

Routing in the Future Internet

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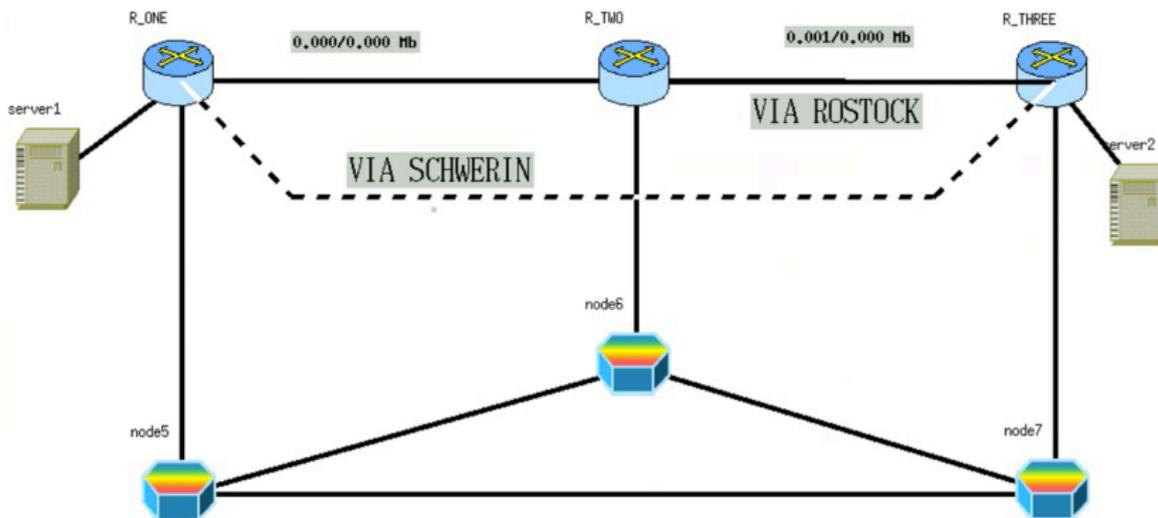
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Coordinated Provisioning (automatically initiated case)

- An IP offloading/uploading application



Scenario successfully tested by Telefónica in premises of O2 in Germany

- A Multi-layer and multi-vendor network set as follows:
 - 3 JUNIPER routers
 - 3 ADVA transport nodes
 - 2 servers for traffic generation and reception
 - link 2-3 @ 1G, the rest @ 10G
 - Traffic only between the servers (from server1 → server2)
 - NMS refresh set @ 10 seconds
 - Thresholds:
 - set @ 500M for the offloading action
 - set @ 300M for the uploading action

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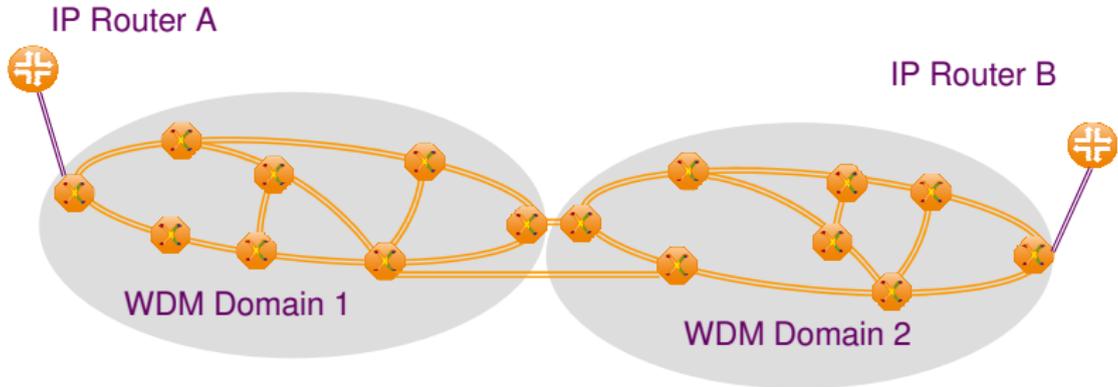
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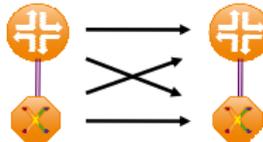
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- 5 Offers a programmable management framework in the form of workflows, which basically specify current telecom practices and management procedures in multi-layer networks.

The New Frontier: Multi-layer Interdomain Routing



- Layer selectivity



→ Further work needed.

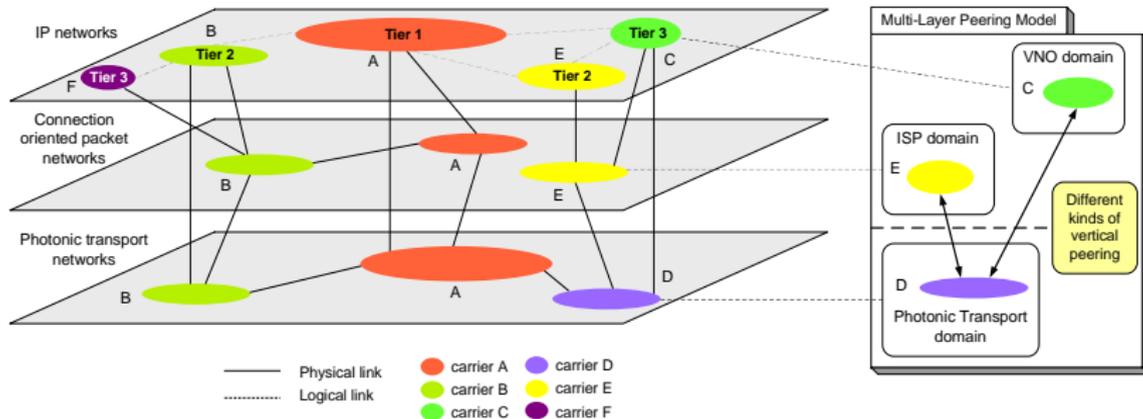
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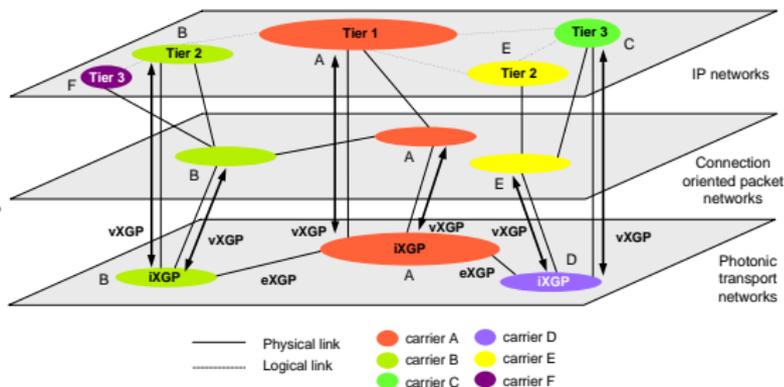
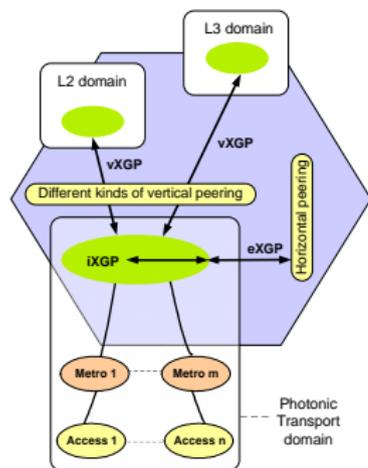
ONDM2009 / Dominic Schupke / 2009-02-19

- Source: Dominic Schupke, Nokia Siemens Networks, "Options and Opportunities for Optical Network Resilience," invited talk at IFIP/IEEE ONDM 2009, Braunschweig, Germany, February 2009."

Multi-layer Network Domains



3D Peerings



Questions?