

# Huawei CloudCampus 3.0 Solution

## Fully wireless, intelligent cloud campus networks help enterprises of all sizes seize new opportunities in the cloud era

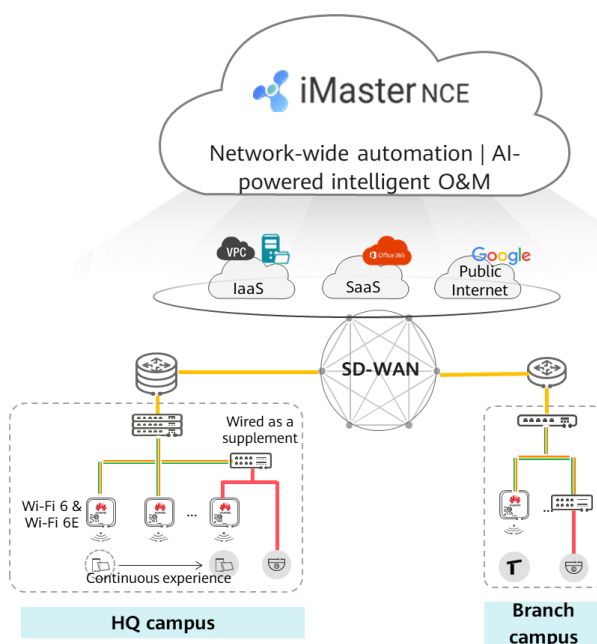
Digital transformation is extending beyond just enterprise workspaces, encompassing everything from production and sales to services. In the process, wireless devices are proliferating and applications are quickly migrating to the cloud on mass. Also, instead of offering only local connectivity, a single network needs to provide global interconnectivity with multi-branch and multi-cloud interconnections.

This shift places huge strain on conventional campus networks that mainly connect local applications and wired terminals. As we fully enter the digital era, a new network architecture is needed to support the ever-changing digital services.

That's where Huawei's CloudCampus 3.0 Solution comes in. Drawing on cutting-edge technologies — such as IoT, Wi-Fi 6, SDN, SD-WAN, cloud management, and AI — CloudCampus 3.0 helps build future-proof campus networks featuring fully wireless networking, one global network, cloud management, and intelligent O&M. The resulting benefits include ultrafast wireless, seamless communication and collaboration anytime, anywhere, agile provisioning of cloud applications, and highly reliable application experience assurance.

With CloudCampus 3.0, organizations across sectors including government, education, healthcare, retail, transportation, and large enterprise can quickly seize new opportunities for digital transformation in the cloud era.

## Overall Architecture



## Customer Benefits

### ■ Fully Wireless Networking: Tearing Down Organizational Boundaries and Inspiring Further Innovations

Conventional Wi-Fi suffers from issues such as discontinuous coverage and poor user experience. CloudCampus 3.0 addresses these pain points by leveraging cutting-edge Wi-Fi 6 products and innovative technologies. Specifically, the intelligent 3D planning tool enables more accurate wireless network planning, delivering full coverage without blind spots. AI-based lossless roaming ensures zero packet loss and zero interruptions for key production services. Intelligent radio calibration offers 58% higher user performance on average by intelligently sensing the radio environment, learning crowd traffic patterns and network models, and self-optimizing the Wi-Fi network.

All of these traits help construct a fully wireless network that features no blind spots, no interruption in roaming, and continuous experience. Such a premium wireless network underpins the stable running of bandwidth-hungry office applications such as AR/VR and 4K conferencing, as well as latency-sensitive production applications such as automated optical inspection (AOI) and warehouse AGVs. The end result is no service interruption and no compromised experience at [SICE DISTRIBUTORE UFFICIALE: www.sicetelecom.it](http://www.sicetelecom.it)

## ■ One Global Network: One Hop to Cloud and Always-On Services Anywhere

Today's enterprises face siloed construction and separate management between LANs and WANs. CloudCampus 3.0 overcomes this by unifying WLAN, LAN, and WAN network planning and construction as well as creating virtual networks (VNs) for OA, production, and monitoring services on top of one physical network. CloudCampus 3.0 also integrates SD-WAN technologies to enable one hop to cloud for any enterprise branch and headquarters, in any network environment. Leveraging multiple link types (e.g., 5G, Internet, and MPLS), application-based intelligent traffic steering, and SRv6, CloudCampus 3.0 reduces private line interconnection costs by over 40%. As such, one global network is built for multiple services, across geographic areas, and on and off the cloud, greatly facilitating enterprise decision-making and collaboration.

## ■ L3 Autonomous Driving: Network-based Self-driving, Stable and Reliable Services

Today's enterprises expect rapid and agile provisioning of cloud services. To this end, iMaster NCE-Campus — an autonomous driving network management and control platform in CloudCampus 3.0 — transforms campus networks into autonomous driving, minimizing manual intervention and command-line configuration. One iMaster NCE-Campus can automate management throughout the lifecycle from planning, construction, O&M, and optimization, all the way to security, and centrally manage WLANs, LANs, WANs, and security, reducing O&M costs by 50%. And powered by innovative data plane verification (DPV) technology, iMaster NCE-Campus shortens the network policy configuration verification time from hours to minutes.

## ■ Low-carbon intelligence: Energy-Efficient and Low-Carbon Networks, Ensuring Service Continuity

CloudEngine S switches are innovative in two dimensions — simplified architecture and optical-electrical PoE, which drive the transformation of campus network architecture and media. The simplified architecture consists of a central switch and multiple remote units simplifies the 3-layer network management mode to a 2-layer one, reducing device procurement and deployment costs by 38%, and reducing energy consumption of the entire network to build an energy-efficient campus network. Moreover, based on Huawei's unique optical-electrical PoE technology, hybrid cables can be deployed on desktops, meeting the evolution requirements of customer networks in the future. On top of that, based on the two-level PoE power supply mode, no ELV rooms or weak-current boxes are needed, ensuring no network interruption in case of power outage and providing 24/7 network services for users.



## Key Components and Products

Product	Description
iMaster NCE-Campus	iMaster NCE-Campus is an intelligent management and control system for campus networks that can be deployed both on premises and on the cloud. By fully leveraging cloud management, SDN, and autonomous driving technologies, iMaster NCE-Campus ensures consistent policies across WLANs, LANs, and WANs. It also automates management throughout the lifecycle from planning, construction, O&M, and optimization, all the way to security.
iMaster NCE-CampusInsight	iMaster NCE-CampusInsight is an intelligent campus network analyzer that uses telemetry to collect network metric data in seconds, enabling experience visualization for each user, in every application, at any moment. Drawing on AI and ML technologies, iMaster NCE-CampusInsight precisely identifies 85% of potential issues while efficiently locating faults in minutes and intelligently optimizing the network.
AirEngine Wi-Fi 6	AirEngine series WLAN products comply with the Wi-Fi 6 (802.11ax) standard and fully leverage Huawei's innovative technologies, including smart antenna, 3D network planning, and intelligent proactive roaming. These future-proof products are perfect for building a fully wireless campus network with ultrafast speeds, blind spot-free coverage, and interruption-free roaming.
CloudEngine S Series Campus Switches	Huawei CloudEngine S series campus switches offer unique multi-GE options, hybrid optical-electrical access, and powerful 25GE/40GE/100GE ultra-broadband forwarding capabilities to build a simplified network for enterprises. Other differentiators include virtualization technology-enabled multi-purpose network, SDN-based automatic deployment and management, AI-powered accurate fault prediction, and zero-trust protection for the entire network through built-in security probes.
NetEngine AR Series Routers	NetEngine AR series routers feature 5G ultra-broadband uplinks and boast 3x the industry average forwarding performance. Offering a wide range of features — such as support for SD-WAN, cloud management, VPN, MPLS, security, and voice — the series also excels at coping with uplink traffic surges and promoting diversified service development.
HiSec Insight	HiSec Insight (formerly CIS) uses the latest big data analytics and ML technologies to defend against advanced persistent threat (APT) attacks, as well as provide a comprehensive overview of the security situation on the entire network.
HiSecEngine Series Firewalls	HiSecEngine series firewalls integrate intelligent threat detection, handling, and O&M to provide comprehensive and integrated network security protection capabilities.



## Learn More

For more information about Huawei's campus network solutions, visit <http://e.huawei.com> or contact Huawei's local sales office.

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