

IPv6 Operational Guidelines for Datacenters

draft-lopez-v6ops-dc-ipv6

IETF85 – v6ops

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A Brief History

- First version submitted in March 2012
- First live discussion (on -02) during IETF 84 in Vancouver
 - Aligned with other similar documents
 - Possibility of a series of such operational guidelines
 - Change requirements for -03

What's New in -03

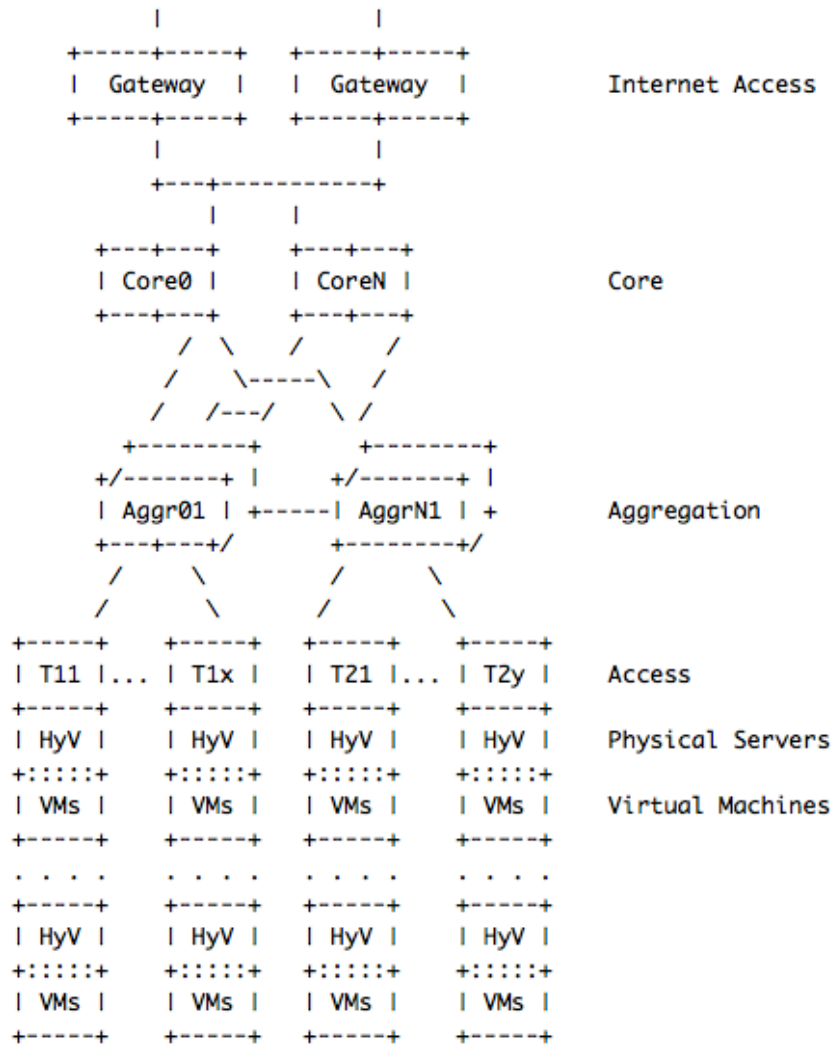
- Starting with a title change to align with the spirit of the Vancouver discussion
- “Maturity levels” renamed into “transition stages”
 - Numeric identifiers changed into names
 - More detailed examples
- First attempt for a section on security considerations
 - Essentially based on draft-ietf-opsec-v6

And Coming for -04

- Is “Next Generation” a right name for the most evolved transition stage?
- Elaborate security considerations
- Request for additional considerations on
 - Management systems
 - Fabric
 - Hypervisors
 - Eastbound interactions
- Do DC operators see this list as adequate?
- And WG adoption...

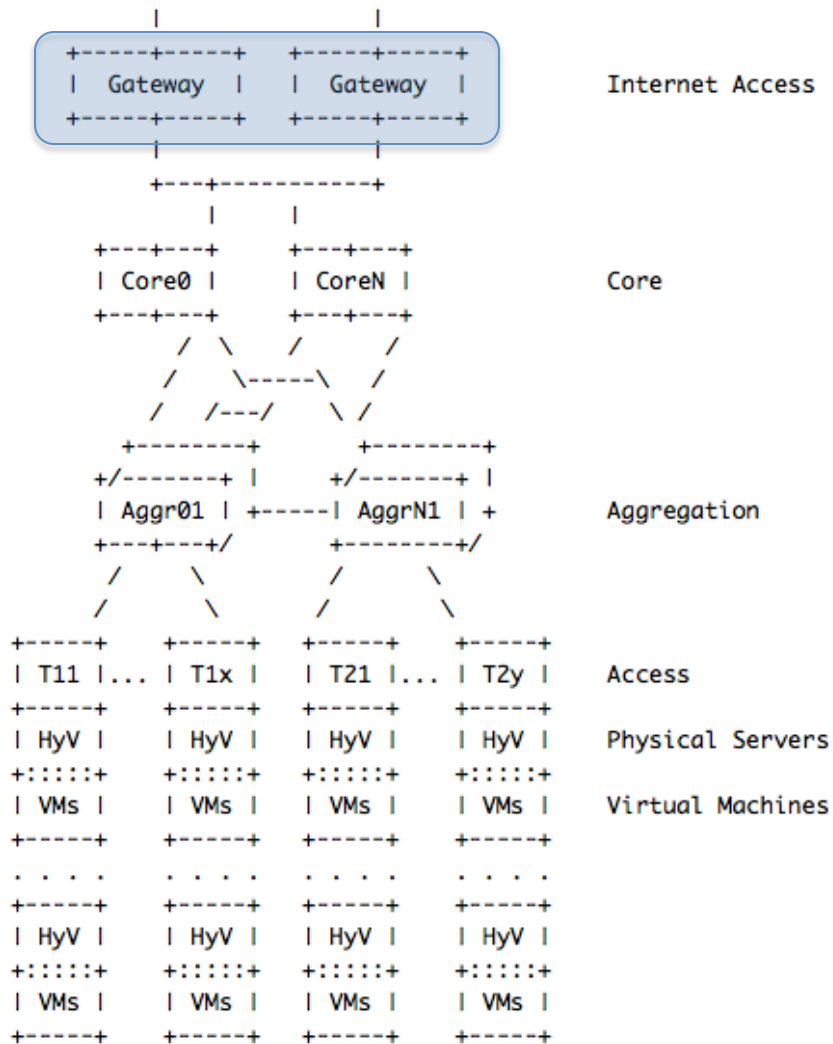
A Few Backup Slides
(Just in Case)

A General DC Model



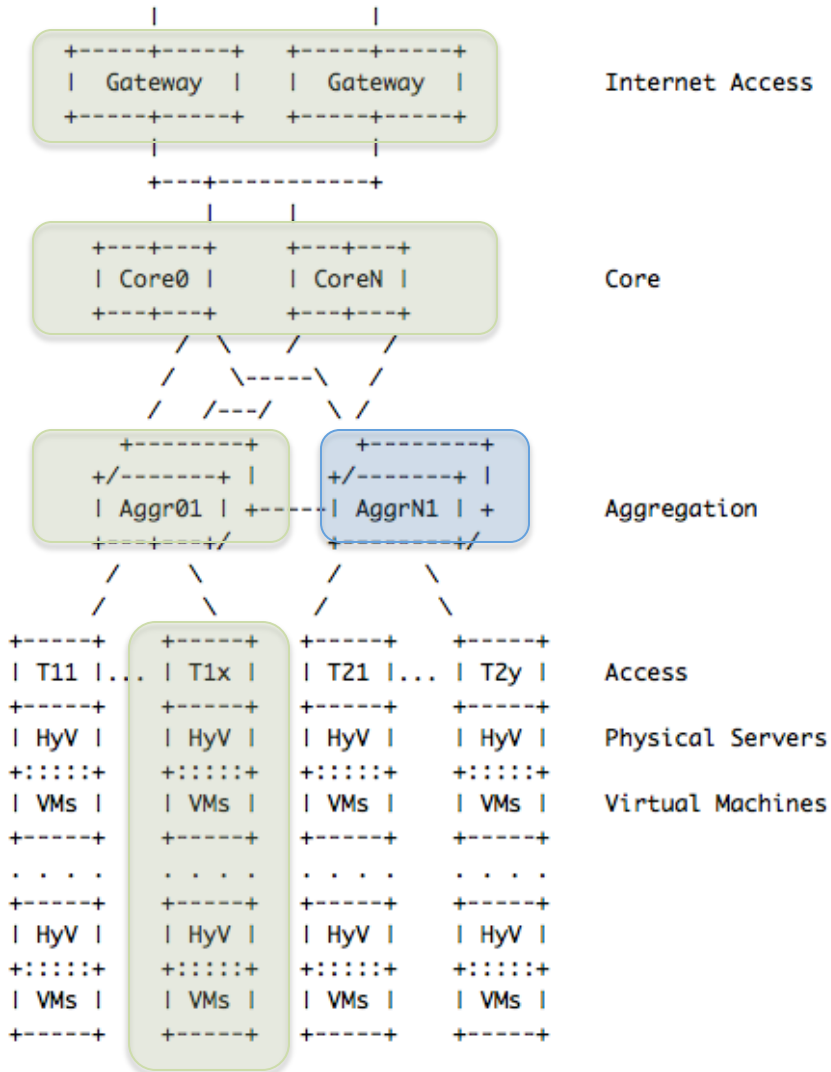
- General model for the reference framework
- Not all layers or elements present in many real deployments
 - Combined
 - Virtualized

Experimental Stage



- Native IPv4 infrastructure
 - Gateway routers
 - Application gateways if services require them
- Suitable for off-shore (ISP-based) operation
 - Concerns on the loss of source addresses
- Only recommended for experimentation or early evaluation purposes

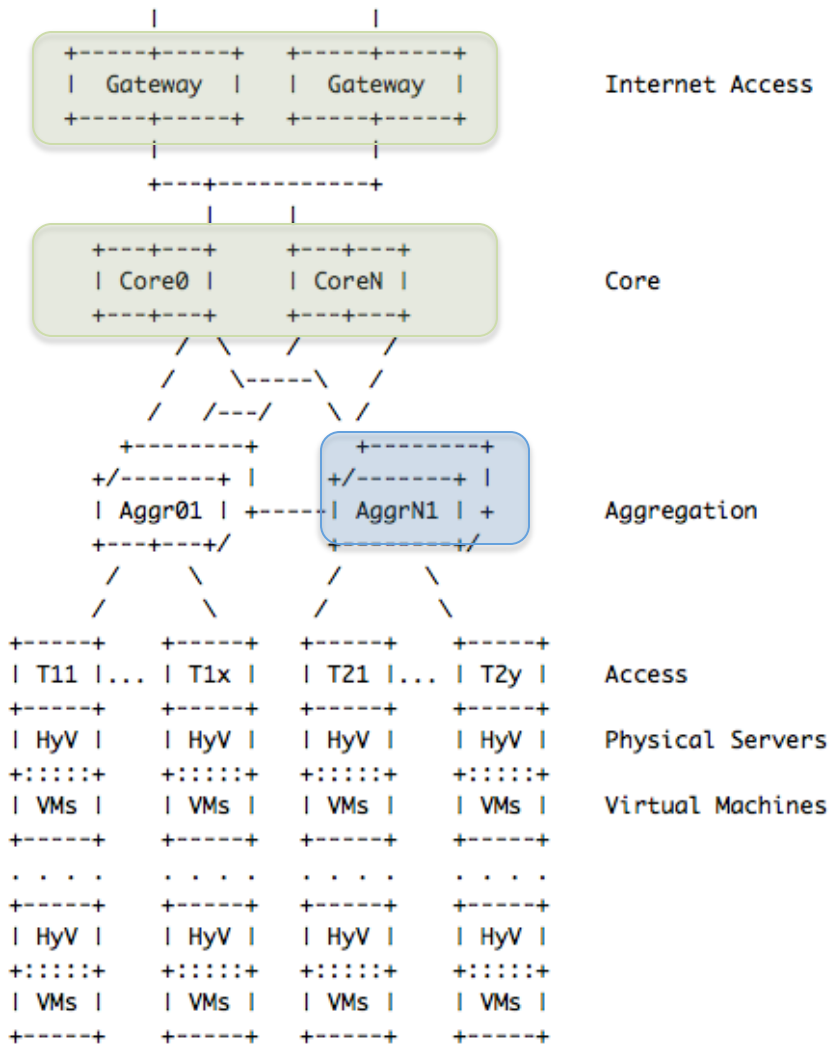
Dual Stack Stage



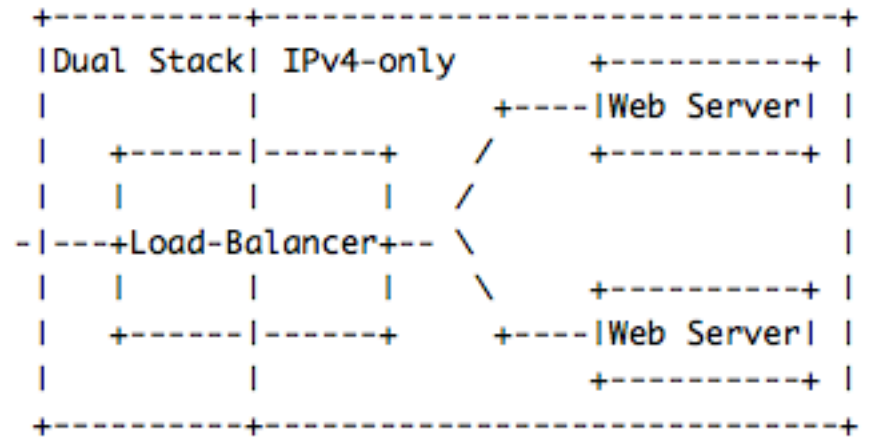
- Internal dual stacks
 - Up to a certain layer in the infrastructure
 - Keep transparency to (non-)migrated elements
- Flexibility with additional complexity
 - Traffic patterns
 - Tenant decisions
 - Partial infrastructure migration

Maturity Level 2

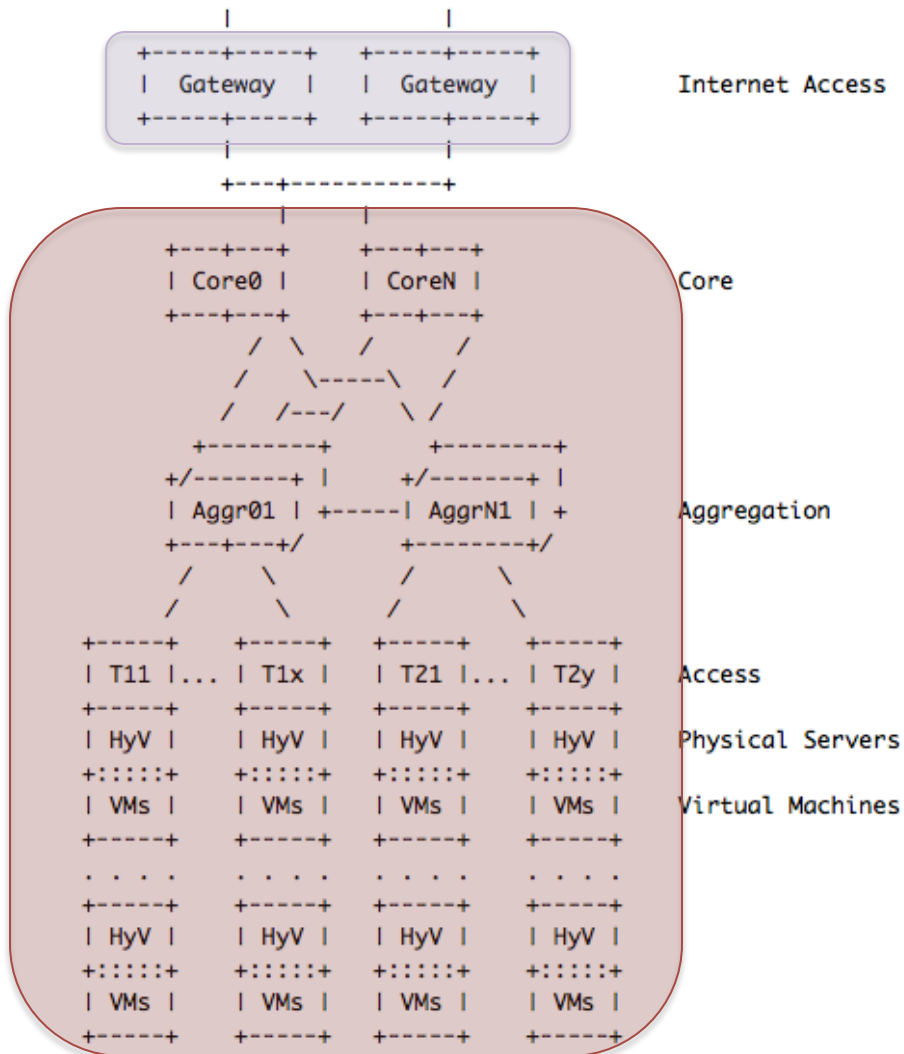
Dual Stack at the Aggregation Layer



- Take advantage of additional functions at the aggregation element
 - Firewalls
 - Load balancers
 - Overlay edges



Next Generation Stage



- Native IPv6 infrastructure
 - Converse translation to the experimental one
- Suitable for off-shore (ISP-based) operation as well
 - Loss of original source address is not a concern