

Intracom Telecom NFV-RI

Optimizing The Execution of Virtual Network Services with AI-Based Resource Management



Solution Overview: With the growing expansion of mobile networks and 5G, virtualized infrastructures are becoming critical for cloud service providers (CSPs). Network Function Virtualization is pivotal, allowing network services to operate on versatile hardware, but it faces challenges such as inefficient resource use and high power consumption due to demanding KPIs. To address this, Intracom Telecom has developed NFV Resource Intelligence (NFV-RI) which optimizes the execution of virtualized and cloud-native network services and the operation of the infrastructure they run. It deploys AI and Machine Learning to predict VNF workload and automatically decide the ideal distribution and configuration of resources while using a Frequency Feedback Loop (FFL) to understand the performance impact of those resource decisions. Per core P-states and Uncore Frequency Scaling aid the FFL in aligning core and uncore frequencies and dynamically adjusting processor voltage to real-time workloads. This allows CSP infrastructure to operate at low power during off-peak periods with the potential to reduce power usage by up to 25% on average.¹ Meanwhile, Intel® Resource Director Technology helps reduce performance interference, enabling optimal performance of high-priority services. By employing AI to realize autonomous service assurance and leveraging advanced hardware technologies, Intracom Telecom helps ensure that service level objectives are maintained, and resources are used cost-efficiently.

Business Outcomes



Boost energy efficiency by automatically regulating the power usage of hardware resources based on workload demand.



Optimize infrastructure utilization by increasing server density up to 2x without compromising application performance² and with automatic optimal resource configurations.



Achieve heightened visibility via customized dashboards that equip users with comprehensive telemetry data.



Easily deploy the solution across multiple nodes, utilizing familiar deployment tools (Helm) and spending zero effort for integration with VNFs/CNFs of different vendors.

Key Features

- AI-driven closed-loop mechanisms
- Reduced energy & resource utilization
- Vendor agnostic & transparent application to existing VNFs/CNFs deployments
- Faster time-to-market via validated & certified reference architecture
- Streamlined deployment utilizing standardized technologies (Kubernetes, Helm)

Intel Products and Technologies

- [3rd Gen Intel® Xeon® Scalable Processor Product Page](#)
- [Intel® SpeedStep® Technology Product Page](#)
- [Intel® Resource Director Technology \(Intel® RDT\) Product Page](#)

Segment:

- Core Networks
- AI/Automation

Industry:

Data Center

Country/Geo:

Worldwide

Learn more:

- [Intracom Telecom Website](#)
- [Intracom Telecom NFV Resource Intelligence Product Page](#)
- [Intracom Telecom NFV-RI Product Brochure](#)
- [Intracom Telecom Machine Learning Boosts NFV Energy Efficiency Intel® White Paper](#)
- [Intracom Telecom Intel® Solutions Marketplace Page](#)

1. Red Hat, [Energy-Efficient 5G Core User Plan Function](#), 20232. Intracom Telecom, [Intracom Telecom NFV Resource Intelligence](#), 2022