



| *Tencent* |



Tencent Open Optical Platform

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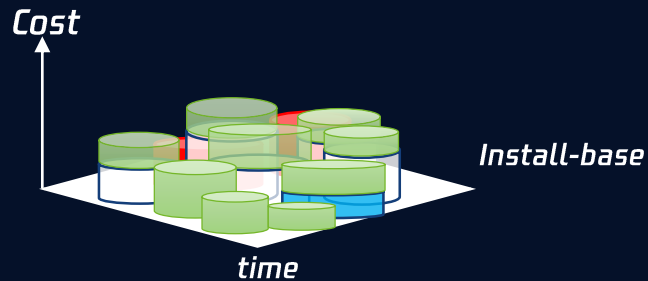
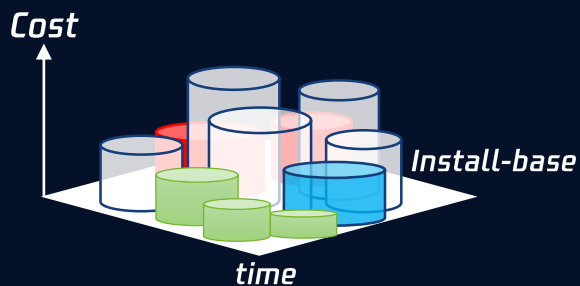
>>> Challenge



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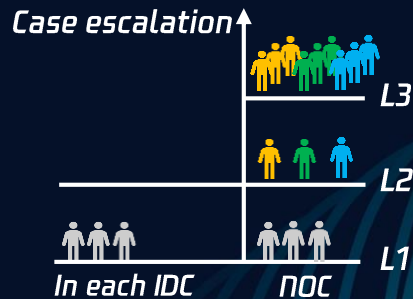
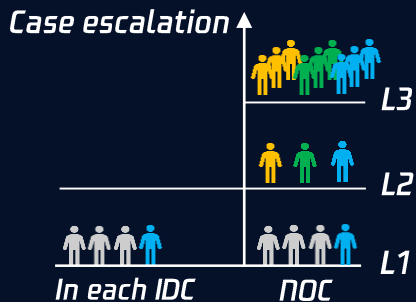
CAPEX



How to make new technology benefit existing network ?

Pay for value

OPEX



How to reduce professional requirement for frontline engineer?

Optimize resource allocation

>>> Optical Platform Chassis: OPC-4

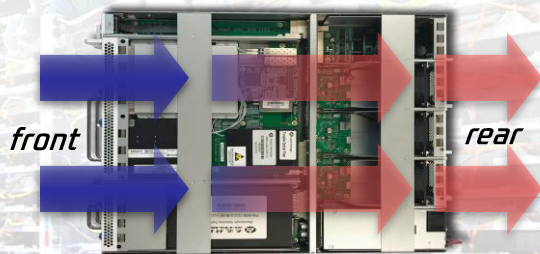
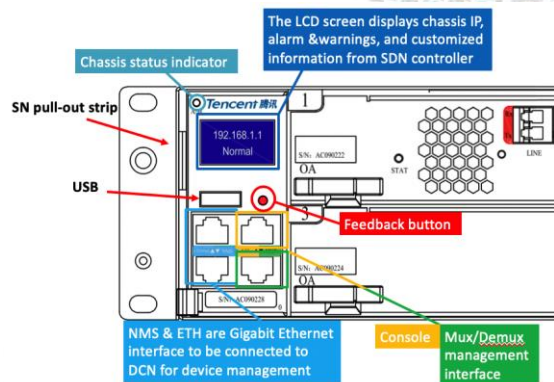


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User-friendly interaction design



Better for IDC

Configuration Scalability

- 2 x OA
(BA+PA+OCM+OTDR+OSC)
- 2 x WSS or OP
- 1 x CU
- 1 x MUX

Power and Thermal

- 1+1 Power supply unit
- AC : 110/200V
- DC : -48V
- HDC : 240V
- 2+1 Fan Module

Physical Dimension

- Width = 19" Rack Mount
- Depth = 510mm
- Height = 88mm (2RU)



>>> Super sensor for network



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output_power
input_power
laser_bias_current
channel1_output_power
channel1_laser_bias_current
channel2_output_power
channel2_laser_bias_current
channel3_output_power
channel3_laser_bias_current
channel4_output_power
channel4_laser_bias_current

Transceiver

in_mac_control_frames
in_mac_pause_frames
in_oversize_frames
in_jabber_frames
in_fragment_frames
in_8021q_frames
in_crc_errors
out_mac_control_frames
out_mac_pause_frames
out_8021q_frames
in_undersize_frames
in_block_errors

Ethernet

errored_seconds
severely_errored_seconds
unavailable_seconds
code_violations
fec_uncorrectable_words
fec_corrected_bytes
fec_corrected_bits
background_block_errors
pre_fec_ber
post_fec_ber
q_value
esnr

LO-ODU

errored_seconds
severely_errored_seconds
unavailable_seconds
code_violations
fec_uncorrectable_words
fec_corrected_bytes
fec_corrected_bits
background_block_errors
pre_fec_ber
post_fec_ber
q_value
esnr

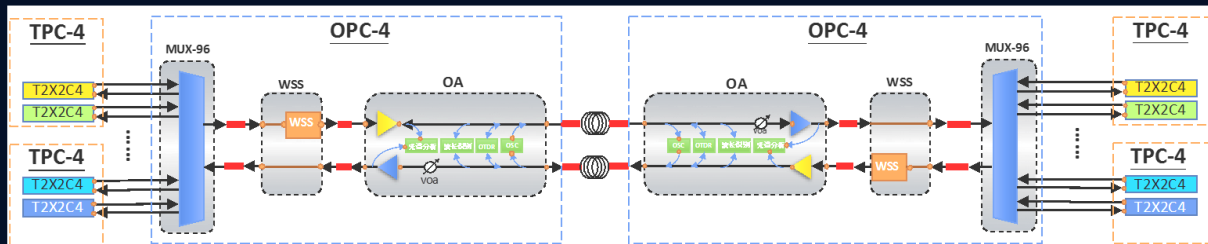
HO-ODU

errored_seconds
severely_errored_seconds
unavailable_seconds
code_violations
fec_uncorrectable_words
fec_corrected_bytes
fec_corrected_bits
background_block_errors
pre_fec_ber
post_fec_ber
q_value
esnr

OTU

output_power
input_power
laser_bias_current
chromatic_dispersion
polarization_mode_dispersion
second_order_polarization_mode_dispersion
polarization_dependent_loss

Wavelength



WSS

lower_frequency
upper_frequency
psd
source_to_dest_voa
dest_to_source_voa

OA

actual_gain
actual_gain_tilt
input_power_total
input_power_c_band
input_power_l_band
output_power_total
output_power_c_band
output_power_l_band
laser_bias_current
optical_return_loss

OCM-channel

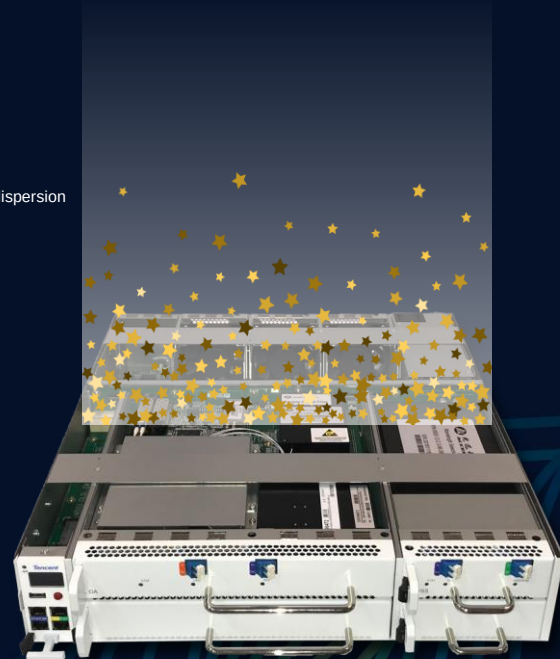
lower_frequency
upper_frequency
psd

OCM-waveform

lower_frequency
upper_frequency
psd
samples
channel_numbers
waveform

OSC

output_power
input_power
laser_bias_current



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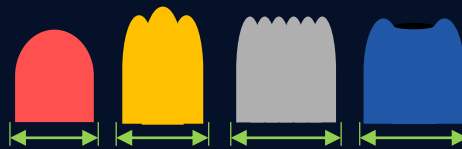
Vehicle



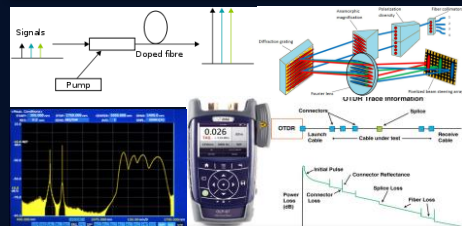
Monitor & Control



Road



Wavelength



Monitor & Control



Fiber

>>> Future



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More Apps

*Delicacy Management.
Statistics.
Data visualization.*

More Cooperation

*Optical knowledge.
Data analysis.
System verification.*

Rapid Iteration

*Software features.
Hardware features.*



More Ideas

*Fiber path coincidence analysis.
Fiber failure prediction.
Device failure prediction.*

More Data

*Streaming telemetry.
More sensors.
Higher resolution.*

Humanized Hardware

*Easy to understand.
Easy to deploy.
Easy to maintain.*



THANKS