

CASE STUDY

NTT DOCOMO Brings the Open RAN Revolution to Customers Worldwide

Spirent O-RAN solutions with industry-leading 5G Core emulation make multi-vendor network validation faster, easier, and less expensive.



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Overview

NTT DOCOMO, Japan's largest telecommunications company, has a reputation for innovation that extends beyond its 87 million subscribers. The company has long been a leader in bringing new technology innovations to its network and helping other carriers adopt them. Now with OREX, DOCOMO aims to become the partner of choice for O-RAN, offering solutions to design, integrate, test, deploy, and operate O-RAN systems for mobile operators worldwide. Central to this goal, DOCOMO needs the ability to prove out its multi-vendor open solutions quickly and cost-effectively and show customers that O-RAN can deliver the performance required in the world's largest, most demanding networks.

The Challenge

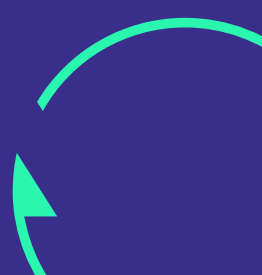
O-RAN disaggregates the traditional RAN into standardized components that can run as virtualized software functions, using open and interoperable interfaces. This change allows service providers to mix and match different vendors' RAN components for the first time, fueling new competition and innovation in this historically closed, proprietary technology space. At the same time, O-RAN presents carriers with a new challenge: ensuring that multi-vendor RAN components work together as a unified, high-performing system.

To help its service provider customers succeed, DOCOMO aims to act as expert partner and system integrator, providing pre-tested and pre-integrated O-RAN solutions built with OREX-approved vendors. Key to this model, however—indeed, key to the success of O-RAN itself—DOCOMO's customers must be confident that open solutions will not only work but deliver performance on par with a traditional RAN. DOCOMO therefore needs the ability to quickly, cost-effectively assemble custom O-RAN systems for prospective customers and provide comprehensive proof-of-concept (PoC) demonstrations. This requires a new generation of testing capabilities to:

- **Validate standards conformance and interoperability** of O-RAN components individually, in combination, and as an end-to-end system.
- **Demonstrate consistent carrier-grade performance**—not just under ideal conditions, but in real-world scenarios where the network is under stress.
- **Quickly assemble PoCs for customers** without having to repeatedly build up full-scale testing infrastructures loaded with real subscriber traffic—a process that would take far too long and be far too expensive to meet DOCOMO's aggressive OREX expansion goals.

Summary

NTT DOCOMO, Inc. trusts Spirent Open RAN (O-RAN) solutions to help bring their 5G Open RAN Ecosystem Experience (OREX™) to mobile operators worldwide. Backed by industry-leading O-RAN testing and emulation, DOCOMO can help service providers tap into the flexibility and cost savings of multi-vendor open networks, while assuring carrier-grade performance.



Spirent Solution

DOCOMO turned to Spirent's O-RAN Solutions to provide comprehensive 5G Core emulation, critical to validation of multi-vendor interoperability, standards compliance, and real-world performance in its OREX solutions. Combining the industry's most realistic network emulation with advanced performance and security testing, all in a unified, automated solution, DOCOMO can demonstrate the viability of O-RAN for service provider customers worldwide.

Spirent provides:

- **Scalable emulation of 5G Core networks:** With Spirent 5G Core emulation, DOCOMO can rapidly configure PoCs without the need for complex, time-consuming integration with live 5G Core infrastructure.
- **Generation of real-world conditions:** Spirent 5G Core emulation generates realistic control and data plane traffic for millions of mobile subscribers as they move through the network, helping DOCOMO prove that OREX solutions are ready for the real world.
- **Comprehensive validation:** With Spirent's broad suite of cloud-native network function and end-to-end testing capabilities, DOCOMO can comprehensively demonstrate its OREX systems meet providers' performance, security, and capacity requirements.

The Result

With advanced Spirent 5G Core testing and emulation, DOCOMO leaders have the confidence to take their OREX offerings to any and every market, knowing that their O-RAN testing capabilities can keep pace with a rapidly growing new line of business. The company can rapidly assemble and fully validate multi-vendor O-RAN systems to meet diverse customer needs. And they can quickly create PoCs to prove to prospective customers that O-RAN really can work in their environments, with the performance their subscribers expect.

With help from Spirent 5G Core emulation, DOCOMO benefits from:

- **Increased customer trust** that comes from working with the leader in O-RAN testing and the industry benchmark for validating telecom infrastructure
- **Global reach** with the ability to address the unique requirements of carriers in every market thanks to Spirent's longtime partnerships with RAN vendors and operators worldwide
- **Lower costs and faster time to market** with built-in automation that enables DOCOMO to conduct comprehensive testing for diverse customers and O-RAN systems, without having to continually rebuild and reconfigure tests manually



Because O-RAN is a disaggregated network, each component needs to be tested independently, as well as integrated with the adjacent component together, and then end-to-end. Emulation, in particular, is a critical element of any O-RAN testbed and Spirent is the market leader in this area. Including its technology as a key feature of OREX testing will ensure operators can gain confidence in their O-RAN deployments.

Sadayuki Abeta, *Corporate Evangelist, NTT DOCOMO*

About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks. We help bring clarity to increasingly complex technological and business challenges. Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled. For more information visit: www.spirent.com

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