

5GO.pt

5G Products and Services for the Network Edge

5G Small Cells
Densifying 5G coverage with PON

Victor Marques (Altice Labs)

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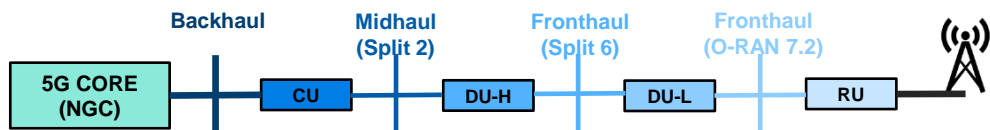
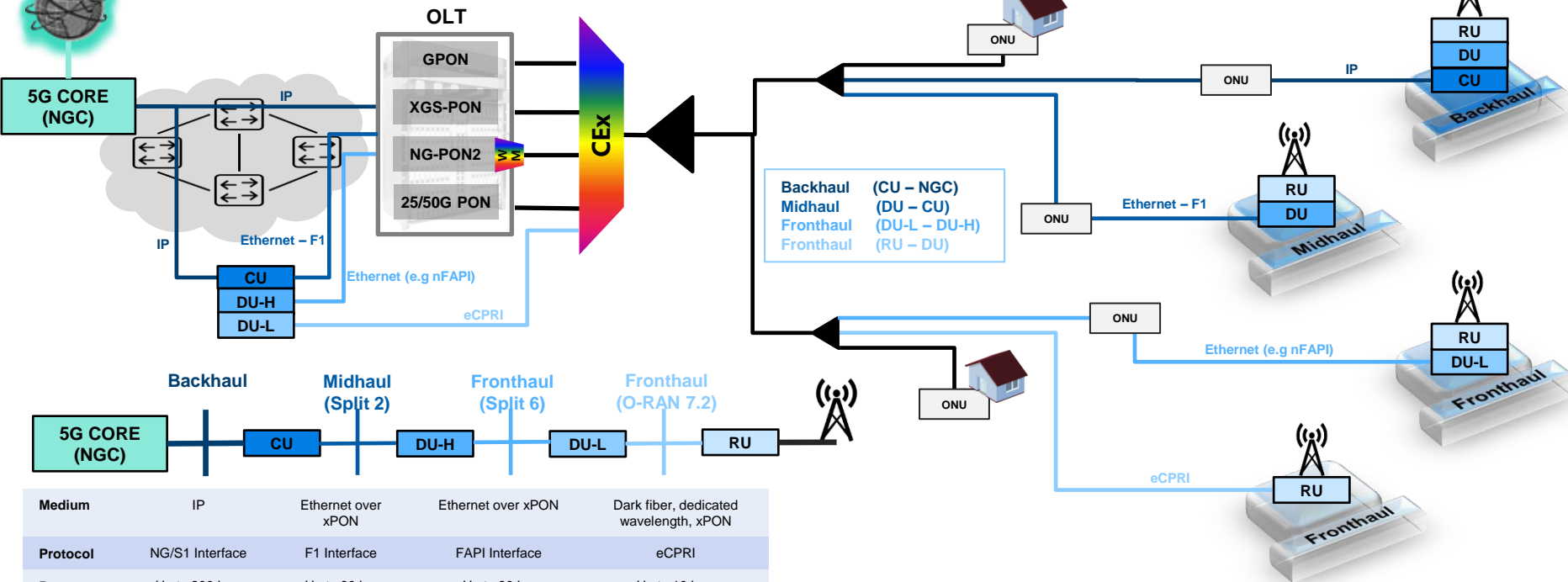


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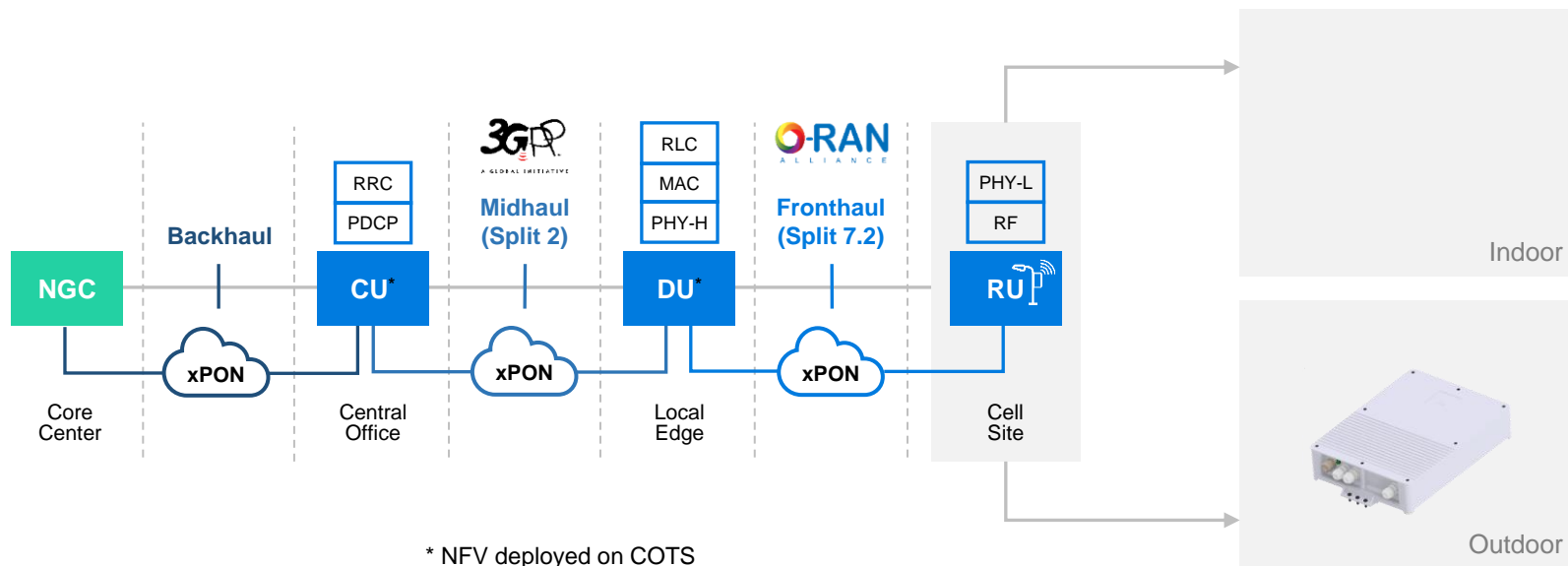
5G Transport Options over PON



	Backhaul	Midhaul (Split 2)	Fronthaul (Split 6)	Fronthaul (O-RAN 7.2)
Medium	IP	Ethernet over xPON	Ethernet over xPON	Dark fiber, dedicated wavelength, xPON
Protocol	NG/S1 Interface	F1 Interface	FAP1 Interface	eCPRI
Range	Up to 200 kms	Up to 80 km	Up to 80 km	Up to 10 kms
Latency	< 40ms	< 1ms	< 250µs	< 100µs
Bandwidth	Mostly, user data traffic	Up to 4 Gbps	Up to 4 Gbps	Up to 86 Gbps

What is it?

A small cell 5G for indoor and outdoor deployment using a split base station architecture and O-RAN split 7.2 fronthaul interface. The small cell is directly connectable to a PON network.



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Who benefits?

Convergent Telecom Operators seeking for:

- **Easy and cost efficient 5G network densification** on an already deployed (mature) PON network;
 - Decreased network maintenance cost by reducing rental fees and power consumption.

Non-Operator 3rd party (Neutral Hosts) providing:

- **5G RAN densification** for urban centers and historical downtowns;
- **In-building / on-premise coverage** for large sites such as shared office-space, entertainment venues and resorts.

Enterprises / Public Entities:

- **Large industries** with critical communications requirements;
- **Large companies and facility owners** with private networks requirements;
- **Municipalities** aiming to deploy smart cities solutions;
 - Environmental monitoring, security cameras, traffic monitoring and flow improvement, communications with citizens, etc.

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Key innovative & differentiating aspects

5G small cell solution which takes advantage of its specific architecture – supported by a PON network and using a fronthaul interface defined by the O-RAN function split 7.2:

- **Flexible Fronthaul interface** (XGSPON or 10GBE)
- **Increased interface simplicity and lower RU complexity**
 - Reducing the function set present in the RU and allowing for a more compact and easier to deploy solution (one box)
- **Interoperability capabilities with other manufacturers/vendors** and further **user data transfer optimization**
- **Maximized future proof-ness** of the solution
 - Placing most functions at DU allows for new features via software upgrades without the need for HW changes at RU
 - Allows for simplified implementations of advanced functions such as Beamforming and inter-cell coordination
 - Solution capable to work in Non-standalone and Standalone scenarios
- **Easily scale the system** like a classical Virtual Network Function (VNF)
- **Reduced site rental fees, maintenance costs, and power consumption** of RUs in 5G greenfield and hotspot areas

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Main features & characteristics



	Indoor small cell (Mobilizador 5G)	Outdoor small cell (Roadmap)
Bands	Single Band (n78 – 3.5GHz)	
Bandwidth	Up to 100MHz per Cell	
MIMO	4x4	
Output Power	24 dBm per port	37dBm per port
EVM @ 64QAM	<1.1%	
Noise Figure	1.35 dB	
Interface	10GBE / XGS-PON(SFP+)	
Protocol	ORAN-FH (split 7.2)	
Antennas	Internal	External
Size HxWxD (mm)	75x225x225	359x264x81
Mounting options	Ceiling or wall mount; Desk standing	Rooftop, side of building (wall), pole, under overhang



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