

# OPEN POSSIBILITIES.

## Extending Network Sustainability via True Distributed Disaggregated Architecture



NETWORKING SUSTAINABILITY



**OCP**  
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NOVEMBER 9-10, 2021

# Extending Network Sustainability via True Distributed Disaggregated Architecture

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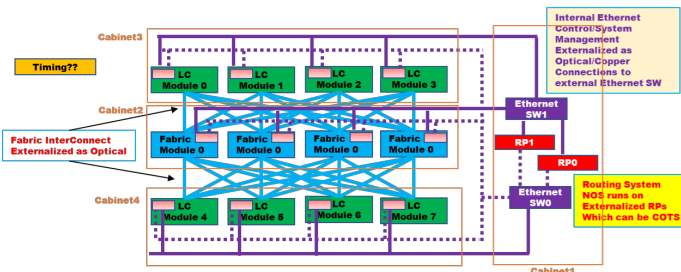
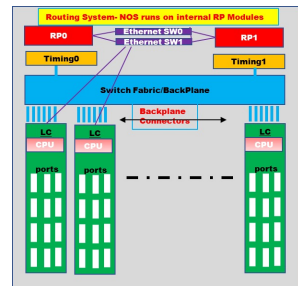
# Introduction to DDC



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- AT&T specifications
- Scale – cluster architecture & standalone
- Ecosystem
- Vendor lock disaggregation control/data plane separation
- Chassis distribution
- NOS distribution

From Chassis to Cluster



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# Introduction to sustainability



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Make the most out of IT assets (AKA cloud...)

Develop products suitable for reuse (e.g. compute...)

Develop products for repurpose (e.g. HPC clusters...)

What makes this possible?

Examples from OCP sustainability solutions [page](#)

[sustainability-healthcare](#),

[sustainability-storage](#),

[sustainability-digital-learning](#),

[sustainability-private-cloud](#)



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# Cloud Native Networking



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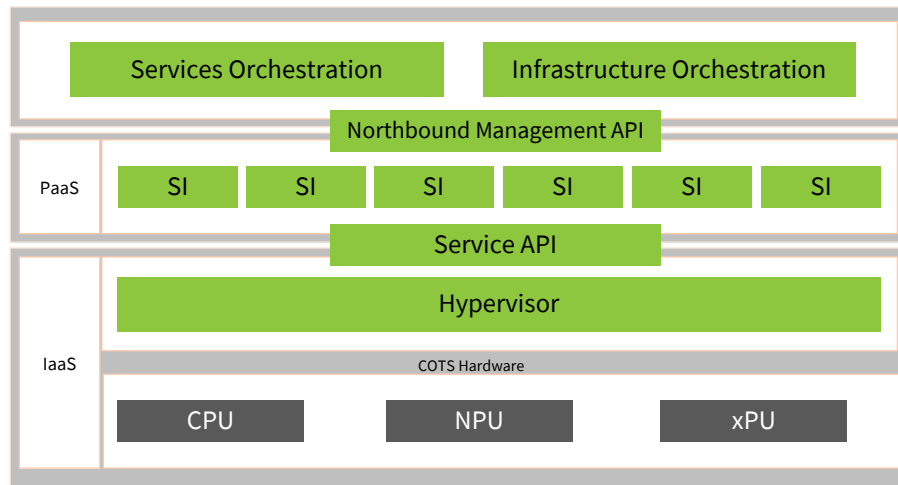
Network Cloud hypervisor

HW virtualization

Hardware abstraction layer

Service instances

Service examples



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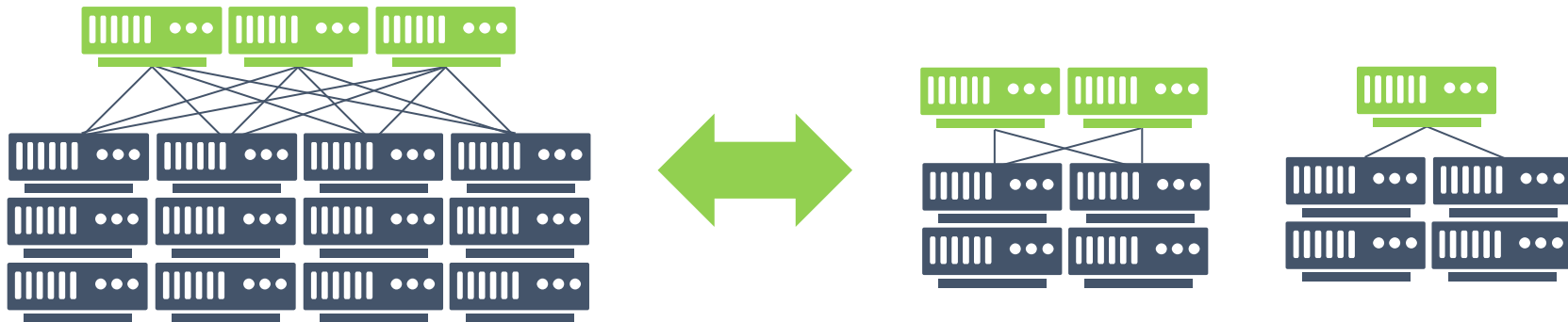


# Example #1 – Scale



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Reuse cluster components for different cluster sizes



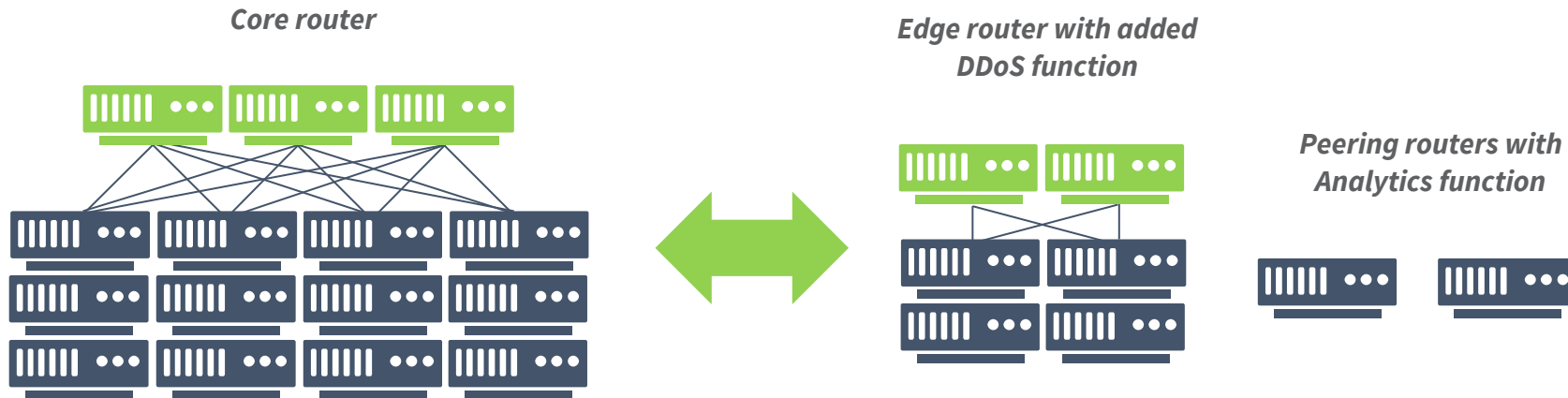
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# Example #2 – Functionality



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Repurpose cluster elements to run alternative network functionality



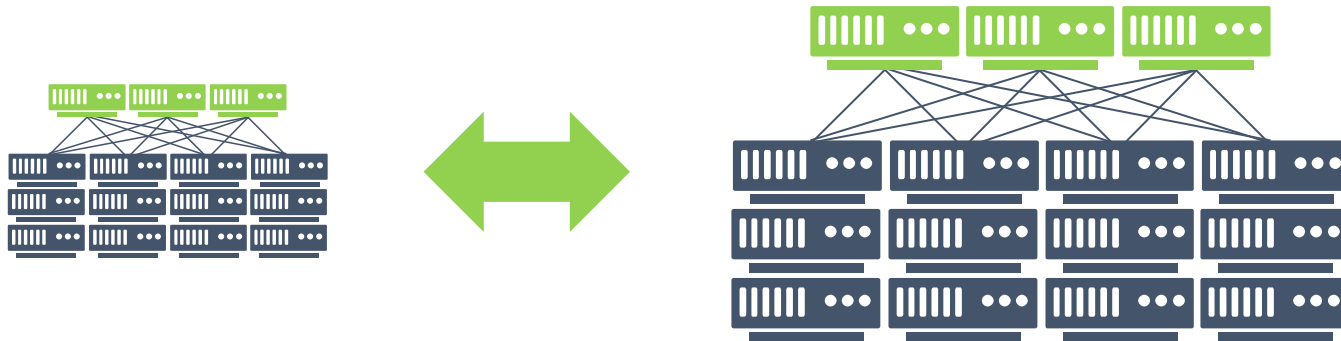
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# Example #3 – Geography



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Reposition outdated cluster elements into lower capacity areas (inter/national)



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# Network Use Cases



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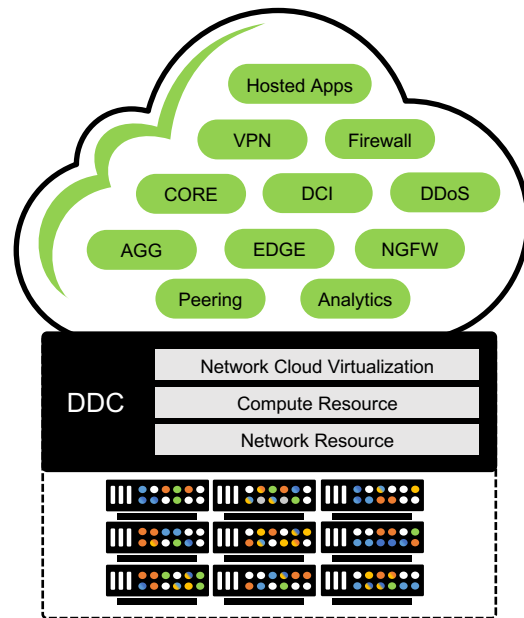
Core/aggregation/Peering/PE routing

Firewall/DDoS/NAT/DPI/load balancer/etc.

Subscriber management (mobile, residential)

Location/latency sensitive services

IoT/Innovation/Self built



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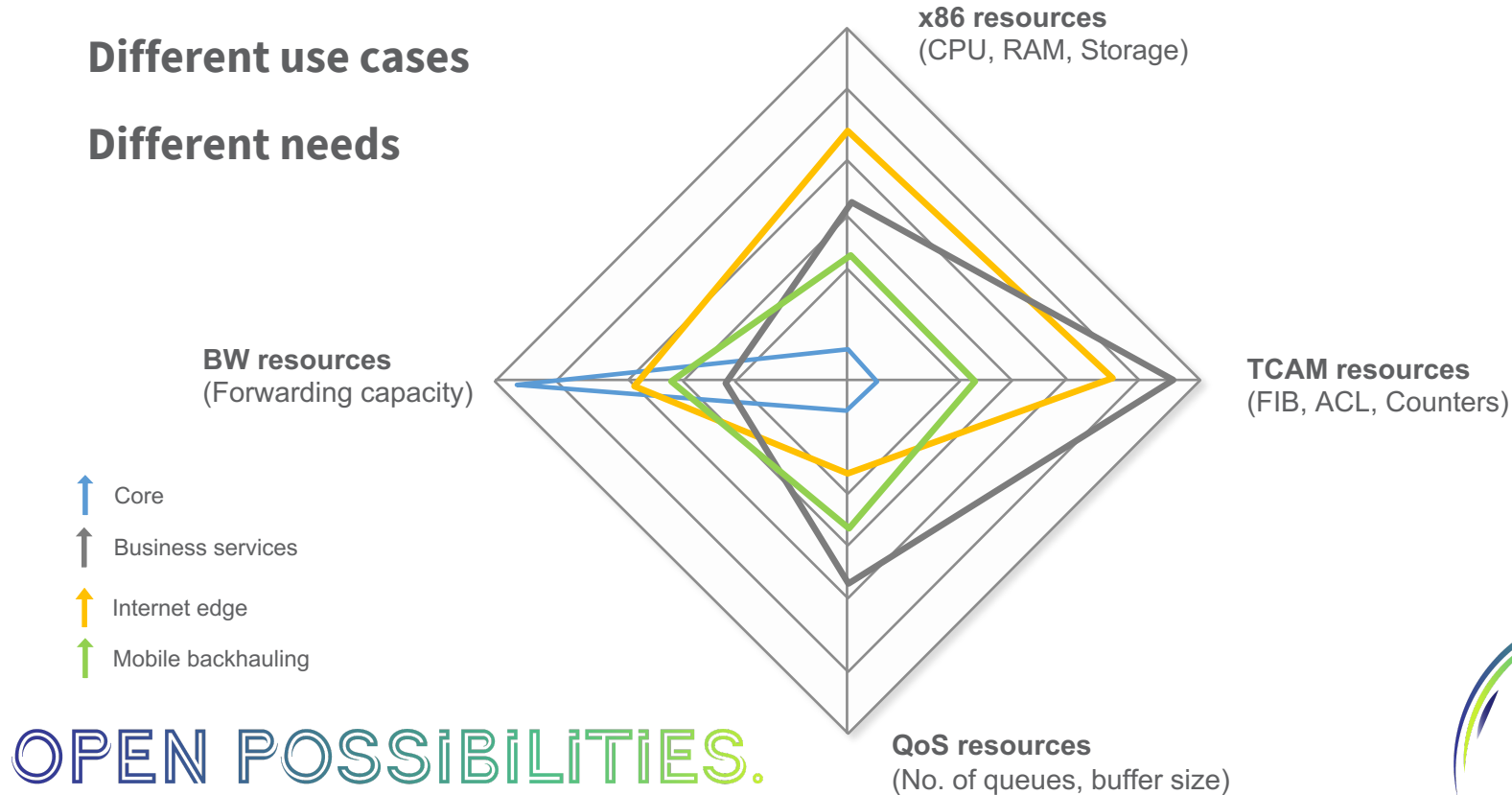


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# Use Cases Attributes

Different use cases

Different needs



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# Future Trajectories



NETWORKING SUSTAINABILITY

Standardizing network function API

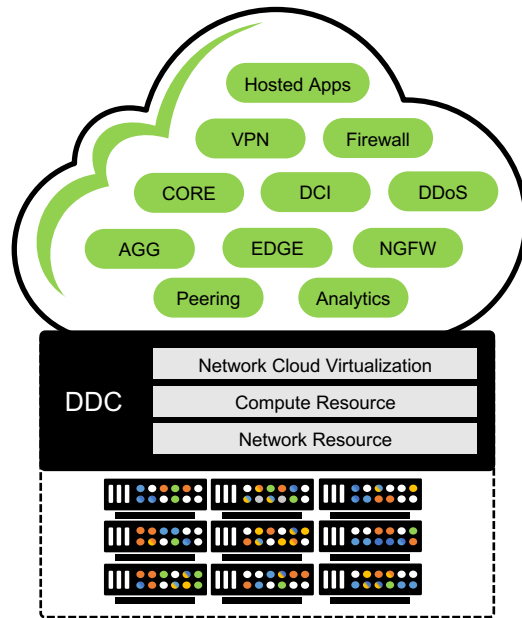
Expanding HW ecosystem

More HW vendors

More HW options

(Compute/Memory/Network)

Expanding application portfolio



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# Future Trajectories



NETWORKING SUSTAINABILITY

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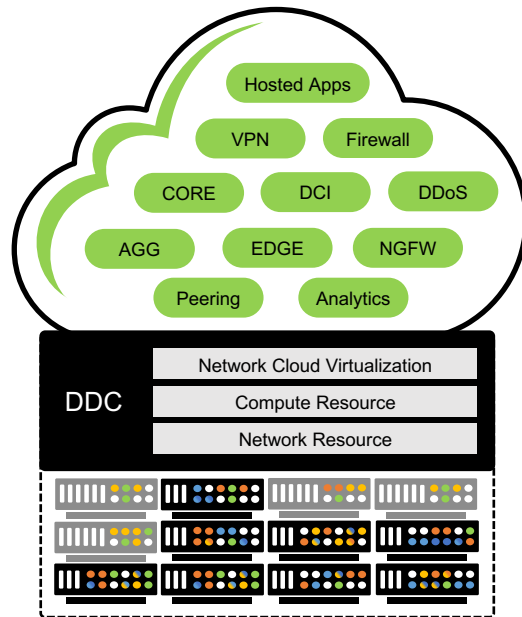
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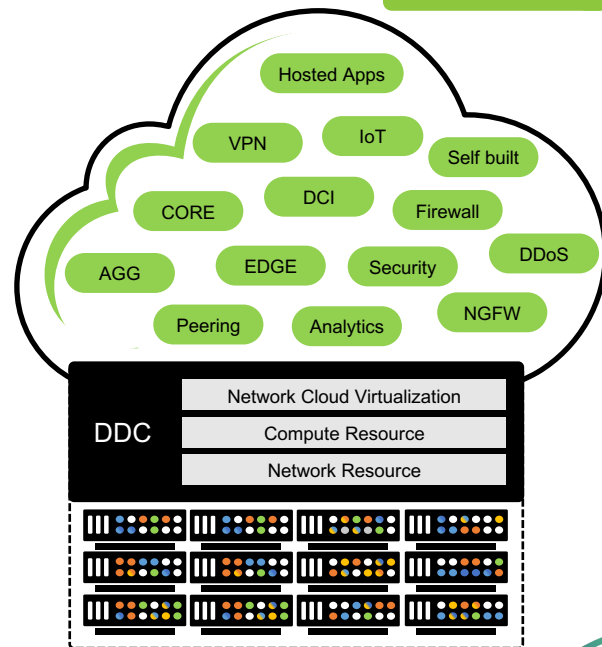
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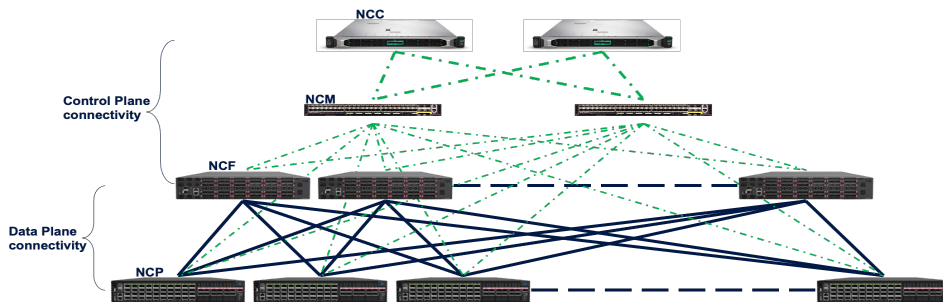


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# Product Info

- Product examples of DDC components



- OCP Accepted – packet forwarding white box (NCP)
- OCP Accepted – packet forwarding white box (NCP)
- OCP Accepted – fabric white box (NCF)
- OCP Accepted – control switch white box (NCM)

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# Call to Action

- How to get involved in the Project:
  - Develop your applications to run over existing OCP components
  - Develop new Network Cloud components
  - Evolve HW abstraction layer API
- Concept white paper contribution: ongoing
- Timeline for Product Availability: available
- Additional information: [DDC specifications](#)

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# Thank you!



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# Open Discussion



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