Prisma SD-WAN Instant-On Network Device Specifications

The Prisma® SD-WAN Instant-On Network (ION) models of hardware and software devices enable the integration of a diverse set of wide area network (WAN) connection types, deliver exceptional user experience and automate operations, enhance security and compliance, and reduce the overall cost and complexity of your WAN. Built with the intent to transform branch infrastructure, Prisma SASE powers the branch of the future with next-generation SD-WAN.

Enterprises have traditionally implemented rigid and complex solutions with multiple point solutions, constantly needing to refresh the hardware appliances. Traditional architectures are still backhauled through the data center, limiting direct-to-app access, resulting in poor user experience and application resiliency. Most importantly, they don't accommodate the need for Zero Trust security architecture to protect employees holistically, diversifying apps and rapidly increasing IoT devices. SD-WAN is the solution that promises to enable this network transformation and remove the limitations of legacy WAN architectures.

For SD-WAN, you need a networking solution that:

- Delivers flexible connectivity with carrier-independent WAN connections and no routing complexities, resulting in network resiliency and availability
- Enables intelligent traffic engineering based on application SLAs to deliver the best user experience
- Seamlessly integrates with globally distributed cloud-delivered security to protect all users, people, and things
- Automates day-two operations by leveraging AI/ML capabilities with deep observability into the end-to-end enterprise from users to apps and everything in between

Benefits

Prisma SD-WAN ION devices offer:

- **Elastic networks**: Delivering a zero-routing network with a centralized controller-based architecture that seamlessly builds, manages, and updates the network while flexibly supporting carrier-independent WAN connections like 5G, MPLS, broadband, and satellite.
- **App-defined fabric**: Providing direct-to-app access that ensures an exceptional user experience for all applications like SaaS, cloud, and business-critical/private applications while delivering application availability based on application performance SLAs.
- **Zero Trust security**: Providing integrated and cloud-delivered security services to branch offices. The security needs to be granular (Layer 7) to enforce true least-privileged access and ensure only the right people get access to the right information and assets, including IoT.
- **AI-powered operations**: Leveraging the latest advancements in observability and AI/ML built natively to help customers automate complex IT and network operations center (NOC) functions with the power of AI/ML to increase productivity and reduce MTTR.

Features

Alongside these benefits, take advantage of the many features that follow.

Application SLA Assurance Framework

Prisma SD-WAN's app-defined fabric is now enhanced with a new policy-driven SLA framework to deliver application SLA assurance, delivering the ability to measure, enforce, and alert, ensuring an exceptional user experience for all apps. With the ability to identify apps and measure SLAs, Prisma SD-WAN allows enforcement like prioritization, switch flows, and link conditioning like adaptive forward error correction (FEC). FEC can dynamically turn on or off for a specific application along with the ability to control the number of recovery packets based on the performance SLAs.

Broadest Support for Network Segmentation

Prisma SD-WAN supports segmentation with network contexts and techniques like virtual routing and forwarding (VRF). It provides the simplicity of defining unique policy rules per segment for the same application using network contexts while supporting overlapping IP addresses with VRF.

SD-WAN with Integrated IoT Security

Palo Alto Networks introduces the industry's first SD-WAN with integrated security for IoT devices. The existing Prisma SD-WAN appliances provide visibility and help secure all IoT devices with Prisma Access by acting as sensors and control points, unlike other SD-WAN solutions that require additional sensors to be deployed in the network to gain visibility and prevent threats. This enables accurate detection and identification of all IoT devices and security controls from within the familiar cloud management for Prisma SASE.

On-Premises Controller for Prisma SD-WAN

Help customers meet their industry-specific security compliance requirements. Customers can now deploy Prisma SD-WAN using the cloud management console or on-premises controllers.

Prisma SD-WAN Command Center

Provide AI-powered and segment-wise insights and always-on monitoring for network and applications for proactive problem resolution at the branch level. With a comprehensive command center dashboard, IT gets visibility into organization-wide application experience and health, enabling expedited root cause analysis.

Prisma SD-WAN Bandwidth On-Demand

Palo Alto Networks is revolutionizing how organizations can consume SD-WAN by becoming the first vendor in the industry to offer Prisma SD-WAN Bandwidth On-Demand. This game-changing, flexible, subscription-based model for Prisma SD-WAN enables customers to reduce WAN cost by up to 45%, enabling them to purchase bandwidth on a per-Mbps basis and effortlessly allocate bandwidth from an aggregated pool. In addition, customers can now easily activate Prisma SD-WAN as a simple module for Prisma Access to expedite their journey to SASE. Existing a la carte consumption models with Prisma SD-WAN and Prisma SASE bundles are also supported to ensure the ultimate flexibility for organizations.

Integrated 5G

Prisma SD-WAN is expanding its lightweight appliance portfolio to include the ION 1200 and ION 1200-S with integrated 5G. With this new appliance, organizations can ensure optimal uptime with 5G leveraged as a backup WAN transport for business-critical applications. In addition, businesses with ATMs and kiosks that require cellular as their primary WAN can simply deploy this appliance and ensure rapid deployment without the hassle of adding additional appliances to leverage 5G.

SD-Branch Capabilities

Prisma SD-WAN is extending SD-branch capabilities to the local area network (LAN) with the ION 1200-S and the ION 3200. The integrated switching with Power over Ethernet (PoE) on these appliances powers end devices like IP phones and cameras, point-of-sale systems, and wireless access points without additional switch appliances or power sources, while the built-in fiber optic ports provide flexibility to connect either your LAN or WAN to high-speed and long-range fiber optic connections. Additionally, they provide power redundancy with a dual supply.

Advanced AIOps Capabilities

Prisma SD-WAN AIOps capabilities provide rich telemetry of network insights, allowing admins to perform granular trend analysis and create unique network conditions that can automate tedious manual tasks. AIOps in Prisma SD-WAN can immediately identify a common parent event among all event alarms. It will also be used for fault analytics capabilities and automated statistical analysis. In addition to event correlation and analysis, admins can gain greater control over events with automatic prioritization, allowing them to easily pinpoint issues and reduce time to resolution.

Autonomous Digital Experience Management (ADEM)

Palo Alto Networks Prisma SASE with ADEM capabilities now extends to both mobile users and branch users, allowing organizations to gain end-to-end visibility and segment-wise insights across the entire SASE service delivery path regardless of where their users are located. ADEM on Prisma SD-WAN can help ensure the best digital experience for branches by providing observability in the cloud and across multiple WAN paths.

CloudBlades

The CloudBlades platform enables the seamless integration of branch services into the SASE fabric without needing to update your branch appliances or controllers, eliminating service disruptions and complexity. This API-based integration of the branch CPE provides a centralized platform for programming as well as an app-flow engine at the CPE, access to Prisma SD-WAN telemetry, and secure authenticated API access to Prisma SD-WAN CPE and systems. As a result, businesses can easily enable the cloud-delivered branch and simplify management and operations.

Zone-Based Firewall

Prisma SD-WAN ION devices include an application-based, zone-based firewall (ZBFW) configured using the same top-down, application-centric policies used for performance and path selection, ensuring compliance across different network circuits and interfaces. Our ZBFW is a lightweight security solution used for securing the WAN perimeter and segmenting traffic within a branch site. Further, ION devices can be configured to use on-premises security devices or external, hosted security services to provide further security for remote offices.

ADEM License

Organizations can leverage segment-wise insights from synthetic traffic analysis for remote networks to proactively isolate network and application performance issues.

Prisma SD-WAN DVR License

With this optional license, you can retain and access up to 90 days of statistics, policy, configuration, alarms, and alerts. Network DVR is licensed per ION device.

Prisma SD-WAN WCR Report License

With the inclusion of this optional license, users gain access to automatically generated and downloadable reports, offering comprehensive insights into different aspects of their Prisma SD-WAN fabric. These reports cover utilization trends and hotspots, empowering customers to make informed decisions about potential circuit upgrades or policy adjustments. Additionally, the license provides advanced AIOps capabilities, delivering actionable insights into the overall health and performance of WAN applications and links. This functionality aids in network planning, problem resolution, and analytics. Instant visibility into application performance enables users to enhance their understanding of network health and usage, facilitating more effective policy decisions.

High Availability (HA)

An ION device feature, it's the industry's only HA deployment model that can survive a device failure and still preserve 100% of WAN capacity at a branch site.

Modes of Operation

All aspects of configuration, management, and monitoring of ION hardware and software devices are performed from the multitenant Prisma SD-WAN cloud management portal, eliminating the need to individually configure devices at each location. No additional servers or storage is required.

Managed through the central cloud controller, ION devices include two modes of operation. In **analytics mode**, the solution provides end-to-end visibility and analytics of your applications and networks, operating independently of the full suite of Prisma SD-WAN capabilities. ION devices are deployed in the network at the WAN edge and automatically begin examining application data on the network to identify the application and measure several key performance indicators of each session. Statistics from your network are stored securely in the Prisma SD-WAN cloud management portal, which can be used to configure ION devices, define applications and sites, and monitor end-to-end application performance and availability.

In **control mode**, Prisma SD-WAN builds on the visibility and analytics foundation set by analytics mode and allows the ION devices to begin intelligently taking action based on policy for performance, compliance, and security. Routing functions, including path selection, prioritization, and security, can be integrated into the ION device to reduce the amount of hardware and operational expenses associated with each remote office.

Software Subscriptions

Prisma SD-WAN can be licensed either as a branch with subscriptions and options for bandwidth tiers or as Bandwidth On-Demand for branch sites or as a data center with DC subscriptions. A software subscription must be selected for each ION device deployed. Options for software subscriptions include: 25 Mbps, 50 Mbps, 150 Mbps, 250 Mbps, 500 Mbps, 1 Gbps, 2.5 Gbps, and data center, or on a per-Mbps basis.

Hardware Model Specifications

Prisma SD-WAN ION devices come in both hardware and software form factors to meet the needs of any location and deployment scenario. All ION devices are built with FIPS 140-2 as a security baseline. Encryption keys are specific to each customer and device, with high-frequency key rotation occurring at a network level for large-scale full-mesh, partial-mesh, or hub-and-spoke VPN networks.

	Branch	Data Center
Large	 ION 9200	 ION 9200
Medium	 ION 5200  ION 3200	 ION 5200
Small	 ION 1200  ION 1200-S	 ION 3200

Table 1: Hardware Models					
	ION 1200	ION 1200-S	ION 3200	ION 5200	ION 9200
Use case	Enterprise small branch	Enterprise small branch	Enterprise small branch, data center	Enterprise large branch, data center	Multigigabit remote office data center and large campus
Controller ports	N/A	N/A	N/A	N/A	N/A
Console ports	RJ45 (1) Console port	RJ45 (1) Console port	RJ45 (1) Console port	RJ45 (1) Console port	RJ45 (1) Console port
WAN/LAN/Internet ports	10/100/1000 RJ45 (4)	1 GE RJ45 (6), 1 GE RJ45/SFP Combo ports (2), 1 GE RJ45 bypass ports (2), POE++ ports (4)	1 GE RJ45 (6), 1 GE RJ45/SFP Combo ports (2), 1 GE RJ45 bypass ports (2), POE++ ports (4)	10 GE SFP+ (4) 10/100/1000 RJ45 (11) MGIG RJ45 (4) (1G/2.5G) 1 GE RJ45 bypass ports (4), 802.3bt PoE++ ports (4)	10 GE SFP+ (10) 10/100/1000 RJ45 (11) MGIG RJ45 (4) (1G/2.5G/5G) 1 GE RJ45 bypass ports (8), 802.3bt PoE++ ports (4)
Cellular support	4G LTE/5G	4G LTE/5G	None	None	None
Bypass pairs	N/A	1 pair–ports 3/4	1 pair–ports 3/4	2 pairs–ports 1/2 and 3/4	4 pairs–ports 1/2, 3/4, 5/6, and 7/8
Throughput* (encrypted 1,400 byte packets)	700 Mbps	700 Mbps	1.5 Gbps (DC) 1 Gbps (Branch)	4 Gbps (DC) 2 Gbps (Branch)	15 Gbps (DC) 8 Gbps (Branch)
Throughput* (encrypted 600 byte packets)	250 Mbps	250 Mbps	600 Mbps (DC) 500 Mbps (Branch)	1.5 Gbps (DC) 1 Gbps (Branch)	6 Gbps (DC) 3 Gbps (Branch)
DC VPN Scale	N/A	N/A	500	2,000	5,000
Power and mechanical	25 W power adapter (noncellular) and 40 W power adaptor (cellular) (AC), 100–240 V, 50–60 Hz Fanless	2 PSU 150 W (AC), 100–240 V, 50–60 Hz Fanless	2 PSU 150 W (AC), 100–240 V, 50–60 Hz Fanless	1+1 redundant PSU 450 W (AC), 100-240 V, 50-60 Hz Fixed fans (4)	1+1 redundant PSU 450 W (AC), 100-240 V, 50-60 Hz Fixed fans (4)
Certifications	IEC 62368-1, cTUVus, FCC, CE B, RoHS	IEC 62368-1, cTUVus, FCC, CE B, RoHS	IEC 60950-1, cULus, FCC & CE Class A, BIS, CCC, KCC	IEC 60950-1, cULus, FCC & CE Class A, BIS, CCC, KCC	IEC 60950-1, cULus, FCC & CE Class A, BIS, CCC, KCC
Operating temperature	32–104°F (0–40°C)	32–104°F (0–40°C) 1200-S-C5G-WW (PoE disabled) operates 32–140°F (0–60°C)	32–104°F (0–40°C)	32–104°F (0–40°C)	32–104°F (0–40°C)
Storage temperature	-4–158°F (-20–70°C)	-4–158°F (-20–70°C)	-4–158°F (-20–70°C)	-4–158°F (-20–70°C)	-4–158°F (-20–70°C)
Operating humidity (noncondensing)	10–90%	10–90%	5–90%	5–90%	5–90%
Storage humidity (noncondensing)	10–90%	10–90%	5–95%	5–95%	5–95%
MTBF (Years)	133 (1200 base) 57 (1200-C) 50 (1200-C5G)	60 (1200-S base) 39 (1200-S-C) 36 (1200-S-C5G)	48	12	10
Dimensions (LxWxH in inches)	6.42" x 9.53" x 1.73"	9" x 13" x 1.73"	8.88" x 13" x 1.66"	14.15" x 17.12" x 1.70"	14.15" x 17.12" x 1.70"
Weight	3.75 lbs (1.7 kg)	7.85 lbs (3.5 kg)	8.7 lbs (4 kg)	15.5 lbs (7 kg)	15.5 lbs (7 kg)

Notes: (1) WAN and LAN Ethernet ports are suitable for interconnection to other local device Ethernet ports. These ports aren't designed for direct connection to Public Switched Telephone Network (PSTN) ports or interfaces. In addition, copper-based WAN ports, LAN ports, and copper-based modular transceivers aren't rated to connect to Telecommunications Outside Plant or OSP cabling. (2) All IONs have an AUX port, which you can connect at a baud rate of 115200 for out-of-band management.

* Throughput measurements based on the Prisma SD-WAN 6.0.2 release as of August 31, 2022. These numbers are subject to change.

Table 2: Hardware Models with Cellular Support for Remote Offices			
	ION 1200-C-NA **ION 1200-S-C-NA**	**ION 1200-C-ROW** **ION 1200-S-C-ROW**	**ION 1200-C5G-WW** **ION 1200-S-C5G-WW**
Supported RF bands	**LTE:** B2, B4, B5, B7, B12, B13, B14, B25, B26, B41, B42, B43, B48, B66, B71 **3G:** B2, B4, B5	**LTE:** B1, B3, B7, B8, B20, B28, B32, B38, B40, B41, B42, B43 **3G:** B1, B5, B8	*ION 1200-C5G-WW and ION 1200-S-C5G-WW support:* • **5G NR Sub-6 GHz (FR1):** n1, n2, n3, n5, n28, n41, n66, n71, n77, n78, n79 • **LTE:** B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B46, B66, B71 • **3G:** B1, B2, B4, B5, B6, B8, B9, B19 *Only ION 1200-S-C5G-WW supports:* • **5G NR Sub-6 GHz (FR1):** n7, n8, n12, n20, n38, n40 • **LTE:** B43
Carrier certifications	AT&T, PTCRB, T-Mobile, Verizon Bell Canada (ION 1200-C-NA)	GCF	AT&T, GCF, PTCRB, T-Mobile, Verizon, Telstra

Table 3: Software Models				
	For Remote Offices			**For Data Centers**
	ION 3102V	**ION 3104V**	**ION 3108V**	**ION 7108V**
Platforms	ESXi, Hyper-V, KVM	ESXi, Hyper-V, KVM	ESXi, Hyper-V, KVM	ESXi, Hyper-V, KVM, Azure, AWS, GCP
Throughput	Up to 100 Mbps	Up to 200 Mbps	Up to 350 Mbps	Up to 3 Gbps
vCPU	2	4	8	8
RAM (GB)	8	8	8	32
Disk (GB)	40	40	40	100

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