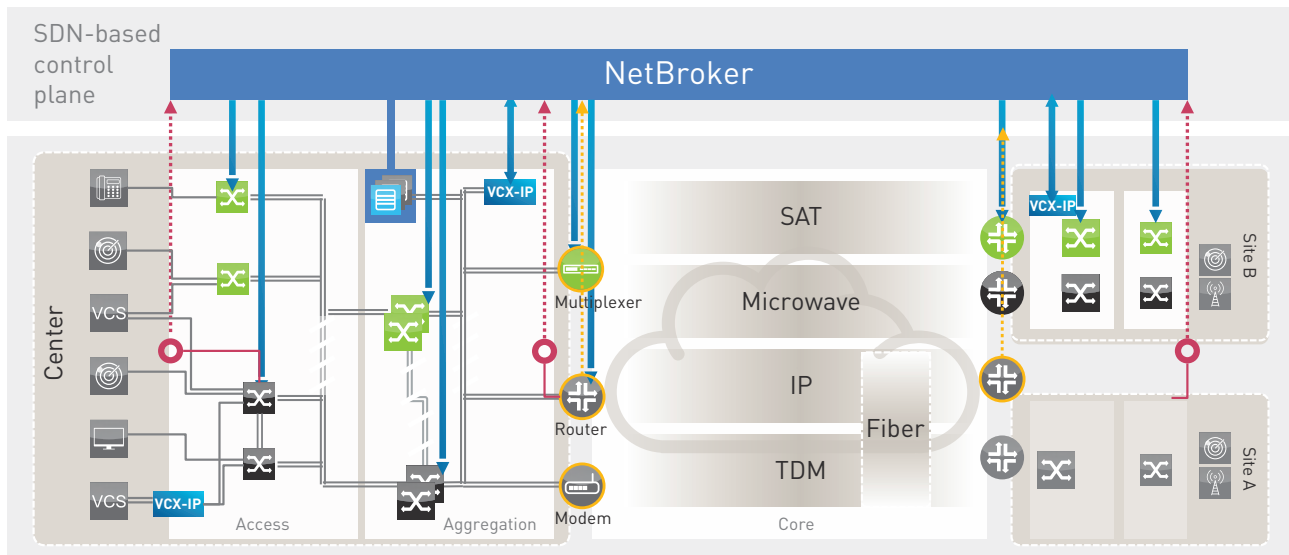
Benefits

Enhanced network performance

Conventional networks react only to total link loss (black-outs), while NetBroker can detect degradation of performance (brown-outs) and act on this information. By performing ongoing optimization of routing automatically and in real-time, NetBroker delivers greater performance across every layer of your network.

Achieve unprecedented service continuity

NetBroker ensures that your most safety-critical applications are always first in line for bandwidth, helping to guarantee that the most essential voice and data communications never fail. It is deployed redundantly, and sits on top of the network devices. Thus, in the unlikely event of a failure, all communication continues in the conventional manner.

Converged network reduces costs

Make use of your existing investments and decrease total cost of ownership by choosing a product that offers proven interoperability with almost any network device and vendor-independent SLA probing.

NetBroker: Technical specifications

Southbound interfaces	OpenFlow 1.3.1
Application classes	100* distinguished per NetBroker instance
Number of sites	150* managed per NetBroker instance
Traffic flows	1000* controlled per NetBroker instance
Standard compliances	ED-138, ED-153 SWAL 3
Management interface	SNMPv2c, SNMPv3, WebServer, SSH

* based on decentral control instances in redundant configuration deployed on dedicated hardware according to minimum system requirements configuration

Minimum System Requirements: server (x86 architecture), 1 core (2GHz), 4GB RAM, 300GB hard disk, Red Hat Enterprise Linux 7.2