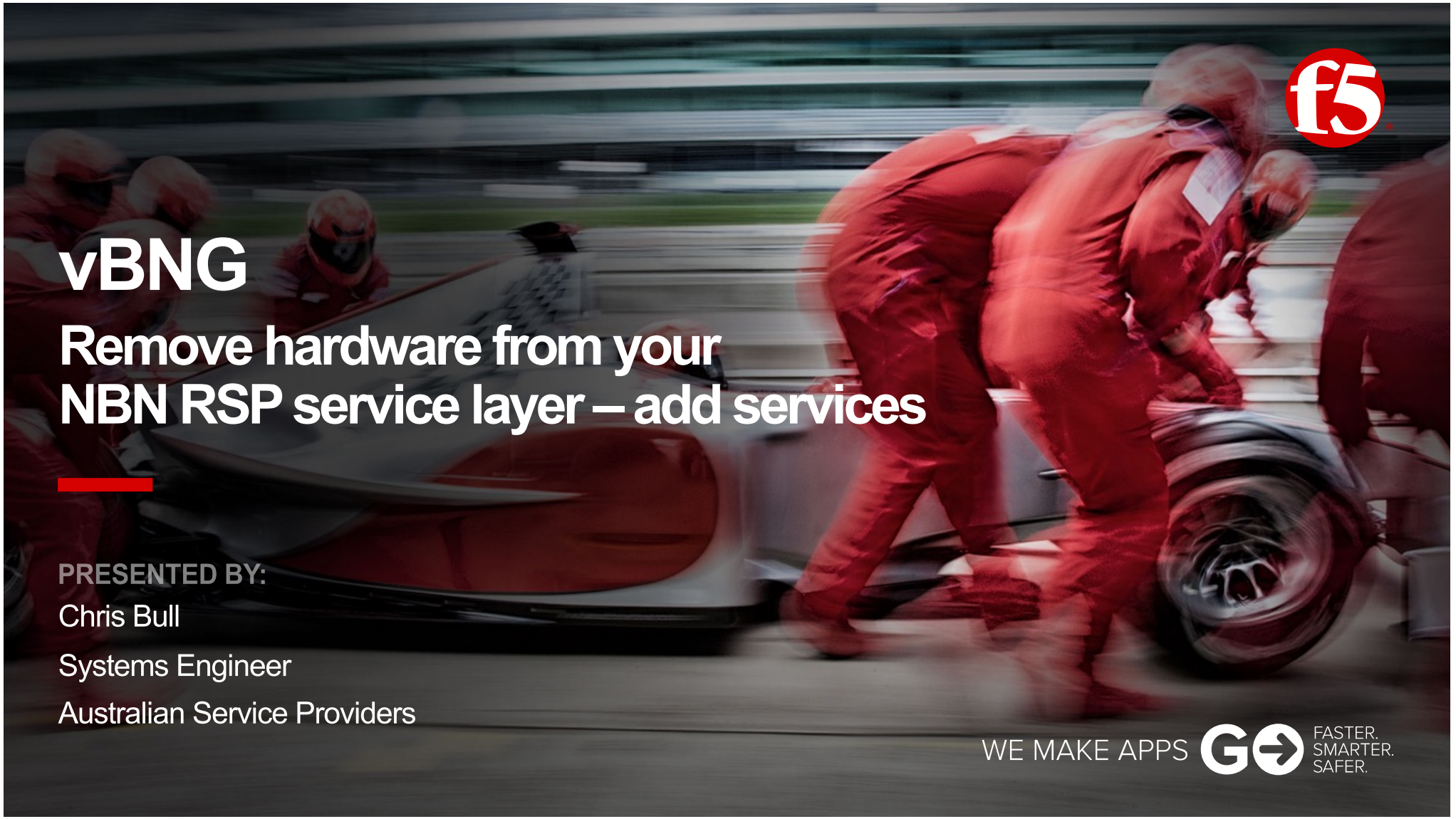
vBNG
Remove hardware from your
NBN RSP service layer – add services
PRESENTED BY:
Chris Bull
Systems Engineer
Australian Service Providers
WE MAKE APPS GO
FASTER.
SMARTER.
SAFER.

Agenda

- SD…Everything
- Virtualisation of BNG functions
- Consolidation and introduction of new services
- Regaining Control of the network

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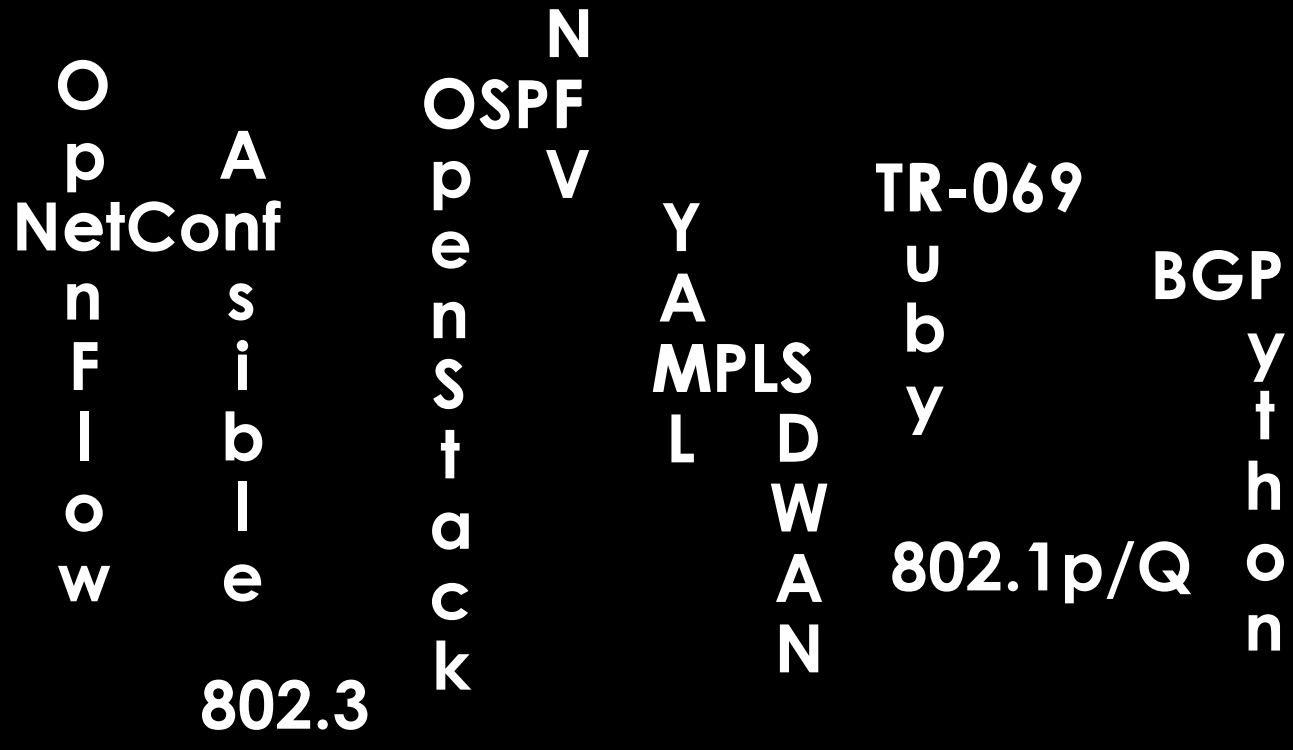
Network Operations Tool Sets are changing



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Network Operations Tool Sets are changing

Super-NetOps

Infrastructure as Code

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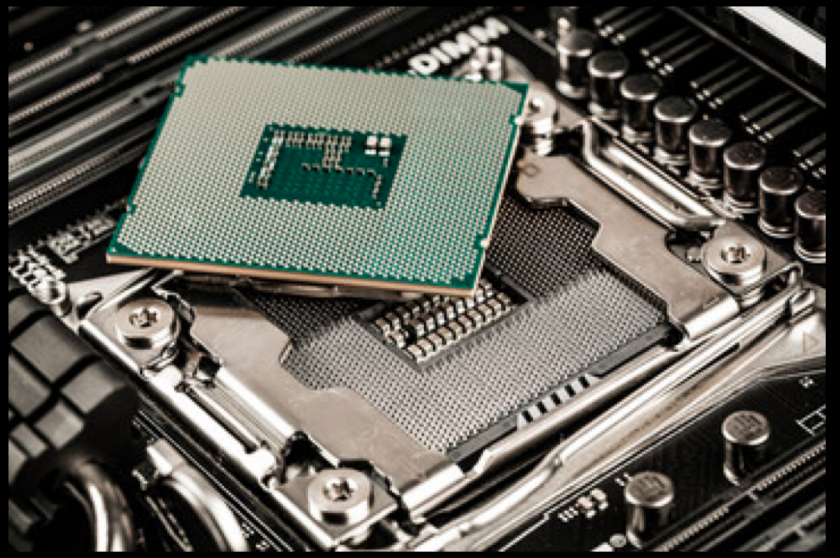
COTS Hardware

- Getting to the stage where we can do more with COTS x86 than with bespoke hardware
- Most vendors now support virtualisation
- VNFs bring portability, autoscale and resilience



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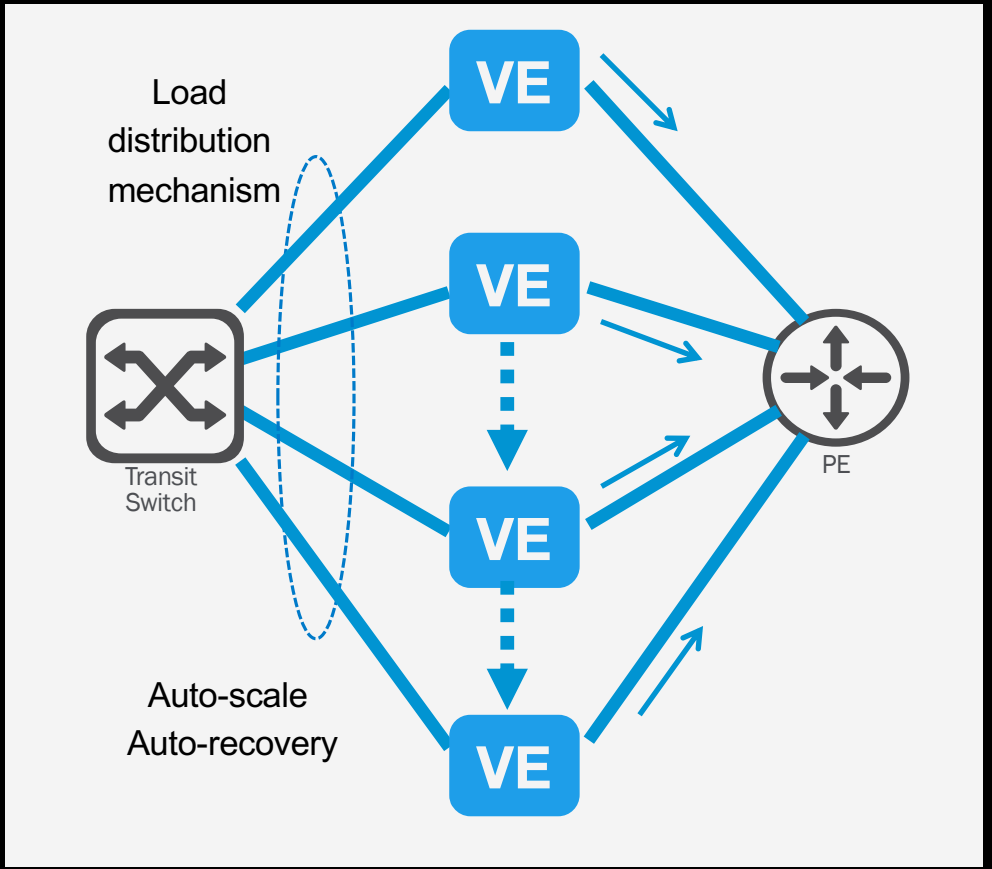
NFV for dynamic scale and resilience

- New virtual instances invoked/revoked as scale dictates
- HA through N+1 and auto-recovery (pave+nuke)
- Load distribution across instances (L2, L3, L4?)



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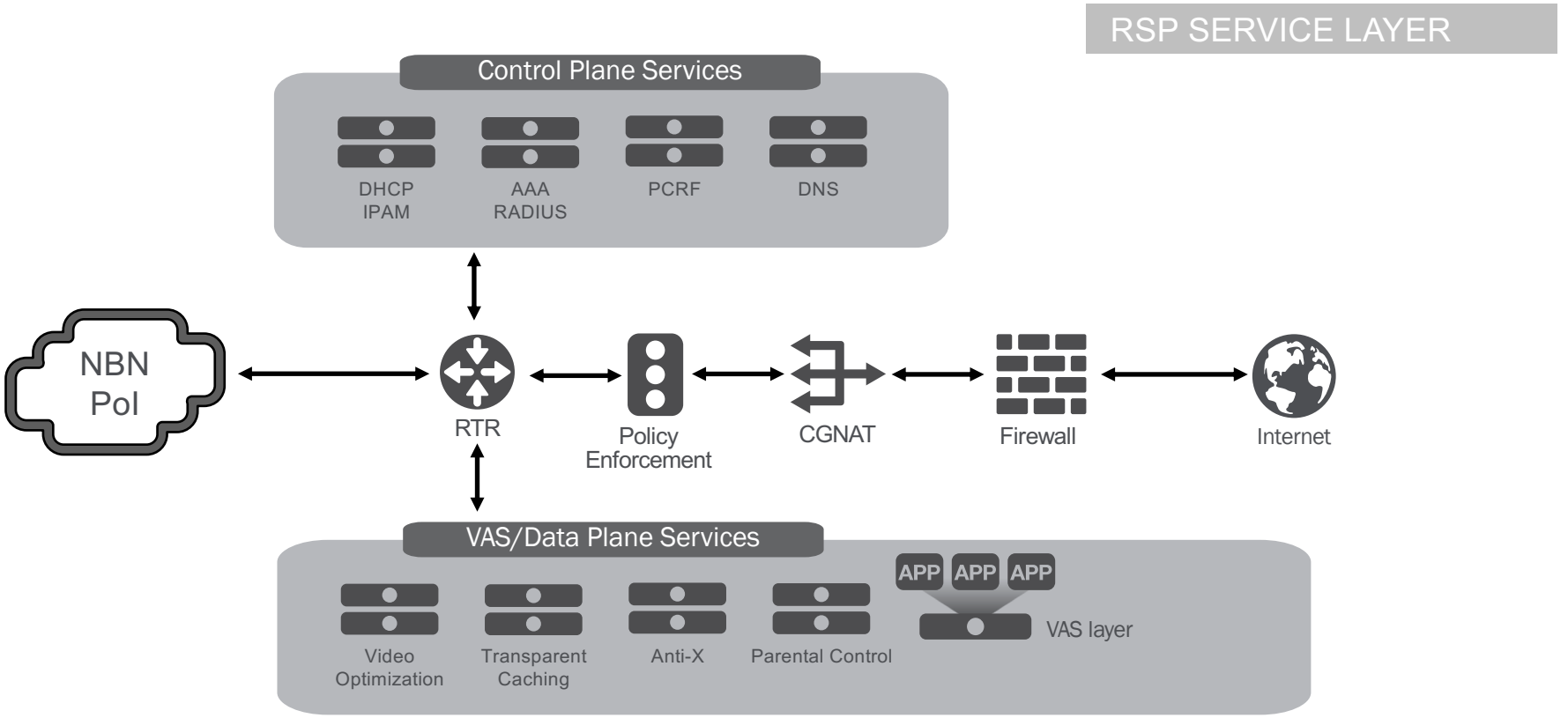
Traditional Bespoke Hardware



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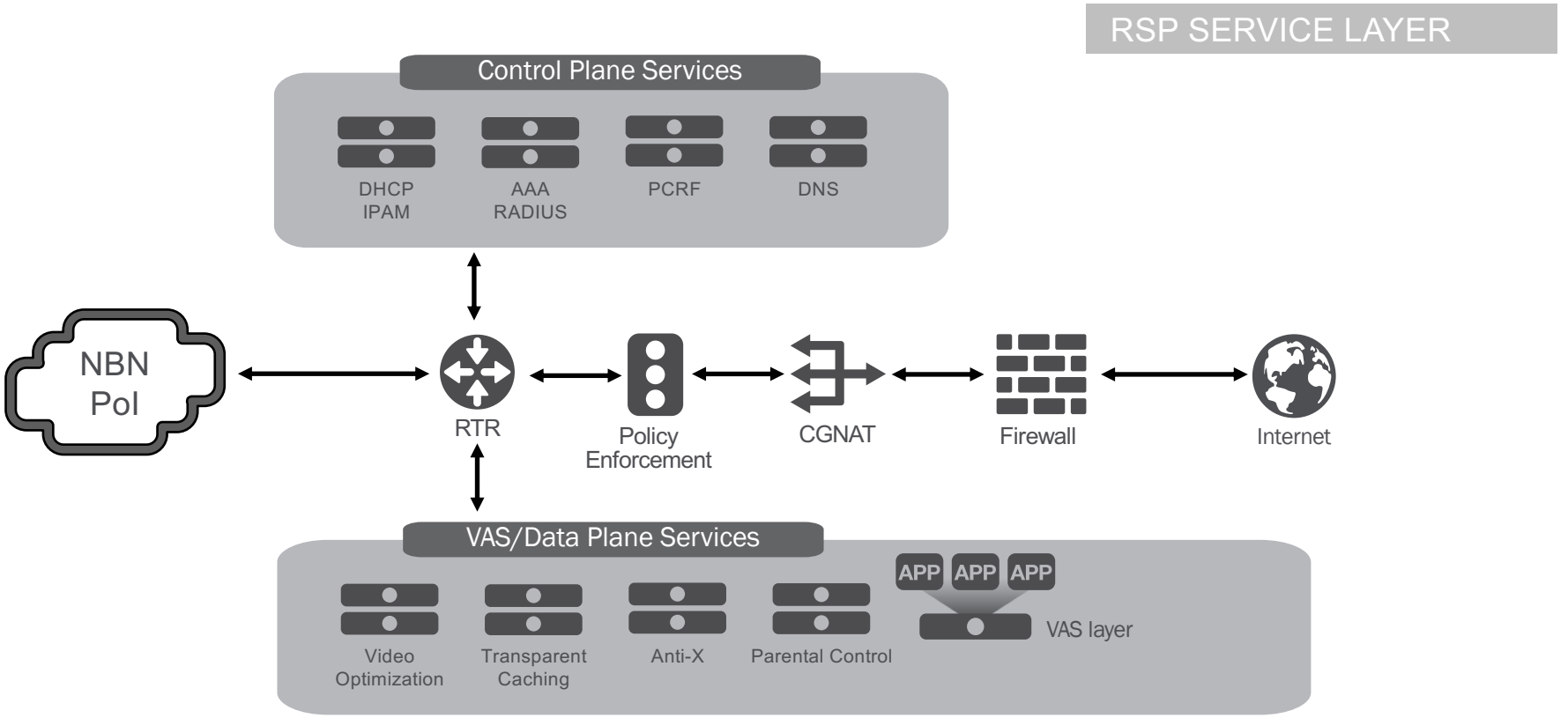
Services Consolidation



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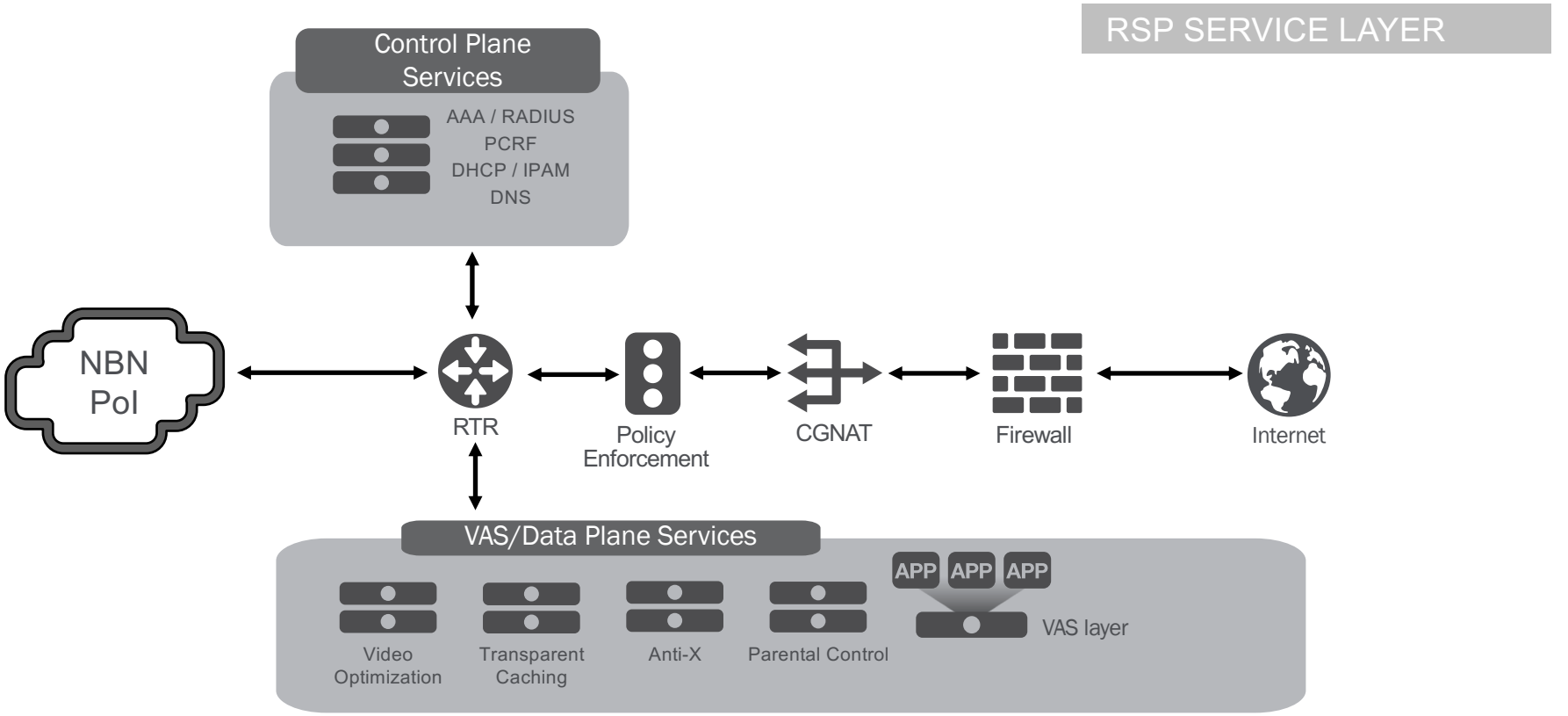
Services Consolidation



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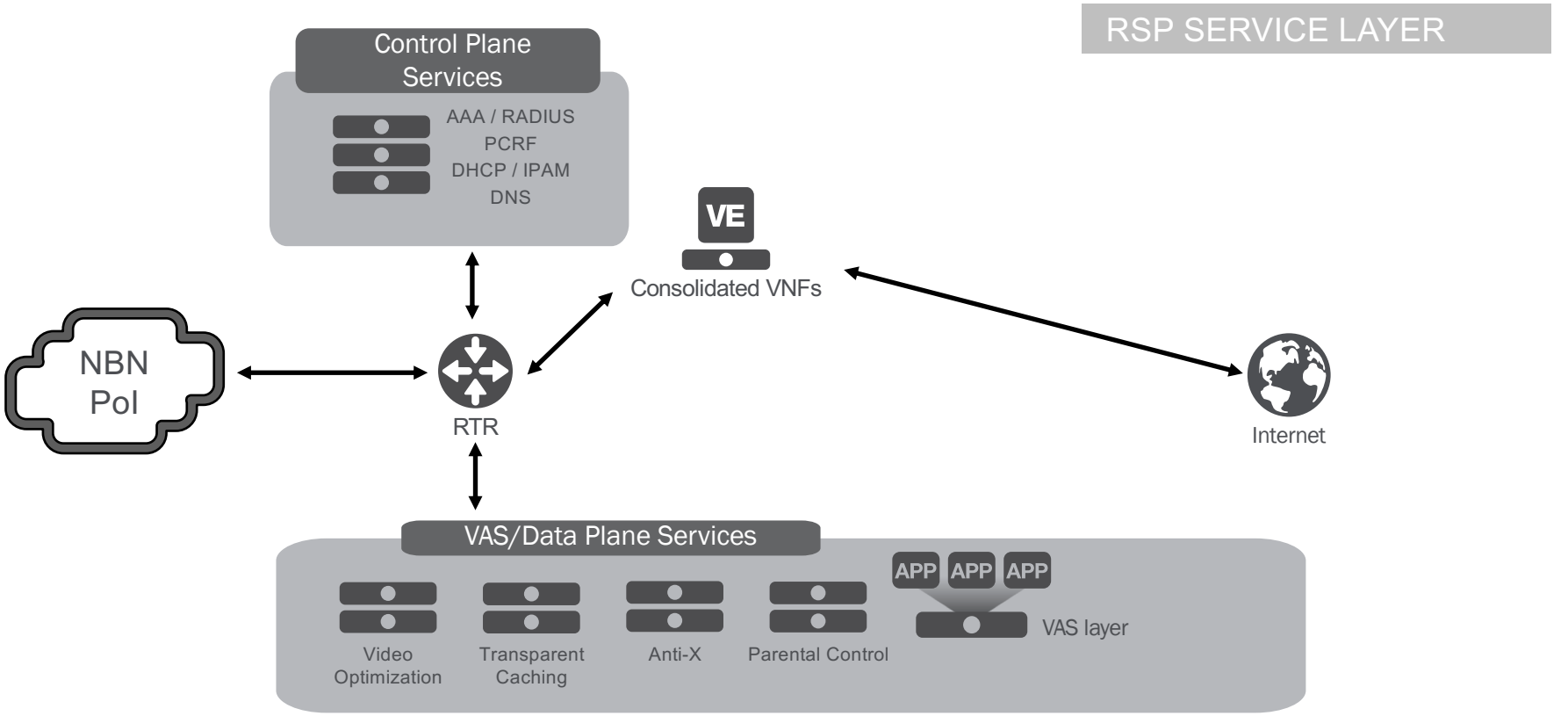
Services Consolidation



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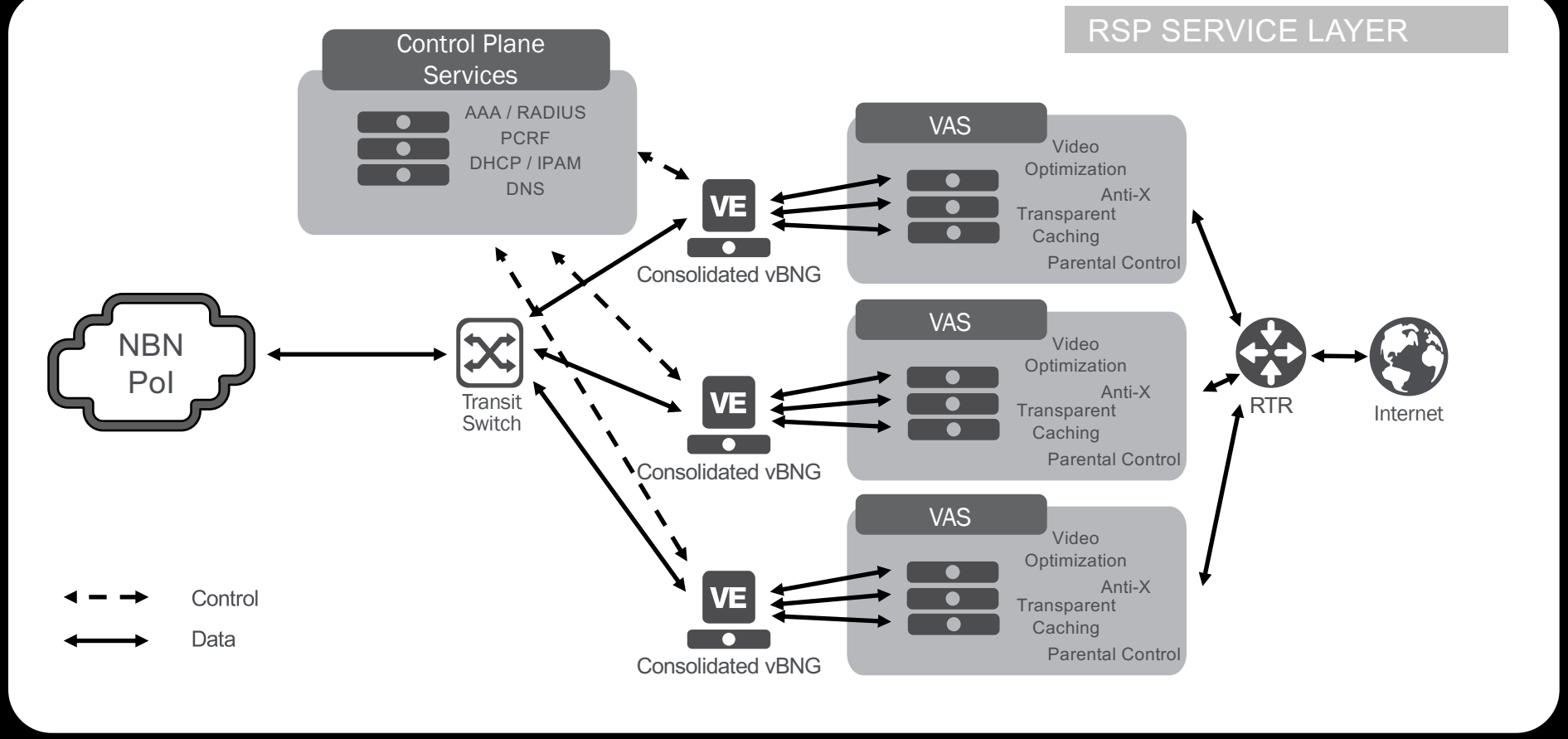
Services Consolidation



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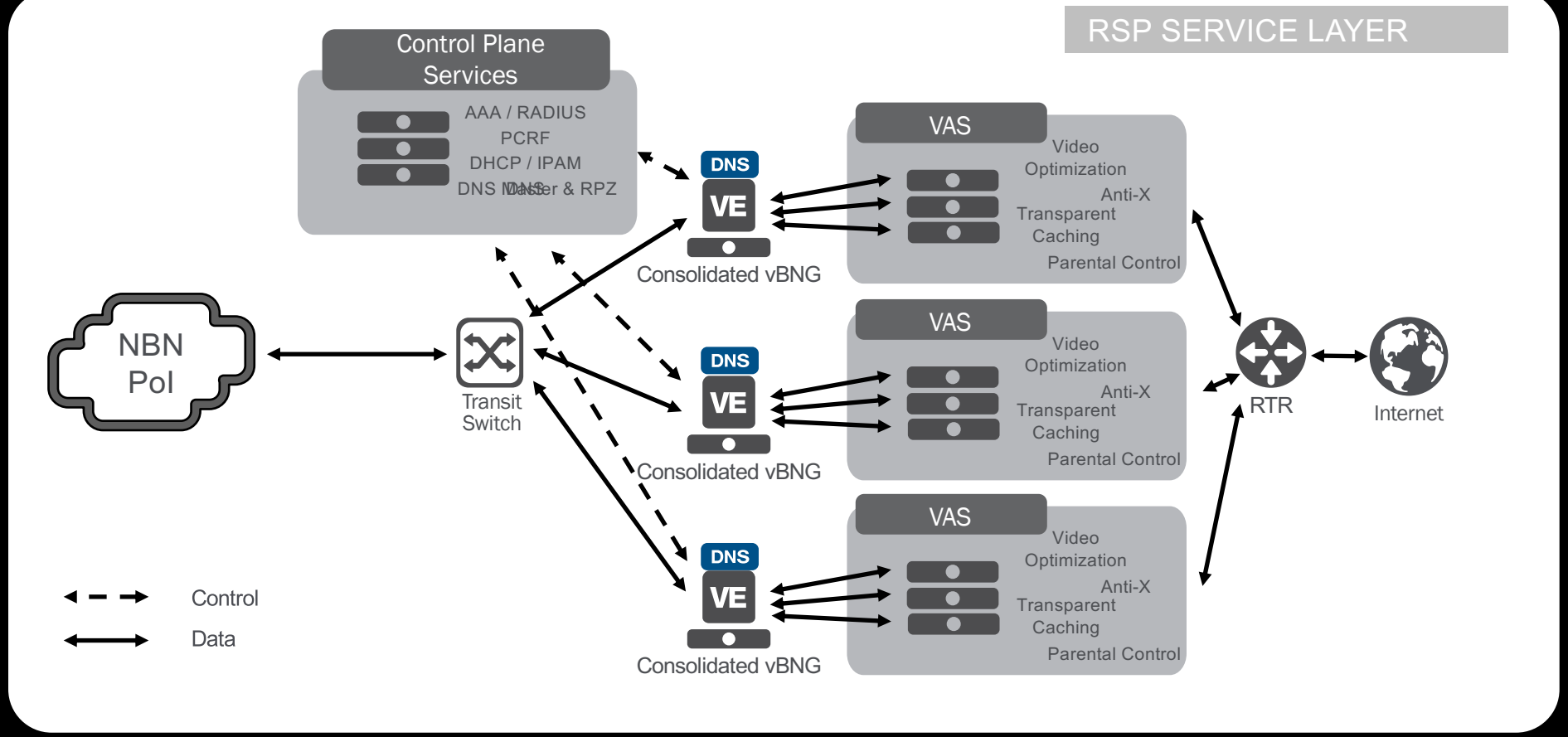
In-line DNS



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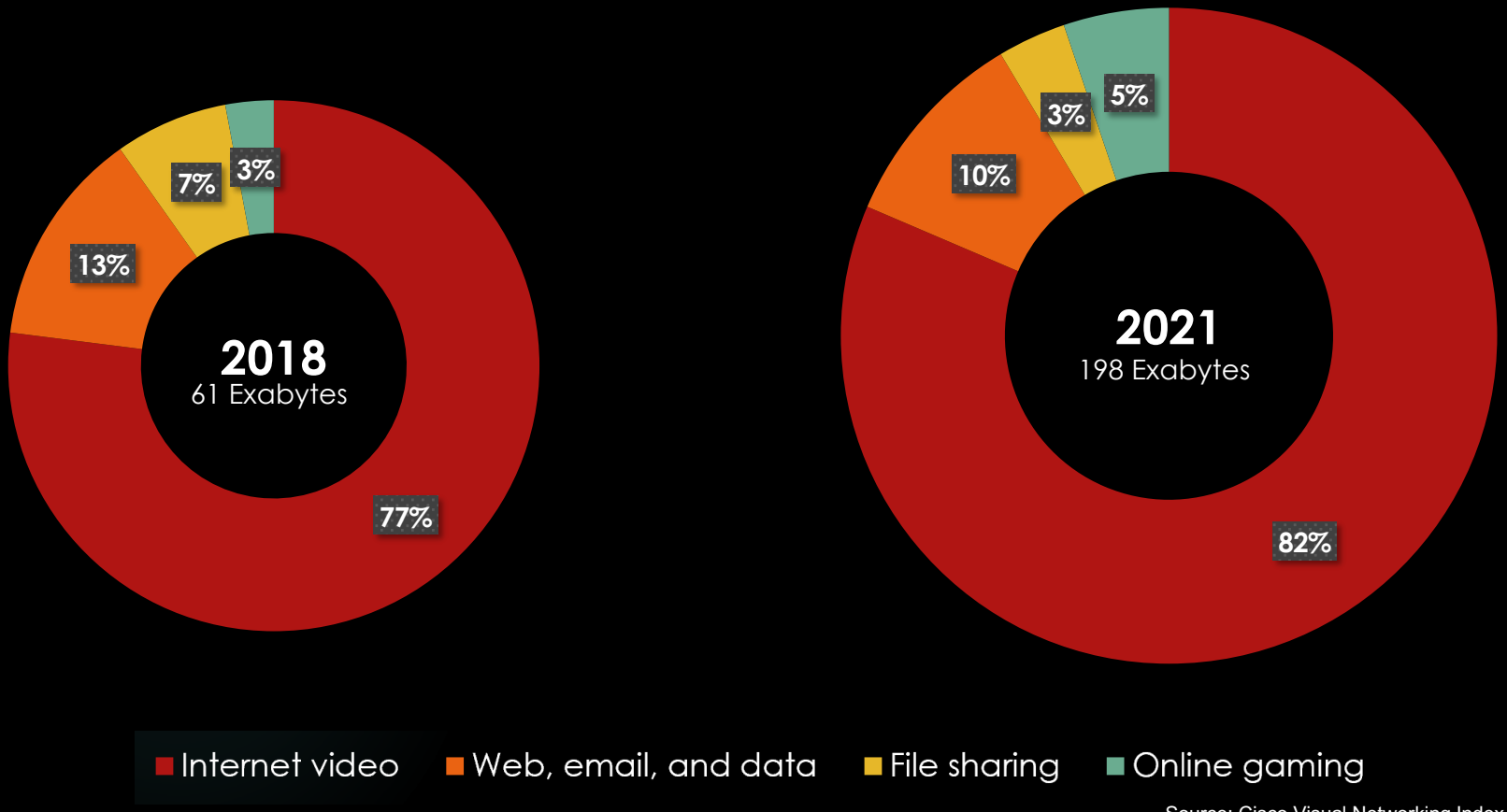
Internet Traffic by Segment



Source: Cisco Visual Networking Index

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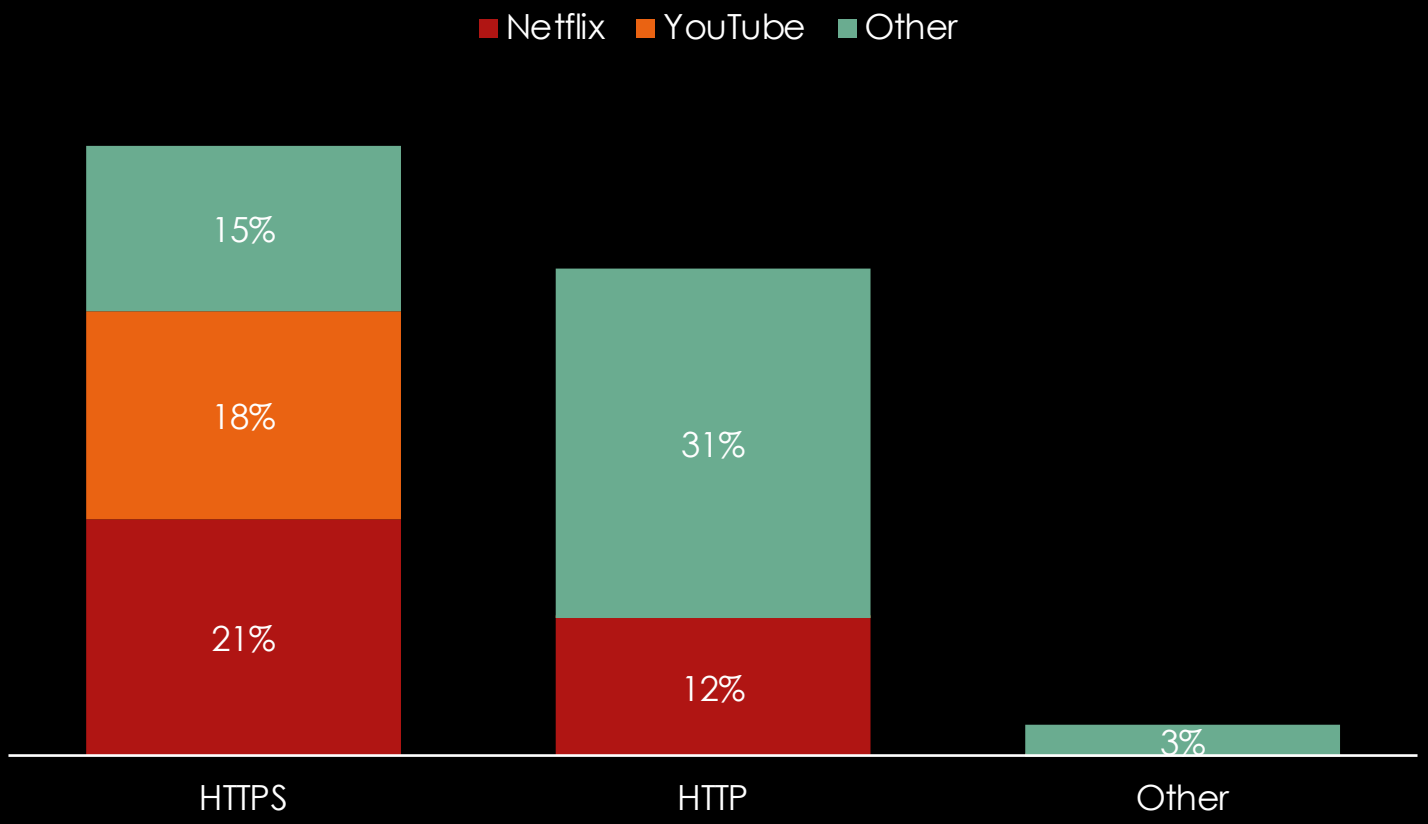
Traffic distribution – Encrypted video



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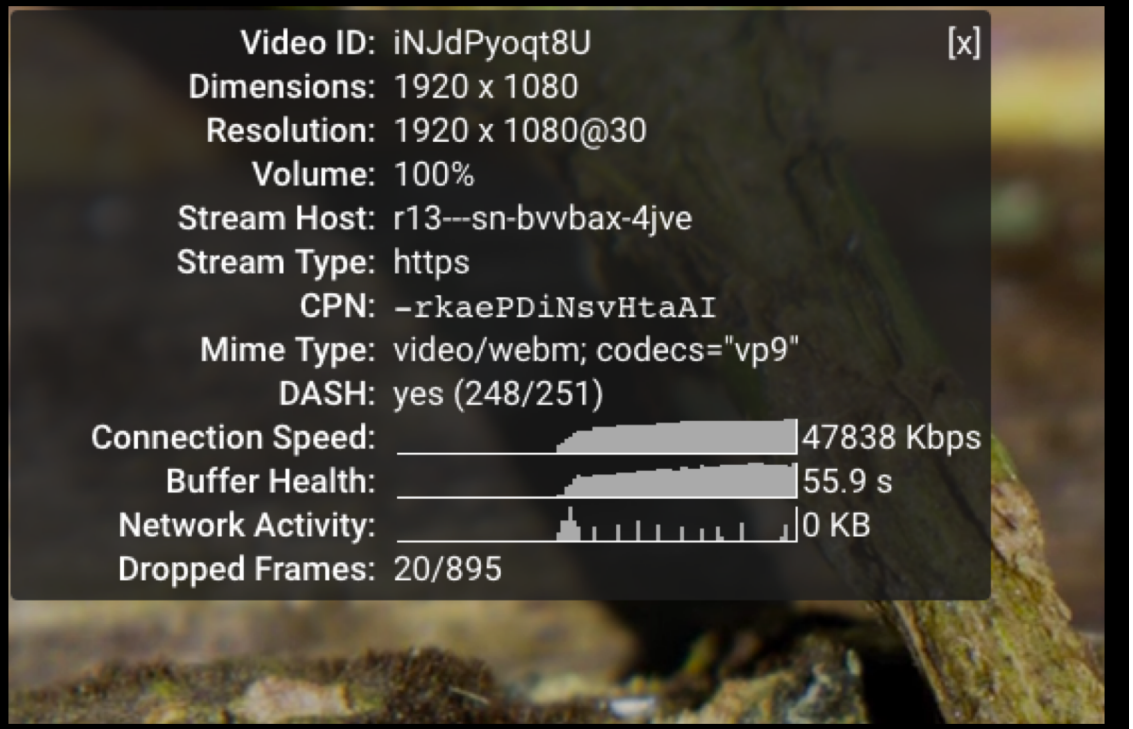
Managing Video

- **ID Video traffic type**
- **ABR**
  - TCP Optimisation
- **QUIC**
  - UDP Buffer based rate pacing



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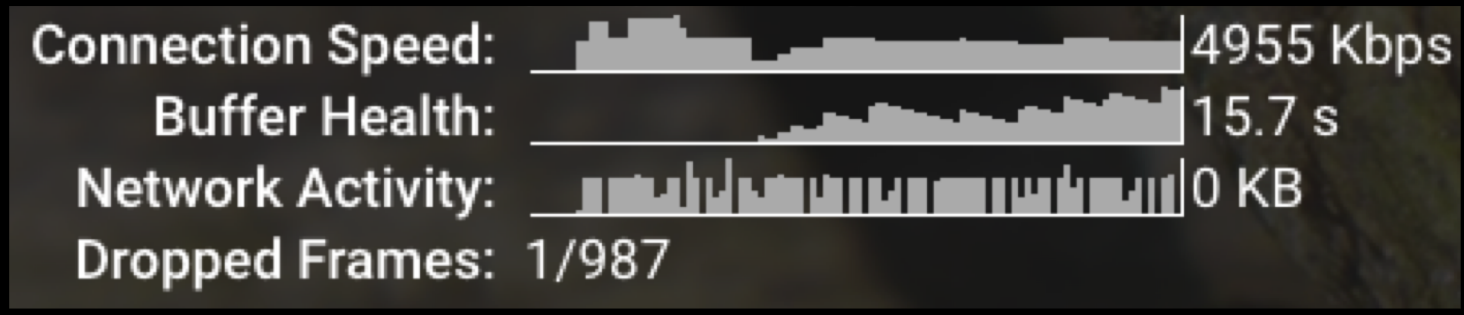
Just in time “emulation”

Unoptimised



Optimised

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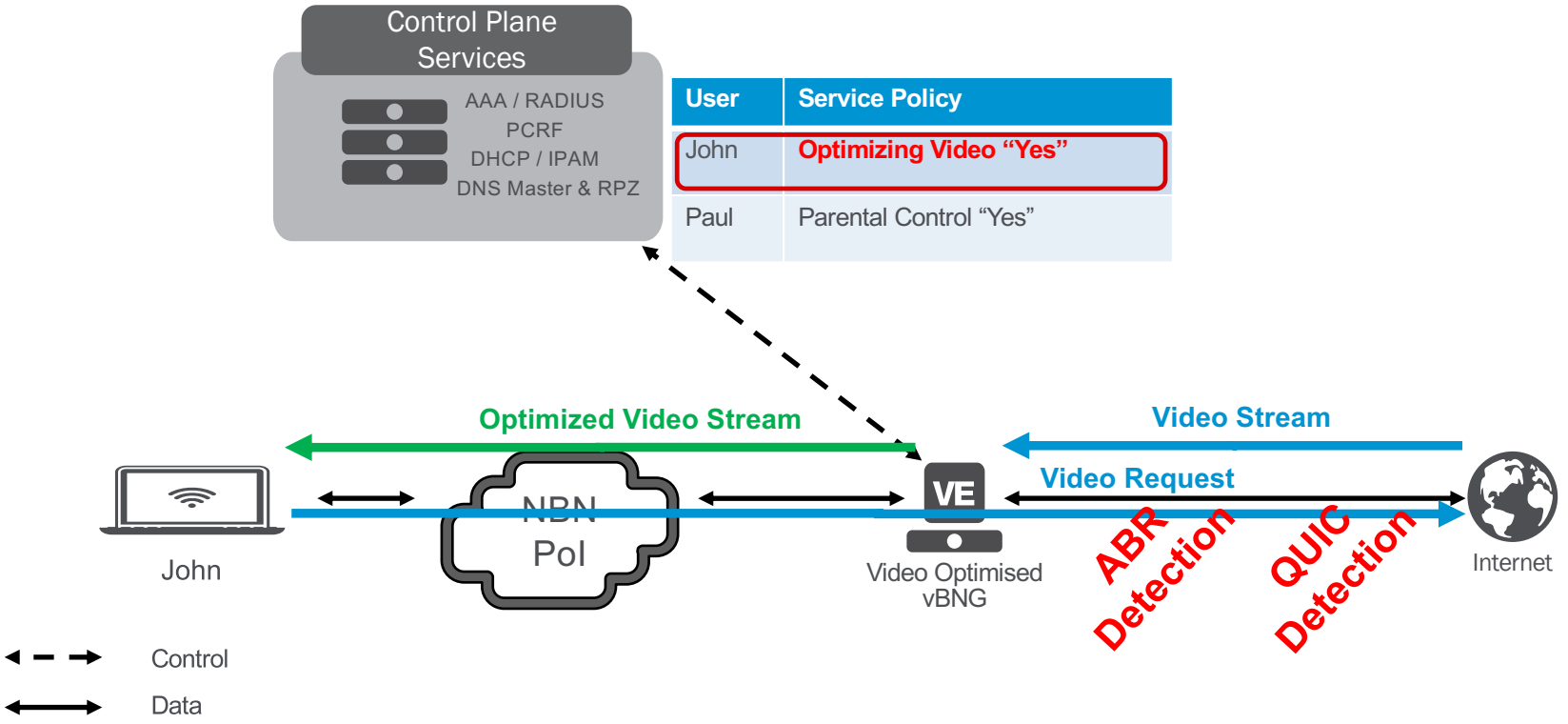
In-line Video Optimisation



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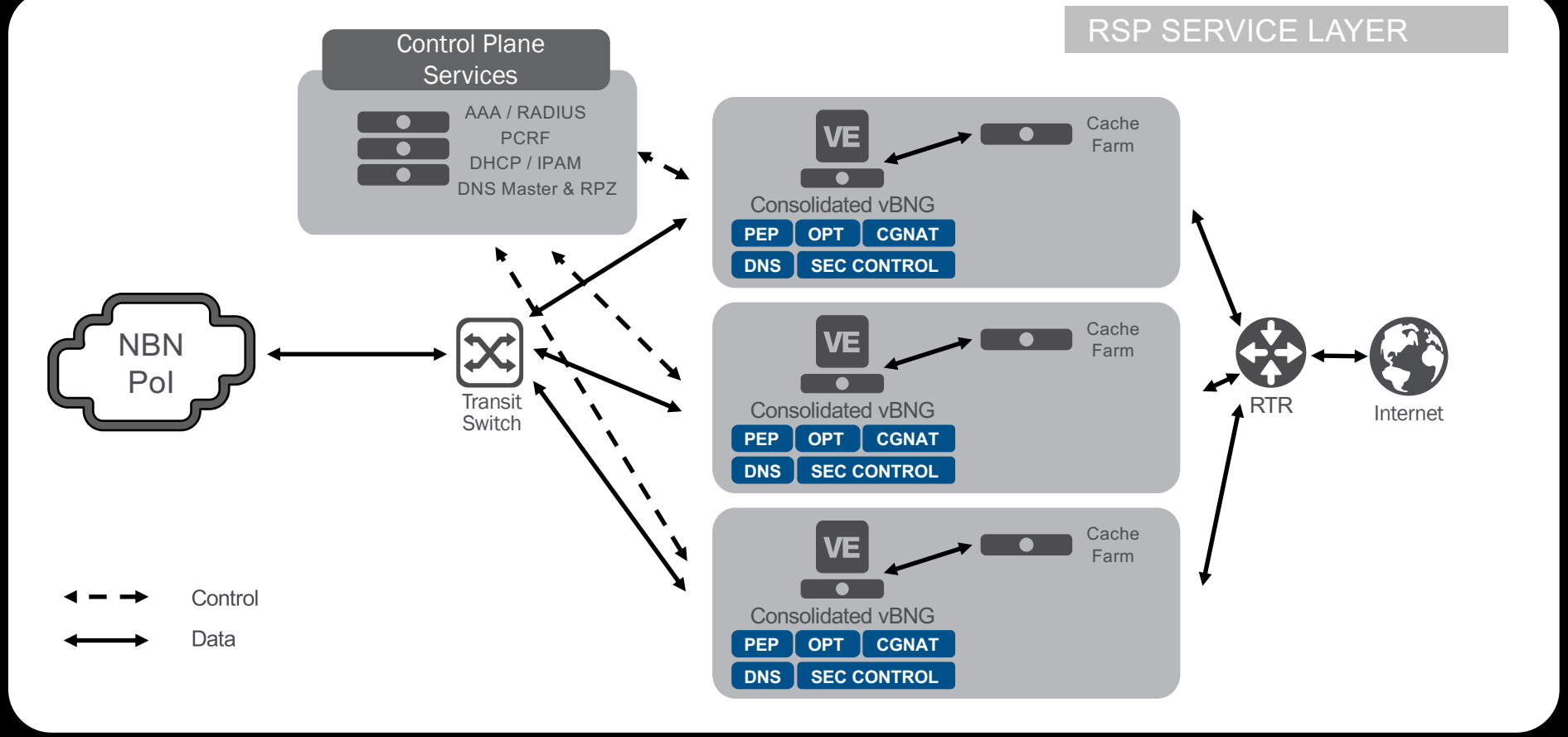
Service enabled, consolidated vBNG



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Summary…

- Virtualisation abounds
- vBNG becomes a service enablement point
- Service Delivery becomes the focus, not hardware

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AND MORE OPTIMIZED ☺