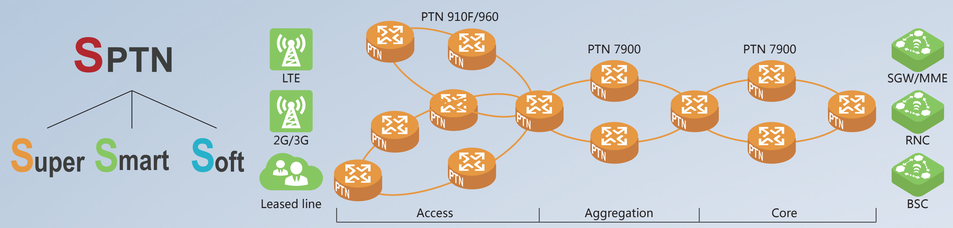
PTN on the Way, SPTN Shifts Future

1. SPTN Fitting into LTE Development



Equipment Capacity

Super

- PTN7900: 40/100GE platform — Core
- PTN3900: 40GE platform — Aggregation
- PTN960: 10GE platform — Access

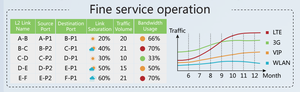
- 300 mm deep
- T bit/s-level, large capacity
- Dual-engine MPLS-TP & IP

Service-oriented

Smart

- HQoS, Rigid & Flexible pipeline
- Intelligent O&M, visual network quality

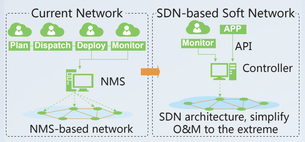
Fine service operation



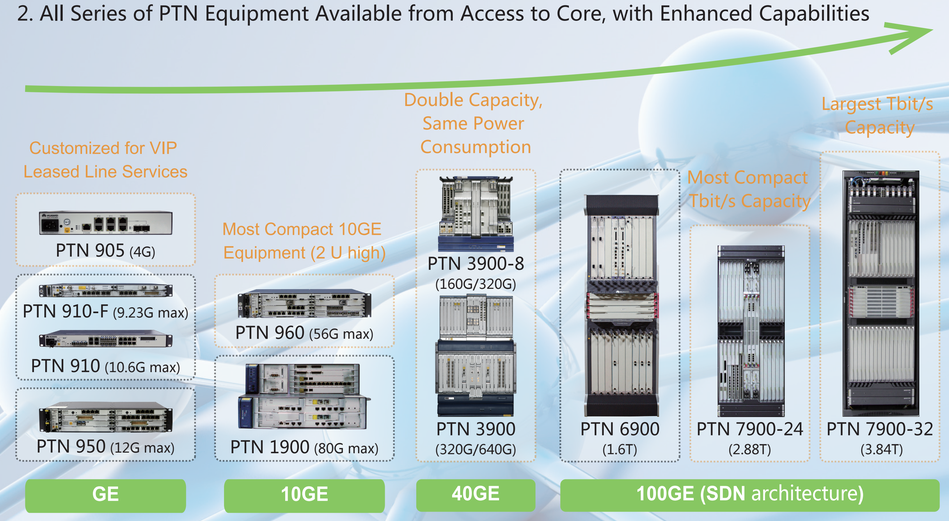
Network Evolution

Soft

- Flexible programmable hardware core
- SDN architecture, separating control and forwarding



2. All Series of PTN Equipment Available from Access to Core, with Enhanced Capabilities



MPLS-TP&IP Dual-Engine, Smooth LTE Evolution

SPTN Fitting into LTE Development

MPLS-TP&IP dual-engine, smooth LTE evolution

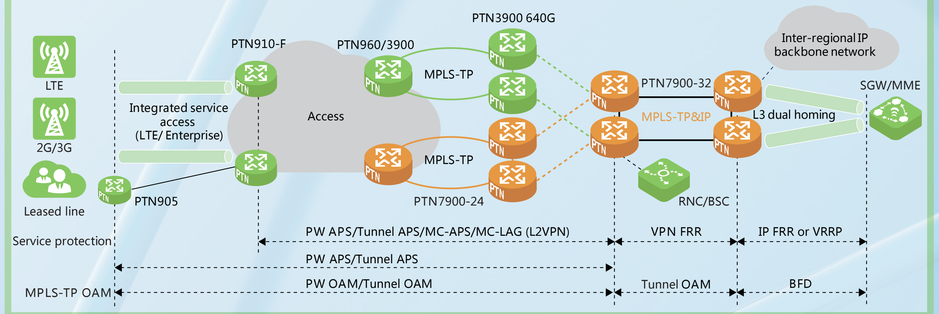
VRP

- PTN 7900 based on the VRP8 platform, and MPLS-TP & IP dual-engine.
- Inventory network smoothly evolving to LTE, 2G/3G carrier services not affected, and no network reconstruction required.

Most complete MPLS-TP OAM

SDN

- SPTN supports the most complete MPLS-TP OAM capabilities.
- SPTN supports comprehensive ETH/TDM/ATM service protection and link protection mechanisms, and Provides carrier-class protection switching within 50ms.



SPTN Solution

1. Super – SPTN Leading Product – PTN 7900

PTN 7900-24 (2.88T) Most compact in the industry

PTN 7900-32 (3.84T) Largest capacity in the industry

1 Super-strong switching capacity, support for smooth upgrade to 12.8 Tbit/s

- Largest capacity of 3.84 Tbit/s in the industry
- 40GE/100GE pipes, in support of long-distance transmission of 80 km

2 Flexible power distribution, efficient heat dissipation

- 2+2 power supply, in support of a 2 Tbit/s switching capacity
- Innovative π-shaped air ducts, with heat dissipation efficiency increased by 30%

3 IP/MPLS-TP dual-engine design

VRP

- Powerful VRP8 kernel-based
- IP/MPLS-TP dual-engine
- Smooth evolution of inventory PTN to LTE

4 First SDN-capable PTN in the industry

- SDN ready in software and hardware
- Flexible and programmable hardware-based NP architecture
- Smooth evolution of inventory PTN to SDN

SDN

Saved per device (annual): **40,000** KWH = Reduced (annual): **40** tons of carbon emission

Rescued (annual): **3** hectares of forests

2. Smart – Rigid and Flexible Pipelines, with Visual Network Quality

Quality assurance for pipelines, enhancing customer experience

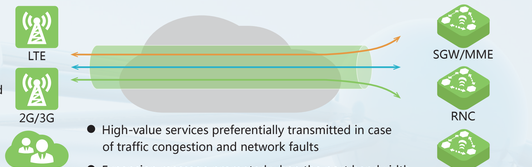
Multi-service access, ACL guaranteed

Rigid and flexible pipelines, quality assured and bandwidth saved

High-value services over rigid pipelines, with assured quality, CIR=PIR

Low-value services over flexible pipelines, with multiplexed bandwidth, CIR<PIR

End-to-end CIR Assurance



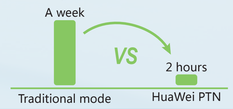
- High-value services preferentially transmitted in case of traffic congestion and network faults
- Expansion message prompted when the port bandwidth usage reaches 50%, 70%, and 90%, respectively

Visual network traffic and assessable network quality, allowing for intelligent analysis of network performance

- Visual network-wide traffic, graphic display
- Assessable pipeline quality, customized report
- Predicable trend, proactive network expansion

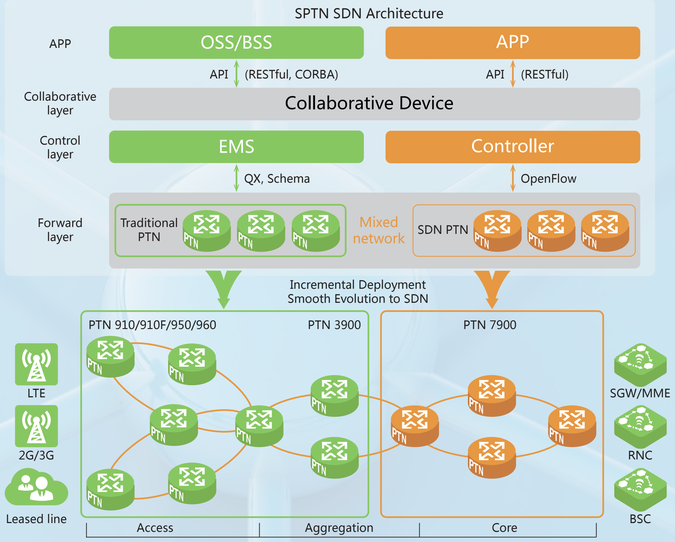
Enhance customer loyalty, proactive marketing and O&M

- Assessable and controllable service quality, with quality service experience for an enhanced customer loyalty.
- Various types of network SLA reports, in support for service marketing and expansion.
- Predicable trend and proactive O&M, with improved O&M efficiency.



3. Soft – Future-oriented, smooth evolution to SDN

SPTN innovative collaborative layer, achieving smooth evolution to the SDN network.



1. MPLS-TP Network

Based on MPLS-TP

2G/3G/LTE unified multi-service bearer (currently implemented).

2. Quasi-Soft Network

Based on Callaborative Device

Separation of control and forwarding, collaborative device unifying the traditional networks and SDN network, smooth evolution to SDN.

2. SDN-Soft Network

Based on SDN Architecture

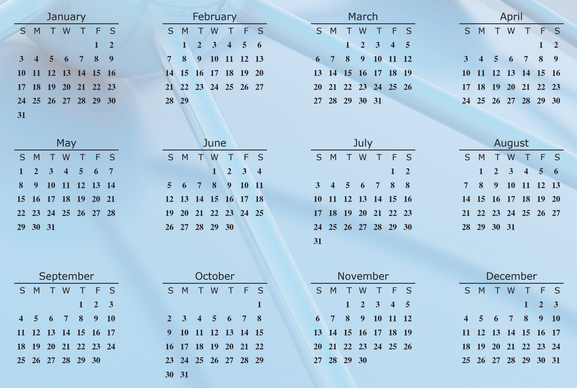
Implement standardization and virtualization of equipment and interfaces, and network resource sharing.

Acronyms and Abbreviations

SDN: Software-defined Networking
EDD: Ethernet Demarcation Device
LTE: Long Term Evolution
MPLS-TP: MultiProtocol Label Switching Transport Profile
MME: Mobility Management Entity
SGW: Service Gateway
FRR: Fast Reroute
BFD: Bidirectional Forwarding Detection
LAG: Link Aggregation Group
PWE3: Pseudo Wire Emulation Edge-to-Edge

2015

2016



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