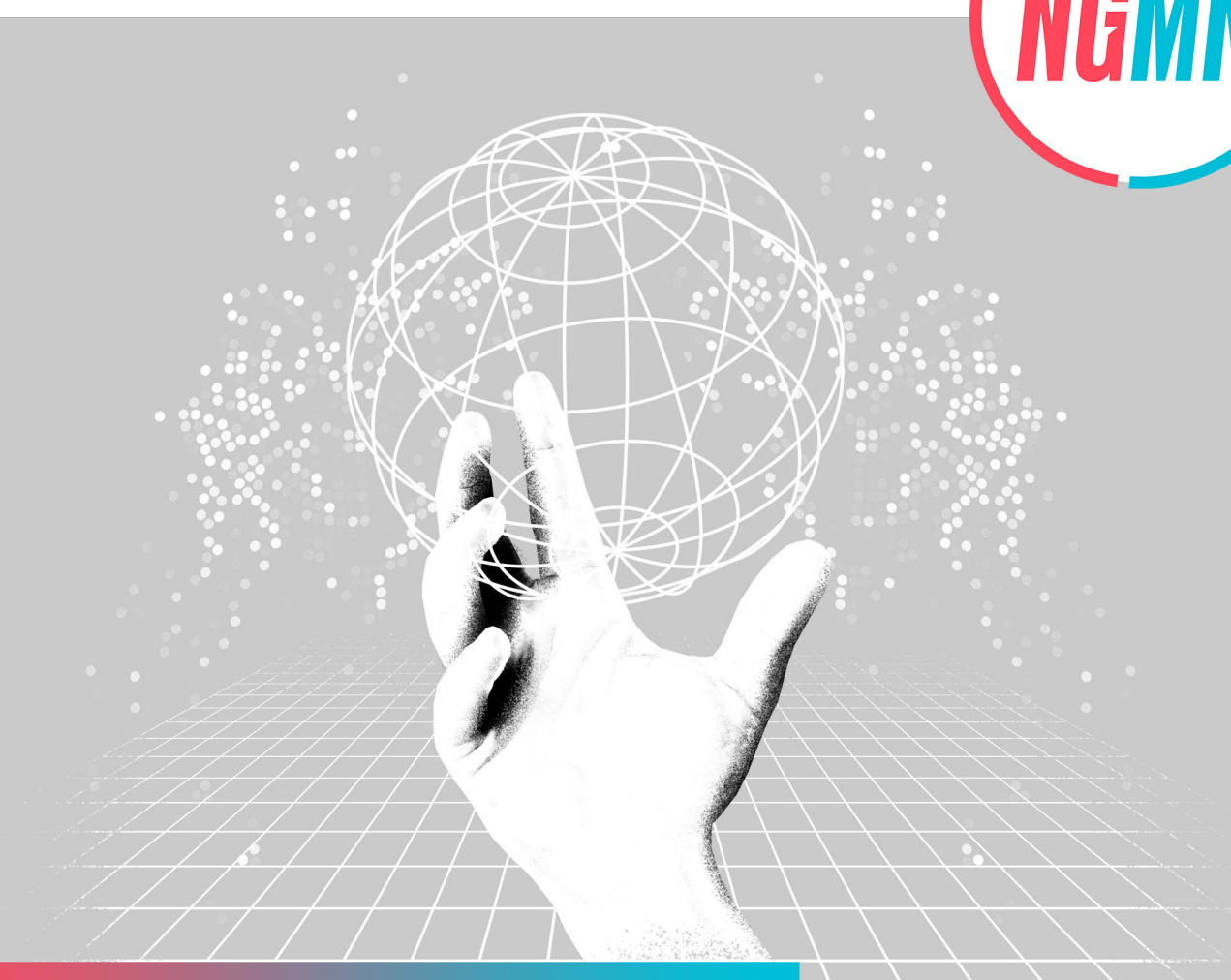


A central graphic shows a white hand reaching up to hold a wireframe globe. The globe is composed of white lines forming a sphere with latitude and longitude. The background is a grey gradient with a perspective grid on the floor and a cloud of white dots in the air.

6G ARCHITECTURE AND MIGRATION OPTIONS –

An Operator View

Updated Key Messages

V1.0

ngmn.org

6G ARCHITECTURE AND MIGRATION OPTIONS – AN OPERATOR VIEW

Updated Key Messages

by NGMN Alliance

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INTRODUCTION

NGMN's June 2026 publication "6G Architecture and Migration Options – An Operator View" [1] set out an operator perspective on migration approaches from 5G to 6G. NGMN had planned to provide an updated version of the publication for September, however due to ongoing development of insights, an update is now intended in the coming months. In the meantime, NGMN has updated the key messages from the publication and provides the following as NGMN operator guidance for the 3GPP September plenary, with a focus on study priorities in the ongoing 6G study phase.

KEY MESSAGES

1. Converge early on a primary 6G migration approach - Narrow down migration options as early as an informed decision can be made, with MRSS as the baseline solution, to limit fragmentation and reduce long-term complexity across UEs, RAN and core networks.
2. Focus MRSS study on real performance and implementation feasibility - Prioritise work on MRSS efficiency (including control channel overhead, dynamic allocation between 5G and 6G users, dynamic baseband resource sharing, support for both FDD and TDD carriers, plus support for 6G - carrier aggregation) to clarify how smooth 6G migration can be using MRSS.
3. NGMN recognises that several important dependencies remain under study, including MRSS efficiency, implementation feasibility, hardware impact, TCO implications and 6G Core architectural evolution. These factors should be used to assess whether one or more migration options beyond MRSS provide sufficient deployment and commercial value to justify the additional standardisation, implementation, and operational complexity introduced by one or more additional migration options.
4. Keep alternative migration options conditional on clear deployment need and incremental value - Alternative approaches should only be pursued if they address well-defined deployment gaps that MRSS cannot satisfactorily support, and where their incremental value is sufficient to justify the additional UE, RAN, Core Network, operational and ecosystem complexity introduced.
5. 6G Core architectural evolution has a significant impact on the complexity and relative value of RAN migration options. The assessment of alternatives should therefore explicitly consider whether 6GC is an evolution of 5GC or a more distinct architecture, and how this affects UE, RAN, Core Network and operational complexity.

6. NGMN recommends that decisions on migration options beyond MRSS are based on sufficient evidence regarding MRSS capabilities and limitations, implementation feasibility, hardware impact, TCO implications, deployment complexity, and commercial viability. Where alternative migration options are studied, explicit evaluation criteria should be used to support active down-selection as evidence becomes available.

In conclusion, NGMN recommends that MRSS remains the baseline migration approach for 5G-6G migration. Decisions on migration options beyond MRSS should be guided by deployment need, hardware impact, implementation feasibility, TCO implications, operational complexity, and overall commercial viability. Operators may be reluctant to deploy solutions whose migration complexity and cost are not justified by sufficiently material benefits. NGMN will continue to provide the operator context on commercial viability, deployment complexity and TCO implications, noting that these factors can only be assessed reliably as the underlying technical assumptions on MRSS, hardware impact and 6G Core evolution become clearer.

LIST OF ABBREVIATIONS

3GPP	3rd Generation Partnership Project
5GC	5th Generation Core Network
6GC	6th Generation Core Network
FDD	Frequency Division Duplex
MRSS	Multi-RAT Spectrum Sharing
NGMN	Next Generation Mobile Networks Alliance e.V.
RAN	Radio Access Network
TCO	Total Cost of Ownership
TDD	Time Division Duplex
UE	User Equipment

REFERENCES

- [1] NGMN, 6G Architecture and Migration Options – An Operator View, June 2026,
<https://www.ngmn.org/publications/6g-architecture-and-migration-options-an-operator-view.html>

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NEXT GENERATION MOBILE NETWORKS ALLIANCE

NGMN - Next Generation Mobile Networks Alliance - is a global, operator-driven organisation established by leading international mobile network operators (MNOs). As a global alliance of operators, vendors, and academia, NGMN provides industry guidance to enable innovative, sustainable and affordable next-generation mobile network infrastructure.

Key focus areas include Mastering the Route to Disaggregation, Green Future Networks, and 6G, while supporting the full implementation of 5G. NGMN drives global alignment of technology standards, fosters collaboration with industry organisations and ensures efficient, project-driven processes to address the evolving demands of the telecommunications ecosystem.

VISION

The vision of NGMN is to provide impactful industry guidance to achieve innovative, sustainable and affordable mobile telecommunication services to meet the requirements of operators and address the demands and expectations of end users. Key focus areas include Mastering the Route to Disaggregation, Green Future Networks and 6G, while supporting the full implementation of 5G.

MISSION

The mission of NGMN is:

- To evaluate and drive technology evolution towards the three **Strategic Focus Topics**:
 - **Mastering the Route to Disaggregation:**

Leading in the development of open, disaggregated, virtualised and cloud-native solutions, moving towards agentic AI-based operating models.
 - **Green Future Networks:**

Building sustainable and environmentally conscious solutions.
 - **6G:**

Providing guidance and key requirements for design considerations and network architecture evolution.
- To define precise functional and non-functional requirements for the next generation of mobile networks.
- To provide guidance to equipment developers, standardisation bodies, and collaborative partners, leading to the implementation of a cost-effective network evolution.
- To serve as a platform for information exchange within the industry, addressing urgent concerns, sharing experiences, and learning from technological challenges.
- To identify and eliminate obstacles hindering the successful implementation of appealing mobile services.