Nokia Siemens Networks
FlexiPacket Microwave
Microwave Radio for Carrier Ethernet Transport

Nokia Siemens Networks FlexiPacket Microwave is a brand new packet microwave system designed to meet the requirements of evolved transport network. FlexiPacket Microwave achieves the target of minimizing the operator Total Cost of Ownership thanks to the benefits of an advanced scalable microwave radio together with Carrier grade Ethernet nodal solution.

microwave infrastructure for 3G, WiMAX and LTE Backhaul, High speed Wireless Internet networks, fixed broadband access backhaul, private wireless networks.

Nokia Siemens Networks FlexiPacket Microwave, composed of FlexiPacket Radio and FlexiPacket Hub, is the right platform to design advanced mobile backhaul networks based on Ethernet transport. It is a very cost efficient platform for both packet and hybrid (TDM + Packet) networks.

FlexiPacket Radio
FlexiPacket Radio is a complete microwave system in an outdoor unit with standard (Ethernet) interface. This unique interoperability in IP/Ethernet networks enables a wide range of applications, ranging from public to private to fixed to mobile, from access to aggregation/core. This innovative packet microwave radio offers:

- Complete scalability, supporting 10/20/30/40/50 MHz channel bandwidth and modulation from 4 to 256 levels
- Broad frequency coverage, from 6 to 38GHz
- Adaptive Modulation

FlexiPacket Hub
FlexiPacket Hub is a Carrier Grade Ethernet switch which is connected to up to 16 FlexiPacket Radio, resulting in a best-in-class microwave radio nodal solution. In an unmatched compact design, it offers advanced Ethernet processing features as well as maximum flexibility for support of TDM traffic via circuit emulation. Access interfaces include Fast and Gigabit Ethernet, T1 and channelized OC3.

Unique reliability is achieved thanks to state of the art components and support of protected configurations. The modular architecture makes FlexiPacket Microwave very flexible and pay-as-you-grow. The FlexiPacket Hub, as part of the Nokia Siemens Networks Carrier Switches portfolio, allows a smooth integration in a Carrier Ethernet Transport (CET) network, ensuring end to end network design, including advanced QoS, Synchronization and OAM. Easy provisioning and management of Packet connections is provided thanks to a state of the art Network Management System.
Main benefits:
- Scalability: one radio for the whole network
- Site optimization and easy installation
- Minimal Network Capex
- Integration in a Carrier Ethernet Transport network
- Advanced packet features
- Pay as you grow

Customer benefits
The innovative outdoor unit design opens the way to real cost optimization in the backhauling network.

The network cost is minimized, thanks to the fully outdoor solution in the cell site and the compact node solution in hub sites.

Actually, FlexiPacket Radio may be used in stand-alone configuration (i.e. without dedicated indoor units), which is especially useful in tail sites where the microwave radio can be connected directly to the Ethernet interface of the Nokia Siemens Networks FlexiBTS. Nokia Siemens Networks then provides a “zero footprint” 3G, WiMAX, LTE site solution, allowing to minimize the TCO for the operator, by means of:
- Equipment CAPEX reduction. The “full system in outdoor unit” approach is more competitive than classical indoor-outdoor unit approach.
- Site optimization. There is no need of indoor unit; fully outdoor site may be realized.

In a hub site, a real pay-as-grow solution is guaranteed by the flexible architecture of the FlexiPacket Microwave, both in terms of number of outdoor units and of indoor unit line cards.

As part of the Nokia Siemens Networks Carrier Ethernet Transport solution, FlexiPacket Microwave enables OPEX savings thanks to an end to end management system which makes the operation of a Packet network as easy as a TDM one.

Moreover, as a state of the art microwave radio, FlexiPacket Radio brings further benefits:
- its scalability allows using the same platform in the whole network, with clear saving in terms of both investment and operations;
- the support of highly efficient modulation,
- an adaptive modulation allows increasing the link capacity without re-designing the microwave network.

Summary
With FlexiPacket Microwave, Nokia Siemens Networks is bringing into the market not only new microwave products but its unmatched know-how in mobile backhauling. Actually, due to its leadership position in mobile backhaul solutions, in mobile radio access technology and in Carrier Ethernet Transport, Nokia Siemens Networks is a unique partner in the telecommunication arena.