

# ACX7024 CLOUD METRO ROUTER DATASHEET



## Product Overview

*Operators are finding opportunities and facing challenges to support new and complex services and applications with 5G, IoT, and cloud—all while keeping experience-first networking in mind. The ACX7000 Family platforms can help operators thrive. The ACX7024 is a hardened, fixed, 360 Gbps, 1 U (24 cm deep) multiservice router, powered by Junos OS Evolved and Paragon Automation. It provides 1GbE to 100GbE port flexibility and delivers exceptional TCO, investment protection, and multiservice support for service provider, enterprise, and wholesale use cases. Its compact footprint and precision timing support make the ACX7024 ideal for 4G/5G mobile network deployments.*

## Product Description

The Juniper Networks® ACX7024 Cloud Metro Router is designed to help operators achieve their capital, operational, and user experience goals. Part of the [Juniper Networks ACX7000 Family](#) of routers, the ACX7024 delivers exceptional TCO, investment protection, and supports [Juniper® Cloud Metro](#) for 5G, Internet of Things (IoT), and cloud applications. This makes it ideal for service provider, enterprise, and residential use cases requiring a highly flexible, compact, multiservice, and environmentally hardened platform.

## ACX7000 Family Overview

ACX7000 Family routers are purpose-built for the IP service fabric underlay of a Juniper Cloud Metro. They leverage the industry's fastest chipset, provide a unique balance of system design, and set new benchmarks for sustainable, high-performance platforms. Managed by [Junos® OS Evolved](#) and [Juniper Paragon™ Automation Portfolio](#), the ACX7000 routers are embedded with Paragon Active Assurance and with [Zero Trust](#) security built in, enabling operators to deliver highly differentiated customer experiences. Available in hardened, fixed, fixed plus modular, and fully modular designs, these energy and footprint efficient multiservice routers support high-precision timing technologies and are engineered for service provider, enterprise, residential (including PON with the [Juniper Unified PON Solution](#)), IoT, and 4G/5G mobile applications.

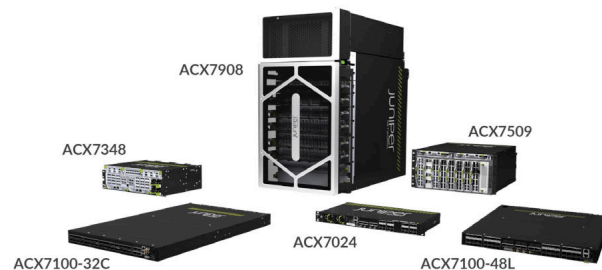


Figure 1. Juniper Networks ACX7000 Family—engineered for the IP service fabric of a Juniper Cloud Metro

## ACX7024 Product Offering

ACX7024 is a hardened, compact, fixed, 1 U (24 cm deep), high-performance multiservice router. Next-generation silicon delivers 360 Gbps of throughput, a comprehensive feature set, and the scale needed to support the performance and bandwidth requirements of today and tomorrow. ACX7024 fixed ports include 24 multi-rate (SFP28) ports, each configurable as 1GbE, 10GbE, and 25GbE, enabling operators to perform today's most common upgrades on a port-by-port basis. An additional 4 fixed (QSFP-DD) 100GbE uplinks are available to support scale.

The ACX7024 incorporates 6 integrated fans (5+1 redundancy) for front-to-back and side-to-side (with baffle) airflow. It comes with 2x field replaceable AC or DC power supplies (1+1 redundancy). Cost-effective and efficient thermal design enables unrestricted high-power 100GbE ZR transceiver use across all supporting ports. It incorporates precision timing capabilities, including advanced Class C timing for low-latency 5G services and GPS/GNSS (Global Navigation Satellite System) transceiver for best-in-class network experience. It supports next-generation protocols, including segment routing, SRv6, MPLS, and Ethernet VPN (EVPN)–Virtual Extensible LAN (VXLAN), and any overlay, underlay, or service. It delivers service-assured network slicing, network intelligence, and Juniper Paragon Automation for network efficiency and operational simplicity.

## Features and Benefits

The cloud metro-ready ACX7024 is engineered for sustainability. It addresses the challenges of evolving service requirements and relentless traffic growth imposed by 5G, IoT, and cloud applications, turning them into opportunities for operators to thrive.

Table 1: ACX7024 Features and Benefits

Feature	Benefits
<b>Junos OS Evolved and Embedded Active Assurance</b>	Managed by Junos OS Evolved, Juniper Paragon Active Assurance Test Agents are embedded into all ACX7000 platforms enabling automated monitoring, diagnosis, remediation, and optimization of service delivery, service performance, and differentiated user experience.
<b>Rugged and Efficient Design</b>	Environmentally hardened (-40 °C to +65 °C) and compact footprint (1 U, 24 cm deep, 19 in. rack) supports a wide variety of deployments. Efficient design (<97 W typical*, 150 W max) with front-to-back and side-to-side (with baffle) airflow. NOTE: Typical power consumption measured at 25° C ambient with 50% load on all ports
<b>Build-As-You-Grow Operational Simplicity</b>	Clip-on (tool-less) rack mounting, 24 multi-rate ports support native port-by-port 1GbE, 10GbE, and 25GbE configuration and migration. As service demand grows, ACX7024 routers support 100GbE uplinks and unrestricted high-power ZR transceiver use across all supporting ports.
<b>Next-Gen Capabilities</b>	Next-gen capabilities include leading protocols such as segment routing, SRv6, MPLS, EVPN-VXLAN, advanced programmability, leading network slicing, telemetry, and support for any overlay, underlay, or service.
<b>Zero-Trust Security</b>	Enhanced security capabilities include secure boot, integrated tamper-proof design, and trust anchor with DevID, enabling device attestation and enhanced security through a unique cryptographic digital identity.

Feature	Benefits
<b>Cloud Metro-Ready</b>	ACX7024 offers deep buffering for end-to-end service delivery assurance, precision timing capabilities such as Synchronous Ethernet, Precision Time Protocol (PTP), and advanced Class C timing for latency-optimized 5G service experiences, as well as GNSS/GPS (Grand master clock support via external GNSS receiver) network synchronization. An ideal choice for cloud metro, enterprise, and residential use cases, ACX7024 also supports the Juniper <a href="#">Unified PON Solution</a> , IoT, and 4G/5G mobile applications.



Figure 2. Juniper Networks ACX7024 –engineered for the IP service fabric of a Juniper Cloud Metro

Table 2. Built-In Interface Options for ACX7024

Model	1GbE/10GbE/25GbE SFP-28	100GbE QSFP-DD
ACX7024	24	4

Table 3. Maximum Port Capacity Supported Per Port Speed

Native Port Speeds	ACX7024
100GbE	4
40GbE	4
25GbE	24
10GbE	24
1GbE	24

Table 4: ACX7024 Feature Matrix

Feature	ACX7024
<b>System</b>	
ASIC throughput	360 Gbps
Chassis type	Fixed
Cooling	6 fans, front-to-back airflow, baffle for side-side
<b>Layer 2 Bridging</b>	
IEEE 802.1ad (Q-in-Q)	Yes
Integrated routing and bridging (IRB)	Yes
IEEE 802.1Q VLAN encapsulation	Yes
Link Aggregation Control Protocol (LACP): IEEE 802.3ad	Yes
Static Media Access Control (MAC)	Yes
Jumbo frames	Yes
Layer 2 tunneling protocol (L2TP)	Yes
Layer 2 ingress access control list (ACL)	Yes

Feature	ACX7024
<b>MPLS</b>	
LDP	Yes
LDP: Tunneling (LDP over RSVP)	Yes
RSVP	Yes
<b>IP</b>	
IPv4/IPv6	Yes
Unicast reserve-path forwarding (uRPF)	Yes
128-way equal-cost multipath (ECMP)	Yes
RIP/RIPng	Yes
OSPF v2/v3	Yes
IS-IS	Yes
BGP	Yes
Layer 3 ingress and egress ACL	Yes
Virtual Router Redundancy Protocol (VRRP)	Yes
Basic segment routing	Yes
Path Computation Element Protocol (PCEP)	Yes
<b>MPLS Service (Layer 2 and Layer 3)</b>	
L2VPN	Yes
L3VPN	Yes
Virtual private LAN service (VPLS)	Yes
<b>Timing and Synchronization</b>	
PTP transparent clock	Yes
PTP primary/client capability	Yes
IEEE 1588v2 boundary clock	Yes
Synchronous Ethernet Enhanced (G.8262.1)	Yes
Class C	Yes
<b>Operation, Administration, and Maintenance</b>	
Connectivity fault management (CFM)	Yes
Link fault management (LFM)	Yes
<b>Security</b>	
MACsec	No
Secure boot	Yes
Secure Shell protocol	Yes
Authentication, Authorization, and Accounting (AAA)	Yes
<b>Quality of Service</b>	
Behavior aggregate (BA) classification	Yes
Rewrite	Yes
Multifield classification	Yes
8 queues for traffic	Yes
Ingress policer	Yes
<b>Automation</b>	
Zero-touch provisioning (ZTP)	Yes
Network Configuration Protocol (NETCONF)	Yes
Yet Another Next Generation (YANG)	Yes
OpenConfig	Yes
Python scripts	Yes

\* Note: Features listed here are part of consecutive software releases following FRS.

## Specifications

This section lists basic specifications for the ACX7024 router. For further detail, please refer to the hardware installation manuals at [www.juniper.net/techpubs](http://www.juniper.net/techpubs).

Specification	ACX7024
<b>Dimensions (W x H x D)</b>	19 x 1.75 x 9.6 in. (4.4 x 48.2 x 24.4 cm)
<b>Weight (lb/kg) fully configured</b>	12.5 lb (5.66 kg)
<b>Power (DC)</b>	-48 VDC through -60 VDC
<b>Power (AC)</b>	90 VAC to 264 VAC
<b>Typical power draw</b> (without optics)*	97 W @ 25° C
<b>Maximum power draw</b> (without optics)*	150 W
<b>Operating temperature</b>	-40° C to +65° C GR3108-class-2
<b>Humidity</b>	5% to 90% RH (noncondensing) operating
<b>Interfaces</b>	24x 1GbE/10GbE/25GbE QSFP28 4x100GbE QSFP-DD
<b>Synchronization interfaces</b>	<ul style="list-style-type: none"> <li>1x RJ-45 port + TOD</li> <li>1 PPS/10 MHz input and output</li> <li>GNSS antenna (via USB)</li> </ul>

	ACX7024
<b>Safety Approvals</b>	
• CAN/CSA-C22.2 No. 60950-1 Information Technology Equipment—Safety	Yes
• UL 60950-1 (2nd Edition) Information Technology Equipment—Safety	Yes
• EN 60950-1: 2006/A2:2013 Information Technology Equipment—Safety	Yes
• IEC 60950-1: 2005/A2:2013 Information Technology Equipment—Safety (All country deviations): CB Scheme	Yes
• CAN/CSA-C22.2 No. 62368-1-14 Information Technology Equipment—Safety	Yes
• UL 62368-1 Information Technology Equipment—Safety	Yes
• EN 62368-1: 2014 Information Technology Equipment—Safety	Yes
• IEC 62368-1: 2014 2nd Edition Information Technology Equipment—Safety (All country deviations): CB Scheme	Yes
• EN 60825-1 Safety of Laser Products—Part 1: Equipment classification and requirements	Yes
<b>EMC</b>	
• EN 300 386 V1.6.1 Class A Telecom Network Equipment—EMC requirements	Yes
• EN 300 386 V2.1.1 Class A Telecom Network Equipment—EMC requirements	Yes
• FCC 47 CFR Part 15 Class A USA Radiated and Conducted Emissions	Yes
• EN 55032 Class A European Radiated and Conducted Emissions	Yes
• AS/NZS CISPR 32 Class A Australia/New Zealand Radiated and Conducted Emissions	Yes
• ICES-003 Class A Canada Radiated and Conducted Emissions	Yes
• VCCI- CISPR 32 Class A Japanese Radiated and Conducted Emissions	Yes
• BSMI CNS 13438 and NCC C6357 Taiwan Radiated and Conducted Emissions (at 10 meter)	Yes

	ACX7024
• KN32 Korea Radiated and Conducted Emission (at 10 meter)	Yes
• TEC/EMI/TEL-001/FEB-09	Yes
• TEC-SD-DD-EMC-221-05-OCT-16	Yes
<b>Network Equipment Building System (NEBS)</b>	
• SR-3580 NEBS Criteria Levels (Level 3 Compliance)	Yes
• GR-63-CORE: NEBS, Physical Protection	Yes
• GR-1089-CORE: EMC and Electrical Safety for Network Telecommunications Equipment	Yes
• Data Center DC 3160	Yes
<b>Immunity</b>	
• EN 300 386 V1.6.1 Class A Telecom Network Equipment—Immunity requirements	Yes
• EN 300 386 V2.1.1 Class A Telecom Network Equipment—Immunity requirements	Yes
• EN 55024 (CISPR 24)	Yes
• IEC/EN 61000-4-X (-2, -3, -4, -5, -6, -11)	Yes
• KN35 Korea Immunity	Yes
• KN61000-4-X (-2, -3, -4, -5, -6, -11) Korea Immunity	Yes
• TEC/EMI/TEL-001/FEB-09 India Immunity	Yes
• TEC-SD-DD-EMC-221-05-OCT-16	Yes
• IG Surge	Yes
• EN 55035 (CISPR 35:2016) Electromagnetic compatibility of multimedia equipment	Yes

## Ordering Information

Product	Description
<b>Hardware</b>	
ACX7024-DC-1PSU	ACX7024, 1 U high, 240 mm deep; 24xSFP28 and 4xQSFP28; operating range -40 C to 65 C; DC non-redundant power supply unit
ACX7024-DC-2PSU	ACX7024, 1 U high, 240 mm deep; 24xSFP28 and 4xQSFP28; operating range -40 C to 65 C; DC redundant power supply unit
ACX7024-AC-1PSU	ACX7024, 1 U high, 240 mm deep; 24xSFP28 and 4xQSFP28; operating range -40 C to 65 C; AC non-redundant power supply unit
ACX7024-AC-2PSU	ACX7024, 1 U high, 240 mm deep; 24xSFP28 and 4xQSFP28; operating range -40 C to 65 C; AC redundant power supply unit
<b>Metro Software</b>	
S-EACX-100G-A-1	SW, EACX, per 100GbE capacity, supports IP/MPLS, timing, class of service (CoS), Ethernet Operation, Administration, and Maintenance (EOAM), telemetry, RFC2544 with up to 256,000 forwarding information base (FIB), up to 1000 L2/L3 VPN, Advanced, with SVC customer support, 1 year
S-EACX-100G-A-3	SW, EACX, per 100GbE capacity, supports IP/MPLS, timing, CoS, EOAM, telemetry, RFC2544) with up to 256,000 FIB, up to 1000 L2/L3 VPN, Advanced, with SVC customer support, 3 years
S-EACX-100G-A-5	SW, EACX, per 100GbE capacity, supports IP/MPLS, timing, CoS, EOAM, telemetry, RFC2544) with up to 256,000 FIB, up to 1000 L2/L3 VPN, Advanced, with SVC customer support, 5 years
S-EACX-100G-A1-P	SW, EACX, per 100GbE capacity, supports IP/MPLS, timing, CoS, EOAM, telemetry, RFC2544) with 256,000 FIB, up to 1000 L2/L3 VPN, Advanced 1, without customer support, must purchase CS SKU separately, Perpetual
S-EACX-100G-P-1	SW, EACX, per 100GbE capacity, includes ADV SW Subscription license with full platform scale, Premium, with SVC customer support, 1 year

Product	Description
S-EACX-100G-P-3	SW, EACX, per 100GbE capacity, includes ADV SW Subscription license with full platform scale, Premium, with SVC customer support, 3 years
S-EACX-100G-P-5	SW, EACX, per 100GbE capacity, includes ADV SW Subscription license with full platform scale, Premium, with SVC customer support, 5 years
S-EACX-100G-P1-P	SW, EACX, per 100GbE capacity, includes ADV SW Subscription license with full platform scale, Premium 1, without customer support, must purchase CS SKU separately, Perpetual
S-EACX-400G-A-1	SW, EACX, per 400GbE capacity, supports IP/MPLS, timing, CoS, EOAM, telemetry, RFC2544) with up to 256,000 FIB, up to 1000 L2/L3 VPN, Advanced, with SVC customer support, 1 year
S-EACX-400G-A-3	SW, EACX, per 400GbE capacity, supports IP/MPLS, timing, CoS, EOAM, telemetry, RFC2544) with up to 256,000 FIB, up to 1000 L2/L3 VPN, Advanced, with SVC customer support, 3 years
S-EACX-400G-A-5	SW, EACX, per 400GbE capacity, supports IP/MPLS, timing, CoS, EOAM, telemetry, RFC2544) with up to 256,000 FIB, up to 1000 L2/L3 VPN, Advanced, with SVC customer support, 5 years
S-EACX-400G-A1-P	SW, EACX, per 400GbE capacity, supports IP/MPLS, timing, CoS, EOAM, telemetry, RFC2544) with 256,000 FIB, up to 1000 L2/L3 VPN, Advanced 1, without customer support, must purchase CS SKU separately, Perpetual

## Optics and Transceivers

ACX7024 supports varying port speeds with different transceiver options of direct attach copper (DAC), active optical cable (AOC), and breakout cable (BO). The most recent information on supported optics can be found at <https://apps.juniper.net>.

## Juniper Networks Service and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit <https://www.juniper.net/us/en/products.html>.

## About Juniper Networks

At Juniper Networks, we are dedicated to dramatically simplifying network operations and driving superior experiences for end users. Our solutions deliver industry-leading insight, automation, security, and AI to drive real business results. We believe that powering connections will bring us closer together while empowering us all to solve the world's greatest challenges of well-being, sustainability, and equality.

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### Corporate and Sales Headquarters

Juniper Networks, Inc.  
1133 Innovation Way  
Sunnyvale, CA 94089 USA

**Phone: 888.JUNIPER (888.586.4737)**

**or +1.408.745.2000**

**[www.juniper.net](http://www.juniper.net)**

### APAC and EMEA Headquarters

Juniper Networks International B.V.  
Boeing Avenue 240 1119 PZ Schiphol-Rijk  
Amsterdam, The Netherlands

**Phone: +31.207.125.700**

