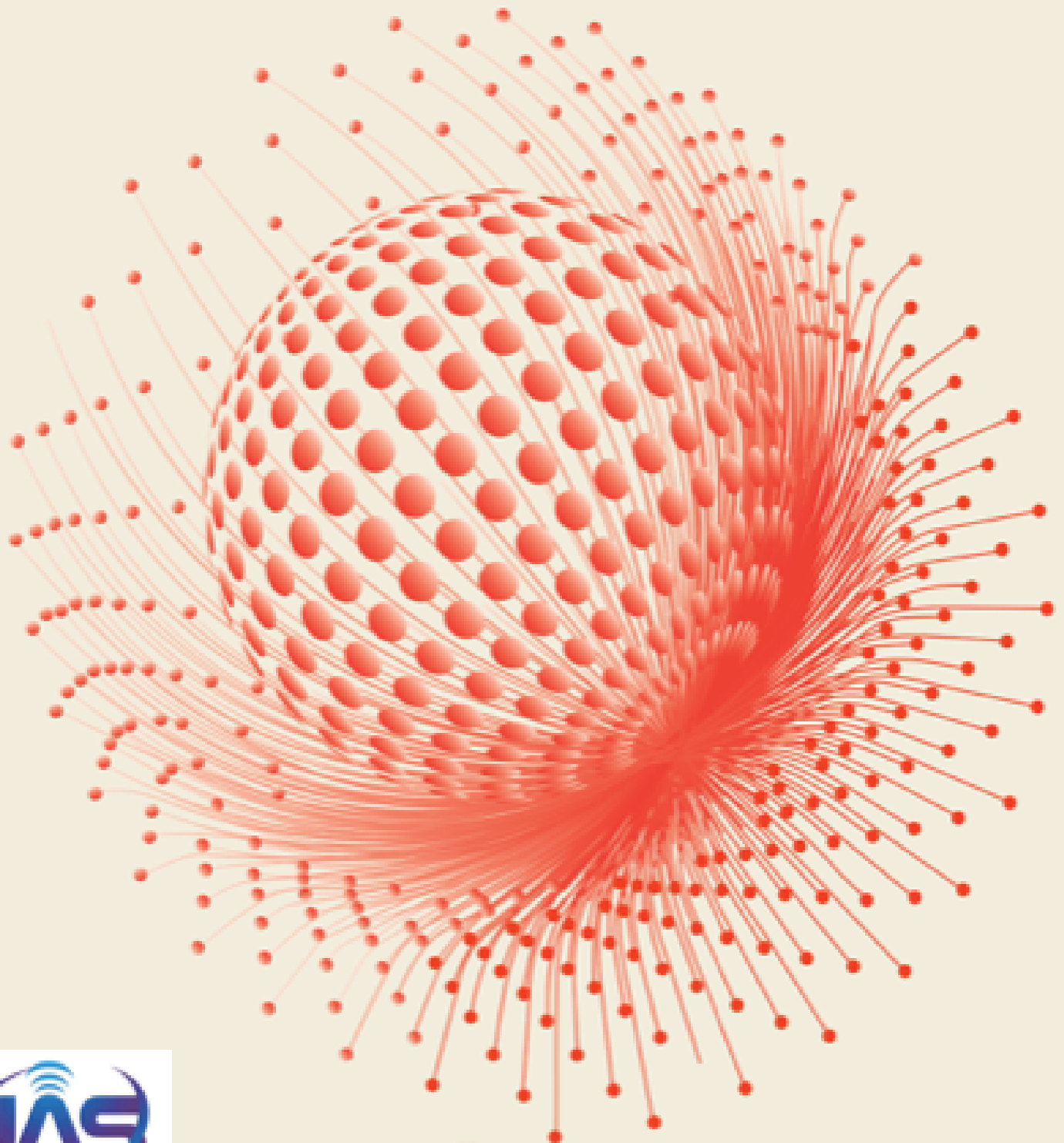


CATALOG 2021

PRODUCTS AND SOLUTIONS



RAISECOM
www.raisecom.com

About Raisecom

Raisecom is a global leading vendor providing comprehensive access solutions and network devices. With headquarters in Beijing (China) and listed on Shanghai Stock Exchange (SHA:603803), Raisecom has consistently strong growth with partners and customers over 80 countries worldwide.

We have two Research and Development centers located in Beijing and Xi'an, as well as two manufacturing sites in Beijing and Shenzhen. Internationally, there are several branches and representative offices, and Raisecom Inc. located in Texas, USA. We also have specialized teams to tailor solutions for various networks like access, optical network, cloud service, IoT network together with vertical market segments.

Raisecom is ISO9001:2015 certified for RnD, manufacturing, technical support and marketing and our products are compliant with CE, RoHS, IEEE, IEC, CSA standards and regulations.



RAISECOM



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PRODUCT



Service Providers/MSO

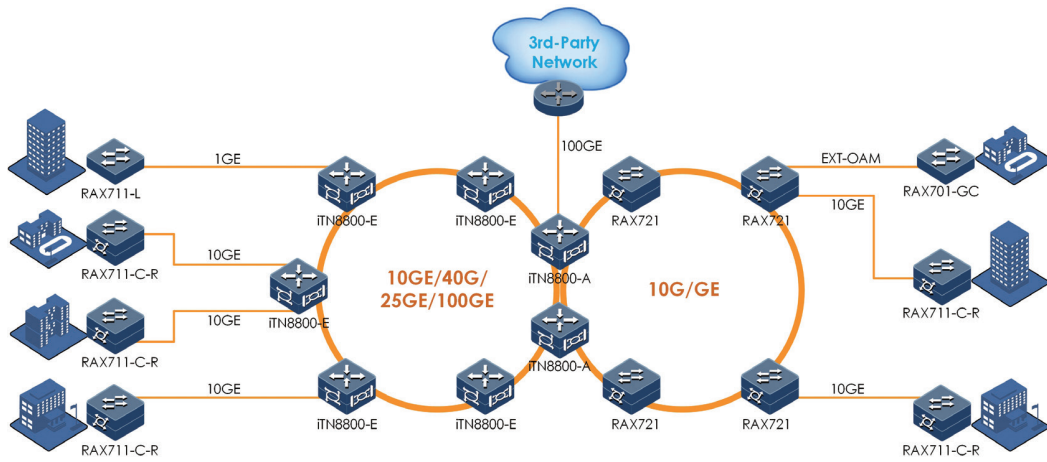
Raisecom telecommunications solutions present a comprehensive range of access solutions and technologies, targeting telecom service providers, large enterprises, financial institutions, government, educational organizations, health centers, and other public establishments, where mission-critical tasks as well as conventional data communication are delivered and processed quickly.

Raisecom solutions deliver services with assured bandwidth, guaranteed data security, minimized network outages, and with the ability to deliver end-to-end Carrier-grade services with a reliable and predefined SLA. Since our solutions enable highly resilient services with L2/L3 demarcation in a versatile access infrastructure with access data rate ranges from 2Mbps to 100Gbps, they meet requests for every segment in the market.

Telecom operators offer a variety of services, while attempting to maximize their infrastructure. As a partner, Raisecom provides the most flexible combinations of product solutions which bring advanced networking technologies, end-to-end management, and easy-to-maintain and easy-to-use solutions together.

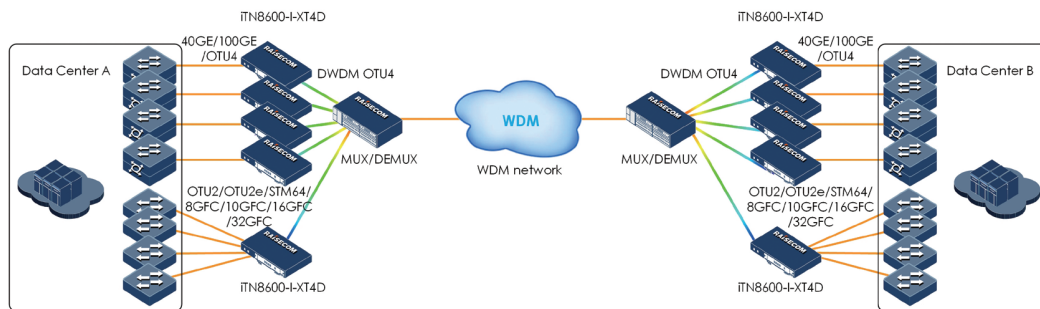
IP/MPLS Access and Pre-Aggregation Solution

- Support abundant MPLS services (VPWS/VPLS/L3VPN)
- End-to-End MPLS service reduces the OPEX by simplifying the network routing and provisioning process
- Multi-level MPLS service (Ethernet + Static MPLS + IP/MPLS) makes network more flexible
- LSP/PW protection by 1:1 hot-standby or FRR enhances the network reliability
- MAC-Learning-Disable and L2CP offer transparent forwarding for service traffics and L2 protocol packets
- Y.1731 for L2VPN and TWAMP for L3 VPN performance monitoring assure the service-level-agreement
- Zero-touch-provisioning makes quick deployment



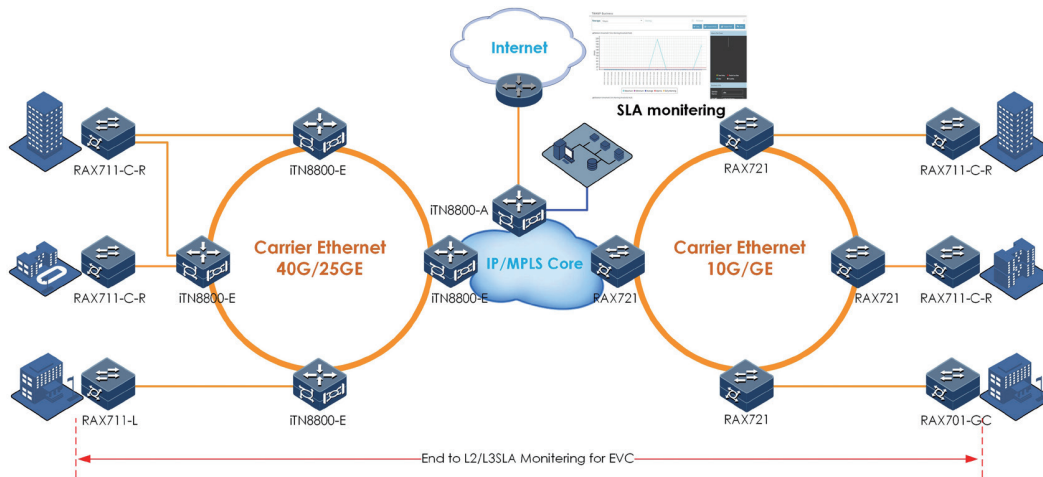
100G Point to Point DCI Solution

- Support 100G/200G CFP2 (Coherent, Grey LR4/ER4) on line port
- Maximum transmission distance for 40 x 100G: 16 x 22dB
- 100G/200G line port: GFEC, SD-FEC
- Flexible wavelength configuration
- Up to 40 x 100G/200G capacity
- Multi-service access in client side: Ethernet, OTN, SDH, FC
- Support encrypted transmission on the client side and line side
- Support G.HAO



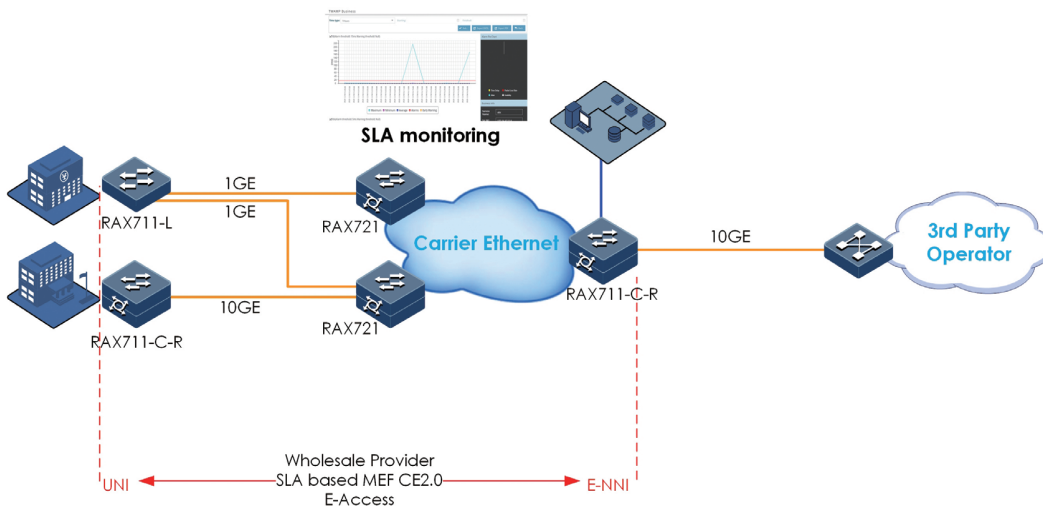
High Performance EVC-based Business Services

- Support MEF CE2.0 based standard EVC services E-Line, E-Lan, E-Tree
- Intelligent EDD RAX711 series offer fast end-to-end services deployment by zero-touch-provisioning
- High capacity pre-aggregation devices RAX721/iTN8800-E offer reliable aggregation rings
- QoS by traffic-policing, queue shaping, queue scheduling assures the service quality
- Y.1564/RFC2544 service activation test from UNI to UNI
- SLA sessions by Y.1731 LM/DM or TWAMP offer visible performance monitoring result



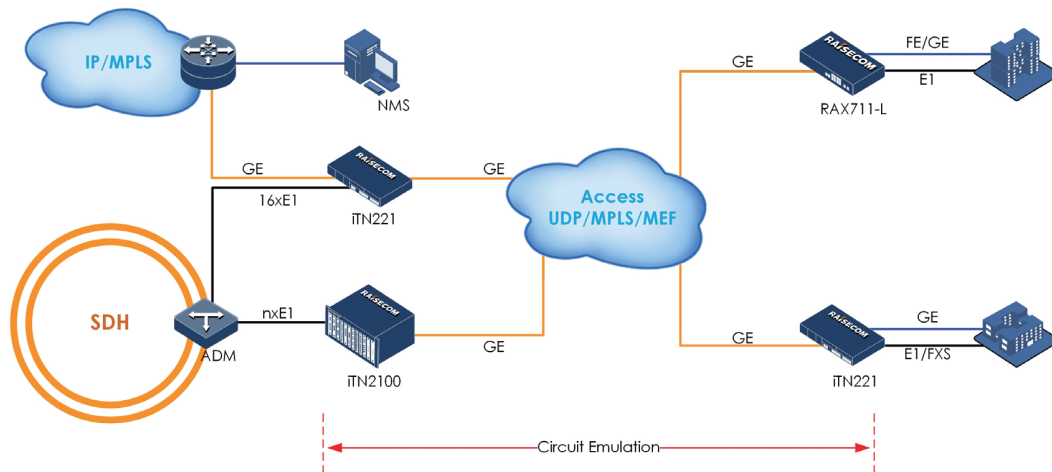
High Performance OVC-based Wholesale Services

- Support MEF CE2.0 based standard OVC services E-Access
- Intelligent EDD RAX701/RAX711-L acts as UNI node, RAX711-C-R acts as ENNI node
- QoS by traffic-policing, queue shaping, queue scheduling assures the service quality
- Y.1564/RFC2544 service activation test from UNI to ENNI
- SLA sessions by Y.1731 LM/DM or TWAMP offer visible performance monitoring result



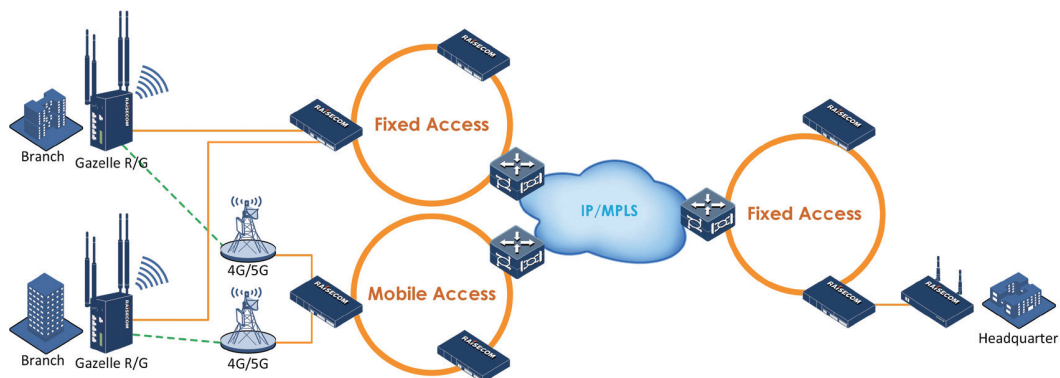
TDM Extension over Packet Network

- Ensure service providers a smoothly infrastructure migration from TDM to packet-based
- Various legacy service access ability provides flexibility when facing different network terminals
- Pseudo-wire solutions ranges from CPEs to medium and large aggregators
- Packet-switched/TDM dual-platform design
- Flexibility of TDM emulated services: n x 64k and E1
- Pseudo-wire services can be delivered over point to point and point to multi-point topologies
- SyncE and standard clock features guarantee high-quality synchronization of TDM services



Business Connectivity with 4G/5G Backup

- Extend customer range and increase customer base by using 4G/5G mobile network
- Industrial-grade design with both fiber and 4G/5G uplink ensuring reliable delivery of customer services
- Ordering options available to fit in sites with different access capacity
- Support multiple VRF for management traffic and service traffic separately

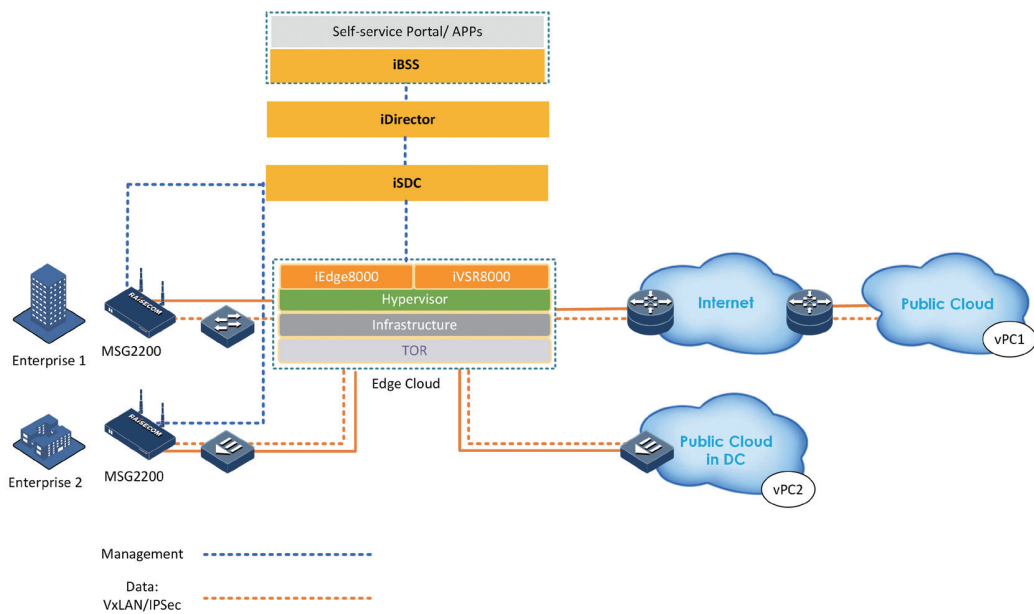


Virtualized Application over Cloud

- Provide ONAP, ETSI born end-to-end service-driven abstract and flexible orchestration, based on Openstack architecture
- Portal/APP based multi-level self-service: such as carrier level, enterprise level and end-user self-service
- Minutes level service end-to-end provisioning and turn-up
- Convenient overlay VPNs to connect no matter what services subscriber needs: IP, MPLS, or Internet network service
- Highly flexible, on-demand elastic adjustment
- Highly stable, on-demand back-up
- Be compatible with the 3rd party VNFs capabilities
- Real future-proof CT and IT combined architecture, pay-as-you-grow, effectively reduce CAPEX and OPEX

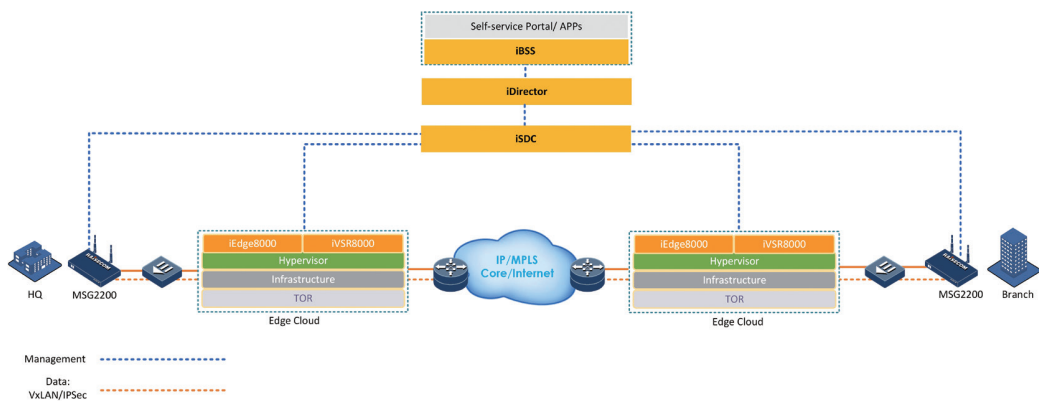
iDirect Connection service:

- Customer service connection to data center



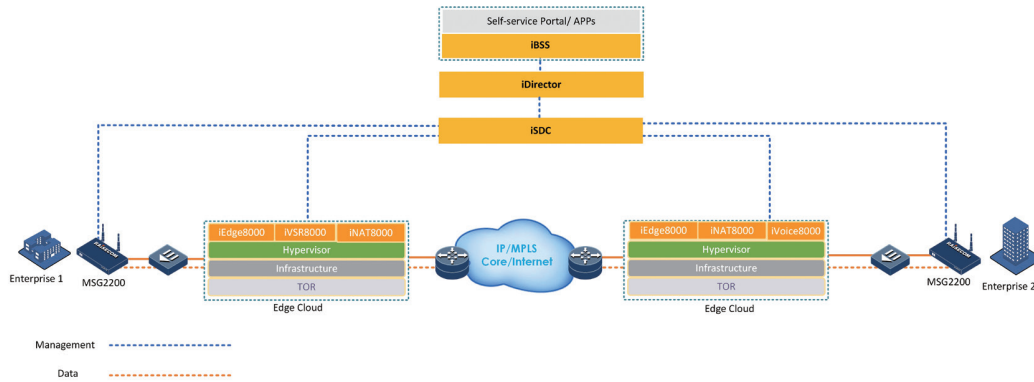
Multi branches connection service:

- VPN interconnection between HQ and Branch



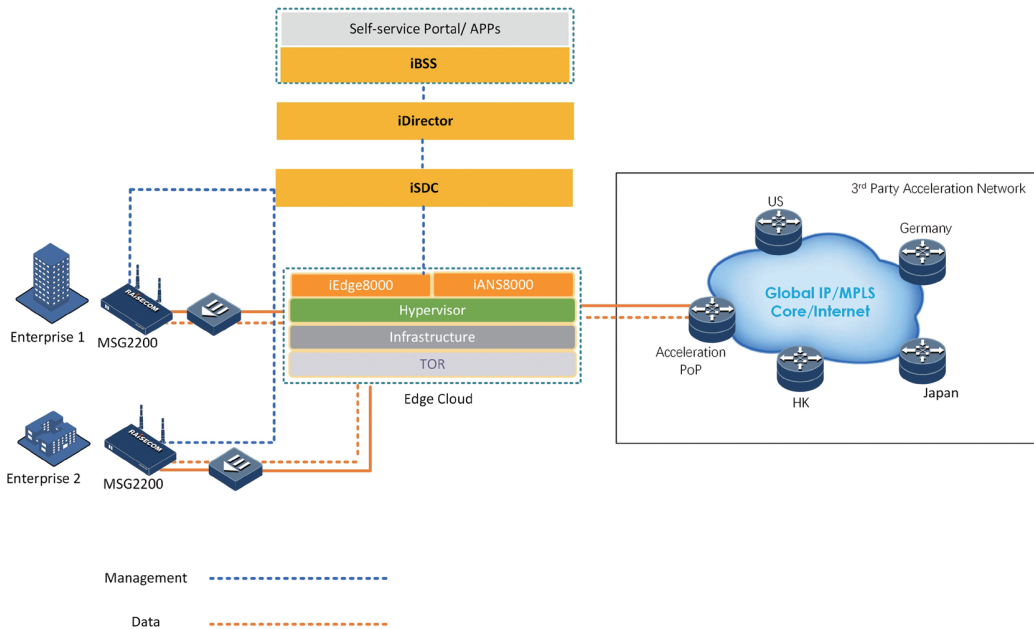
Flexibly enhance enterprise IT infrastructure service:

- Eliminate the need to buy individual pieces of equipment for VPN, router, voice and other network functions, IT services can be downloaded as subscriber requires



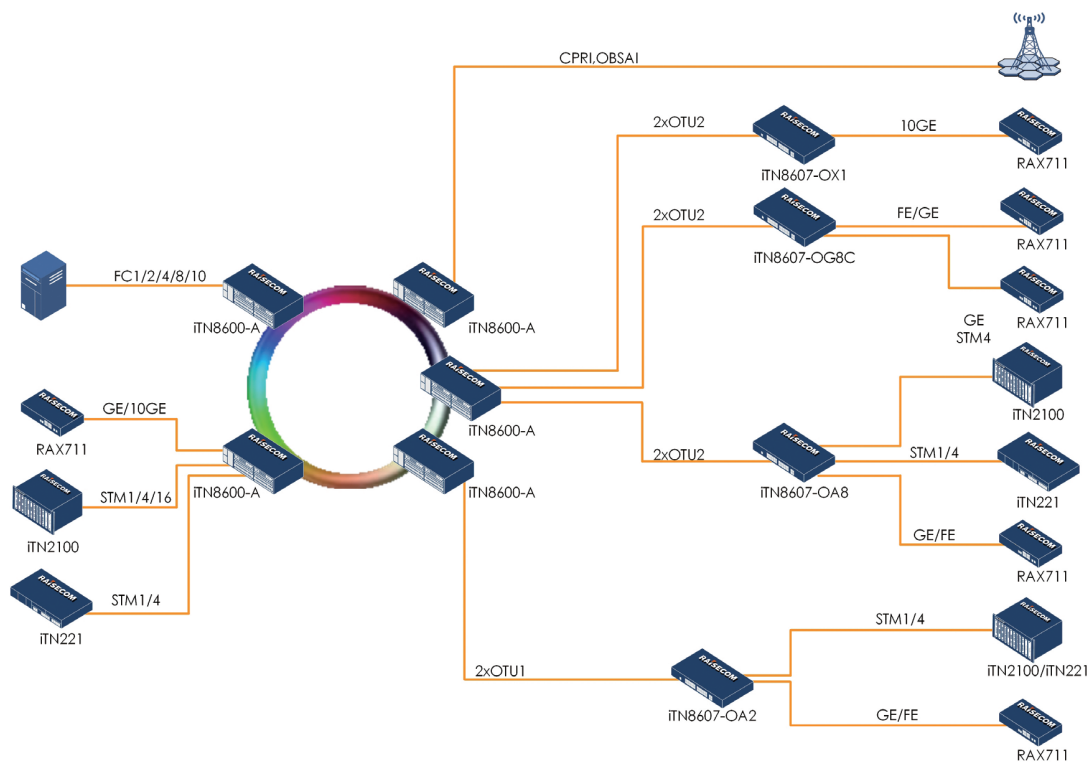
Service access to cloud for acceleration:

- Easy connection adapter between CPE and acceleration network POP site



Multi-Service Optical Transport Network Access Solution

- The iTN8600 series can be deployed as access and aggregation nodes
- The iTN8600 series can build a full service access platform in the metro area
- The iTN8600 series can provide many service types like 1GE/10GE, STM1/STM4/STM16, OTU1/OTU2, FC1/FC2/FC4/FC8/FC10, CPRI, OBSAI, etc.
- In leased line application, Raisecom has iTN8607 PIZZA Box series on remote site connected to iTN8600-A
- Support leased line, fixed line backhaul and wireless backhaul networks
- The solution can offer seamless connection with core and aggregation layers by PTN/OTN/SDH
- Manage, enable and deploy services automatically from the iTN8600 NMS





Mobile

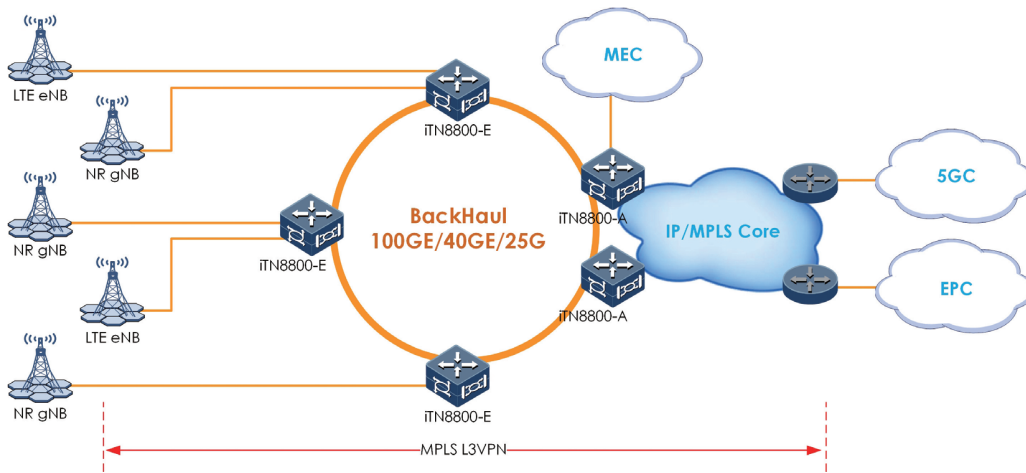
The constantly growing number of bandwidth-savvy smartphones and mobile devices drives mobile operators to improve their networks. This includes improved efficiency, increased bandwidth capacity and expanded coverage. The choice of mobile backhaul and fronthaul technologies is becoming a crucial factor for operators aiming to deliver guaranteed mobile services and remain profitable in an era of declining ARPU.

Raisecom mobile backhaul solutions support voice-sensitive and data-intensive traffic at affordable costs. They enable reliable and smooth migrations of multi-G (2G, 3G and 4G/LTE) mobile services over legacy, and packet-based or Metro Ethernet networks. These carefully engineered solutions include some of the following capabilities: auto-provisioning, bandwidth optimization and performance monitoring, which assist in reducing OPEX and increasing network availability. Raisecom's mobile backhauling solutions support various technologies like Carrier Ethernet and IP/MPLS, hence enabling network-wide packetization of operators transport networks.

Raisecom BBU fronthaul solution is used to deliver BBU functionality by Passive Optical Network, xWDM technology or OTN. It helps carriers to dramatically reduce cost and enlarge wireless coverage. The diversified solutions can meet different scenarios for different requirements.

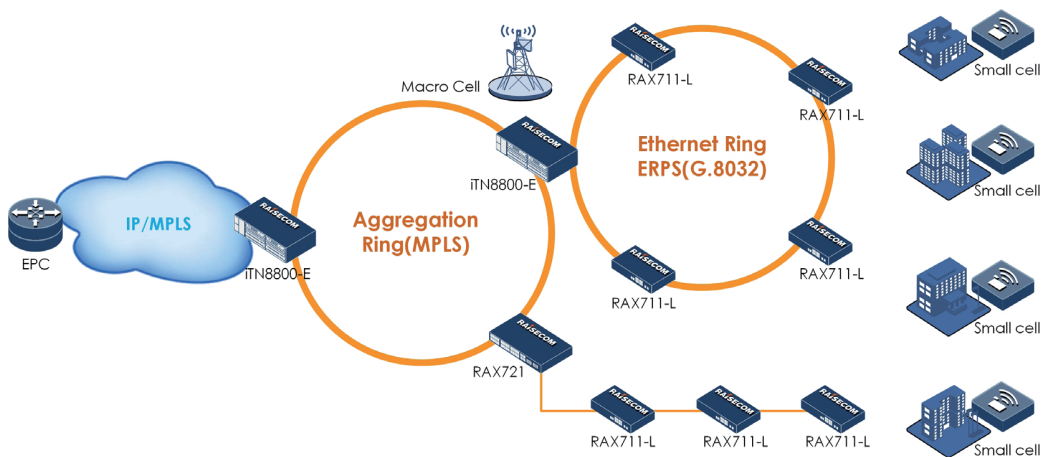
5G Mobile Backhaul over MPLS

- High density interfaces for 5G service access
- Up to 100G aggregation ring offers ultra-high bandwidth, ultra-low latency, and ubiquitous connection
- 5G services can flexibly adopt either L3 to edge HoVPN or L2VPN access to L3VPN
- Comprehensive timing synchronization: SyncE, 1588v2 TC
- TWAMP based real time performance monitoring for L3 service



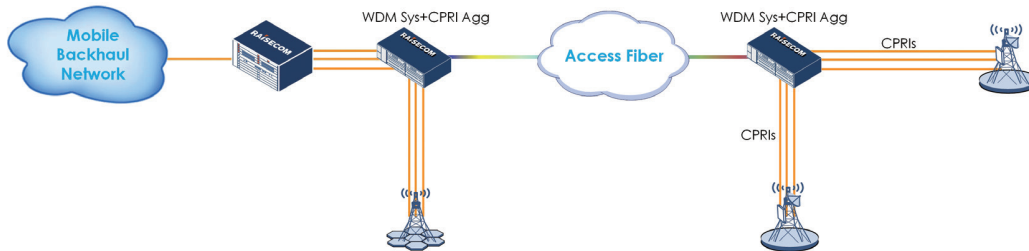
LTE Small Cell Aggregation

- Perfect size and capacity for small cell backhauling
- Extended operating temperature range suitable for outdoor deployment
- Zero-touch provisioning helps save OPEX greatly
- High network reliability guaranteed by standard G.8032 ERPS
- Support traffic classification and prioritization
- IPv4/IPv6 for both management and services
- MLD Snooping for IPv6 multicast traffic management
- 1588v2 TC for synchronization across the network



Active WDM Solution for 4G/5G Mobile Fronthaul

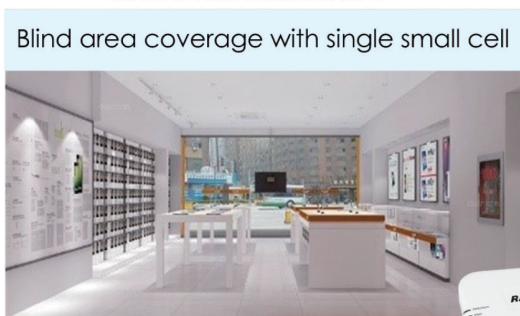
- Raisecom's Fronthaul solution aid carrier to extend and enlarge radio coverage for mobile networks
- The solution lowers operational cost for carriers including rental expense, power consumption, air conditioner and site survey
- Aggregation up to 35 CPRIs per fronthaul system
- Mobile operators can benefit from the solutions by better maintenance and management of the complete wireless network



Small Cells for Improving Mobile Coverage and Throughput

- A family of small cells for mobile operators to cost effectively improve their mobile coverage and throughput
- Integrate baseband, RF, and antenna into one, providing LTE throughput and implement full functions of a base station
- Feature intelligent SON, self-startup, automatic configuration, and flexible deployment
- Support multiple backhaul modes, such as xPON, IP-RAN and Internet
- Support MIMO dual-way balancing and end monitoring
- Adopt a highly integrated chip structure with high price performance ratio

Business hall, coffee bar, bar, and small restaurant

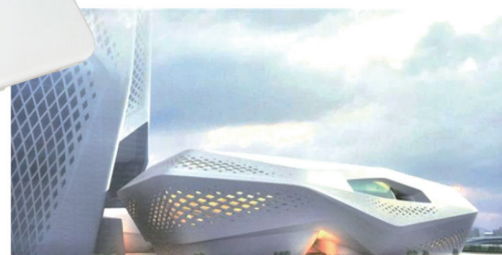


Express hotel, cinema, small hospital, and KTV



Hotspot area coverage with single small cell

Shopping center, conference center, and small exhibition center

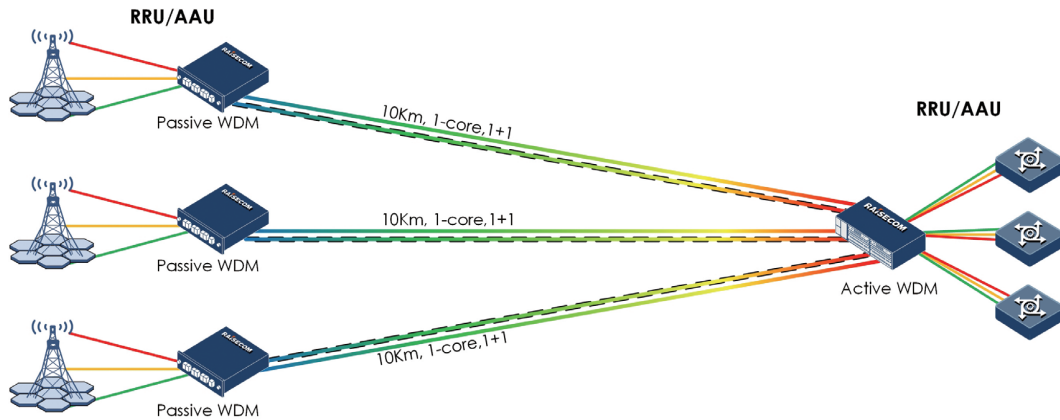


Hotspot area coverage with multiple neighboring small cells

Conference center, college, stadium, and subway station

Semi-Passive WDM Solution for 4G/5G Mobile Fronthaul

- Saving more fiber, 1 core can transmit 6/12 wavelength
- 1+1 line protection
- Services are not affected during power failure
- Easy deploying and maintaining to monitor the power of all channels



Small Cells for Mobile Coverage in Sparsely Populated Area

- Integrate baseband, RF, and antenna into one, providing LTE throughput and implement full functions of a base station
- Support mask-mount and building-mount installation
- Feature intelligent SON, self-startup, automatic configuration, and flexible deployment
- Support multiple backhaul modes, such as xPON, IPRAN and Internet
- Support MIMO dual-antenna Rx and Tx, maximizing downlink rate
- Support AC or DC power supply options for different installation environments
- Provide a high output power, applicable for long-distance coverage in rural and mountainous areas





Broadband Access

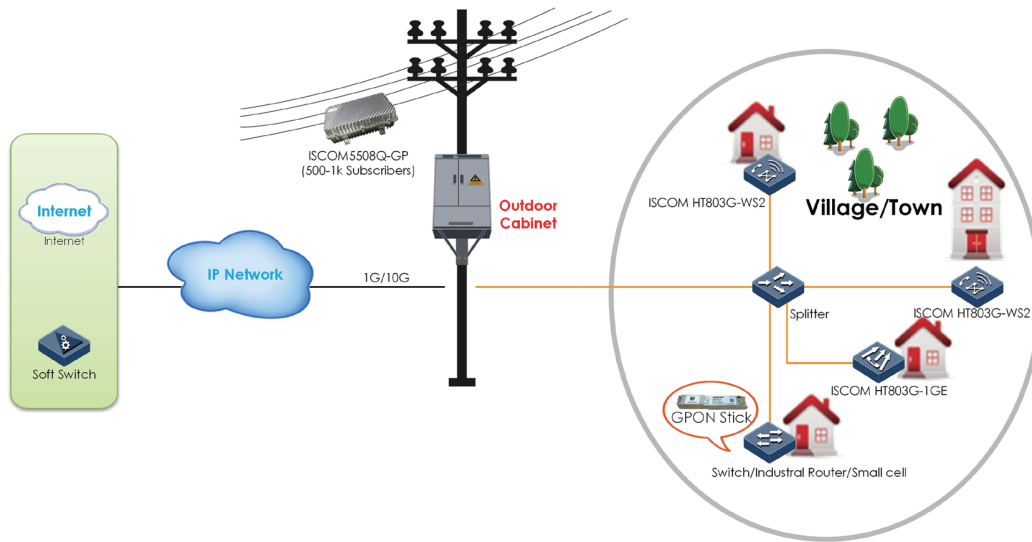
More and more consumers are witnessing the benefits of Fiber To The Home (FTTH) technologies. In addition to the ultra-fast internet access, these users can also benefit from triple services (Internet + Voice + Video) using the same infrastructure at reasonable costs. Some broadband service providers are now adding a fourth service (Mobile/FMC) and this increases the bandwidth usage and the need for QoS.

Raisecom offers both active Carrier Ethernet (AON-Active Optical Networks) and passive optical network (PON-Passive Optical Networks) access and aggregation solutions for high-density urban residential applications. Comprehensive streams of voice, data, video and sometimes cellular can be delivered to rural and less populated areas with low cost fiber, copper and wireless routers.

The versatile solutions enable fast deployments and pay-as-you-grow approach.

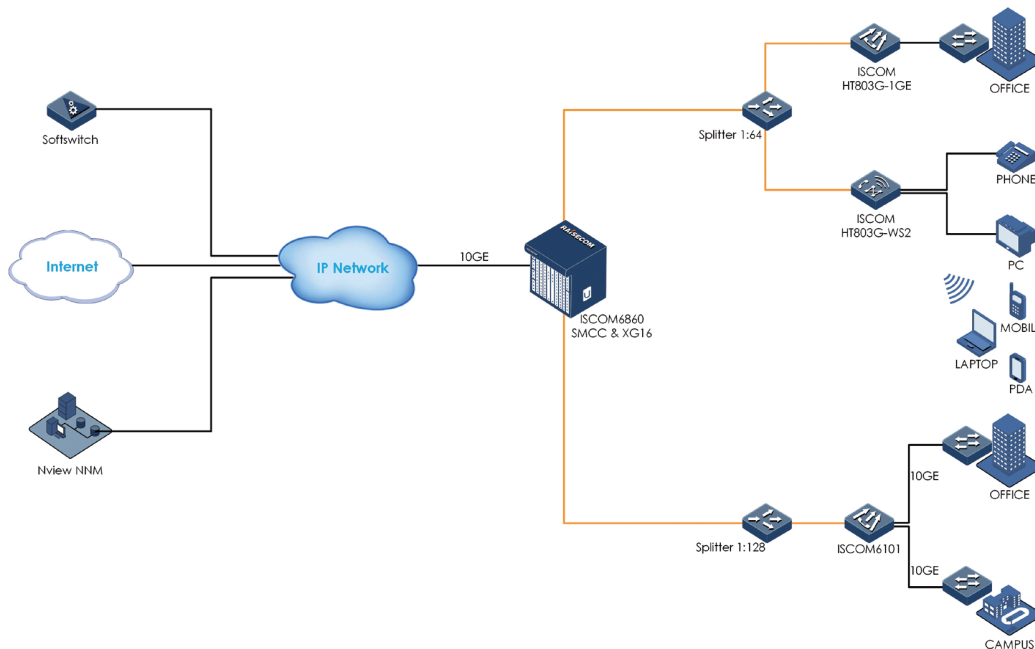
FTTx for Rural Deployment with Full Outdoor Scenario

- Optimized solution for serving up to 1000 subscribers
- A pay-as-you-grow scalable OLT that will enable fast deployment and future growth by adding an additional 4 ports GPON line card
- All-in-one-box complete ODN, Triple play multiplexer, EDFA amplifier
- Full outdoor configuration for fast deployment
- The ISCOM5508Q-GP can provide IP67 protection level, thus meeting dustproof and waterproof requirements in the outdoor environment



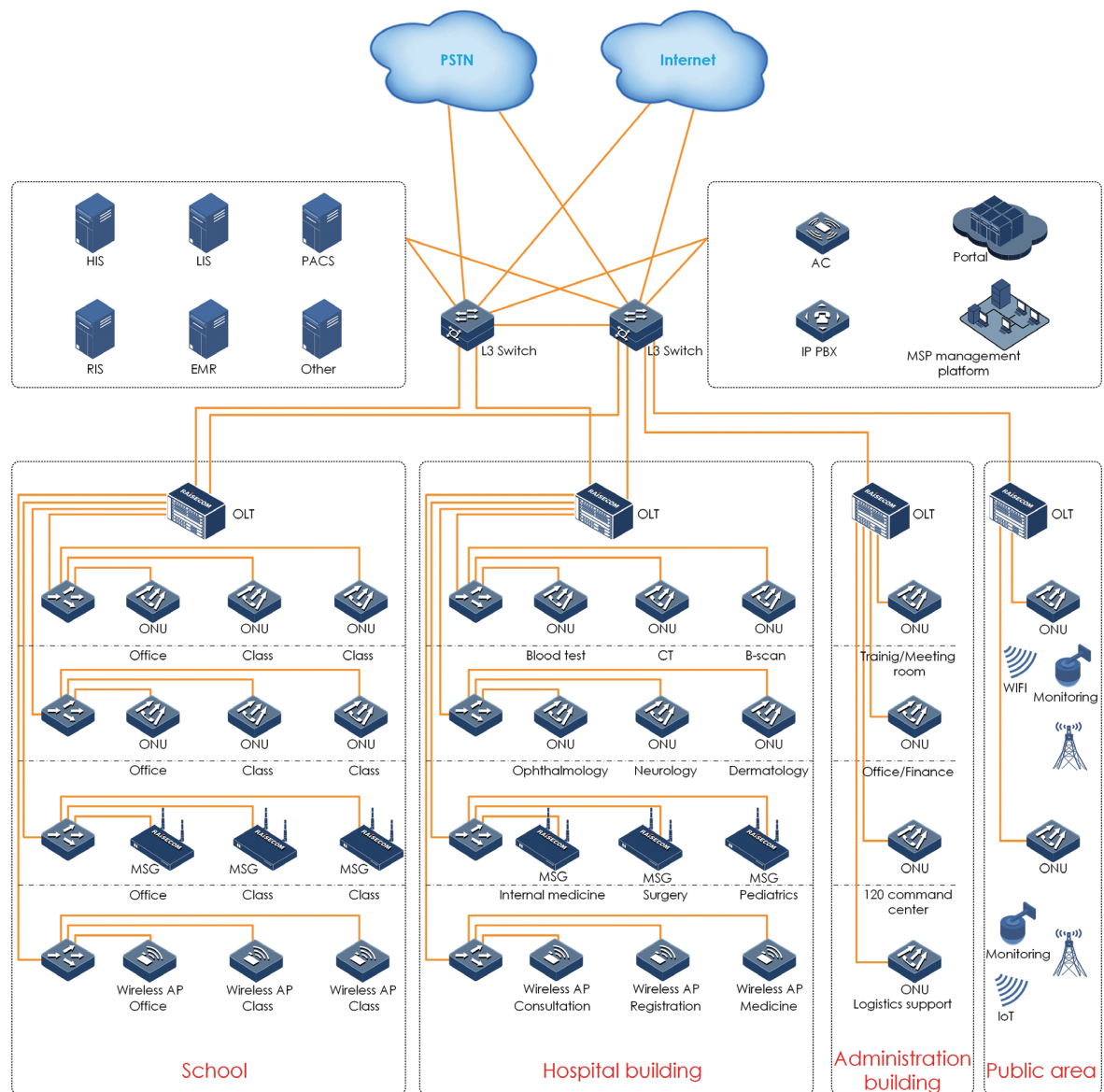
Building A Broadband Access GPON Network for Service Providers

- Raisecom's GPON OLTs are proved to be the most cost-effective option for ISP's and Tier 2/3 deployments
- Optimized solution for a scale of 500 to 20,000 customers
- With a pay-as-you-grow approach, scalable OLT (up to 14 line cards) will enable fast deployment and future growth
- Raisecom's ONT offerings allow service providers to offer different service bundles to different users
- Carrier class network management solution can reduce provisioning cost with "Zero Touch" provisioning towards the ONT and northbound interface TL1 based on OMCI enabled auto configuration of OLT & ONT higher BSS/OSS
- Integrated with optical switch for CATV signal protection



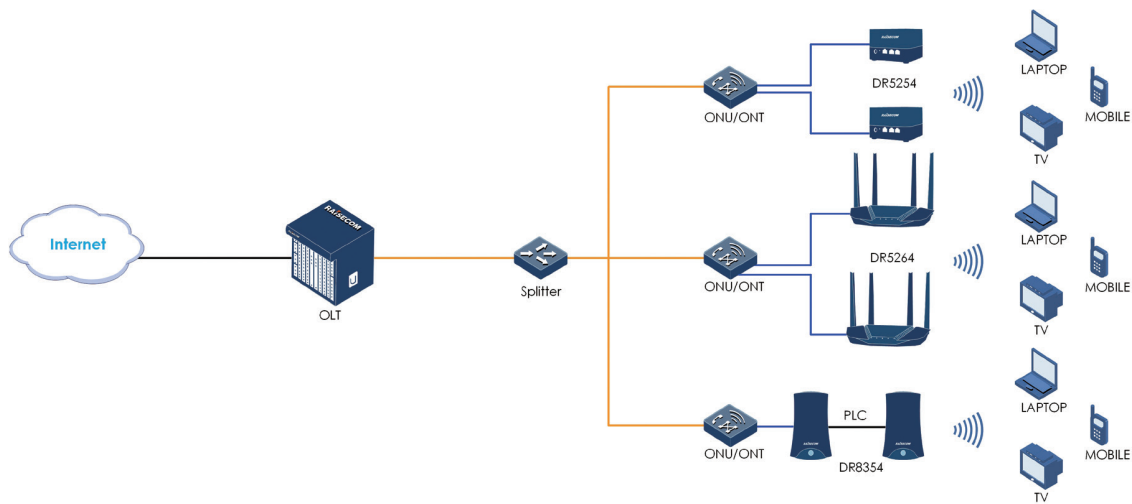
POL All Optical Campus Network

- For regional deployments up to 4000 subscribers per chassis
- A pay-as-you-grow scalable OLT that will enable fast deployment and smooth bandwidth evolution of 10GEPON/XG/XGS PON
- Meets the needs of POL of single fiber with multiple services such as Internet, voice, video, security engineering, 5G, WIFI5, WIFI6 and IoT
- Adopts the architecture of AP(with integrated PON module)+AC to realize the wireless coverage of campus and venues
- Carrier class network management solution can reduce provisioning cost "Zero Touch" provisioning towards the ONT and northbound interface TL1 based on OMCI enabled auto configuration of OLT & ONT through BSS/OSS systems
- TR069 option enables auto configuration of ONT from ACS Server



WiFi 5/6 & G.hn Router for Smart Home Networking

- Complete smart home networking solution with Raisecom ONT & Router, and full WiFi coverage in a house.
- Full gigabit speed with WiFi 5/6 or G.hn power line communication technology, meeting high-speed internet surfing, 4K IPTV, e-learning, VR game, etc. applications.
- Smoothly online experience for multiple people with MU-MIMO function.
- WiFi 6 router support easy mesh function for high reliability and coverage of WiFi signal.
- G.hn Router support PLC turbo, auto-pairing between base and satellite routers. PLC mesh and seamless roaming effectively ensures a high-speed home network.
- Active protection against from threats via firewall, encryption and access control function
- Unified network management via RCview, web, APP





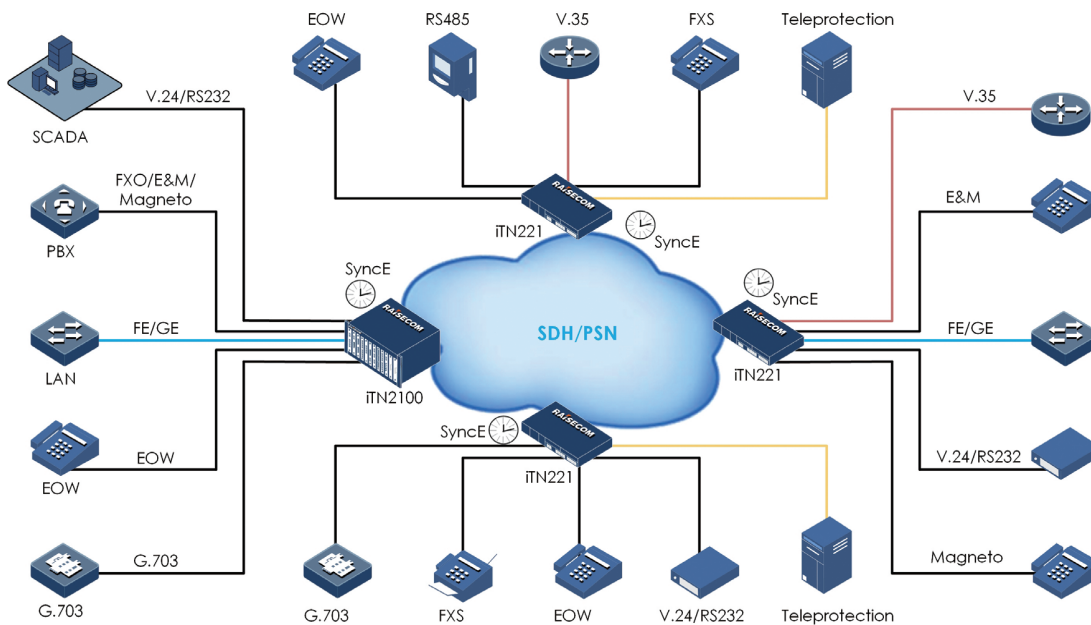
Mission Critical Networks

Industrial and utility applications present unique challenges for network planners. First, they involve mission-critical traffic, which may be closely related to public safety and people's every-day life and requires high network reliability and resiliency. Typically, it is needed to support various types of traffic like: low-speed data communication, digital and analog voice, TDM circuits and analog control, mobile traffic, multimedia traffic, integrated surveillance and broadband access and more. In addition, the equipment must survive a wide range of environmental conditions and comply with the stringent industrial conditions.

Raisecom provides PCM connectivity solutions for SCADA traffic as well as Ethernet-based industrial products. This combination serves the broadband demands in the fields of energy (power, gas, oil, mining, and water), transportation, public information and military.

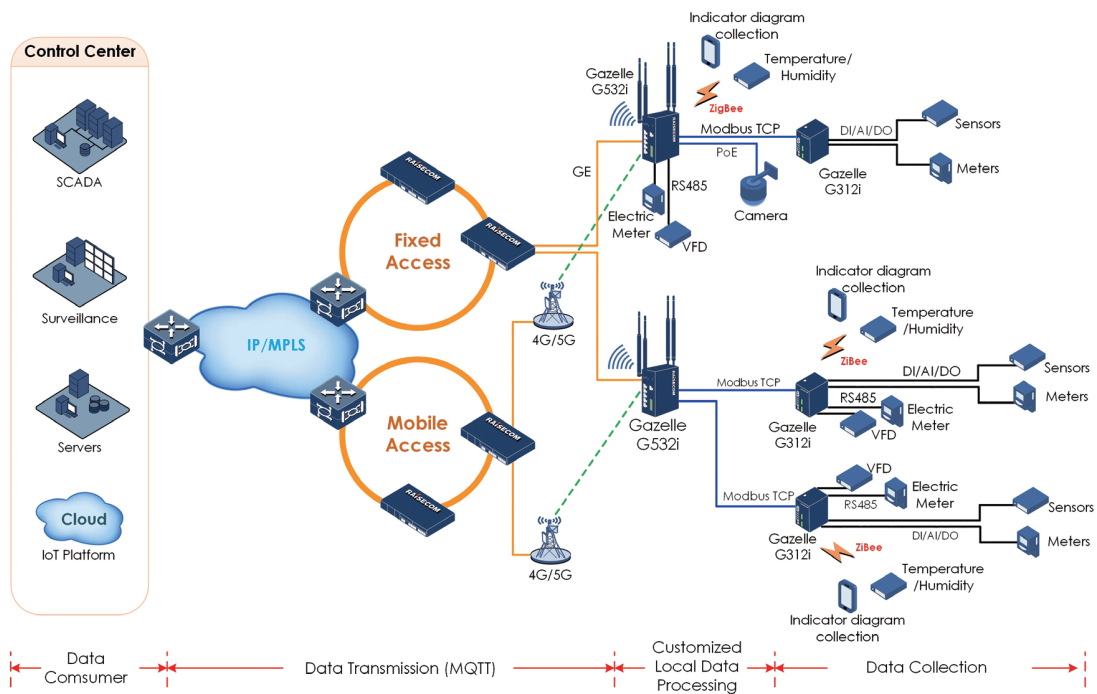
Multi-service Access over SDH/PSN for Mission Critical Networks

- Access service types include STM-1, E1, Ethernet, EOW, FXS/FXO, E&M, Magneto Telephone, V.24, RS232, RS422, RS485, G.703, C37.94, and etc. which can cover almost all required access interface types in Mission Critical Networks
- SDH and PSN dual backplane guarantees a smooth upgrade from SDH to packet based network (Carrier Ethernet, MPLS-TP, UDP/IP) following the packetized trend
- Redundancy in power supply, cross connect matrix, switching matrix, and uplink builds up a fully redundant system with high-reliability
- Flexible clocking solutions can fit in customer's real deployment plan
- Available with 6U chassis based solution and 1.5U stand-alone solution for substations of different sizes



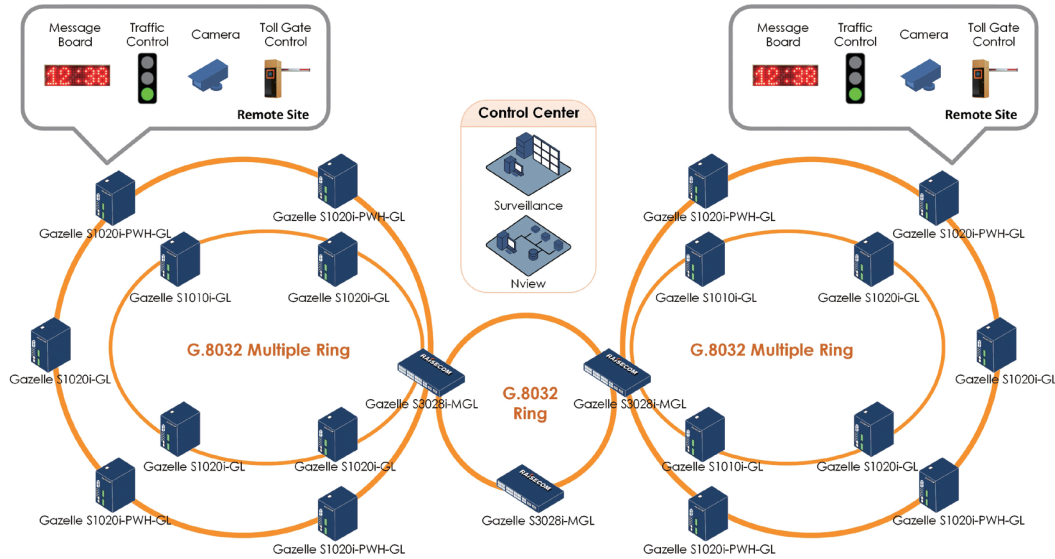
Intelligent Environment Monitoring System for Power Distribution Unit and Oil Well

- Raisecom intelligent IoT gateways realize data collection, edge computing and data transmission in compact DIN-rail design
- Various interfaces (Ethernet, PoE, RS232/485, DI/AI/DO, ZigBee) provided greatly reduce the number of devices and connections, and the OPEX on site
- Real-time local data processing powered by high-performance ARM/x86 processor increases efficiency significantly
- Built-in development environment open for customization for industrial platform interfacing on cloud
- Fixed and 4G/5G uplink working in backup guarantees high transmission reliability
- Industrial-grade hardware design ensures stable operating in harsh environment with extreme temperature and high electromagnetic interference



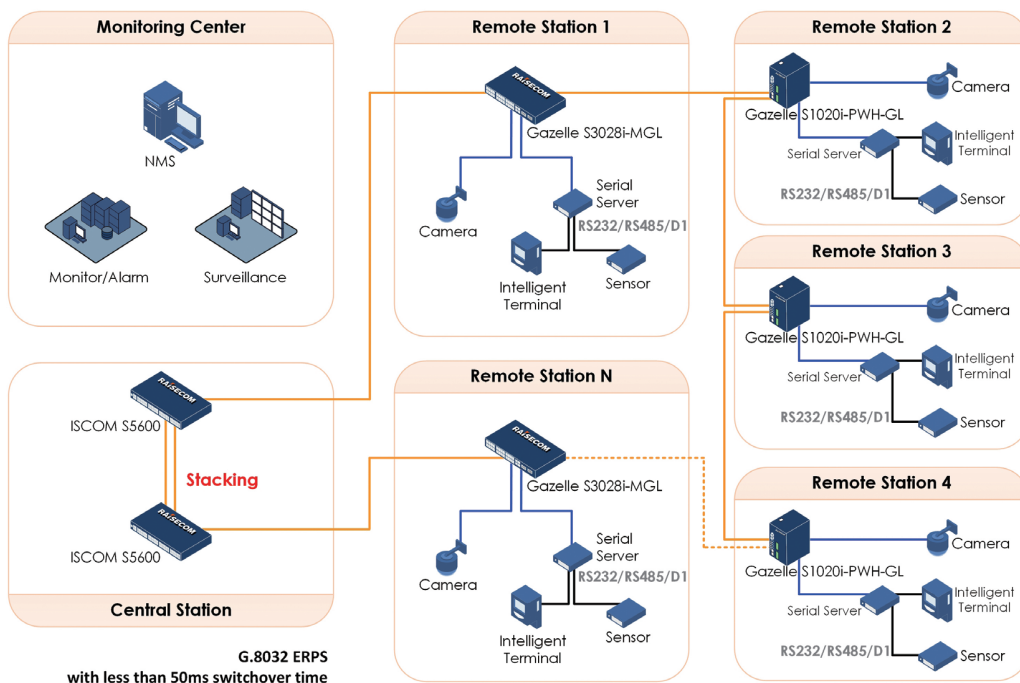
Highway Security, Monitor and Automation

- Raisecom offers a family of industrial-grade switches to help highway operators build up communication network for their surveillance, control and toll system
- The family ranges from stand-alone aggregation switch to DIN-Rail access switches with different number of ports
- IEEE802.3af, 802.3at, 802.3bt standard PoE options can make deployment more cost-efficient
- Network topology can be ring/multiple-ring based on G.8032, chain, star and hybrid based on customer's networking infrastructure



Substation Interconnection for the Environment Monitoring System of Utilities

- Raisecom provides a family of industrial-grade switches designed in compliance with IEC61850-3
- Switches with different port capacity and different installation methods (rack-mountable and DIN-rail) are available to meet customers' real needs
- The support of G.8032 and other standards helps utility customers build a substation interconnection network with high flexibility and reliability





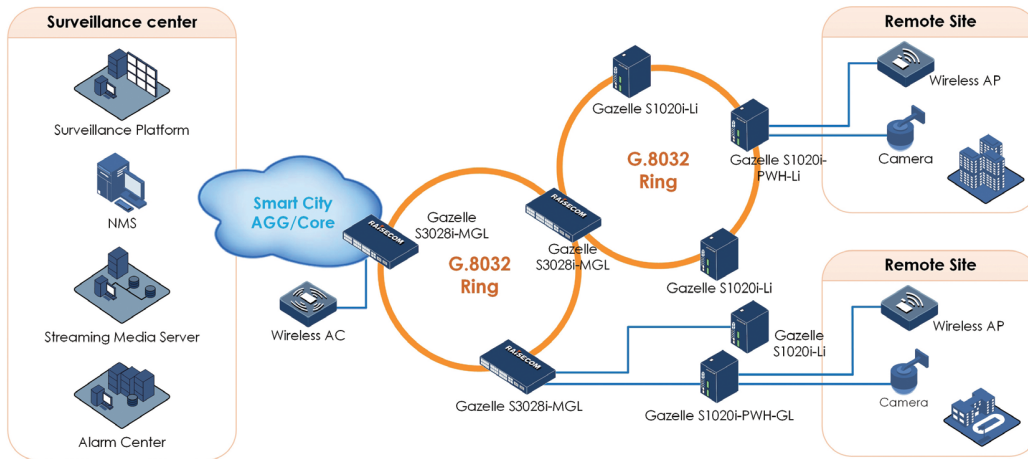
Enterprise and Government

Small and medium size businesses create a vast marketplace for telecommunication players, by migrating their business solutions to the Internet and cloud. The required information-base is a crucial factor for SME owners to stay in the market, and requires secured, powerful and cost-effective networking.

Raisecom provides extremely cost-effective VPN access solutions for SME users that help to overcome such challenges as the lack of IT capabilities, limited budget, and the need for secured access. Raisecom solutions offer features like device integration, service integration and customer benefit maximization. These solutions assist SMEs to fully utilize private and public cloud network by combining routing, Ethernet switching, voice-support, 3G/4G backup, Wi-Fi, VPN and secure-access features in their devices.

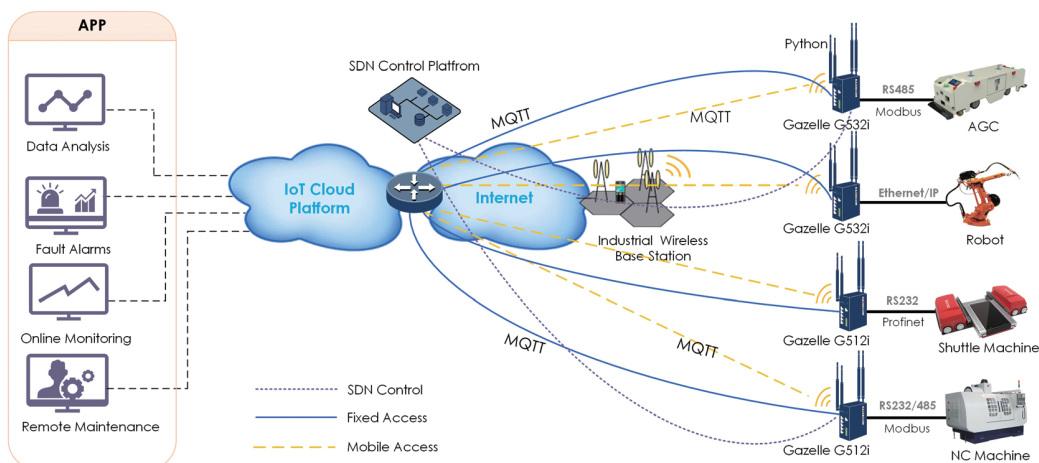
Safe City/Smart City Monitoring and Public WiFf Access

- Cost-efficient solutions tailored for access and aggregation network of Safe City/Smart City
- Standard IEEE802.3af, 802.3at, 802.3bt PoE options available on Ethernet ports to feed cameras and Wireless APs
- Very flexible in networking to adjust to operator/government's infrastructure topology
- Industrial-grade design and the support of rich resilience features guarantee a network with high reliability
- Ability to classify different traffic and deal with multicast traffic efficiently
- Suitable for outdoor street cabinet installation, DIN-Rail and rack-mountable options available



Enterprise IoT for Advanced Factory Automation

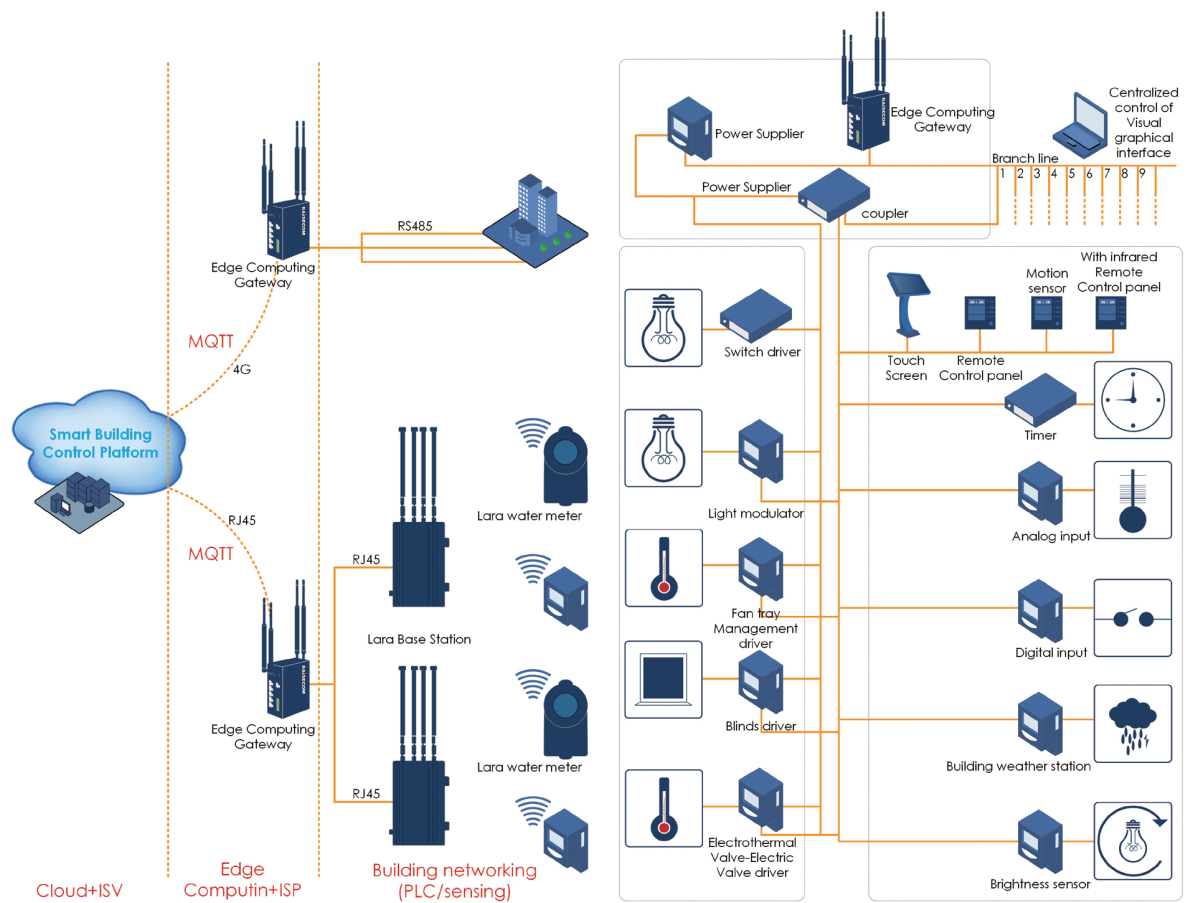
- Raisecom offers a family of IoT gateways with industrial-grade hardware design which ensures long-term stable operation in harsh environment with wide temperature range and high electromagnetic interference
- Fixed and mobile access in backup for reliable data transmission
- Various types of interfaces (Ethernet, RS232/485, DI/AI/DO, ZigBee) available on the gateways or interface access units
- Various industrial communication protocols, like Modbus, Profibus, supported for different types of machines
- Built-in strong edge computing unit realizes data acquisition, filtering, cleaning, storage, monitoring, reporting, logic processing and other functions with customization options
- Ready to load customer-developed code to realize customized data processing requirements and to interface with dedicated IoT platform running on clouds
- Seamless interfacing to industrial applications with processed data help increase quality and efficiency of manufacturing



Building Automation Field

Raisecom smart terminals access the building DCS system through customer mindsphere cloud platform. Based on the platform, it realizes various operations such as enabling, monitoring and managing smart terminals in buildings, and realizes energy optimization and intelligent control by analyzing relevant data.

- Multi-protocol collection
- Edge computing
- Storage of history data
- Safety protection
- Energy consumption perception, energy-saving
- Linkage between buildings, big data analysis
- Remote processing of faults, saving manpower





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