


**Single Transport
Ubiquitous Ultra-Broadband
0 Wait, 0 Waste, 0 Downtime
Huawei U2WDM Solution**



A person is lying on their back in a vast field of tall, vibrant green grass. The person's legs, wearing dark shorts and white socks, are visible in the lower-left corner. The background is a clear, bright blue sky that transitions into a white horizon line. The overall scene is peaceful and open.

From the access layer to the metro backbone layer, traffic is increasing exponentially as cloud services are in constant demand, high-definition video services are everywhere, and applications of intelligent terminals rapidly increase.

The booming of carrier broadband therefore cannot be ensured without the large-scale use of end-to-end bandwidth pipes. The only solution to address this requirement is to expand WDM applications from backbone networks to metro and access networks. Rather, WDM equipment must provide more premium bandwidth pipes so that carriers can better address the broadband development requirement with respect to service deployment, resource management, and service quality.

Huawei's U2WDM solution is the product of Huawei's deep understanding of services and transport network developments and continuous efforts in the transport field. Integrating various advanced technologies such as the end-to-end MS-OTN transport and switching technology, 40G/100G technology, PID technology, and ASON technology, the U2WDM solution provides carriers with a highly reliable end-to-end intelligent network characterized by ultra-large capacities, dynamic sharing of resources, and quick access.



Unified transport platform: end-to-end transport and switching

- With years of accumulated experience in the OTN field, Huawei has led the innovations and developments of the OTN and WSON standards. At the forefront of the global WDM market, Huawei was chosen to build almost all WDM/OTN ASON networks worldwide.
- Huawei launched the world's first end-to-end MS-OTN unified transport platform to achieve end-to-end convergence of Layer 0, Layer 1, and Layer 2. With the capacity of flagship MS-OTN up to 12.8T.
- Being compatible with all services, the MS-OTN unified transport platform can aggregate any granular services into wavelengths with arbitrary bandwidth, suitable for diversified applications at different layers, such as the access layer, convergence layer, and core layer.

Ubiquitous ultra-broadband: pipe as wide as the Pacific provided by the U2WDM solution

- Huawei's ultra-broadband solution provides 100G transmission over a distance as long as 4000 km, supports hitless upgrade of live networks and mixed transmission of 10G, 40G, and 100G services. Huawei's 40G solutions can adapt to complex geographical situations, ocean applications, G.653 fiber systems, and old fiber systems.
- Huawei has made continuous innovations in ultra-high speed transport solutions and launched the industry's first end-to-end 400G prototype that uses the advanced PDM-16QAM modulation format, enabling non-regeneration transmission over a distance of 1000 km.

- Up to Dec. 2012, over 50 operators globally have chosen Huawei's 100G product to build their backbone network. According to Ovum 3Q12 report, Huawei has ranked No.1 for three consecutive quarters and No.1 in rolling 4Q in global 100G market (4Q11-3Q12). And Huawei keeps the industry's record on the longest 100G transmission, 4000km for terrestrial network, and 10000km for sub-sea network.

Premium experience of pipe transmission

0 Wait – Instant service provisioning

- Fast service provisioning because of end-to-end service grooming at Layer 0, Layer 1, and Layer 2.
- Photonic integrated device (PID): fast network buildouts in batches and fiber transmission available upon connections
- Reduced time-to-market: bandwidth available just through a click thanks to the cancellation of bandwidth reservation and wavelength collision

0 Waste – No waste of bandwidth resources

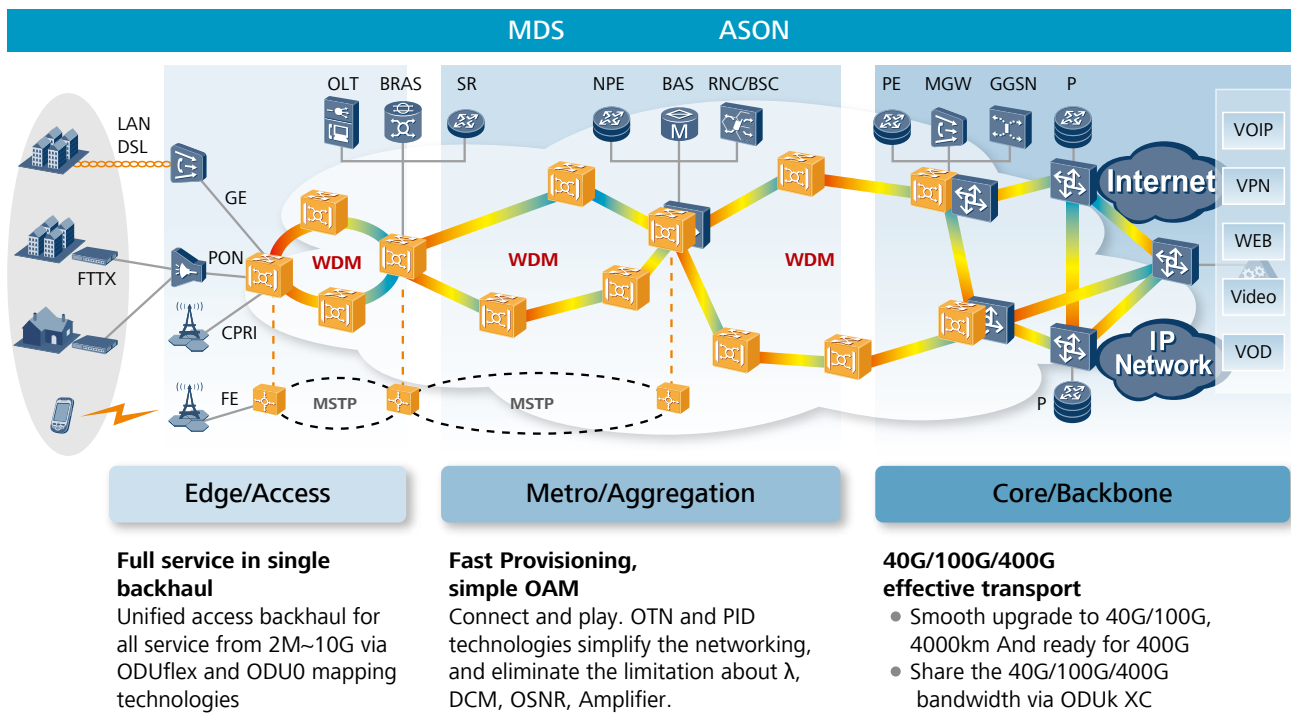
- Bandwidth saving because of convergence provided by the MS-OTN resilient pipe, and bandwidth sharing network-wide achieved by ODUk/ODUflex full service cross-connections
- Space-saving for the equipment rooms thanks to highly integrated OTN equipment with large capacities
- Environmental-friendly and power-saving, helping carriers build low-carbon networks

0 Downtime – Uninterruptible network service

- Mature and reliable optical-electrical ASON, capable of withstanding multiple fiber cuts, thus ensuring uninterruptible services
- Low latency
- Optical doctor, a function for comprehensive performance monitoring of any channel



U2WDM Solution E2E Application



U2WDM E2E Product Portfolio

ASON inside



OSN 1800 V
2M~10G Access
700G ODUK/
PKT XC
40G VC4
5G VC3/VC12

OSN 6800
O+E Grooming
360G ODUK XC
4/9-D ROADM

OSN 8800 T16
1.6T ODUK
800G PKT
640G VC4
20G VC3 /VC12
PID 40G-200G
40G/100G 4000km

OSN 8800 T32
3.2T ODUK
1.6T PKT
1.28T VC4
80G VC3 /VC12
PID 40G-200G
40G/100G 4000km

OSN 8800 T64
6.4T ODUK
1.28T VC4
80G VC3 /VC12
PID 40G-200G
40G/100G
4000km

OSN 9800 U32
6.4T/12.8T
Universal Switch
200G/400G
capacity per slot
40G/100G/
400Gbit/s

OSN 9800 U64
12.8T/25.6T
Universal Switch
200G/400G
capacity per slot
40G/100G/
400Gbit/s





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Version No.: M3-028709-20130115-C-1.0

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