# BTI7000 Packet Optical Transport Systems

## Product Overview

The BTI7000 line of packet optical transport systems offers massively scalable, carrier-grade networking for simple deployment across mobile backhaul, Ethernet business services, and broadband residential applications. Offering tremendous densities and capacities in compact, modular platforms, the BTI7000 conserves precious rack space while facilitating service-oriented connectivity across metro service networks. The BTI7000 platforms support an entire portfolio of client service modules and photonic layer building blocks.

## Product Description

Juniper Networks® BTI7000 line of packet optical transport systems effectively addresses high-capacity network and service requirements. Purpose-built to consolidate packet optical service delivery, wavelength-division multiplexing (WDM), reconfigurable optical add-drop multiplexing (ROADM), and photonic layer building blocks, the BTI7000 platforms integrate seamlessly with the BTI7800 and BTI800 product lines, and Juniper Networks proNX software to address campus, metro, and regional long haul applications.

The BTI7000 line is composed of three platforms: the BTI7200, BTI7060, and BTI7020 Packet Optical Transport Systems.

## BTI7000 Platform Overview

| Model | Service Slots | Rack Units |
|---|---|---|
| BTI7200 | 20 (expandable up to 60) | 7 |
| BTI7060 | 6 (expandable up to 24) | 2 |
| BTI7020 | 2 (passive only) | 1 |

## Features and Benefits

- **End-to-End Packet Optical Networking**: BTI7000 devices offer a common platform across multiple form factors to deliver end-to-end network solutions—from customer premises to metro core—that converge Carrier Ethernet, multiprotocol optical client interfaces, coarse wavelength-division multiplexing (CWDM) and dense wavelength-division multiplexing (DWDM), ROADM, and photonic layer modules, all in one platform.

- **Flexible Shelf Architectures**: BTI7000 platforms offer modular utility for service connectivity and infrastructure applications. The any-slot-any-module architecture enables provisioning and deployment of any mix of packet or optical layer modules to address diverse networking requirements and applications in a configuration that best fits your operational model.

- **Expansion Shelf Architectures for Seamless Scalability**: The BTI7200 and BTI7060 support an industry-leading expansion shelf architecture which enables a flexible pay-as-you-grow deployment model that allows capital expenditures to be granularly attuned to service growth. The expansion architecture allows deployment of additional BTI7200 or BTI7060 shelves, providing incremental service slots that are viewed and managed as a single network entity through the main shelf, greatly simplifying operations.

- **Common Management and Control**: The BTI7000 platforms all use the same software, system control processor, and cooling units. Additionally, the proNX software manages the entire Juniper Networks BTI Series Packet Optical Transport Systems and Ethernet Access Device portfolio, delivering a consistent operational model, common software releases, and minimized sparing costs.
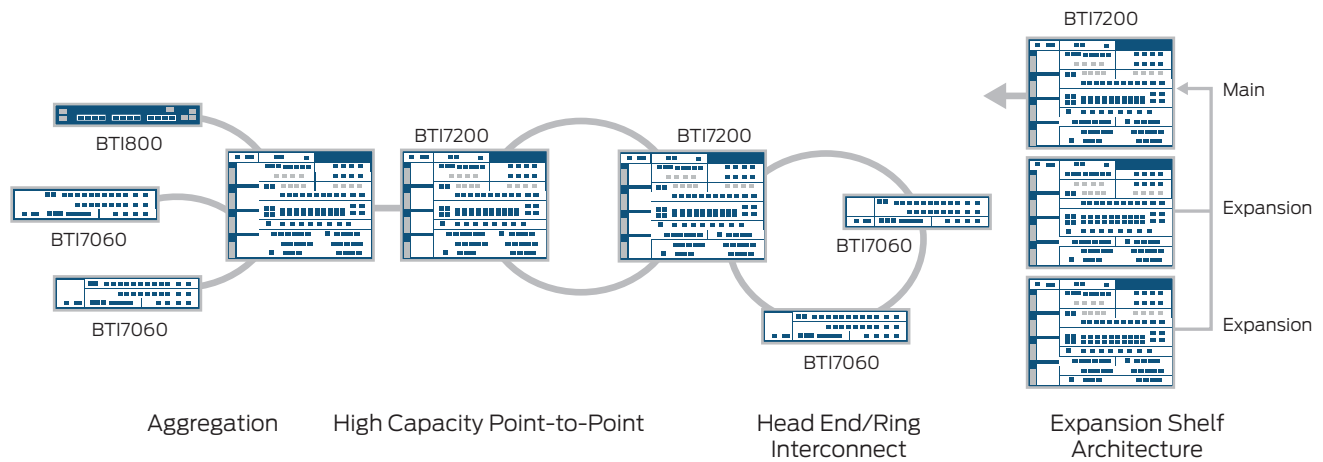
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Figure 1. BTI7000 deployment options

## Common Equipment

- The BTI7000 line of packet optical transport systems provides carrier-grade, high availability power, cooling, and client service module and network management communications.

- The System Control Processor controls platform operation, providing external communications for craft access and small form-factor pluggable optics for optical supervisory channel and expansion shelf architecture communications.

- A main shelf interface (MSI) provides alarm and shelf status indicators, an IP addressable Ethernet interface to LAN management, and a 26-pin connector for housekeeping alarms.

- The common communication module (CCM) communicates with the client service and reach extension modules, acting as the primary interface of expansion shelves back to the main shelf within an expansion shelf architecture.

- The BTI7000 cooling unit consists of two independent, hot-swappable, multispeed fans which can support extended temperatures.

- BTI7000 platforms provide integrated, redundant, front- or rear-mounted -48 V DC feeds. Typical power consumption is 25 W per 10 Gbps for a fully loaded system.
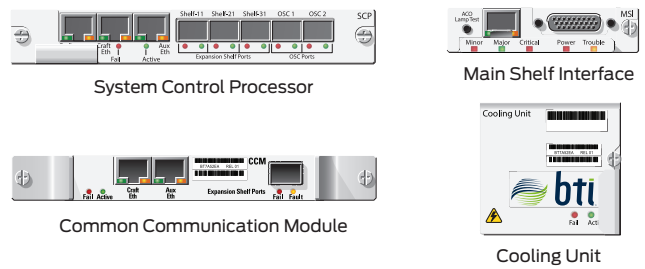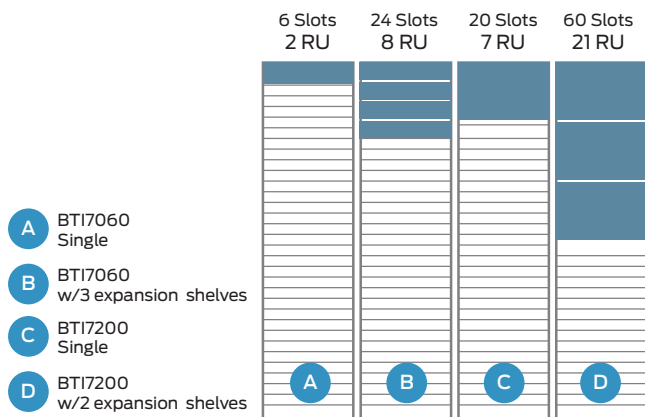


Figure 2. BTI7000 line common components



Figure 3: BTI7000 configuration options

Table 1. BTI7000 Common Equipment

| | | BTI7200 | BTI7060 |
|---|---|---|---|
| SCP | Pec code | BT7A20CA | BT7A20CA |
| | Module size | Single slot | Single slot |
| MSI | Pec code | BT7A53EA | BT7A53BA, BT7A53BB |
| | Module size | Dedicated slot | Dedicated slot |
| Expansion shelf interface* | Pec code | N/A | BT7A54BA |
| | Module size | N/A | Dedicated slot |
| Cooling unit | Pec code | BT7A52EA | BT7A52DA, BT7A52EA |
| | | Dedicated slot | Dedicated slot |
| AC power module | Pec code | BT7A58DA, BT7A58DB | BT7A58AA |
| | Module size | Increases shelf height by 1 U | Increases shelf depth to 465 mm |
| Common communication module | Pec code | BT7A54EA | N/A |
| | Module size | Dedicated slot | N/A |

*Expansion shelf interface; used instead of main shelf interface on BTI7060s; configured as expansion shelves

## BTI7000 Platform Specifications

| | BTI7200 | BTI7060 | BTI7020 |
|---|---|---|---|
| Variants | BT7A51AA<br>BT7A51AR (w/rear -48 V access) | BT7A50AA<br>BT7A50AR (w/rear -48 V access) | BT7A56BA |
| Module slots | 20 | 6 | 2 |
| Module support | Active/passive | Active/passive | Passive |
| Dimensions (HxWxD) | Without cover:<br>12.2 x 17.3 x 11.0 in (31.11 x 43.95 x 28.0 cm)<br>With cover:<br>12.2 x 17.3 x 12.0 in (31.11 x 43.95 x 30.5 cm) | Without cover:<br>3.5 x 17.3 x 11.0 in (8.89 x 43.95 x 27.94 cm)<br>With cover:<br>3.5 x 17.3 x 12.0 in (8.89 x 43.95 x 30.48 cm) | Without cover:<br>1.74 x 17.3 x 11.0 in (4.44 x 43.95 x 27.94 cm)<br>With cover:<br>1.74 x 17.3 x 12.0 in (4.44 x 43.95 x 30.48 cm) |
| Weight (empty) | 9.1 kg | 5.9 kg | 2.5 kg |
| Power consumption | -48 V DC, 35 A (max)<br>AC power options available<br>Power per 10 Gbps = 25 W (typical) | -48 V DC, 10 A (max)<br>AC power options available<br>Power per 10 Gbps = 25 W (typical) | N/A |
| Extended temperature support | -5º to +50ºC | -20º to +65ºC | -20º to +65ºC |
| Environmental and safety certifications | Telcordia NEBS Level 3, Earthquake Zone 4, GR-63-CORE, GR-78-CORE, FCC Part 15 Class A, GR-1089-CORE, IEC/UL/CSA 60950, IEC 60825 | Telcordia NEBS Level 3, Earthquake Zone 4, GR-63-CORE, GR-78-CORE, FCC Part 15 Class A, GR-1089-CORE, IEC/UL/CSA 60950, IEC 60825 | Telcordia NEBS Level 3, Earthquake Zone 4, GR-63-CORE, GR-78-CORE, FCC Part 15 Class A, GR-1089-CORE, IEC/UL/CSA 60950, IEC 60827 |

## Ordering Information

For ordering information, please consult the Juniper Networks price list or contact your local Juniper sales representative.

## About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at Juniper Networks or connect with Juniper on Twitter and Facebook.

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