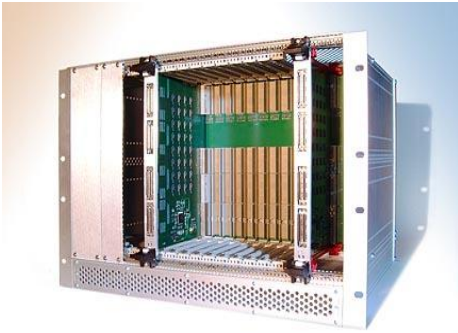


N+1 Shelf

Protection and redundancy



TB-N+1-15 Solution shown

Telecom users expect high-availability and reliability.

TelcoBridges N+1 Shelf provides the protection and redundancy you need to guarantee 99.999% availability of your telecommunication system.

These features enable you to achieve high availability and reliability required for today's system.

Fully Featured Shelves

- Scales from 1:1 to 15:1
- Hot swap and hot insertion
- Compatible with the TB-Multi-Blade
- Controlled by TB640 System-Blade
- Telco-grade redundancy
- High Availability and reliability

Models Available

- TB-1+1 Solution
- TB-N+1-4 Solution
- TB-N+1-16 Solution

The TelcoBridges N+1 Shelf family of products were specifically designed to facilitate maintenance and protect the system against any interruption of a TB640 *System-Blade*™ connected to the N+1 Shelf.

For example, the TB-N+1-16 Solution comprises up to fifteen primary TB640 *System-Blades*™ connected to the network through the N+1 shelf, plus one redundant TB640 blade waiting to be connected to the network in case of need.

The redundant TB640 *System-Blade*™ can takeover at any time any one primary TB640 *System-Blade*™, so re-routing the traffic to the redundant blade until the necessary maintenance is completed.

The N+1 architecture is compatible with the TB-*Multi-Blade*™ architecture. With N+1, fifteen primary blades plus one redundant blade can be fully interconnected to create a non-blocking switch of 960 trunks.

Control, maintenance and diagnostics are all provided through TB640 API calls, with a full set of easy-to-use functions for complete system status monitoring and control.

N+1 blades can be added live to a system with no downtime. This means the system can scale from a 1:1 to 15:1 protection while it is still running.

The TB640 *System-Blades*™ attached to the N+1 blades also provide the low power needed by the system.

Physical Interfaces

N+1 Primary Blade

- 64 trunks internal (to active TB640s)
- 64 trunks external (to customer facility)

N+1 Redundant Blade

- 64 trunks internal (to standby TB640)

Scalability

- Up to 15 N+1 primary blades and one N+1 redundant blade
- Each N+1 blade supports up to 64 trunks

Control and Management

Control

- Control is done through TB640 API calls when connected to the N+1 Shelf
- N+1 redundant blade can takeover or release a N+1 primary at any time

High Availability and Redundancy

- Hot swap
- Hot insertion
- No software on N+1 blades

Diagnostics

- Can detect presence of all N+1 blades from any connected TB640
- Each blade component is defined and state is readable by software for easy maintenance: Cable ID, connector ID, Slot ID
- Can check traffic state on each connection

Host Operating System

- Remotely controlled by TB640 blade (no direct access to N+1 shelf)

Backplane Interfaces

- Proprietary

Mechanical

TB-1+1 Solution

- 2U high x 245mm deep
- 19 inch rack mountable

TB-N+1-4 Solution

- xU high x 245mm deep
- 19 inch rack mountable

TB-N+1-16 Solution

- 7U high x 245mm deep
- 19 inch rack mountable

N+1 Primary Blade

- 6U single slot
- Front panel (233 x 160mm)
- Connectors
 - Eight SCSI-3 cables per blade
 - Each SCSI-3 cables support 16 trunks

N+1 Redundant Blade

- 6U single slot
- Front panel (233 x 160mm)
- Connectors
 - Four SCSI-3 cables per blade

Electrical

- Provided by the TB640 System-Blade™
- 0.1 W per N+1 blade

Environment

- Operating: 0 to +50 C, 5% to 85% non-condensing relative humidity
- Storage: -40 to +70 C, 95% at +40C

Compliance

Designed to meet NEBS-3 compliance

- GR-63 Environmental specifications
- GR-1089 EMI/EMC specifications

EMC

- FCC 47 CFR Part 15, Subpart B: 1999 (Class A)
- EN55022: 1998 for Class A
- EN55024: 1998

Safety

- US: UL60950 (2000)
- Europe: EN 60950 (2000)
- International: IEC60950 (1999)

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ABOUT US

TelcoBridges is a disruptive innovator paving the way for solutions providers and OEMs to secure a significant share of the growing market for enhanced voice and video services. TelcoBridges' customers win more business by building on the unrivaled scalability, flexibility and reliability of our telecom platform. TelcoBridges' carrier-grade technologies are deployed in over 28 countries with some of the largest operators in the world.

Finalist "2006 Canada Innovation Award": Development of Export Sales
Finalist "2005 Prix Excellence" Competition: Export Markets