



Monitoring Cisco Virtualized Packet Core

The following topics provide an overview of Cisco Virtualized Packet Core (VPC) and describe the two configurations of VPC.

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Overview of Cisco Virtualized Packet Core (VPC)

Cisco VPC is the industry's first hardware platform and hypervisor-independent solution that combines network functions virtualization (NFV) and software-defined networking (SDN). Cisco Virtualized Packet Core (VPC) provides a single solution for all the packet core services (4G, 3G, 2G, Wi-Fi, and small cell networks). As the network functions are provided as virtualized services, VPC enables a user to scale capacity and introduce new services in a faster and cost-effective manner.

Cisco VPC is based on the same proven StarOS software used in Cisco ASR 5000 Series platforms. VPC is mainly designed to distribute and orchestrate packet core functions across physical and virtual resources to enable users to perform the transition from physical to virtualized packet core services, or use both simultaneously.

The configurations supported by VPC :

- SI (Single instance)
- DI (Distributed instance)

VPC–SI

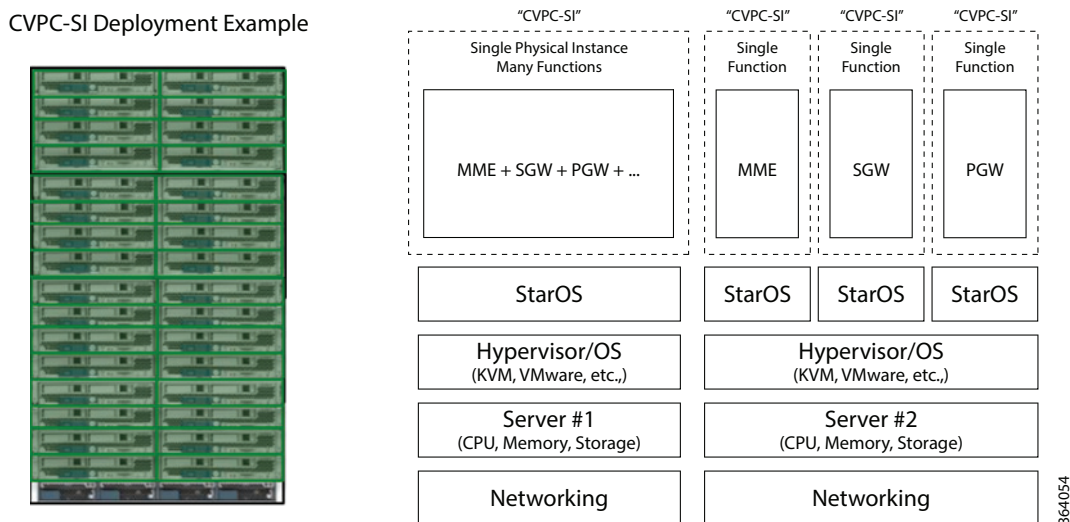
With a single VM per virtual node, the VPC-SI is used as a solution for small to medium instances. Based on the StarOS, each VM deployed on the device supports a single function mapped to it. In general, VPC-SI supports SAE-GW, PGW, SGW, SGSN, and HNBBGW services, and all the other mobility services that are supported by Cisco ASR5000.

Identifying VPC–SI VNE

To identify a VPC –SI device, follow the steps provided below:

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- Step 1** Click the VNE.
 - Step 2** In the **VNE Inventory** window, verify if Device series is **Virtual ASR 5K SI Series Mobile-Gateway**.
 - Step 3** Verify if the **Element type** is **Virtual ASR 5K SI Mobile-Gateway**.
 - Step 4** Verify if the **Virtual device property** is set to **True**.

Figure 31-1 Deployment of VPC -SI VNE



VPC-DI

The VPC-DI supports larger instances using multiple VMs. This capability is achieved by creating a distributed infrastructure by combining all the VMs in the virtual node to perform a single or multiple services. However, the VPC-DI is designed in such a way that the VMs have a single point of management. Based on StarOS, the VPC-DI supports distributed services (load balancing) across all VMs using a single service address.

At least one among the VMs is a MIO VM, and one or more VMs act as Fabric VMs and Service VMs. However, with StarOS 17, in the future releases, the fabric VM functionality will be intercoupled within the service VM and will not exist as separate VM.

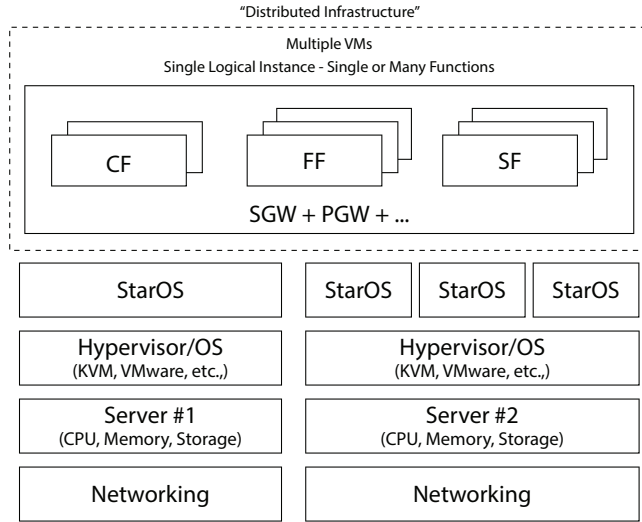
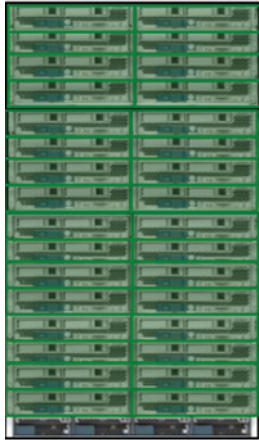
Identifying VPC-DI VNE

To identify a VPC-DI device, follow the steps provided below:

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- Step 1** Click on the VNE.
 - Step 2** In the **VNE inventory** window, verify if Device series is **Virtual ASR 5K DI Series Mobile-Gateway**.
 - Step 3** Verify if the **Element type** is **Virtual ASR 5K DI Mobile-Gateway**.
 - Step 4** Verify if the **Virtual device property** is set to **True**.

Figure 31-2 Deployment of VPC -DI VNE

CVPC-DI Deployment Example



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