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xHaul challenges must be addressed before the vRAN can be commercially viable

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About this report

This report describes the way in which an open and capable xHaul (namely fronthaul and midhaul) architecture could unlock almost USD100 billion in operator spending on vRAN, and outlines the strategies that vendors must adopt to realise this.

This report defines the xHaul requirements in various deployment scenarios and assesses the ability of current solutions to address them.

It provides recommendations for a phased introduction of vRAN or Open RAN, and looks ahead to the critical innovations that are needed from the transport networks sector to make it possible to support xHaul cost-effectively in a 5G urban macro network with massive MIMO. Only with vRAN architecture that can fully support high-end radio platforms will the full value of the vRAN market be unlocked, thereby delivering the flexibility of the cloud alongside the performance of technologies such as massive MIMO.

The report is based on several sources:

- a survey of 76 mobile and converged operators that are assessing, trialling or deploying vRAN or Open RAN (conducted in July 2022), plus in-depth interviews
- interviews with vendors and open initiatives/testbeds
- spending forecasts for vRAN, Open RAN and xHaul.

KEY QUESTIONS ANSWERED IN THIS REPORT

- What are the key xHaul requirements to achieve maximum performance in a disaggregated 5G macro RAN?
- How far does current technology and architecture meet these requirements? What is the impact of the edge topology?
- What does the ecosystem need to develop in order to achieve a mature solution that provides operators with confidence to deploy?
- What is at stake if operators do not feel confident to deploy at scale?
- Which element will contribute the most to achieving the goals: physical connectivity, vRAN architecture choice or platform flexibility?

WHO SHOULD READ THIS REPORT

- Strategy, product management and product development executives within transport vendors, RAN vendors and xHaul specialists.
- Strategy and transport networks executives within operators with an interest in deploying disaggregated RAN within the next 5 years.
- Investors in Open RAN start-ups and projects.

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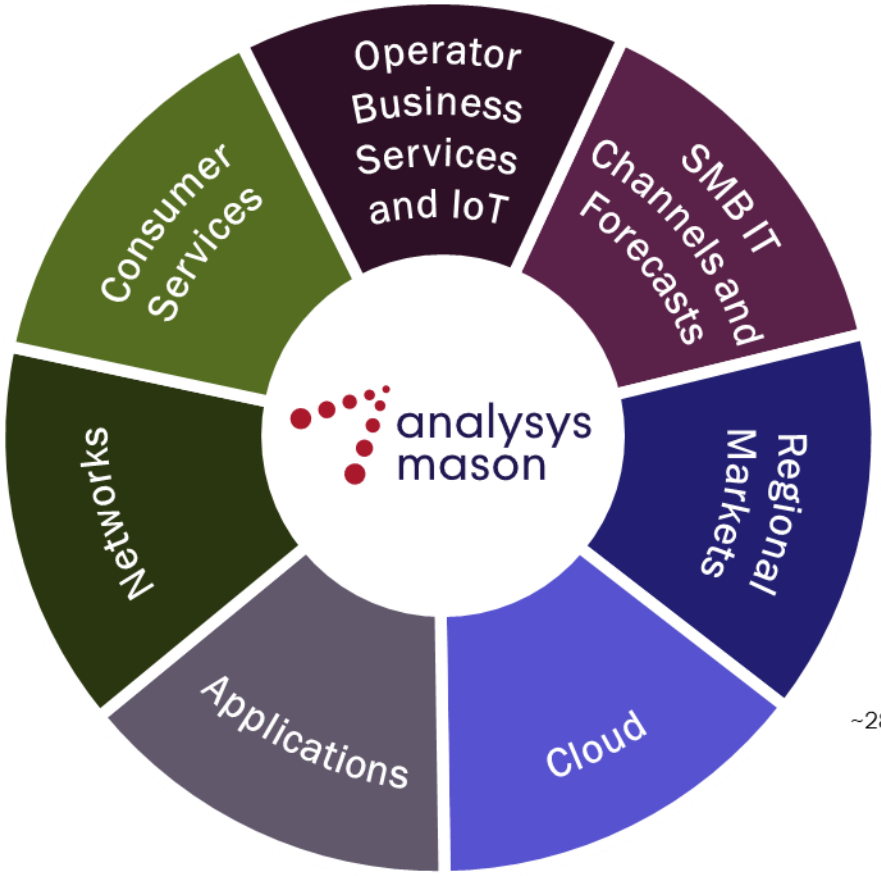

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