

BNG/CUPS

Techupdate 27.08.2025

BNG CUPS

► Agenda

- CUPS Grundlagen
- Juniper CUPS Solution (Aktueller Status)
- Demo im ITC

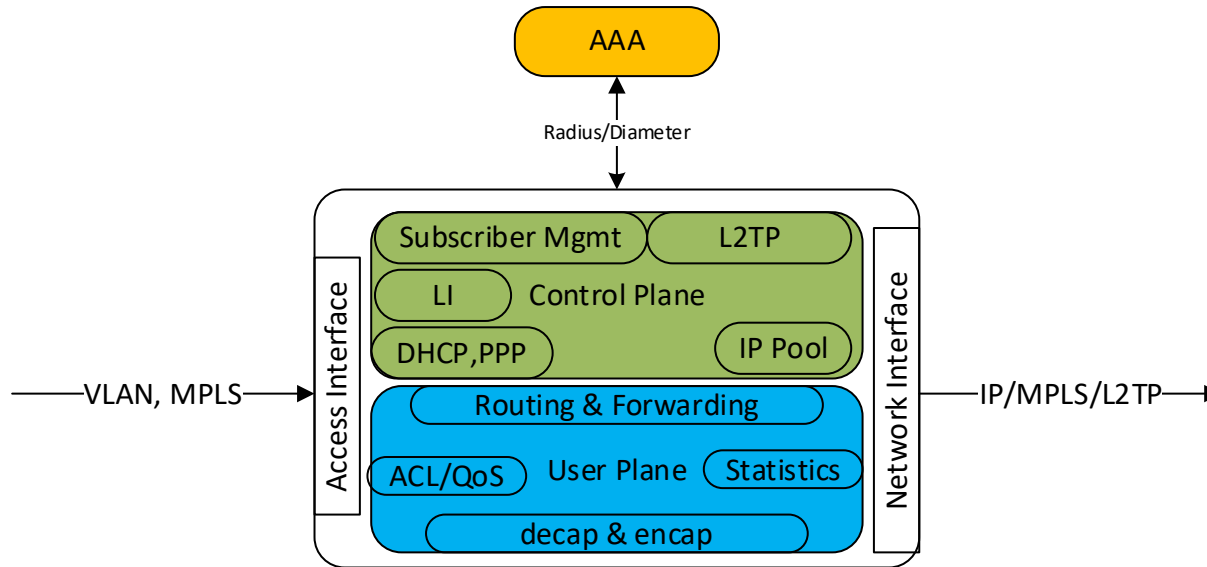
BNG CUPS

► BNG CUPS

- CUPS = Control User Plane Separation
- Standards aus dem Broadband Forum
 - Multiservice Disaggregated BNG TR459 issue 2 und TR459 issue3
 - WT-474 (Subscriber Session Steering)
 - WT-515 (IPv6 Security)
 -

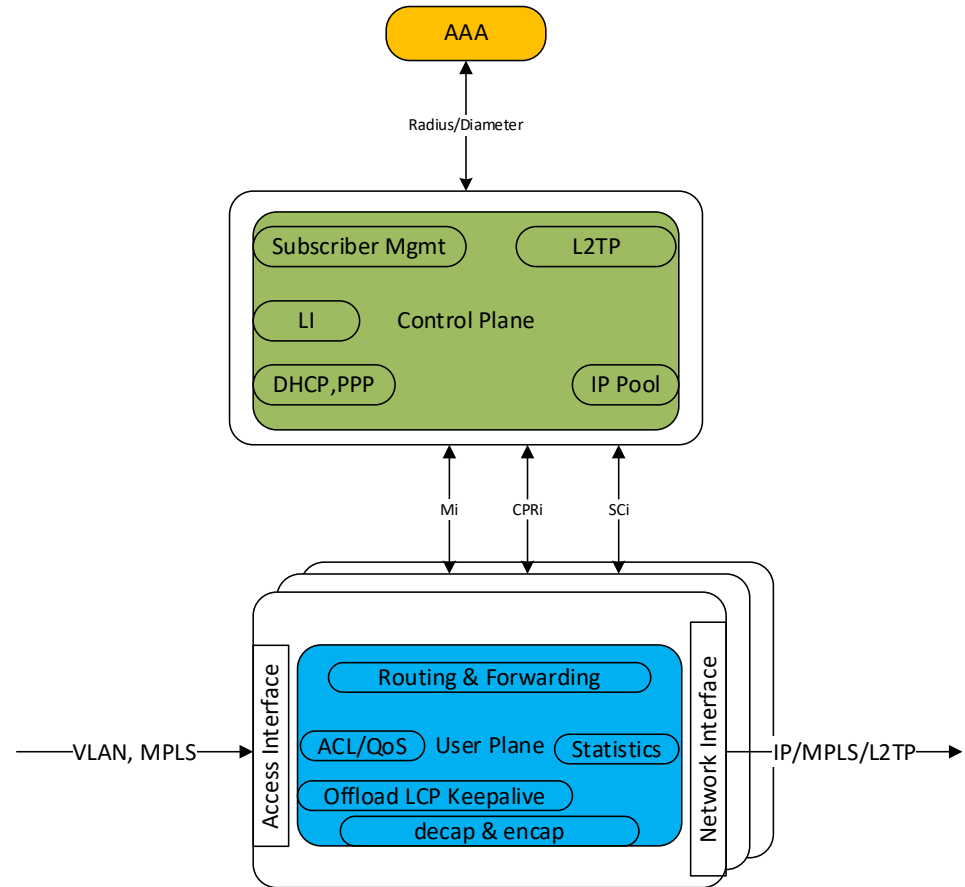
BNG CUPS

- ▶ MS-BNG (Multi Service BNG)
 - Aktueller „klassischer“ BNG Aufbau



BNG CUPS

- Trennung von Control und User Plane
- 1*N Beziehung zwischen Controller und User Planes

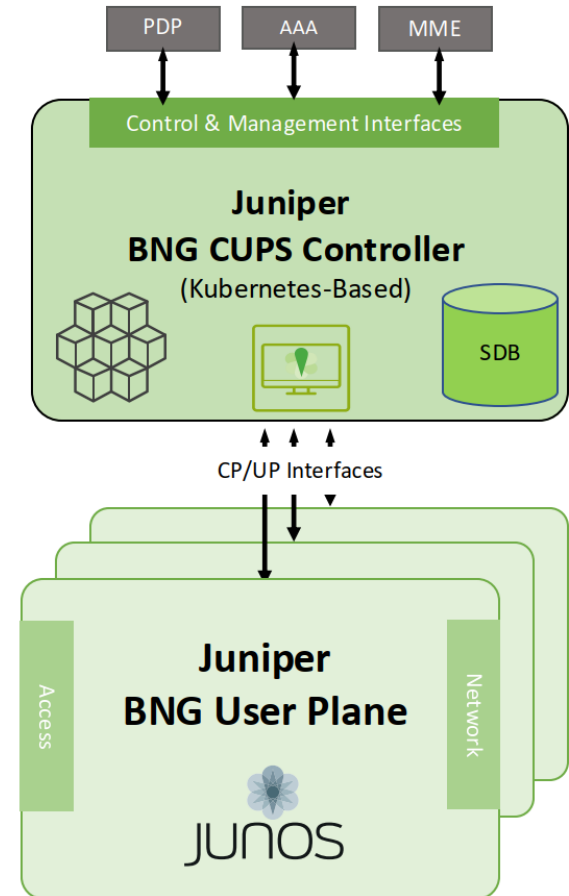


Juniper BNG CUPS

BNG CUPS

► Juniper BNG CUPS Solution

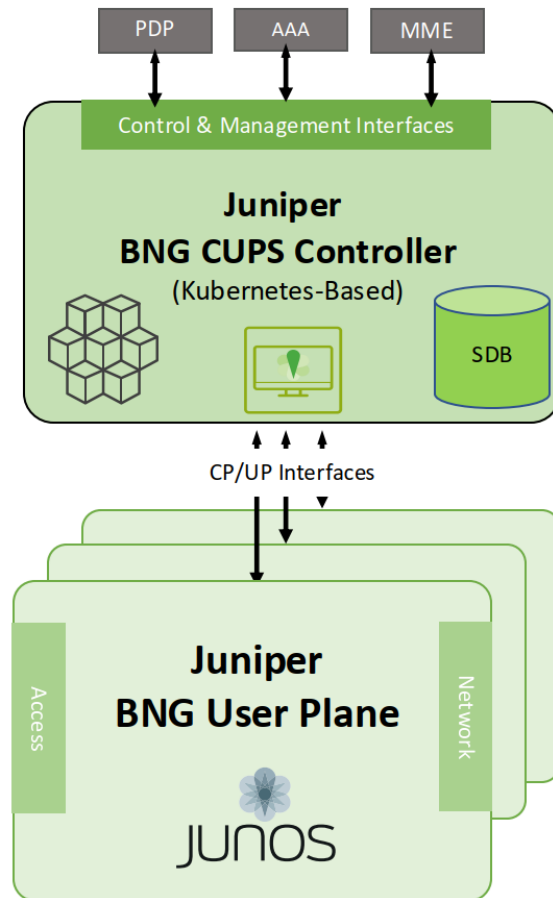
- Controller läuft auf ein K8 Cluster
- Single oder Multiple Controller
- User Planes (dBNG) sind MX und ACX Chassis
- 16 User Planes im ersten Release pro Controller
- Mit 24.4R1 bis zu 32 User Planes pro Controller (Aktuell Verfügbar)



BNG CUPS

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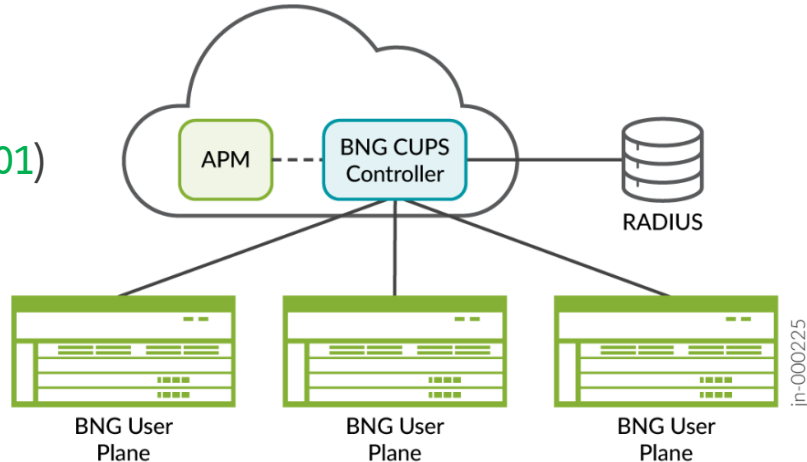
- Controller läuft auf mindestens 4 VMs
- 1 x Jump Host und 3 x K8 Nodes
- OS entweder Ubuntu 22.04 oder Redhat 4.15
- 2 x vCPU, 8GB RAM, 128GB Storage
- 16 x vCPU, 64GB RAM und 512GB Storage pro Nodes



BNG CUPS

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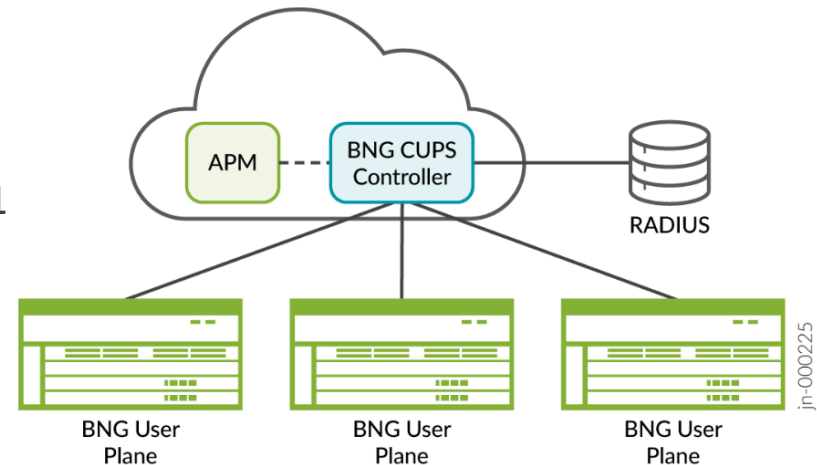
- User Planes
 - MX Classical (TRIO MPCs)
 - MX fixed (MX204, MX304, **MX301**)
 - MX10K
 - ACX7K



BNG CUPS

► Juniper BNG CUPS Usecases

- Zentrale Address Verwaltung mit APM
- User Plane Load Sharing
- User Plane Redundancy
 - Hot Standby 1:1
 - Warm oversubscribed Standby N:1 (AFT Based Linecards)
- 500K Subscriber per Controller



CUPS Demo ITC

