Solution Brief

Communications
5G Small Cell Infrastructure



ADLINK Delivers Performance and Flexibility for 5G Small Cell Sites

ADLINK LEADING EDGE COMPUTING

The edge technology provider delivers an integrated 5G small cell solution that simplifies deployment and accelerates performance.

5G is primed to unlock amazing opportunities and advancements. But making the most of them requires new approaches to network infrastructure.

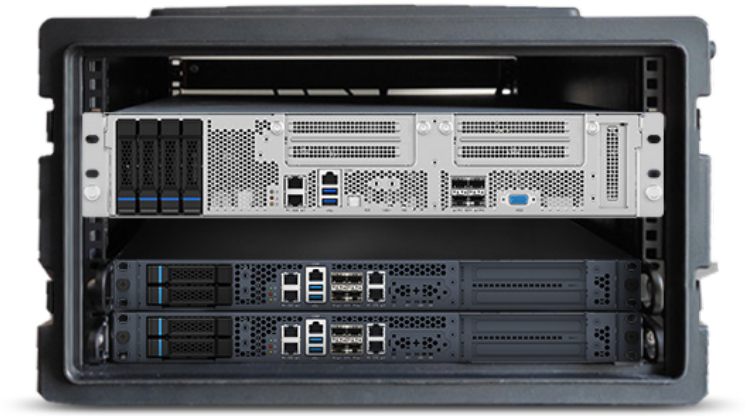
As more small cell nodes are deployed to provide high-performance 5G connectivity, communications service providers (CoSPs) and enterprise organizations need to rethink their underlying infrastructure strategy to ensure optimal business results. By opting for commercially available Intel-based servers instead of dedicated appliances, they can realize a more open and flexible 5G network that doesn't compromise critical performance requirements. These flexible compute nodes power the Open RAN and network functions virtualization (NFV) technologies that are essential to realizing 5G's full value.

"This solution provides the software and hardware components needed for high-performance 5G small cell deployments in a tightly integrated and portable package."

—Julian Ye, director of networking, communication, and public sector at ADLINK

This shift is top of mind for CoSPs and enterprise businesses. They're exploring how they can best roll out the integrated compute and connectivity technologies they need at each small cell node—including RAN infrastructure, baseband units (BBU), 5G core infrastructure, and application servers.

To help pave the way forward for 5G small cell deployments, ADLINK used Intel® 5G and processor technologies to create an integrated, application-ready, and portable 5G small cell solution.



The ADLINK 5G small cell solution integrates hardware and software small cell essentials such as 5G core, application server, RRU, and BBU in a 19" luggage cabinet.

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A streamlined approach to 5G deployment

"This solution provides the software and hardware components needed for high-performance 5G small cell deployments in a tightly integrated and portable package," says Julian Ye, director of networking, communication, and public sector at ADLINK.

Making this 5G small cell solution a reality required the ADLINK team to select elements that could best illustrate the potential of an open, virtualized approach to the 5G edge. The team worked closely with their partners to build a comprehensive solution.

"Using this small cell solution, our system integrator partners and CoSP customers can kick-start the process of transforming network infrastructure for 5G," says Ye. "It provides the essential elements they need to quickly deploy 5G small cell nodes in production environments or for proof of concept needs. It's an application-ready platform that enables success at the 5G edge for both CoSPs and enterprise businesses."

Remote radio unit (RRU)

Hardware: SageRAN 4T4R RRU

5G baseband unit (BBU)

Hardware: MECS-7211 edge computing platform with Intel® Xeon® Scalable Silver/Gold processors, PCIe-A100 FEC acceleration card

Software: SageRAN 5G RAN protocol stack

Reference architecture: FlexRAN™

5G core network

Hardware: MECS-6110 edge computing platform with Intel® Xeon® D processors

Software: ASTRI 5G Core

Application server

Hardware: MECS-6110 edge computing platform with Intel Xeon D processors

Expansion unit

Extends the connection distance of RRU and BBU

Collaborating to define a new generation of network edge infrastructure

Throughout 5G's evolution, Intel and ADLINK have collaborated alongside other industry stakeholders to define small cell multiaccess edge computing (MEC) server specifications for the Open Telecom IT Infrastructure (OTII) standard—and have also recommended it to network operators as the BBU hardware specification for 5G New Radio (5G NR). Additionally, they've both participated in the Open RAN consortium to share designs and encourage overall industry advancement.

"Our shared mission with Intel is to facilitate more-open 5G MEC infrastructure," says Ye. "Our 5G small cell solution represents our commitment to unlocking greater flexibility and better business results at the network edge."

Together, Intel and ADLINK are facilitating 5G MEC infrastructure transformation through open interfaces, hardware, and software. Along the way, they're helping to lower operational expenses, increase service agility, and enable cloud-scale economics.

ADLINK and Intel collaborated to ensure that the 5G small cell solution complies with the 3GPP standards for telecommunications, further promoting interoperability and openness at the edge. ADLINK leveraged a complete set of Intel® technologies to build the small cell solution, including:

- Intel® Xeon® Scalable processors with Intel® AVX-512 instruction acceleration and Intel® QuickAssist Technology
- Intel® eASIC™ devices for 5G
- FlexRAN™ software

Key benefits of the solution

The ADLINK 5G small cell solution provides the power and flexibility required to make the most of 5G—in a convenient form factor that systems integrators can easily use for proof of concept needs.

Flexibility

By leveraging NFV and COTS servers, the ADLINK 5G small cell solution enhances network flexibility and promotes vendor interoperability. High-performance Intel® technologies ensure the rapid throughput required by advanced 5G applications.

Integration

The ADLINK 5G small cell solution integrates RAN, 5G core, RRU, BBU, and application servers to deliver ultralow latency and high-speed communication experiences. Consolidating RAN and 5G core workloads on a single node reduces costs, streamlines deployment, and simplifies management.

Portability

To help systems integrators more easily demonstrate proof of concept, the ADLINK 5G small cell solution is offered in a 19" luggage cabinet that's easy to deploy and transport.

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The time is now for 5G innovation

5G's evolution will continue to open new possibilities and business models for CoSPs and enterprise businesses. The ADLINK small cell solution provides a high-performance, streamlined way for innovative organizations to unlock the future of their business.

"It's an exciting time," says Ye. "As 5G proliferates and requires more small cell sites, we're excited to continue working with Intel to deliver the flexibility, openness, and performance that's needed."

Get more information

ADLINK 5G small cell solution

Find out more about the ADLINK and Intel® solution for 5G small cell deployments and proof of concept initiatives.

Learn more ›

Intel network and 5G technologies

Find out how Intel is helping CoSPs realize the full potential of 5G applications.

Learn more ›

About ADLINK

ADLINK is a global provider of edge computing solutions. For over 25 years, the company has delivered software, hardware, and services that keep its customers on the cutting edge.

adlinktech.com

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