

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 industrial-rated, 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® ACX7000 line 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 industrial-rated 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 environmentally industrial-rated, 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.

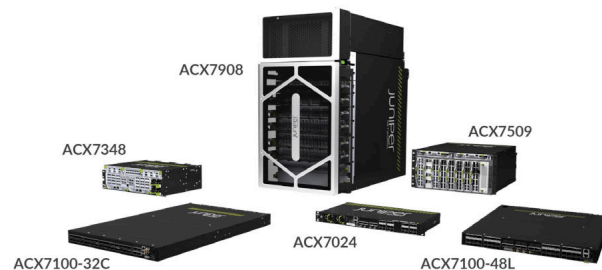


Figure 1. Juniper Networks ACX7000 Family—engineered for the IP service fabric of a Juniper Cloud Metro

ACX7024 Product Offering

ACX7024, from the ACX7000 line, is an industrial-rated (i-temp), 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-28) 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
Junos OS Evolved and Embedded Active Assurance	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.
Rugged and Efficient Design	Environmentally industrial-rated (-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
Build-As-You-Grow Operational Simplicity	Two post fixed 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.
Next-Gen Capabilities	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.

Feature	Benefits
Zero-Trust Security	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.
Cloud Metro-Ready	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 Unified PON Solution , 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-28
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
System	
ASIC throughput	360 Gbps
Chassis type	Fixed
Cooling	6 fans, front-to-back airflow, baffle for side-side
Layer 2 Bridging	
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
MPLS	
LDP	Yes
LDP: Tunneling (LDP over RSVP)	Yes
RSVP	Yes
IP	
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
MPLS Service (Layer 2 and Layer 3)	
L2VPN	Yes
L3VPN	Yes
Virtual private LAN service (VPLS)	Yes
Timing and Synchronization	
PTP transparent clock	Yes
PTP primary/client capability	Yes
IEEE 1588v2 boundary clock	Yes
Synchronous Ethernet Enhanced (G.8262.1)	Yes
Class C	Yes
Operation, Administration, and Maintenance	
Connectivity fault management (CFM)	Yes
Link fault management (LFM)	Yes
Security	
MACsec	No
Secure boot	Yes
Secure Shell protocol	Yes
Authentication, Authorization, and Accounting (AAA)	Yes
Quality of Service	
Behavior aggregate (BA) classification	Yes
Rewrite	Yes
Multifield classification	Yes
8 queues for traffic	Yes
Ingress policer	Yes
Automation	
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.

Specification	ACX7024
Dimensions (W x H x D)	19 x 1.75 x 9.6 in. (48.2 x 4.4 x 24.4 cm)
Weight (lb/kg) fully configured	12.5 lb (5.66 kg)
Power (DC)	-48 VDC through -60 VDC
Power (AC)	90 VAC to 264 VAC
Typical power draw (without optics)*	97 W @ 25° C
Maximum power draw (without optics)*	150 W
Operating temperature	-40 ° C to +65 ° C GR3108-class-2
Humidity	5% to 90% RH (noncondensing) operating
Interfaces	24x 1GbE/10GbE/25GbE SFP28 4x100GbE QSFP-28
Synchronization interfaces	<ul style="list-style-type: none"> 1x RJ-45 port + TOD 1 PPS/10 MHz input and output GNSS antenna (via USB)

	ACX7024
Safety Approvals	
CAN/CSA-C22.2 No. 60950-1-07, Information Technology Equipment	Yes
CAN/CSA-C22.2 No. 62368-1-14 Information Technology Equipment	Yes
EN 60825-1 Safety of Laser Products—Part 1: Equipment classification and requirements	Yes
IEC 60950-1:2005, AMD1:2009, AMD2:2013 Information Technology Equipment	Yes
IEC 62368-1:2014 (2nd Edition) Audio/Video, Information and Communication Technology Equipment	Yes
IEC 62368-1:2018 (3rd Edition) Audio/Video, Information and Communication Technology Equipment	Yes
UL 60950-1:2007 R10.14 Information Technology Equipment	Yes
UL/CSA 62368-1:2019 (3rd edition) Audio/Video, Information and Communication Technology Equipment	Yes
EMC	
Australian Communications and Media Authority (ACMA) AS/NZS CISPR 32: 2015 Class A	Yes
BSMI CNS 13438 and NCC C6357 Taiwan Radiated and Conducted Emissions (at 10 meter)	Yes
CISPR 22:2008, Class A	Yes
CISPR 32:2015, Class A	Yes
Deutsche Telekom EMC specification 1TR9, Edition 03 2016	Yes
EN 55022:2010, Class A	Yes
EN 300 386, V1.6.1 (2012-09), Class A	Yes
EN 55032:2015, Class A	Yes
EN 300386 V2.1.1 (2016-07), Class A	Yes
FCC Part 15, Subpart B, for Class A digital devices	Yes

	ACX7024
Innovation, Science and Economic Development Canada ICES 003, dated January 2016 Class A	Yes
KN32 Korea Radiated Emission Characteristics (at 10 Meter)	Yes
QCN 118:2018/BTTTT "Information technology equipment-Radio disturbance characteristics -limits and methods of measurement" Class A	Yes
TEC/SD/DD/EMC/221/05/OCT-16	Yes
VCCI-CISPR32:2016	Yes

Network Equipment Building System (NEBS)

Data Center DC 3160	Yes
EN 50125-3 Railway application Humidity (in building, shelter with C.C)	Yes
EN 50125-3 Railway application Vibration (outside track)	Yes
ETSI 300 019 -2-1 Class 1.2 Storage	Yes
ETSI 300 019 -2-2 Class 2.3 Transportation	Yes
ETSI 300 019 -2-3 Class 3.2 Operational	Yes
GR-63-CORE: NEBS, Physical Protection	Yes
GR-1089-CORE: EMC and Electrical Safety for Network Telecommunications Equipment	Yes
GR 3108 Class 2 environment (environmentally sealed cabinet)	Yes
IEC 61850- 3 Power utility (environmental)	Yes
IEE 1613 Power station (DC input minus 48VDC meets dielectric strength)	Yes
IEEE 1613 Power station (exception – forced air cooling and boot up time)	Yes
SR-3580 NEBS Criteria Levels (Level 3 Compliance)	Yes

Immunity

CISPR 24:2010	Yes
CISPR 35:2016	Yes
Deutsche Telekom EMC specification 1TR9, Edition 03 2016	Yes
EN 55024:2010	Yes
EN 300 386, V1.6.1 (2012-09)	Yes
EN 300386 V2.1.1 (2016-07)	Yes
Energy Utilities (Power utility/Substations): IEEE1613, IEEE 1613.1and IEC 61850-3 with IEC 61000-6-5	Yes
ECR 3.0.1	Yes
KN35 Korea Radiated Immunity Characteristics	Yes
Railroad Utilities: EN50121-4	Yes
TCVN 7317:2003	Yes
TEC/SD/DD/EMC/221/05/OCT-16	Yes

Energy Efficiency

AT&T TEER (ATIS-06000015.03.2013)	Yes
Verizon TEEER (VZ.TPR.9205 Issue 6)	Yes
ETSI ES 203 136 (2013-05)	Yes
ECR 3.0.1	Yes

Ordering Information

Product	Description
Hardware	
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
Metro Software	
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
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/home/>.

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

APAC and EMEA Headquarters

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

Phone: +31.207.125.700

