

# Is Optical Multilayer Networking Feasible?

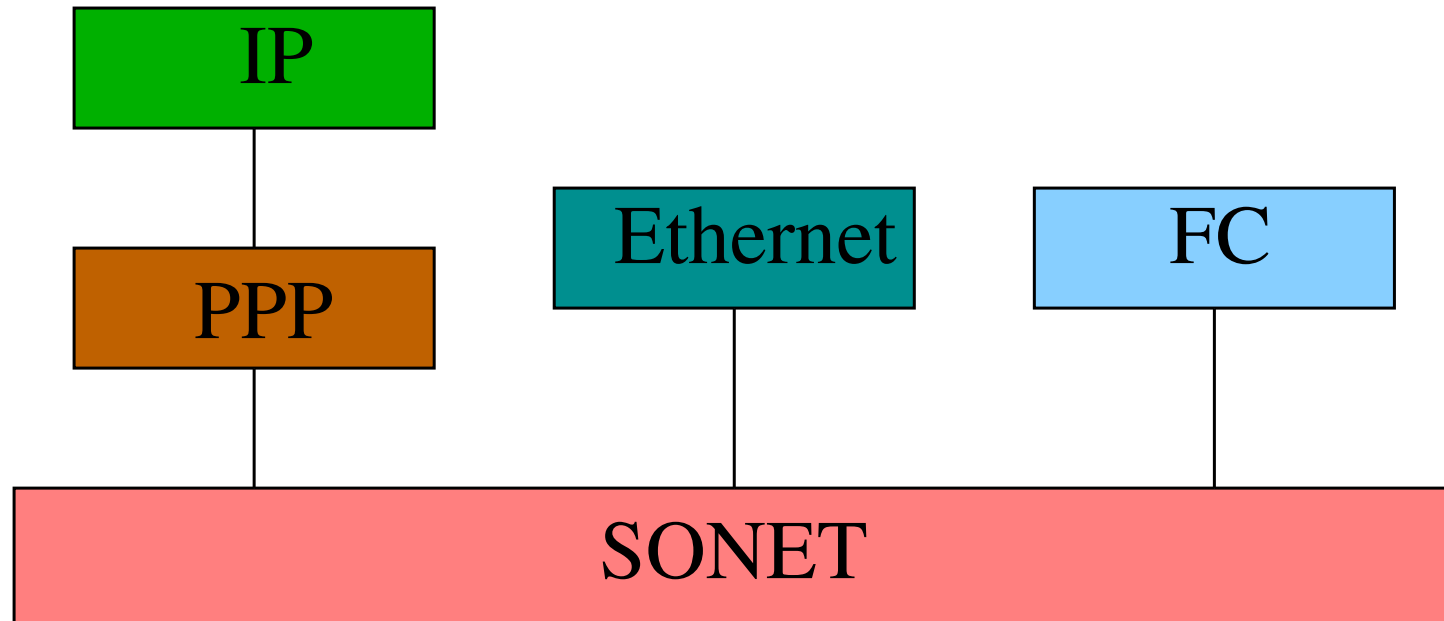
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# In the Beginning ...



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- interoperability
- faster speeds
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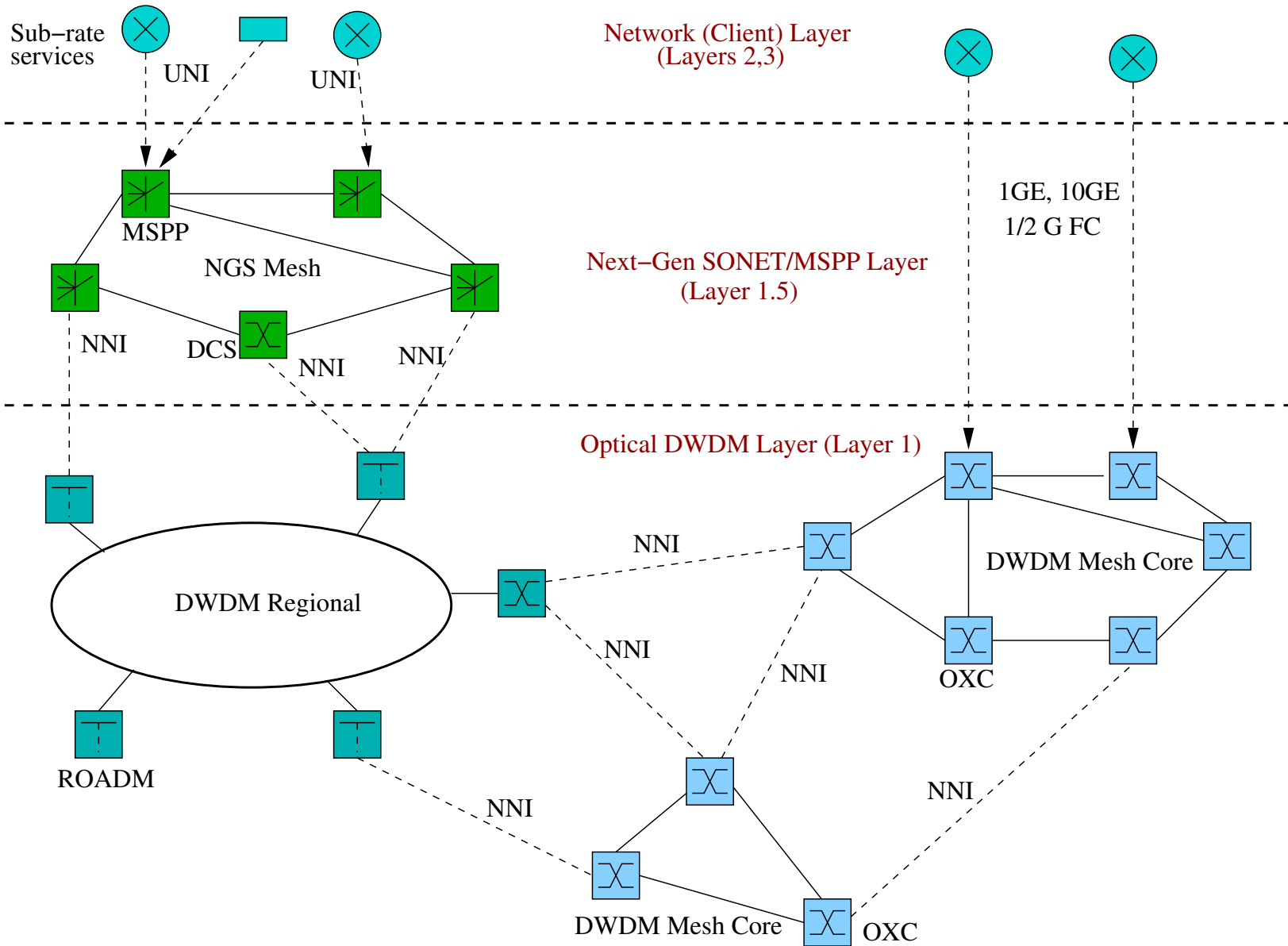
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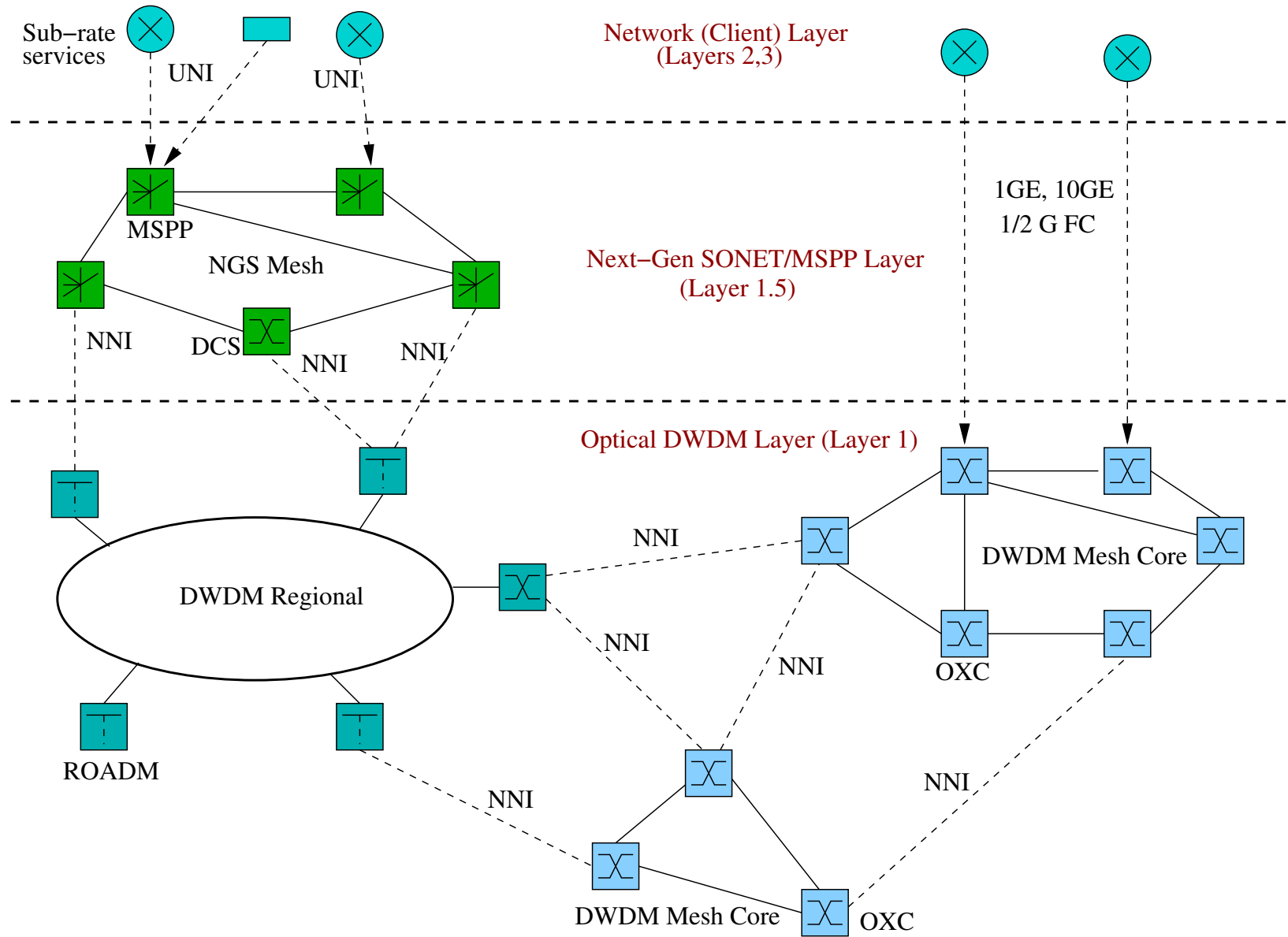
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and the Net Engineers went to work, and toiled through the bubble

# How Far We've Come ...

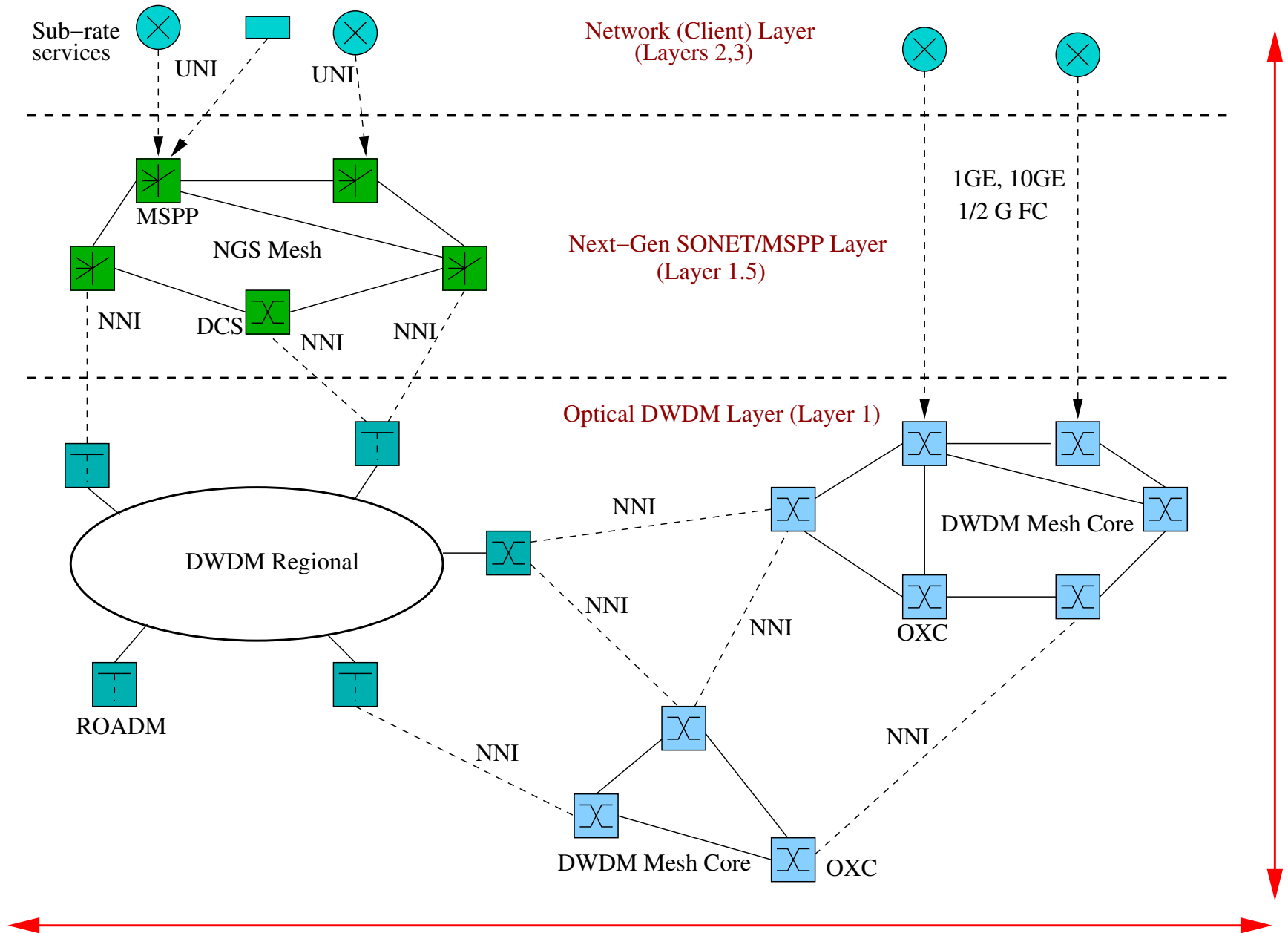


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- Multi-layer strategies:
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  - escalation strategy: bottom-up or top-down
    - hold-off timer
    - token passing
- Cross-layer approach: integrated design
  - each layer must be aware of working/spare capacity of the other
  - dynamic, coordinated logical topology modification

# So Where Do We Stand?

- Layering: separation of concerns → too limiting today
- No good way for bi-directional information exchange between layers
- Cross-layer solutions difficult today
  - engineered within constraints of layering
  - only apply to specific context

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Attend my talk tomorrow :-)

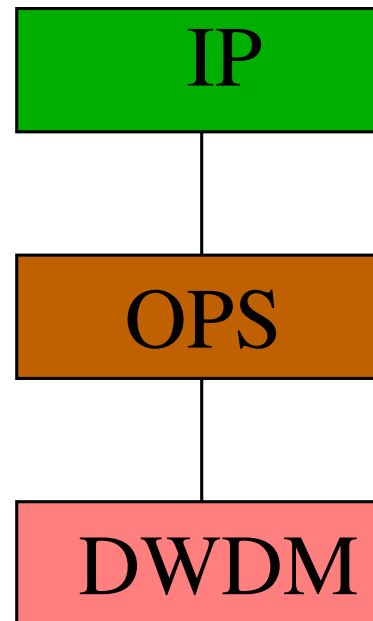
# Will You Have (Fried) Packets with That?

Issues even at the data plane:

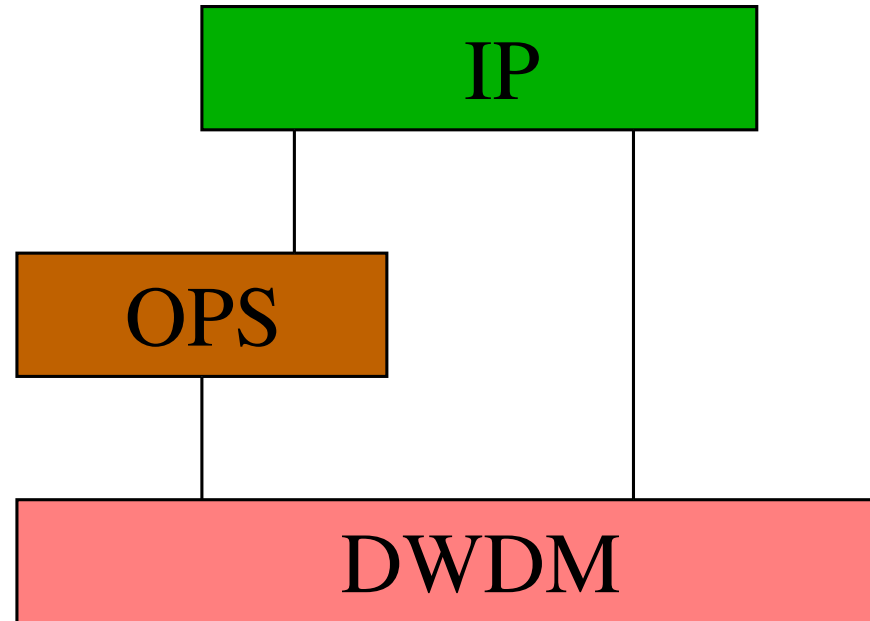
- burst-mode transceivers → Matisse Networks?
- buffers → data vortex?
- $\leq \mu s$  switching



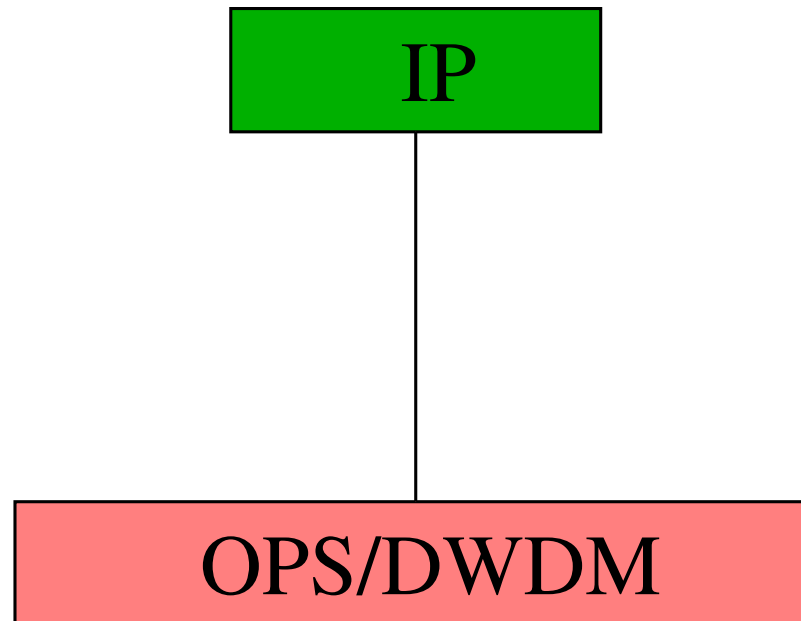
# Circuits *And* Packets (1)



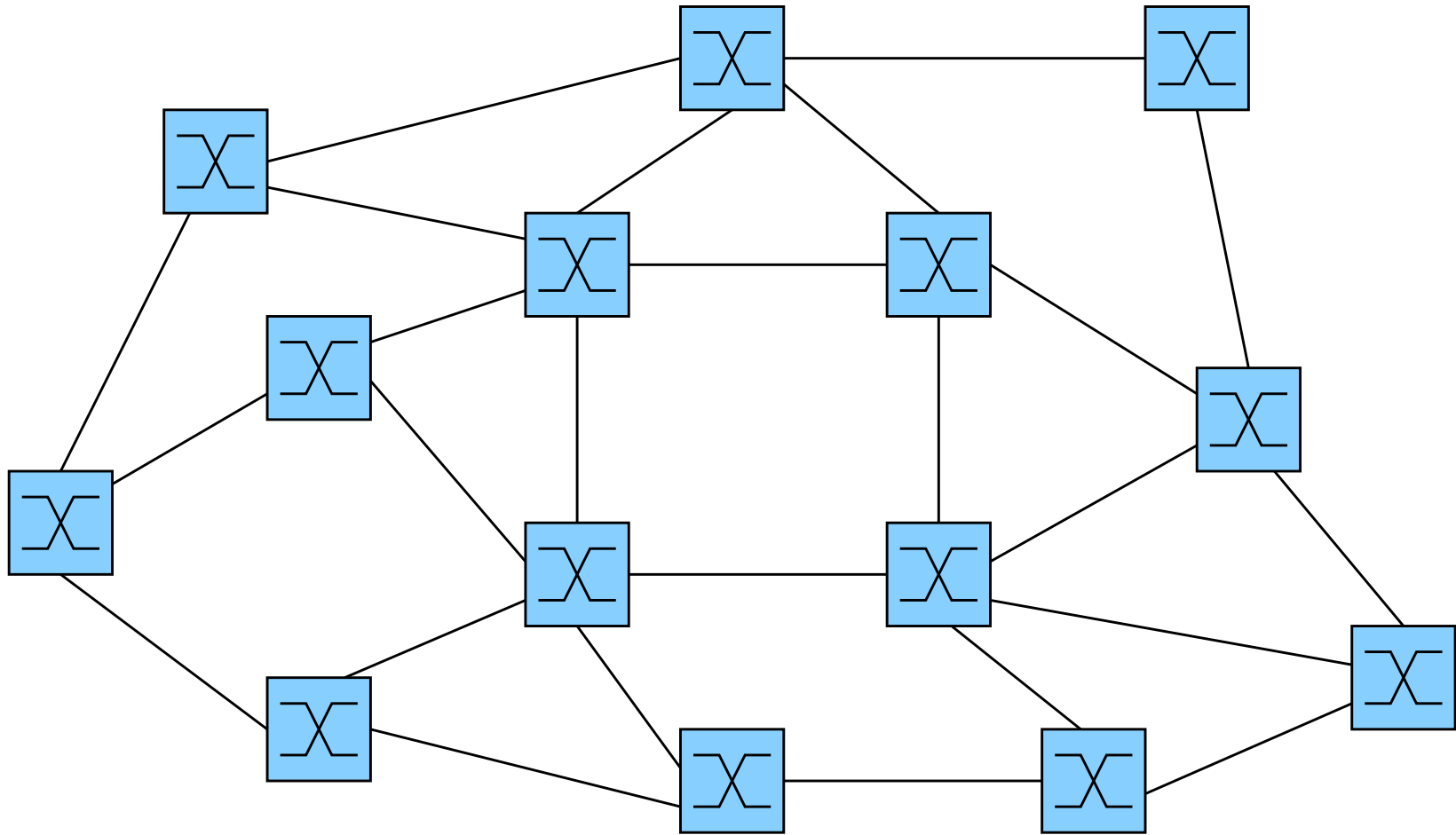
# Circuits *And* Packets (2)



# Circuits *And* Packets (3)



# A Note on OBS



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