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Why Network Disaggregation Should Be In Your Next RFP

Executive Perspective

Now is the time to rethink your network architecture and align your approach with modern hyperscale clouds.

01 | Significant Cost Savings

Network disaggregation leads to significant cost savings in both capital expenditures (CapEx) and operational expenditures (OpEx), by enabling the use of standard white box hardware and cloud-native software.

- **CapEx reduction:** Streamline hardware procurement and a enable a robust supply chain, lowering initial costs by up to 10x compared to traditional chassis architecture.

- **OpEx efficiency:** Reduce power consumption, minimize data center requirements, and consolidate operational systems, leading to sustained savings, with some providers reporting total cost improvements of up to 60%.

- **Extended equipment lifespan:** Protect against technological obsolescence by upgrading only specific components in the Distributed Disaggregated Chassis (DDC) cluster, avoiding expensive and disruptive forklift upgrades.

> *"The **TCO improvements is about 20%** when we disaggregate"*
>
> *Jean-Louis Le Roux, EVP International Networks, Orange*

02 | Faster Innovation and Time to Revenue

Network disaggregation enables a software-based approach, accelerating the pace of innovation. By decoupling hardware (HW) and software (SW), service providers (SPs) can adapt quickly to market demands and integrate cutting-edge technologies like AI-driven operations and automation.

- **Vendor choice & competition:** Select HW from one vendor and SW from another, each focusing on their own domain. This encourages healthy competition and accelerates innovation compared to integrated chassis solutions where a single vendor must develop both HW and SW together.

- **Rapid adoption of new technologies:** By opening up network architecture, disaggregated networks readily enable the adoption of new technology innovations based on operator priorities rather than the constraints of a single vendor's roadmap.

> *"...Network Cloud enables greater agility and **faster delivery of new features & capabilities** compared to traditional routers."*
>
> *Valentin Popoviciu , VP DIGI Group, DIGI*

03 | Enhanced Operational Efficiency

Network disaggregation enables leveraging the new operational model and software-based network design to automate and improve operations with advanced tools. Here are a few examples:

- **Reduced deployment costs and efforts** (based on KGPCo deployment experience):
    1. **40% lower integration costs:** Standardized hardware and automated testing reduce validation time.
    2. **60% faster installation time:** Modular design simplifies site preparation and enables zero-touch provisioning.

3. **50% less planning efforts:** Common architecture and fewer SKUs streamline forecasting and stocking.

- **Unified hardware:** Disaggregation reduces hardware, software and maintenance procedures and variations. Utilizing unified hardware building blocks streamlines the certification and installation processes.

- **Streamlined updates/upgrades (no maintenance window):** Seamless software updates/upgrades with live traffic (under one second of traffic loss) empower 'always-on' IP services and eliminate the need for maintenance window coordination. In most cases, a traffic impact of <1sec can be managed under SLA, without maintenance windows. This eliminates the need for planned outages and offers significant operational and capital investment benefits.

- **Improved operations using AIOps and root cause analysis (RCA):** Disaggregation enables automatically analyzing logs in real time to detect incidents and provide root causes. RCA streamlines troubleshooting, improves response times, and reduces operational overhead

04 | Reduced Risk with Supply Chain Diversity

Disaggregation enables elastic scaling from small standalone systems to massive clusters supporting diverse network demands. Hardware-agnostic design and adherence to open standards (like OCP's DDC and TIP DDBR specifications) allow service providers to mix and match components, reducing vendor dependency while fostering innovation

*"White boxes offer AT&T a **capital savings of about 10X** compared to traditional chassis and line card architecture."*

John Gibbons, AVP of Network Infrastructure Services, AT&T
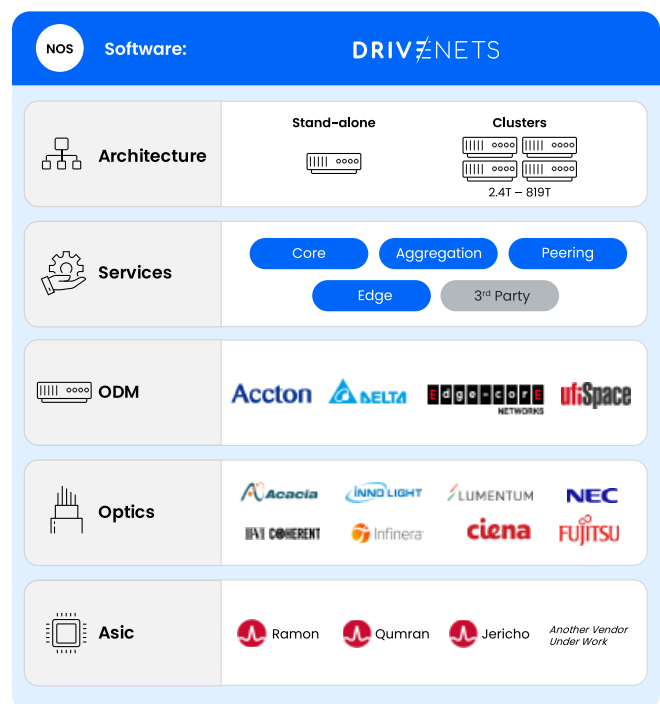
True diversity on all fronts – mixing and matching of disaggregated NOS, ASIC, ODM, optics and service components

05 | Proven Success Across Leading Operators

Industry leaders like AT&T, Comcast and KDDI have achieved transformative results through disaggregated solutions, benefitting from cost reductions to improved network agility. Their efforts align with other network operators like Telefónica, Turkcell, Vodafone, MTN, and Orange. Network disaggregation, deployed by multiple tier-1 carriers, demonstrates the viability of a unified, scalable architecture that meets the evolving demands of modern networks.

- **Comcast:** replaced chassis-based routers with DriveNets Network Cloud for aggregation and peering, with over 25% of Comcast traffic running on DriveNets

- **AT&T:** migrated IP/MPLS core network to DriveNets DDC, carrying over 72% of the SP's backbone traffic (725PB/day) as of June 2024

- **KDDI:** deployed DriveNets-powered Disaggregated Distributed Backbone Router (DDBR) architecture for internet gateway peering routers, reducing the power consumption by about 46% and the rack space by about 40% compared to the traditional routers.

- **DIGI:** deployed DriveNets Network Cloud at Digi core production sites, carrying more of 25% of all the traffic across Romania

> *"...**reduce power consumption by 48%** ...we also increased port capacity by 2.5 times when compared to traditional routers"*
>
> **Aliraza Bhimani,** *Principal Network Engineer, Comcast*

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