

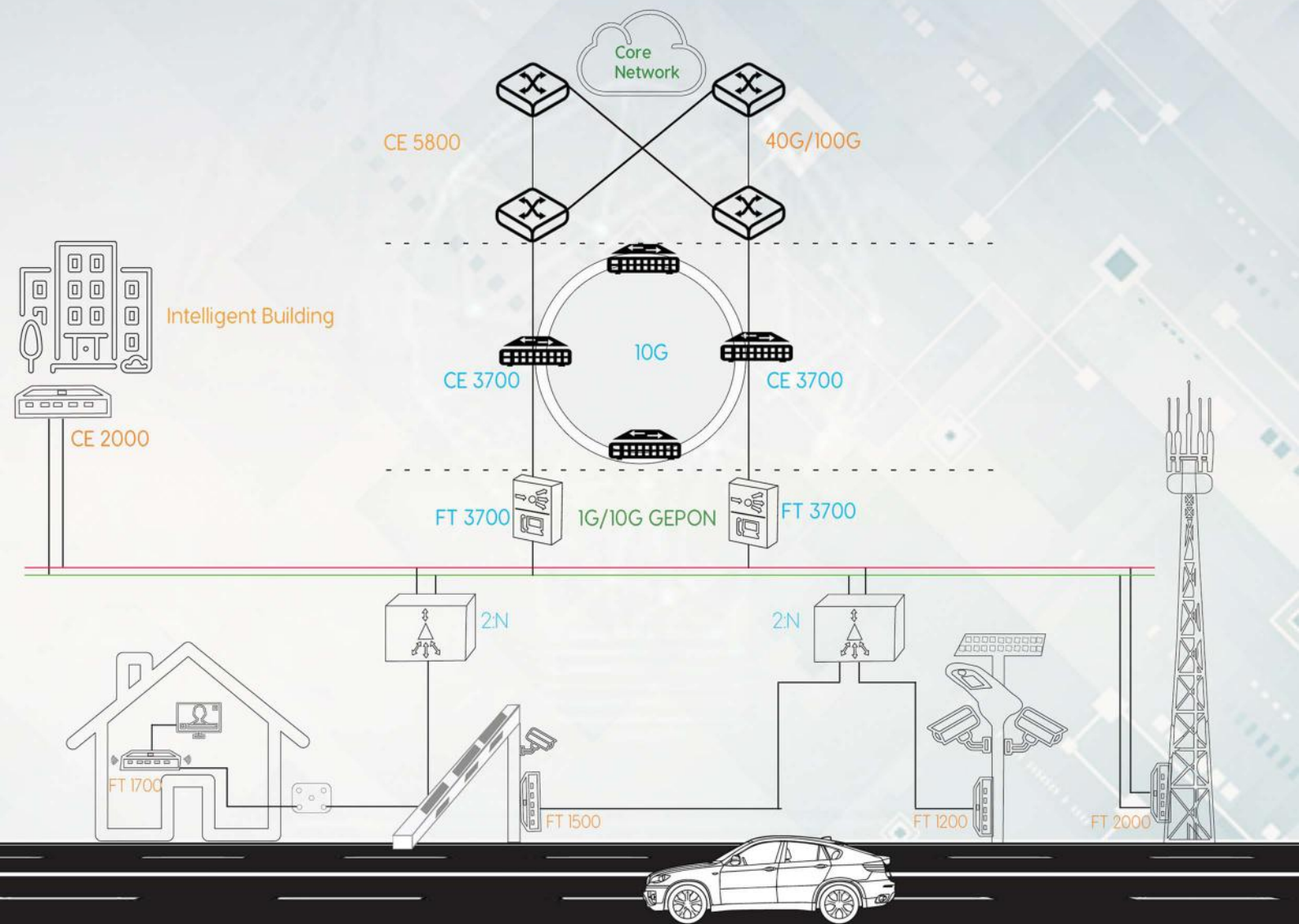


FT 3700 Series

High-density Rack-mounted OLT



- ▶ Most suitable for service provider access network (or) GEAPON Network
- ▶ IEEE802.3ah Industry standard and fully supports automatic detection and works harmoniously with ONU's made by different manufacturers
- ▶ Coupling up to 1:128 and it supports different hybrid ONU networks to minimize the carriers investment
- ▶ 2.5 Gbp Downlink, 1.25 Gbps Uplink for PON interface & 10G Link for Carrier Ethernet Services
- ▶ Software function includes QoS guarantee, Dynamic bandwidth allocation, Flexible SLA for GEAPON with large splits
- ▶ Professional Verdant NMS for man-machine interaction, precise fault location, alarm report and fast problem resolution
- ▶ Verdant FT 3700 has 2 models: FT 3708, FT 3716



- ✓ Verdant FT 3700 Series is a GEAPON Ethernet standard switch, supports 10G link for Ethernet services and 8/16 GPON ports to provide reliable services to end users over a GEAPON network
- ✓ Adopts WDM technology, which realizes bidirectional (duplex) data transmission over a single fiber
- ✓ Supports Layer 3 routing protocols – static routing, RIP/RIPng, OSPF/OSPFv3
- ✓ Supports bus optical fiber protection, Unidirectional Link Detection (UDLD), Optical path protection of GPON (b/c, hand in hand), Abnormal luminescence ONU detection
- ✓ Supports Limiting the uplink/downlink rate based on each ONU

OUR PRODUCT

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OLT



FT 3708

8 GEAPON interface
8 Gigabit ports
2 10 GE ports
Dual power supply



FT 3716

16 GEAPON interface
8 Gigabit ports
2 10 GE ports
Dual power supply

ONU



FT 1704-V



FT 1704

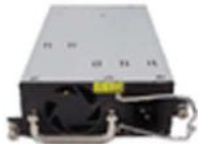


FT1701



FT-Stick

ACCESSORIES



OLT AC power module

Input voltage AC90~240v, 150W max power

OLT SFP Modules - PON

- ✓ OLT-GSFP-20+ -> OLT SFP module, PX 20+ standard, downlink 1.25G/uplink 1.25G, TX wavelength 1490nm, RX wavelength 1310nm, SC interface
- ✓ OLT-GSFP-20++ -> OLT SFP module, PX 20++ standard, downlink 1.25G/uplink 1.25G, TX wavelength 1490nm, RX wavelength 1310nm, SC interface



OLT DC power module

Input voltage DC36V~72V, 150W max power

10GE Optical modules - Uplink

- ✓ OLT-GSFP-20+ -> OLT SFP module, PX 20+ standard, downlink 1.25G/uplink 1.25G, TX wavelength 1490nm, RX wavelength 1310nm, SC interface
- ✓ 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)

TECHNICAL PARAMETERS - OLT

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Attributes	FT 3708	FT 3716
Interface PON	8 GEPON interfaces	16 GEPON interfaces
Uplink interface	2X10G	2X10G
System Capacity	Maximum coupling ratio: 1:64 backplane bandwidth:128G MAC table capacity: 32K	
Ethernet	8 GE ports (4 gigabit optical ports, 4 gigabit combo SFP/Base-T ports)	
Attributes of the PON Interface	A 1Gbps transmission rate with downlink and uplink symmetry, Average emitting power of the PON port: +2dbm ~ +7dbm , Light reception sensitivity of the PON port: -30dBm, security: ONU authentication mechanism	
Standards	IEEE802.3ah, IEEE 802.1D, Spanning Tree, IEEE 802.1Q, VLAN, IEEE 802.1w, RSTP, IEEE 802.3ad physical link static/dynamic aggregation (LACP), Ethernet – II	
QoS	Backpressure flow control (half duplex), IEEE 802.3x flow control (full duplex), IEEE 802.1p, CoS, WR, SP and FIFO, Limiting the uplink/downlink rate based on each ONU, DBA and SLA	
VLAN	Port-based VLAN, QinQ and flexible QinQ	
Layer-3 functions	support static routing, Ripv1/v2 and OSPF, Host routing capacity: 8K	
Multicast	IGMP, IGMP Snooping	
Reliability	Unidirectional Link Detection (UDLD), Virtual Router Redundancy Protocol, Cluster Management, Optical path protection of GEPON, Abnormal luminescence ONU detection such as long luminescence	
Network Security	Limiting the maximum number of users on each port, Port isolation, Packet storm control, Flow-based ACL access control function, Transmission data encryption on the PON interface	
Configuration Management	Various management modes such as CLI, SNMP and TELNET, Software upgrade through TFTP	
Physical Characteristics	Dimensions mm (WxDxH): 442.5 × 300 × 44 Installation: standard 19-inch cabinet Weight: 2kg	
Environment	Operating environment: 0°-55°; 10%-85% non-condensing Storage environment: -40°-80° 5%-95% non-condensing	
Power Supply	Input voltage:AC90~264V, DC -36 ~ -72V Support dual-power input, DC/AC power supply and hot-swap Support over-current protection and over-voltage protection	

TECHNICAL PARAMETERS - ONU

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Attributes	FT 1704-V	FT 1704	FT 1701	FT Stick
User interface	4*GE 2*FXS , SIP H.248 for Voice Function, 802.11b/g/n Wi-Fi with external dual-antenna, 1 USB interface (USB2.0)	1 * GE + 3 * FE, 802.11b/g/n Wi-Fi, 300Mbps	1 * GE	1*GE
PON interface	Downlink 2.5Gbps / uplink 1.25Gbps, Radius : 20KM, Type of the optical interface: SC/UPC	Uplink/downlink 1.25Gbps, Radius : 20KM, Type of the optical interface: SC/UPC	Symmetric uplink/downlink 1Gbps, Radius : 20KM, Type of the optical interface: SC/UPC	Downlink 2.5Gbps/uplink 1.25Gbps, Radius : 20KM, Type of the optical interface: SC/UPC
Data Forwarding	Routing mode, bridging mode, routing mode +, bridging mode,	Routing mode, bridging mode, routing mode +, bridging mode,	N/A	N/A
Standards	IEEE802.3ah; IEEE 802.1D; Spanning Tree; IEEE 802.1Q, VLAN; IEEE 802.1w ; RSTP; ITU-T Y.1291			
Multicast	IGMP-Snooping CTC defined dynamic multicast MLD-Snooping			
Network security	Limitation to the number of MAC addresses on the port Port protection Port storm control DOS prevention attack Port scan prevention			
QoS	Backpressure flow control (half duplex) IEEE 802.3x flow control (full duplex) Head Of Line (HOL) mechanism IEEE 802.1p, CoS four priority queues on each port WR, SP and FIFO Rate limit			
Heat Dissipation	Supports long-time use (For instance, 24 hours), The device running hot will not affect its performance or cause it break down.			
Dimensions (MM)	230×140×34.9	140 x 105 x 30	105×75×26	N/A

SMART+CONNECTED

Communities



- High Speed Internet
- Managed IP PBX
- Community Wi-Fi Hotspot
- Private Mobile Broadband (4G+ or 5G)
- Video Surveillance and Monitoring
- Content Delivery
- IOE

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.



FT 1704 V

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).

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



FT 1701

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

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



**Vehicle Access Control
Gate Controller**

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

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**



**Connected Solar
LED Lighting**

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.

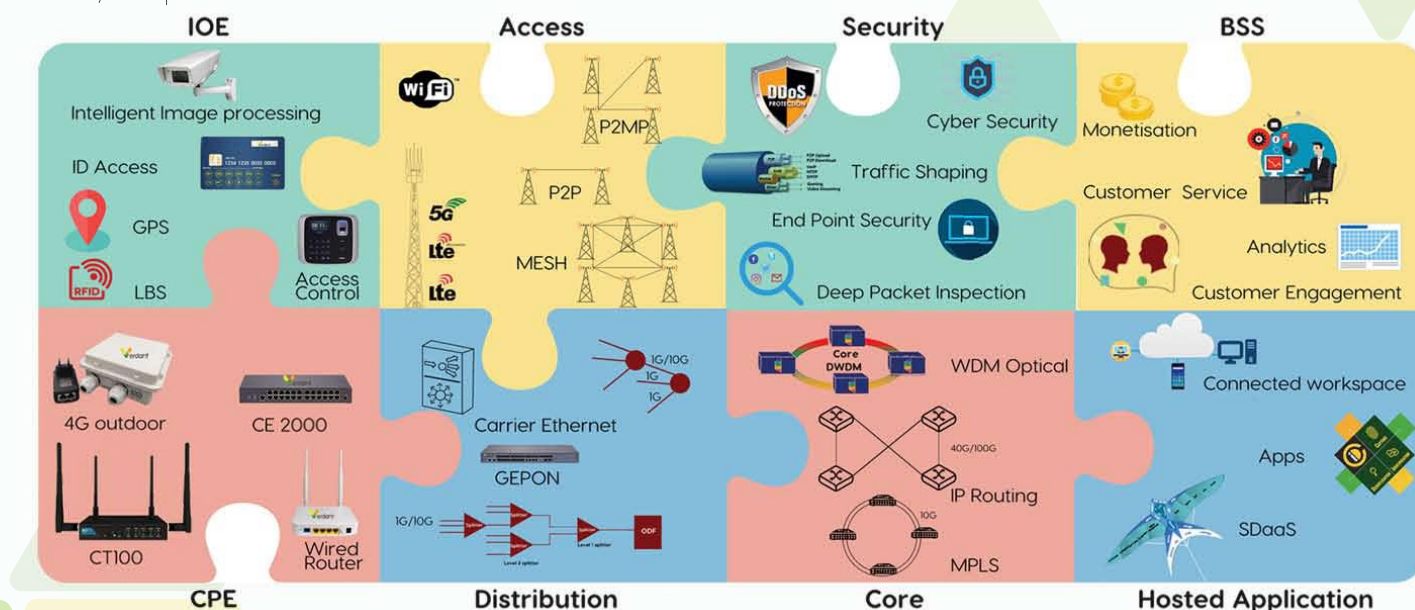
Kvaliteta Systems & Solutions founded in 2010, with a Vision to transform the application delivery Model and change the way people engage and collaborate with applications. Our solutions are targeted towards organizations who want to deploy or interface or migrate to "Engagement Centric" applications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

Our Service Provider IT (SP_IT) team offers an array of service offerings for communication 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. ■ GEAPON 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 Things ■ 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:



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