velocloud™
by **Broadcom**

VeloSky
Platform Specifications

AT A GLANCE

VeloSky empowers service providers who own or resell wired and wireless circuits—whether 5G Fixed Wireless Access (FWA) or satellite—with a comprehensive solution designed to enhance customer satisfaction. By delivering superior quality of service, VeloSky enables providers to stand out in a competitive market. Additionally, it drives incremental revenue opportunities through a converged solution that seamlessly integrates fiber, 5G FWA, and satellite technologies. With built-in capabilities for on-device and cloud security, VeloSky offers further upsell potential, ensuring service providers can maximize both value and growth.

KEY BENEFITS

- Drive incremental revenue with additional monetization opportunities for 5G, satellite and network security
- Improve customer satisfaction with superior quality of service
- Accelerate customer deployment and improve operations while reducing operational costs

VeloSky offers a converged access solution unifying fiber, cellular, and satellite networks in a single device, allowing service providers to deliver AI-optimized performance, integrated security, and seamless operations. VeloSky empowers service providers to monetize their 5G and satellite investments, unlocking new revenue streams, diversifying business models, and gaining a competitive edge with a distinctive offering.

The solution is exceptionally easy to set up, leveraging the VeloSky global orchestration infrastructure or offering the flexibility of a self-managed model. Its deployment is simplified with a single-box solution, zero-touch provisioning, centralized visibility, and automated workflows, enabling rapid customer rollout. Additionally, it ensures seamless management and troubleshooting through a single pane of glass for both networking and security, delivering secure and consistent application performance across the network.

VeloSky Components

VeloSky Appliance

VeloSky Appliance is a high-performance, enterprise-grade solution designed to deliver secure, optimized connectivity to applications both on-premises and in the cloud. Featuring zero-touch provisioning, it ensures seamless, secure access to applications with minimal configuration and maximum efficiency.

VeloSky Appliance prioritizes critical traffic to deliver an optimal application experience during network congestions with minimal downtime and interruptions. It identifies and manages over 4,300 applications, applying Quality of Service (QoS) based on business policies. Additionally, it mitigates issues with underlying circuits, including 5G and satellite connections, by employing advanced techniques such as forward error correction (FEC) and jitter buffering. These features ensure error correction and smooth performance, even when the WAN link experiences jitter or other disruptions.

VeloSky Appliance also offers an enhanced firewall service, which includes functions such as IDS/IPS, URL filtering, and malicious IP filtering. This additional layer of security serves as a barrier between a private network and the public Internet and is crucial for protecting branch sites from unauthorized access and threats.

VeloSky Orchestrator

VeloSky Orchestrator is a cloud-hosted or on-premises central management tool for VeloSky. Its web-based user interface provides simplified configuration, provisioning, monitoring, fault management, logging, and reporting functions for both networking and security.

VeloSky Gateways

VeloSky Gateways optimize data paths to all applications, branches, and data centers, along with the ability to deliver network services to and from the cloud. A distributed, global network of gateways, hosted by Broadcom/service providers, provide scalability, redundancy, and on-demand flexibility.

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Software Features

Category	Features
AAA	RADIUS, local authentication and authorization, multitenant 3 Tier RBAC architecture, auditing, roles and privileges
Availability	High availability for VeloSky Appliance, disaster recovery for VeloSky Orchestrator, multilink for high availability of WAN Edge clustering
Configuration and Monitoring	REST API, SDK (Java and Python), Syslog, SNMP, NetFlow, 4,300+ applications/categories, ANPM, application usage, device identification, live mode, zero IT touch activation, per-flow visibility
Deployment Flexibility	Eliminate pre-stage, no CLI, group policies, consolidated ICOM and end customer dashboard, multitenant stateless headend, transport group for business policy abstraction, application-aware service insertion on premises or in cloud, RMA workflow, customized application maps
Dynamic Multipath Optimization	Application and network condition aware sub-second steering, jitter/loss correction, fast intelligent routing, intelligent gateway selection, link aggregation, TCP flow optimization, unidirectional link measurements, bandwidth detection
Multitenancy	VeloSky Gateway, VeloSky Orchestrator
Network Services	IPv4, IPv6, DNS, DHCP client, DHCP server, DHCP relay, NAT
QoS	Shaping, policing, per-flow queueing, multi-source inbound QoS, rate-limiter, COS aware, outer/inner DSCP tagging, smart defaults, MPLS COS
Remote Troubleshooting	Live mode, alerts, events, remote diagnostics (DNS test, ping test, flush active flows, list active flows, paths, VPN tests, packet capture), PKI infrastructure with certificate management workflows, diagnostic bundles
Routing	OSPF, BGP, static, connected, ICMP probes/responders, overlay flow control, per-packet application-aware steering, route filter, route redistribution
SaaS/IaaS	Improved performance for cloud apps, supports well-known IaaS (AWS, Azure, GCP), Security Service Edge (Check Point, Zscaler, Palo Alto Networks, Netskope, Menlo Security, Websense, OpenDNS)
Security	AES 256/128, SHA1/SHA2, IKEv2, VPNC-compliant IPsec, PKI, segmentation, TLS 1.2, SCEP, firewall L2-7, 1:1 NAT, port forwarding, dynamic branch to branch, MAC filtering
Enhanced Firewall Service	Advanced firewall features including Intrusion Detection and Prevention (IDS/IPS), URL Filtering, Malicious IP Filtering, and security monitoring
Hosted Firewall Logging	A hosted logging infrastructure on the cloud is provided to customers to capture and store firewall logs received from Edges
Security Monitoring Dashboard	The Security Overview screen displays real-time security-related statistics including threats detected/prevented and edge impacted/protected.
Port Security	Wi-Fi 802.1x – WPA-Enterprise (EAP-MD5, EAP-TLS), WPA-Personal 802.1x- Enterprise (EAP-MD5, EAP-TLS) - MAC address-based access (local) 802.1x is supported on both switched and routed ports MAC Address Bypass (MAB): For LAN devices that do not support 802.1x authentication, their MAC addresses can be checked against a RADIUS server
VLAN Tagging	802.1Q, 802.1ad, QinQ (0x8100), QinQ (0x9100), native
WAN Overlay Support	Public/private/hybrid transport, cloud and on-premises
Dynamic Application-Based Slicing	VeloSky integrates network slicing by identifying and sending critical traffic over the appropriate slice for optimal application performance over 5G links.
Dynamic Bandwidth Adjustment	For cellular connections, the available bandwidth may vary significantly over time. Dynamic Bandwidth Adjustment Enhancement monitors WAN congestion and packet loss, enabling real-time adjustment of bandwidth as needed.
Limit Control Traffic Frequency	Reduce management and control traffic on wireless links with data-limit contracts.

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Software Subscription Editions

VeloSky software is based on different subscription editions with different features designed for a wide variety of use cases. They are listed below.

Feature	Essentials	Advanced	Premium
Segmentation	✓	✓	✓
Dynamic Bandwidth Adjustment	✓	✓	✓
Link Failover	✓	✓	✓
Multi-Link	✓	✓	✓
Application Recognition	✓	✓	✓
Dynamic Application-Based Slicing (DABS), Application Prioritization	✓	✓	✓
Network Slicing	✓	✓	✓
Stateful Firewall	✓	✓	✓
Stateful Firewall with IPDS/URLF/Malicious IP Filtering	✗	✓	✓
Dynamic Multipath Optimization (DMPO)	✗	✗	✓
Convergence (active/active)	✗	✗	✓
Quality of Experience (QoE)	✗	✗	*Last-mile QoE*

Software Support Levels

Software Support Plans			
Feature	Broadcom Software Maintenance	Broadcom Software Maintenance with Support Account Manager (SAM) Add-On	Broadcom Software Maintenance with Support Account Manager (SAM) and Dedicated Support Engineer (DSE) Add-Ons
First Response	*Severity 1: 30 minutes; 24x7* *Severity 2: 2 business hours* *Severity 3: 4 business hours* *Severity 4: 8 business hours*	*Severity 1: 30 minutes; 24x7* *Severity 2: 2 business hours* *Severity 3: 4 business hours* *Severity 4: 8 business hours*	*Severity 1: 15 minutes; 24x7* *Severity 2: 1 hour; 24x7* *Severity 3: 4 business hours* *Severity 4: 8 business hours*
Restoration	—	—	*Severity 1: 4 hours* *Severity 2: 8 hours*
Root-Cause Analysis	—	—	*Severity 1: 5 business days* *Severity 2: 20 business days*

Hardware Replacement Services

- Hardware warranty is required at initial purchase
- No separate hardware support SKU. Hardware support is tied to the parent hardware SKU.

Hardware RMA Support Plans	Description
Standard	*10-day return to factory for replacement*
Standard Plus	*Same-day shipment of replacement Edge*
Advanced (Onsite Optional)	*Replacement Edge delivered to customer site by next business day (for qualified locations)*
Premium (Onsite Optional)	*Four-hour arrival, seven days a week (for qualified locations)*

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VeloSky Appliance Specifications (Performance and Scale)

VeloSky Appliance Models	
Parameters	VeloSky 710-5G
Maximum Throughput per Edge with Routed-Mode Ports (1300B)[1]	950 Mb/s
Maximum Throughput per Edge with Routed-Mode Ports (IMIX)[2]	350 Mb/s[4]
Maximum Throughput per Edge with Enhanced Firewall Services (App Mix)[3]	280 Mb/s
Flow per Second	4000
Maximum Concurrent Flows	225,000
Maximum Concurrent Flows with Enhanced Firewall Services Enabled	110,000
Maximum Number of BGP Routes	100,000
Maximum Segments	32
Maximum NAT Entries	225,000

[1]Maximum performance of the Edge based on large packet (1300-byte) payload with AES-128 encryption and DPI turned on.
[2]Internet traffic (IMIX) performance based on average packet size of 417-byte payload with AES-128 encryption and DPI turned on.
[3]Performance numbers with Enhanced Firewall Services measured using TREX setup based on enterprise application mix of TCP and UDP traffic profiles.
[4]IMIX performance using AES-256 encryption.

Enhanced HA Link Performance

VeloSky Appliance Models	
Parameter	VeloSky 710-5G
Maximum Throughput (IMIX) Across EHA Link	260 Mb/s

Connectivity

VeloSky Appliance Models	
Parameters	VeloSky 710-5G
LAN/WAN 1G RJ-45	4
LAN/WAN 2.5G RJ-45	No
LAN/WAN 1G SFP	1
LAN/WAN 1G/10G SFP+	No
Integrated Wi-Fi	Yes
Integrated 5G/LTE	Yes
USB Ports (3G/4G LTE)	1[1]

[1]USB 3.0 ports.

Memory, Storage, and Third-Party VNFs

VeloSky Appliance Models	
Parameters	VeloSky 710-5G
System Memory (RAM)	4 GB
System Flash	16 GB
System Storage	—

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Dimension, Power, Environment, and Reliability

VeloSky Appliance Models	
Parameters	VeloSky 710-5G
Cooling	Fanless
Mounting	Desktop, wall mount, 19-in. rack mount
Size (W x D x H)	206 mm × 179.5 mm × 35 mm
Unit Weight	2.0 lb
Gross Weight[1]	5 lb
Power Supply	External: AC
AC Input	Voltage: 100V to 240V auto-ranging, Frequency: 50 Hz to 60 Hz
Power Load (Typical/Max)	15W/20W
Operating Conditions	Temperature: 0°C to 40°C, Humidity: 5% to 85%, Altitude: 5000m
Non-operating Conditions	Temperature: –40°C to 70°C, Humidity: 5% to 95%, Altitude: 5000m
MTBF[2]	28 years

[1]Gross weight is the total weight of the shipment package including the unit, power adapter, AC cord, wall mount brackets, and packaging.
[2]MTBF is based on Telcordia SR-332 methodology; system fans are excluded in the calculation (25°C ambient temperature).

Hardware Accessories

Mounting Brackets and Rails

VeloSky Appliance Models	Included	Additional Options	Part Number
VeloSky 710-5G	Wall-mount bracket	2U rack-mount shelf	VC-EDG-RMB-P

Power Adapters, Cables, and Guides

VeloSky Appliance Models	Power Adapter[1] and Cable	Ethernet Cable	Quick Start Guide
VeloSky 710-5G	Included	Included	Included

Wireless Specifications

Wireless LAN (Wi-Fi) Specifications

VeloSky Appliance Models	
Wi-Fi Capabilities	VeloSky 710-5G
Wi-Fi Standards	802.11 a/b/g/n/ac/ax (Wi-Fi 6)
Frequency Bands (GHz)[1]	2.412-2.452, 5.180-5.230, 5.745-5.795
Antenna (Maximum Data Rate)	2x2 MIMO
Maximum Simultaneous SSIDs	4
Maximum Transmit Power[1]	21 dBm for 2.4 GHz, 20 dBm for 5 GHz

[1]Country-dependent; frequency and power limits are set once the unit is activated.

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Wireless WAN (3G/4G/LTE/5G) Specifications

VeloSky Appliance Models	
3G/4G/LTE Capabilities	VeloSky 710-5G
Modem	Telit FN990A28
Geography	Global
LTE Category	Cat-19
Carrier Aggregation	Yes
3G Fallback	HSPA+
SIM Slots	Dual Physical SIM + single eSIM (eSIM requires future software support)
LTE Bands	B1, B2 (B25), B3, B4 (B66), B26 (B5, B18, B19), B7, B8, B12 (B17), B13, B14, B20, B28, B29 (DL), B30, B32 (DL), B34, B38, B39, B40, B41, B42, B43, B46 (LAA), B48 (CBRS), B66, B71
5G Bands	5G FR1 bands, n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n66, n71, n75, n76, n77, n78, n79
Antennas	Main and AUX (via SMA connectors)

Regulatory and Compliance Certifications

Parameters	Certifications
EMC	FCC (US) CE (Europe) R-Mark (Japan) SRRC (China) KCC (Korea) NCC (Taiwan) ICES-003 EN 55022 CISPR 22 AS/NZS 3548 VCCI CNS 13438 EN 300-386 EN 61000 (Immunity) EN 55024 CISPR 24 EN 50082-1 CISPR 35 (Edge 510/510-LTE/6x0/3x00 Only) EN 55035 (Edge 510/510-LTE/6x0/3x00 Only)
Safety	UL 60950-1 UL 62368-1 CAN/CSA C22.2 EN 60950-1 EN 62368-1 AS/NZS 60950-1 AS/NZS-62368-1 IEC 60950-1 IEC 62368-1 GB-4943 (CCC)
RoHS	Compliant