

ZISA Multi-Service Access Platform

MSAP-X3

Compact MSAP



MSAP-X3

Overview

MSAP-X3 is the compact Multi-Service Access Platform (MSAP) compatible with ITU-T standard. It is designed as a cost-effective and flexible multi-service platform, with STM-1 / STM-4 level uplink ports and abundant optional downlink cards to provide typical E1 traffic, PCM, optical tributary, EOS and EOP traffic access and aggregate.

As an important feature, in MSAP-X3, the SDH uplink module and Ethernet uplink module can work simultaneously. Between the SDH uplink module and each sub-slot, there are two STM-1 LVDS connections, and similarly, between the Ethernet uplink module and each sub-slot, there is one LVDS Gigabit Ethernet connection. With this backplane design, TDM traffic in SDH/MSTP network and packet traffic in IP network can be distributed and aggregated in MSAP-X3.

A powerful timeslot cross-connection and IP data switching facility is supplied in MSAP-X3. With the ability of connecting various network topologies, reliable self-healing mechanism, and unified intelligent management system, it is suitable for enterprise access, private network interconnection, mobile base stations connection and video monitoring applications.

Feature

- **Structure**
 - ✓ 3U height, 19 Inch width standard, 9 card slots.
 - ✓ LVDS clock-free backplane, independent SDH bus and GE bus architecture.
- **SDH uplink card**
 - ✓ Up to 2x STM-1/STM-4/STM-16 interfaces.
 - ✓ LC type SFP module, hot-pluggable.
 - ✓ 48VC4x48VC4, or 72TU-3x72TU-3, 1512VC12x1512VC12 non-blocking cross-connection.
 - ✓ Single/double terminal 1+1 linear Multiplex Section protection and SNCP protection.
 - ✓ Point-to-point, chain and ring network topology.
- **Ethernet uplink card**
 - ✓ Up to 2 GE optical ports and 2 GE electrical ports.
 - ✓ Aggregate the 1000M Ethernet traffic from up to 3 downlink cards;
- **Diversified downlink cards**

- ✓ Diversified downlink cards include optical downlink, E1, PCM and Ethernet downlink cards.
- ✓ Communication with the remote Ethernet media converter, SDH and MSTP terminals.
- ✓ Supports 1+1 path protection.
- ✓ Supports the embedded E1 BERT testing function.

● Timing

- ✓ Traces any timing source of STM-1/4 up links or STM-1 optical tributaries, or external timing source.
- ✓ Supports External timing output.
- ✓ The timing source can be switched manually or automatically.
- ✓ Supports free-running, tracing and hold-over modes.

● System Management

- ✓ Supports ZSView network management platform based on C/S architecture.
- ✓ Supports DCC and EXM (Extended E1 interface for management) channel for communication between gateway and elements.
- ✓ Supports DCN channel for the communication between gateway and server.
- ✓ Supports SNMP_V1 and SNMP_V2 protocol.
- ✓ Supports local and remote firmware online update without disturbing existing traffic.
- ✓ Provides top-mounted aural-visual alarm output.

Line Card List

Type	Name	Model	Description	Slots
SDH uplink	STM-4 uplink	CU622	2×STM-4, DXC and SET.	1
	STM-1 uplink	CU155	2×STM-1, DXC and SET.	1
	STM-16 uplink	CU2501	2×STM-16, DXC and SET.	1
Ethernet uplink	Ethernet uplink with layer 2 switch	CUGE4A	2×GX+2×GE, supports port-based VLAN and 802.1QVLAN, and trunk function. Aggregates the Giga Ethernet traffic from 8 slots at most.	2
Downlink	E1 mapping	E1-16	16 E1, 75Ω and 120Ω selectable.	2,3,4,5
		E1-32	32 E1, 75Ω and 120Ω selectable.	2,3,4,5
	PCM	DXCCH30	Full cross-connection among thirty 64Kb/s timeslot of 64E1, with the capacity of 1920*1920 64Kb/s. 8 PCM sub-module slots, up to 30 FXS/FXO/magneto voice channels or 16 2/4 wire E&M auto or 16 RS232/RS485/64K data interfaces totally.	2,3,4,5

	SDH optical tributary	TUCH30	8 PCM modules, up to 30 FXS/FXO/magneto voice channels or 16 2/4 wire E&M auto or 16 RS232/RS485/64K data interfaces totally.	2,3,4,5
		TU155-8	8×STM-1, DXC, supports P2P, P2MP, chain and ring topology.	2,3,4,5
		TU155-4	4×STM-1, DXC, supports P2P, P2MP, chain and ring topology.	2,3,4,5
	PDH optical tributary	TUP155-4	4×PDH optical interface, DXC, used to connect remote PDH equipment, supports point-to-point and star-type network.	2,3,4,5
		TUP155-8	8×PDH optical interface, DXC, used to connect remote PDH equipment, supports point-to-point and star-type network.	2,3,4,5
		TUP1250	2×GE+2×OPT(1.25Gb/s), achieve 16 E1 and 2 gigabit Ethernet data transmission over optical line of 1.25Gb/s. Multiple 1GE&16E1 mixed traffic optical rings to enhance the traffic protection ability of the entire system.	2,3,4,5
	EoSDH	EOS-8FX8	8×FX, 8 physical isolated VCG, with EoSDH, GFP/LCAS/VCAT, flow control, TS1000 protocol.	2,3,4,5
		EOS-4FX4	4×FX , 4 physical isolated VCG, with EoSDH, GFP/LCAS/VCAT, flow control, TS1000 protocol.	2,3,4,5
		EOS-8FE8	8×FE, 8 physical isolated VCG with EoSDH, GFP/LCAS/VCAT, and flow control.	2,3,4,5
		EOS-8FE8A	8×FE, 8VCG, EoSDH,GFP/LCAS/VCAT. With Ethernet switch, 8 Ethernet can also be aggregated to Giga Ethernet without EoSDH.	2,3,4,5

			Port-based VLAN and 802.1Q VLAN, QinQ.	
		EOS-4FE4A	4×FE, 4VCG, EoSDH, GFP/LCAS/VCAT. With Ethernet switch, 4 Ethernet can also be aggregated to Giga Ethernet without EoSDH. Port-based VLAN and 802.1Q VLAN, QinQ.	2,3,4,5
		EOS-16GE2A	1 ×COMBO + 1 × GE + 1 × FE, 16VCG, EoSDH, GFP/LCAS/VCAT. With Ethernet switch, the Ethernet can also be aggregated to Giga Ethernet without EoSDH. Port-based VLAN and 802.1Q VLAN, QinQ.	2,3,4,5
	Ethernet switch	ETH-FX8A	8×FX, port-based VLAN , 802.1Q VLAN, QinQ, TS1000 protocol. Achieve Ethernet aggregation from 8 remote Ethernet Media Converters.	2,3,4,5
		ETH-FX4A	4×FX, port-based VLAN , 802.1Q VLAN, QinQ, TS1000 protocol. Achieve Ethernet aggregation from 4 remote Ethernet Media Converters.	2,3,4,5
	EoPDH	EOP-16GE2A	1×COMBO +1×GE+1×FE. 16VCG, EoPDH, LCAS/VCAT. With Ethernet switch, the Ethernet can also be aggregated to Giga Ethernet without EoSDH. Port-based VLAN and 802.1Q VLAN, QinQ. Supports GFP for multiple E1, and GFP/HDLC for single E1.	2,3,4,5
Management	Management unit	NMU3	Real time SNMP based management unit, supports cascading connection applications.	6
Power	DC power module	PW150DCM	Redundant-backup Power modules, with the power consumption of 150W, supports management function,	7,8

	AC power module	PW150ACM	such as power input/output alarm indication.	7,8
	DC power module	PW100DCM	Redundant-backup Power modules, with the power consumption of 100W, supports management function, such as power input/output alarm indication.	7,8
	AC power module	PW100ACM		7,8
Fan	Fan tray	FAN3	Fan tray	9
	Fan tray with management	FAN3M	Fan enable/disable and temperature threshold configurable, supports temperature display real time and fan alarm monitor.	9

PCM sub-module list

Model	Name	Description
PCM-4FXS	Foreign exchange station module	Provides a 4ch FXS interface, connects to user phone directly. Works with PCM-4FXO module to achieve extension of PBX user line
PCM-4FXO	Foreign exchange office module	Provides a 4ch FXO interface, connects to PBX user interface. Works with PCM-4FXS module to achieve extension of PBX user line.
PCM-4MAG	magneto telephone module	Provides a 4ch magneto telephone interface, adopts 2100Hz inband signaling with signaling transmission and detection function, mainly apply to order wire, private line etc,. Occasions.
PCM-2EM-2/4	2/4 wire E&M audio module	Provides 2ch 2/4 wire E&M audio without signaling, supports 2/4 Wire mode online switch.
PCM-2RS232	RS232 Interface module	Provides a 2ch RS232 asynchronous interface, each channel occupies one 64K time slot. Supports rate from 0Kbps~19.2Kbps.
PCM-2RS485	RS485 interface module	Provides a 2ch RS485 asynchronism interface, each channel occupies one 64K time slot. Supports rate from 0Kbps~19.2Kbps, half-duplex mode.
PCM-2CD64K	64K data module	Provides a 2ch 64K data interface, complies with ITU-T G.703

Application

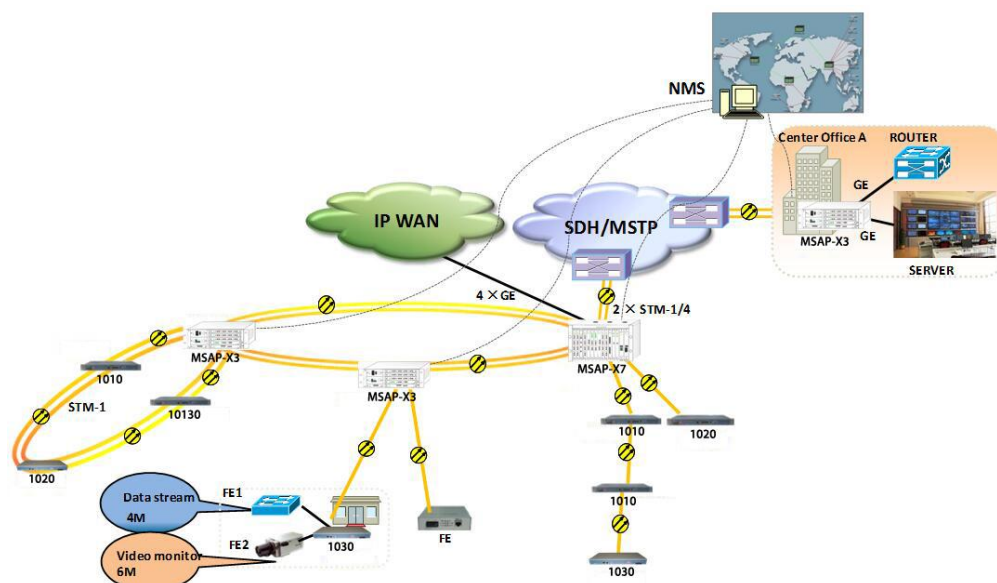


Figure: Typical application

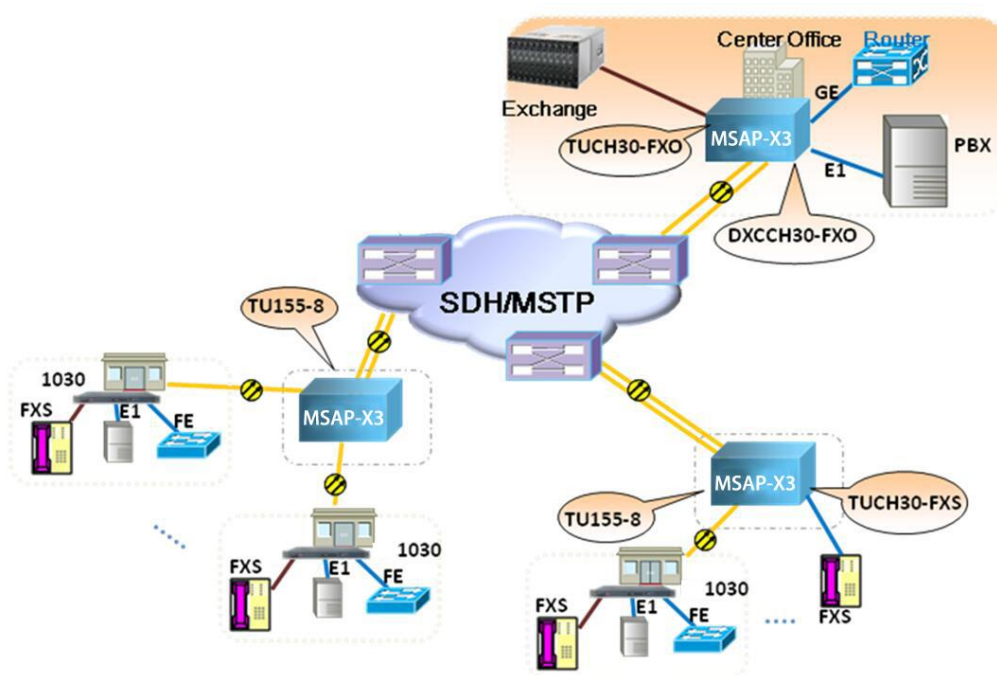


Figure: PCM application

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