

Cisco Small Cell Solution (SCS) - Virtual HetNet

The Cisco® SCS Virtual HetNet is an end-to-end product offering that integrates virtualized instances of packet core, RAN management system (RMS), Centralized Self Optimizing Network (SON), and Cisco Prime™ Mobility Suite and comes preloaded in the industry-leading Cisco® Unified Computing System™ (Cisco UCS®) hardware along with the VMware vSphere ESXi hypervisor.

Furthermore, the Cisco SCS Virtual HetNet end-to-end product offering supports a pay-as-you-grow approach that allows efficient capacity expansion based on the actual deployment ramp. A highly granular pricing structure reduces the initial startup costs.

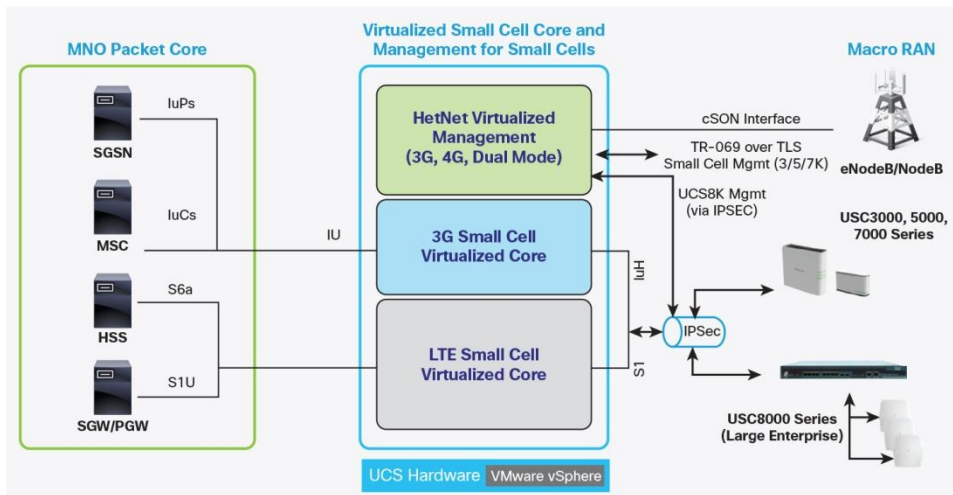
Product Overview

Cisco SCS Virtual HetNet product is an integration of 3G/LTE small cell gateway, management system, security gateway, and network management system functions. The pre-integrated and pre-validated offering is shipped preloaded in the Cisco UCS hardware. The Click2Deploy (C2D) orchestration tool provides an interactive web UI to configure, verify, and deploy the product.

The primary functional components of Cisco SCS Virtual HetNet are:

- Virtual packet core composed of:
 - Home NodeB gateway
 - Home evolved NodeB gateway
 - Security gateway
- RAN Management System for small cell configuration and management
- Cisco Prime Mobility Suite network management system
- Centralized SON

Figure 1. Cisco SCS Virtual HetNet Architecture



Features and Benefits

Table 1. Features and Benefits

Feature	Benefit
Virtualization	Lower setup costs and economical scaling
Orchestration	Ease of deployment with Click2Deploy (C2D) orchestration tool
Pay-As-You-Grow	Tiered licensing regime that facilitates just-in-time CapEx investment
High availability	Interchassis and intrachassis redundancy capability
Disaster recovery	Easy backup and restore capability
Flexible architecture	Ease of customization to suit a range of deployment use cases
Scalability	Flexible architecture that scales easily in sync with service ramp-up while minimizing disruptions
Versatility	Support for a broad range of small cell access points
Support services	Service offering for onsite training, installation, and validation Technical support services

Reduced Time to Monetization

Cisco SCS Virtual HetNet product offers an off-the-shelf pre-packaged solution with all the components required to add small cell technology to an existing MNO network with minimal infrastructure changes. The Click2Deploy (C2D) orchestration tool allows rapid on site installation and provisioning of pre-configured elements thereby requiring significantly less investment in the installation effort as compared to the traditional installations of individual components.

Cost Efficiency

The pricing has been structured such that it fits better with the MNO deployment architecture and with the pay-as-you-grow model allows infrastructure investment to be better aligned with the business ramp up.

The virtualized solution obviates the need for expensive, dedicated, and discrete appliances.

Architectural Flexibility

The Cisco SCS Virtual HetNet product is architected to support a diverse set of deployment requirements in a cost-effective manner.

Comprehensive Solution Support Services

Cisco's Advanced Services (AS) organization offers several fixed-price solution support services for the Cisco SCS Virtual HetNet product.

Product Specifications

Table 2. Product Specifications

Product Options	Deployment Scenario
<p>Low-end pod</p> <ul style="list-style-type: none"> • 3-blade UCS HW (MS-CHAS-3B-FI) – Qty 1 • Core SW (VHET-3G-CORE-500) – Qty 1 or 2 - OR - Core SW (VHET-4G-CORE-250) – Qty 1 or 2 - OR - Core SW (VHET-3G4G-CORE-250) – Qty 0 to 2 • Management SW (VHET-MGMT-1000) – Qty 0 or 1 - OR - Management SW (VHET-LE-MGMT-1000) – Qty 0 or 1 	<p>3G deployment: up to 16,000 small cells - OR - LTE deployment: up to 6,600 small cells - OR - Dual-mode deployment: up to 10,000 small cells</p>

Product Options	Deployment Scenario
Medium pod <ul style="list-style-type: none"> • 5-blade UCS HW (MS-CHAS-5B-FI) – Qty 1 • Core SW (VHET-3G-CORE-500) – Qty 3 or 4 - OR - Core SW (VHET-4G-CORE-250) – Qty 3 or 4 - OR - Core SW (VHET-3G4G-CORE-250) – Qty 0 to 4 • Management SW (VHET-MGMT-1000) – Qty 0 or 2 - OR - Management SW (VHET-LE-MGMT-1000) – Qty 0 or 2 	3G deployment: up to 32,000 small cells - OR - LTE deployment: up to 13,200 small cells - OR - Dual-mode deployment: up to 20,000 small cells
High-end pod <ul style="list-style-type: none"> • 8-blade UCS HW (MS-CHAS-8B-FI) – Qty 1 • Core SW (VHET-3G-CORE-500) – Qty 5 or 6 - OR - Core SW (VHET-4G-CORE-250) – Qty 5 or 6 - OR - Core SW (VHET-3G4G-CORE-250) – Qty 0 to 6 • Management SW (VHET-MGMT-1000) – Qty 0 or 3 - OR - Management SW (VHET-LE-MGMT-1000) – Qty 0 or 3 	3G deployment: up to 50,000 small cells - OR - LTE deployment: up to 19,800 small cells - OR - Dual-mode deployment: up to 30,000 small cells

Table 3. System Requirements

Infrastructure Component	Component Description
Virtualization hardware	Cisco Unified Computing System (Cisco UCS)
Virtualization software	VMware vSphere ESXi Note: Software is preloaded in the virtualization hardware.

Ordering Information

Table 4. Product Ordering Information

Cisco SCS Virtual HetNet Part Number	Product Description
<ul style="list-style-type: none"> • VHET-3G-LOW • VHET-3G-MED • VHET-3G-HIGH 	<ul style="list-style-type: none"> • Virtual HetNet bundle for 3G-only deployment of up to 16,000 small cell access points • Virtual HetNet bundle for 3G-only deployment of up to 32,000 small cell access points • Virtual HetNet bundle for 3G-only deployment of up to 50,000 small cell access points
<ul style="list-style-type: none"> • VHET-4G-LOW • VHET-4G-MED • VHET-4G-HIGH 	<ul style="list-style-type: none"> • Virtual HetNet bundle for 4G-only deployment of up to 6,600 small cell access points • Virtual HetNet bundle for 4G-only deployment of up to 13,200 small cell access points • Virtual HetNet bundle for 4G-only deployment of up to 19,800 small cell access points
<ul style="list-style-type: none"> • VHET-3G-4G-LOW • VHET-3G-4G-MED • VHET-3G-4G-HIGH 	<ul style="list-style-type: none"> • Virtual HetNet bundle for dual-mode deployment of up to 10,000 small cell access points • Virtual HetNet bundle for dual-mode deployment of up to 20,000 small cell access points • Virtual HetNet bundle for dual-mode deployment of up to 30,000 small cell access points

Cisco UCS Data Center Infrastructure Part Number	Product Description
UCSC-C240-M4S	Cisco UCS C-series rack server (needed for external storage/retrieval)

Table 5. Service Ordering Information

Part Number	Service Description
<ul style="list-style-type: none">ASF-ULT2-UCS-OESASF-ULT2-UCS-ADS	<ul style="list-style-type: none">For customers with significant Data Center and virtualization experience who do not require any Knowledge Transfer or guidance from Cisco for Data Center infrastructure installationFor customers without significant Data Center and virtualization experience who require Knowledge Transfer and guidance from Cisco for Data Center infrastructure installation
ASF-SP0-MOB-VHTNTI	Fixed configuration Design, Installation and Validation of the Cisco SCS Virtual HetNet Solution based on solution as selected by Customer

Warranty Information

For warranty information, visit <http://www.cisco.com/c/en/us/products/warranty-listing.html>.

Cisco and Partner Services

Professional services to deploy the Cisco SCS Virtual HetNet product consist of two fixed-price offers from Cisco® Advanced Services organization:

- Advanced Services for Unified Computing to install the data center infrastructure
- Advanced Services for Mobility to implement and validate the small cell virtual network

Cisco Capital

Financing to Help You Achieve Your Objectives

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