

## High Density 16-Slot Chassis Systems for MultiService Applications

Figure 1: Xedge 6640/6645 Chassis Systems



### INTRODUCTION

The Xedge 6640 and Xedge 6645 chassis are modular high density chassis systems that allow full redundancy by employing main and standby slot-0 controllers, main and standby switch fabric, and backup power supplies.

The front panel provides easy installation for one or two Xedge switch fabric modules and up to seven Xedge slot controllers of any type:

- Xedge XS or XH Switch Fabric Module
- Xedge cell controllers (ACP, ACS or ECC)
- Xedge adaptation controllers (CE, FRC, CHFRC, ETH, VSM)
- Xedge packet controllers (PCX, PCE, ISG2, PCL, etc.)

Chassis rear panels provide connectors for power sources, grounding and alarm connections. A shorting bar located on the rear of the chassis provide for the connection, separation, or isolation of frame and signal grounds as required.

Two DB-25 connectors at the rear panel provide local management access to the Main and Standby slot-0 controllers via an asynchronous terminal.

Dedicated rear panel slots accommodate one or two Xedge line interface modules (LIMs) for each installed slot controller, and up to two Network Timing Modules (NTM) for advanced system timing configurations.

### FEATURES & BENEFITS

- Installs in a standard 19-inch rack or cabinet.
- Accepts one or two (redundant) switch fabric modules
- Accepts one or two (redundant) slot-0 slot controllers, and accepts up to six additional slot controllers
- Supports input and power supply redundancy
- Rear panel slots accommodate one or two Xedge line interface modules for each installed slot controller.
- Modules can be installed or extracted without powering down the shelf (hot-swappable).
- Accommodates one Fan Tray Assembly
- Supports up to two Network Timing Modules
- Supports environmental status and alarms control.
- Provide a signal and chassis ground connection point.

### Chassis Power

Both chassis obtain power from one or two power feeds and two or four Power Supply Units: Main (A/B) and Standby (C/D). This power arrangement allows for power input redundancy and power supply redundancy.

Xedge 6640 is an AC-powered chassis that uses two or four autoranging GPS-14 power supplies that automatically adapt to AC power inputs ranging from 90 to 264VAC. Xedge 6645 is a DC-powered chassis that uses two or four DPS-14 autoranging power supplies that automatically

# Xedge 664X Chassis

## Physical Specifications

### Xedge 6640/6645 Chassis Dimensions

Height: 25.5 in. (66.2 cm)  
 Width: 19.0 in. (48.3 cm)  
 Depth: 16.6 in. (44.2 cm)  
 Weight: 130 lbs (59 kg) fully loaded

### Module Capacity

Two dedicated front slots accept switch fabric modules (XH).  
 Two dedicated front slots accept slot-0 controllers (Main and Standby)  
 Factory-installed Link Personality Modules (LPMs):  
 LPM-1, LPM-2, LPM-3, LPM-4, LPM-5, LPM-6, LPM-CE  
 16 front slots accept single-width or double-width Xedge slot controllers with 1 or two compatible LIMs per controller.

Single-width slot controller modules:  
 ISG2, VSM, CE, FRC, CHFRC, ETH, ECC, ACP, ACS

Dual-width slot controller modules:  
 PCX/PCX2, PCE, PCL

### Module/LIM Applications

The Slot Controller/LPM/LIM Bundle installed at the factory supports a variety of LIM applications:

LPM-1: Uses two Utopia LIMs  
 LPM-2: Uses one Utopia LIM (LIM1) and one SERDES LIM (LIM2)  
 LPM-3: Uses one Serial LIM (LIM1) and one SERDES LIM (LIM2)  
 LPM-4: Uses two SERDES LIMs  
 LPM-5: Uses two Serial LIMs  
 LPM-6: Uses one Serial LIM (LIM1) and one Utopia LIM (LIM2)  
 LPM-CE: Uses two selected Serial LIMs (with PCE only)

Serial LIMs	Utopia LIMs	SERDES LIMs
DS1-2CS	DSX1-IMA	OC-N/STM-N
DS1-4CS	E1-IMA	AVM (Voice)
DS3-2C	155M-2	T1/E1 MP16
E1-2CS	155I-2	T1/E1 HDCC
E1-4CS	155L-2	
E3-2C	155M-APS	
LCE-16	155I-APS	
ASIO	155L-APS	
ASIO-HSSI (DCE)	155E-2	

### Port Capacity

All Xedge chassis types can support a variety of controller/LIM combinations. The following matrix provides a simplified indication of each chassis' maximum port capacity by interface type, assuming PCE/ASIO, PCE/DS3-2C, PCX-2/T1/E1 MP16, and PCX-2/LCE-16.

Chassis Type	Redundant Power	Redundant SW Fabric	Redundant Slot-0	Maximum DS1 Ports	Maximum DS3 Ports	Maximum Serial Ports	Maximum Subrate Ports
Xedge 6002	NO	N/A	N/A	32	2	8	32
Xedge 6160	2 AC or 2 DC	1	NO	64	4	16	16
Xedge 6280	4 AC or 4 DC	2	YES	96	6	24	96
Xedge 6640	4 AC	2	YES	224	14	56	224
Xedge 6645	4 DC	2	YES	224	14	56	224

## Environmental Specifications

### Non-Operating

Temperature -40 deg. to 158 deg. F (-40 deg. to 70 deg. C)  
 Altitude: 0 ft. to +40,000 ft. (0 m to +12191 m)

### Operating

32 deg. to 122 deg. F (0 deg. to 50 deg. C)  
 Relative Humidity: 5% - 95% non-condensing  
 Altitude: 0 ft. to +10,000 ft. (0 m to +3048 m)

## Power Specifications

### Xedge 6640 AC Version (P/N 010B197-001)

GPS14 AC Power Supply P/N: 035P114-001  
 Capacity: Two or four power supplies  
 Input Voltage Range: 90 to 132 VAC; 198-264 VAC  
 Maximum Power Consumption: 1300 W (with two power supplies)  
 Input Frequency: 47 to 63 Hz  
 Input Current: 16A low range; 8A high range  
 Service Current Requirement: 20A low range; 10A high range  
 Heat Dissipation: 4,600 BTU/hr, maximum

### Xedge 6645 DC Version (P/N 010B198-001)

DPS-14 DC Power Supply P/N: 041P114-001  
 Capacity: Two or four power supplies  
 Input Voltage: -48 VDC nominal (-42 to -70 VDC)  
 Maximum Power Consumption: 1300 W (with two power supplies)  
 Input Current: 27A at -48 VDC  
 Service Current Requirement: 35A  
 Heat Dissipation: 4,600 BTU/hr, maximum

## Compliance & Compatibility

CISPR 22 Class A, FCC 15 Class A, EN55022, EN55024  
 UL Listed (60950)  
 c-UL Listed (CSA C22.2 #950)  
 TUV licensed (EN60950)  
 CE Mark  
 Quality Assurance: ISO 9001: 2000 Certified