# Verdant

# CE 5800 Series
## 40G, 100G Aggregation Switches

**WARRANTY 2 YEARS WARRANTY**

▶ Most suitable for Service provider aggregation network

▶ With high-performance ASIC switch chip and multi-core processor to supports up to 1.28Tbps switching capacity

▶ Supports 10GE SFP+ ports , 40GE QSFP+ ports and 100GE QSFP28 ports

▶ Large Layer-2 Network Technique which supports TRILL/SPB protocol

▶ Supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 protocol

▶ Professional Verdant NMS for man-machine interaction, precise fault location, alarm report and fast problem resolution

▶ CE 5800 Series has  3 models: CE 5832, CE 5864 and CE 5864H
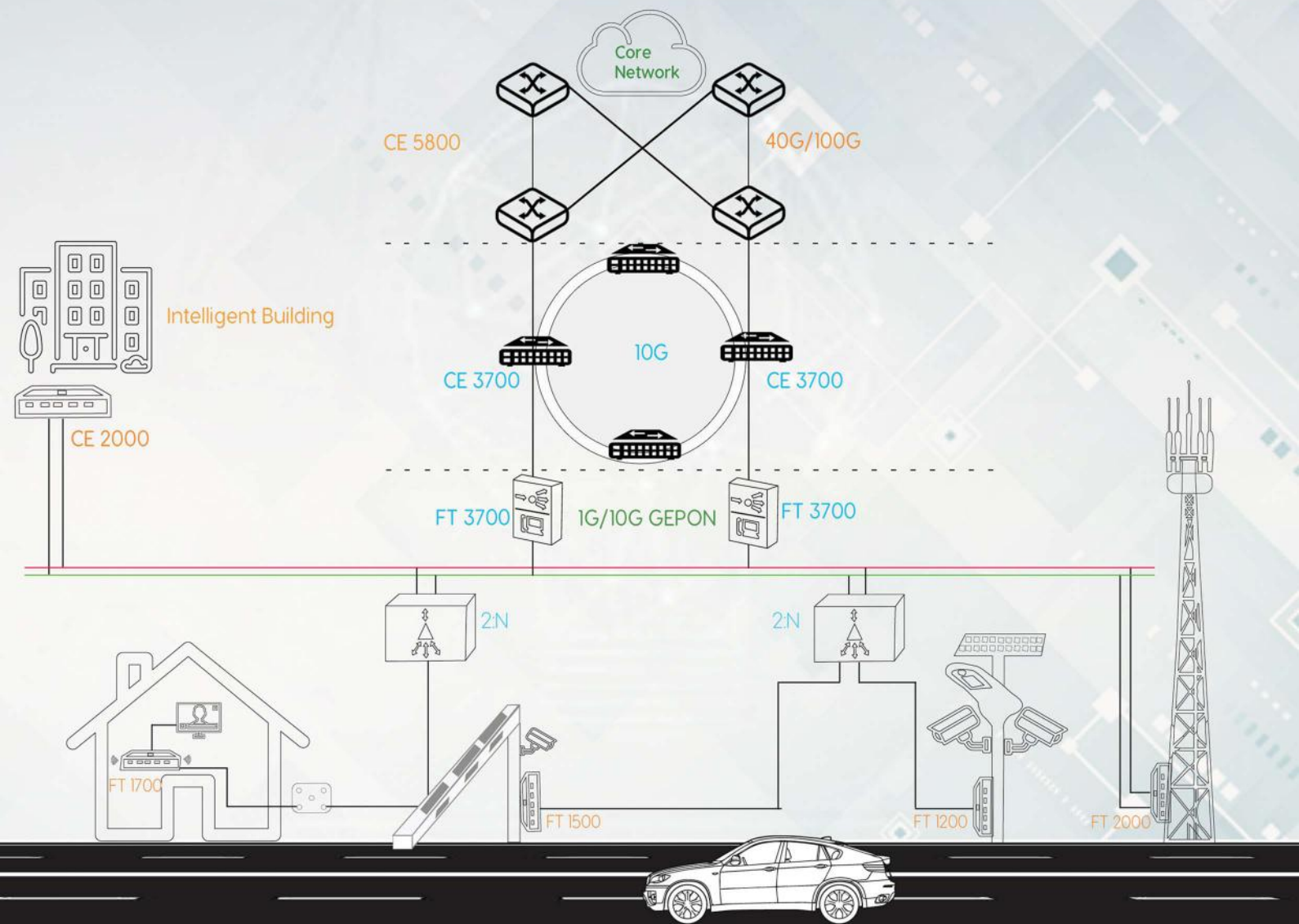
☑ Verdant CE 5800 is a new generation Aggregation switch oriented for Broadcast & MAN aggregation, second-tier operator access network aggregation, large flow video transmission aggregation

☑ Designed with front/back wind tunnels for aggregation. It supports wind tunnel to switch between front-back mode and back-front mode

☑ Supports FCoE (FC over Ethernet) technique, which solves the problem of discrepancy between LAN network and FC storage network and integrates computing, data and storage networking

☑ Supports various Layer 2 multicast function, including user fast-leave mechanism and cross VLAN multicast replication function

☑ Supports multiple queue grooming algorithms such as SP, WRR or SP+WRR

# PRODUCT CHARACTERISTICS

**Flexibility**

☑ With the function of CE 5800 virtual clusters, the distance of virtual cluster system can expand to 80KM, breaking the geographic restriction of traditional cluster technique

**SDN**

☑ CE 5800 Series supports SDN (Software Defined Network), which can realize network virtualization and centralized management

**Aggregation level reliability**

☑ Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, Verdant CE 5800 Series provides with non-stop layer-2 routing forwarding and avoids single points of failure

☑ CE 5800 Series supports redundancy protection mechanism such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation

☑ CE 5800 Series has perfect Ethernet OAM, 802.3ah, 802.1ag and ITU-Y.1731 which can real time monitor the network operating state and rapidly detect and locate the malfunction

**Comprehensive service**

☑ supports complete layer-2 multicast routing protocol and a super-large routing table capacity, which make super-large service provider aggregation network available

**Comprehensive IPv6 Solution**

☑ Supports the IPv6 protocol suite; IPv6 neighbor discovery; Supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6

☑ Supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+

☑ Supports IPv6 tunnel, manual tunnel, automatic tunnel, GRE tunnel, 6 to 4 tunnel, ISATAP

☑ Supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel

**Smart Power**

☑ Adopts advanced power system architecture design which can realize the function of efficient power switching, private power monitoring, soft start, real-time monitoring, intelligent adjustment and energy-saving

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# PRODUCT CHARACTERSTICS

### CE 5832
24 10GE SFP+ ports
2 40GE  QSFP+ports

### CE 5864
48 10GE SFP+ ports
2 40GE QSFP+ ports

### CE 5864H
48 10GE SFP+ ports
4 40GE ports+ 4 100G

## ACCESSORIES

**GE Optical modules**

☑ GSFP-TX-B -> GE SFP-to- RJ45 module

☑ GSFP-SX-D -> GE SFP multi-mode (500m, 850nm, LC, DDM)

☑ GSFP-LX-10-D -> GE SFP single-mode (10Km, 1310nm, LC, DDM)

☑ GSFP-LX-20-D -> GE SFP single-mode (20Km, 1310nm, LC, DDM)

☑ GSFP-LX-40-D -> GE SFP single-mode (40Km, 1310nm, LC, DDM)

☑ GSFP-ZX-80-D -> GE SFP single-mode (80Km, 1550nm, LC, DDM)

☑ GSFP-ZX-120-D -> GE SFP single-mode (120Km, 1550nm, LC, DDM)

**GE Optical modules**

☑ SFP+TX -> 10GE SFP+-to-RJ45 module

☑ SFP+SX -> 10GE SFP+ multi-mode (300m, 850nm, LC)

☑ SFP+LX-10 -> 10GE SFP+ single-mode (10Km, 1310nm, LC, DDM)

☑ SFP+LX-20 -> 10GE SFP+ single-mode (20Km, 1310nm, LC, DDM)

☑ SFP+LX-40 -> 10GE SFP+ single-mode (40Km, 1550nm, LC, DDM)

☑ SFP+LX-80 -> 10GE SFP+ single-mode (80Km, 1550nm, LC, DDM)

**40GE Optical modules**

☑ QSFP+LR4-10 -> 40G QSFP+ optical module (100m, 850nm, MPO, DDM, supports 1 to 4)

☑ QSFP+SR4 ->40G QSFP+ optical module (10Km, 1310nm, LC, DDM)

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# PRODUCT SPECIFICATION

| Attributes | CE 5832 | CE 5864 | CE 5864H |
|---|---|---|---|
| System Capacity | 640Gbps | 1.28Tbps | 2.56Tbps |
| Packet Forwarding Rate | 480Mbps | 960Mbps | 1440Mbps |
| Ports | 24 10G SFP+ ports and 2 40G QSFP+ ports or 32 10G ports | 48 10G SFP+ ports and 4 40G QSFP+ ports or 64 10G ports | 48 10G SFP+ ports + 2 40GE ports + 4 100G ports or 72 10GE ports |
| Data Center Characteristics | VSS, TRILL/SPB large layer-2 technique, FCoE technique, SDN | | |
| MAC Switching Capacity | Static Configuration and Dynamically Learning of MAC Address, Check and Delete MAC Address, MAC Address Aging Time, Limit on MAC Address Learning Number, MAC Address Filtering Function Black-Hole MAC Items | | |
| VLAN | 4K VLAN entries, GVRP, 1:1 and N:1 VLAN Mapping, Basic Qinq and Selective Qinq, Private VLAN | | |
| STP | 802.1D (STP), 802.1W (RSTP), 802.1S (MSTP), BPDU protection, root protection and ring protection | | |
| Power supply | AC: 100V-240V,50Hz±10%, DC: -36V~-72V | | |
| Multicast | IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, Multicast Group Policy and Multicast Number Limit, Multicast Traffic Cross Vlan Duplication, PIM-SM and PIM-DM | | |
| IPv4 | Static Routing, RIP V1/V2, OSPF and BGP, Policy Routing, Load Balance through Equal-Cost Routing. BFD for OSPF and BGP | | |
| IPv6 | ICMPv6, DHCPv6, ACLv6, IPv6 Telnet, IPv6 Neighbor Discovery, Path MTU Discovery, Manual Tunnel MLD & MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, ISATAP Tunnel&6-To-4 Tunnel | | |
| MPLS VPN | LDP protocol, MCE, P/PE of MPLS VPN, MPLS Traffic Engineering (TE), MPLS Operations, Administration, and Maintenance (OAM) | | |
| QoS | Traffic Classification of Each Field of L2/L3/L4 Protocol Headers, CAR Traffic Control 802.1P/DSCP Priority Remark, Multiple Queuing Algorithms such as SP, WRR or SP+WRR Tail-Drop, WRED | | |
| Reliability | Power 1+1 Backup, Power and Fan Hot-swap, Static/LACP Link Aggregation and Cross Service Card Link Aggregation, Ring Network Protection Including EAPS, VRRP, Ethernet OAM 802.3ah/802.1ag/Itu-Y.1731, GR for OSPF and BGP, BFD for OSPF and BGP, ISSU | | |
| Management and Maintenance | Console, Telnet and SSH, SNMP v1/v2/v3, Upload and Download of TFTP Files, Statistics Analysis Of sFLOW, Netflow, Remote Network Monitoring (RMON) | | |
| Environment | Operating temperature/humidity: $0^0$-$50^0$, 10%-90% non-condensing, Storage temperature/ humidity: $-20^0$-$70^0$; 5%-95% non-condensing | | |

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With the world's population shifting to urban areas, community leaders are pressed for answers to overcrowding, pollution, budget & resource constraints, inadequate infrastructures, and the need for continuing growth.

Kvaliteta's offerings are the answer to create "Smart+Connected" communities using intelligent networking capabilities to weave together people, services, community assets, security and learning into a single pervasive solution. "Smart+Connected" acknowledges the essential role of the network as the platform to help transform physical communities to connected communities.

Kvaliteta's offerings include a High Speed Broadband Connectivity using Optical Fiber technologies to individual homes, and Shared Fiber Optic infrastructure for PABX for internal communications, CCTV, Video Monitoring and Analytics, Automated Number Plate recognition-based Access Control and Connected Solar LED Lighting for common areas, all offered as a fully managed Service with Enterprise Level Support and IT Security.

New generation smart ONU for integrated multi-service networks with 1Gigabit Ethernet 3 Fast ethernet + built-in 802.11b/g/n, 300Mbps WiFi with external antenna and Two FXS Ports (Telephone Connection).

**FT 1704 V**

New generation smart ONU for integrated multi-service networks with 1 Gigabit Ethernet 3 Fast ethernet + built-in 802.11b/g/n, 300Mbps WiFi with external antenna.

**FT 1704**

Smart ONUs with single Gigabit Ethernet. Most suitable for residents with Installed LAN or WLAN installed.

**FT 1701**

IP PBX for SME & Home Office, offers 1 port RJ11 with a GSM port for fixed line voice, 3 LAN ports, 1 WAN & 802.11b/g/n MBPS WiFi with an external antenna. The WAN port can be connected to any FTTH CPE or 4G Outdoor CPE.
Supports 1 SIP Trunk and 32 IP phone extensions

**CT 100**

Plate-based vehicle access control and drive-through, Remote web access, Integrated and synchronized IR LED illumination (Night Vision).

**Vehicle Access Control Gate Controller**

24 * 7 Surveillance systems with Centralized recording, Local NVR with Live View, Intelligent Live View, Proactive alarming function, video analytics functions and detectors, 3D Map Interface, Intelligent Search.

**Intelligent Video Management Systems**

18-36W LED Lighting, 2-3 Days autonomy, Energy Efficient Dimmable Lighting, Hot Swappable Battery Packs, Optimized Solar Panels for Kenya, Web-based Control, Remote Monitoring, Maintenance.

**Connected Solar LED Lighting**

**Kvaliteta Systems & Solutions** founded in 2010, with a Vision to transform the application delivery Model and change the way people engage and collaborate with applications. Our solutions are targeted towards organizations who want to deploy or interface or migrate to "Engagement Centric" applications from "Record Centric" applications.

The foundation to delivering process centric applications are the underlying network Infrastructure, build for agility, Security and open. Kvaliteta's SP-IT offering is targeted towards making the networks more application aware by the futuristic Industry trends, Software defined, Intelligent EDGE, Content aware and provide more virtualized network functions, and finally ensuring the applications and networks in harmony.

Comined with our suitably equipped delivery center in india, with 24*7 support capabilities, we are a ideal company to partner for any Strategic Technology Initiatives.

Over the years we have gained a vast experience in delivering IT solutions, Domain expertise, Technical excellence and understanding of working with different cultures. And today we are able to help buinsesses who want to be Agile and future ready.

Our Service Provider IT (SP_IT) team offers an array of service offerings for comunication service providers. Our objective is to be a transformation partners for wired / wireless network operators, Internet Service Providers (ISPs) Government Core Networks, Campus Networks and Mobile Private Networks in Africa and Middle East.
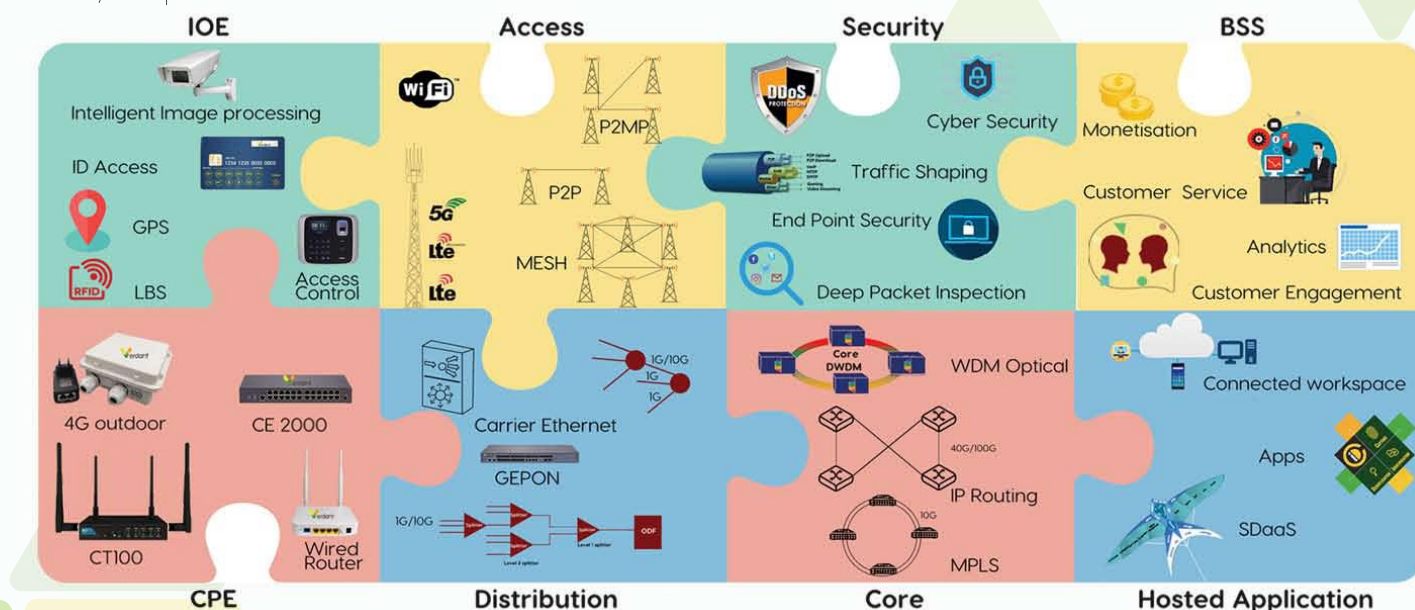


## Our SP-IT offering includes:

**Core:** ◼ WDM System for Backbone & Metro Core networks to cater to the ever increasing demand of bandwidth, supports line rate of 40Gbps and 100Gbps. ◼ Includes Layer 2 feature sets for aggregation network

**Distribution:** ◼ A new generation "Verdant" Carrier- Class Ethernet switch oriented for MPLS & service provider access networks. ◼ GEPON Products for FTTH/FTTB Applications – 1G/10G OLT, Commercial Gigabit ONU, Home Gateway and Multi Dwelling Unit. ◼ Our Verdant range of Switches delivers a consistent wired / wireless user experience and it provides Layer3 feature sets which do not require any licensing.

**Access:** ◼ High Throughput Satellites (HTS) - KA Band Satellite backhaul & Internet Broadband offering. Available capacity – 10Gbps. ◼ Last mile & Rural Connectivity - Connectivity using PTP/PTMP Radio links for Backhaul network and using 4G LTE (or) 5G for end user services & Wi-Fi hotspots on L

**Security:** ◼ DPI based Application Level visibility, control & security. ◼ DDoS/ Bot Protection, Web Filtering&Network based anti-virus/anti-malware for Cyber & End point security

**CPE & Internet of Thinks** ◼ 4G outdoor solutions for Large home & School connectivity. ◼ Integrated VOIP gateway with PBX for Voice/Data service  Intelligent Access CPE with Edge Computing:  ◼ Fully managed networking solution Services that are meaningful for Education includes Deep Packet Inspection with Security, Wireless, Content Delivery. ◼ Intelligent Image Processing for Authentication & tracking, ID Access for Classification and Extraction, GPS based location tracking and IRIS/IFID for access control

**Hosted Applications:** ◼ Our SDaaS framework (KITE & CID) offers service providers to develop captive portals – E-KYC, e-services offering for digital commerce & Governance and ID tracking & management systems for Education and health

**Business Support System :** ◼ DPI CDR's for monetization, On-Line and Off-Line Charging, AAA Integration, Value added Services, Analytics. Customer Service & Engagement Control.

## Local Support:

**India**

Kvaliteta Systems & Solutions
2207, Yamuna Tower,
Phase-III, Technopark,
Trivandrum-695582, India

**Middle East**

Kvaliteta Systems and Solutions FZC
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