

ORACLE®
SD-WAN



Selecting a Failsafe SD-WAN

Oracle SD-WAN solutions deliver a unique combination of availability, performance, and reliability for highly resilient remote sites with high quality of experience.

ORACLE®

Software-defined wide area networks (SD-WANs) offer increased network capacity, improved traffic reliability, and a higher quality of experience (QoE) while lowering costs. A failsafe SD-WAN secures and consolidates communications infrastructure to flexibly deploy and deliver applications and services, without sacrificing availability or performance.

A CHANGING NETWORK LANDSCAPE

With the explosive growth in real time applications, distributed workforces, and cloud computing, a company's productivity and customer responsiveness have never been more dependent on WAN infrastructure. Because of this, organizations are focusing on WANs and cloud access networks. Having enough bandwidth to support increased demand, provide predictable reliability, and ensure continuous application availability are the keys to success.

The cloud is rapidly changing demands on enterprise IT legacy resources. The traditional WAN deployment of the last decade—multiprotocol label switching (MPLS) circuits and enabling devices, often augmented by separate WAN optimization and firewall equipment—no longer offer enterprise IT the necessary requirements for cost savings, flexibility, bandwidth, manageability, and streamlined cloud connectivity. Failsafe SD-WANs offer organizations the unique combination of availability, performance, and reliability, yielding a highly resilient remote site with platinum application QoE.

MAXIMIZE BUSINESS IMPACT

Failsafe SD-WANs are engineered for maximum business impact in an enterprise network. This is achieved by creating failsafe WANs that offer superior application reliability, while unlocking the benefits of network resiliency and scalable bandwidth. Failsafe SD-WANs are built on a flexible portfolio that provides key network services including SD-WAN, WAN optimization routing, and firewall.

Oracle SD-WAN transforms a traditional WAN into a network that is easy and fast to deploy. It increases the reliability, security, and performance of applications while leveraging affordable broadband links that are transformed into an enterprise-class infrastructure. It does this by understanding a company's applications and priorities while adapting automatically to changing conditions and demands. Oracle SD-WAN supports various link types, such as MPLS and broadband Internet, and works well with common services such as WAN optimization. Customers have great flexibility in determining how the SD-WAN is deployed including at the physical edge, the virtual edge, or in the cloud:

- Physical appliances offer an easy-to-acquire and easy-to-deploy WAN-edge option that support the features, performance, and scale to meet the needs of sites that range in size from large data centers to small offices and home offices.
- Companies that want to standardize on commoditized hardware can use Oracle Talari VT800, an on-premises, software-only virtual appliance that runs in VMware vSphere and Microsoft Hyper-V.

Failsafe Defined

Failsafe means MPLS-class high availability and predictable application performance or QoE.

Key Features of Failsafe Oracle SD-WANs

- Easy-to-use, centralized orchestration
- Load balance across aggregated bandwidth
- Seamless interoperability between expensive MPLS connections and inexpensive commodity internet
- Highly scalable for branch office deployments or cloud connections

- Organizations that need to improve the reliability and quality of their cloud access can leverage Oracle SD-WAN Cloud Hub, which delivers easy-to-deploy and easy-to-administer failsafe cloud access. They can deploy Oracle Talari CT800—a virtual appliance available for Amazon Web Services (AWS). Alternately, they can implement Oracle Talari VT800, a virtual appliance supporting Microsoft Azure. All of Oracle’s cloud solutions can act as gateways to IaaS locations, SaaS applications, and internet sites.

All appliances run Oracle’s patented adaptive path networking (APN) software, so regardless of the type of appliance deployed, customers are assured the appliances have identical features as well as a consistent deployment and support experience. This simplifies SD-WAN, routing, and firewall administration and reduces support costs.

STRONG SECURITY

IP communications are susceptible to cyber-security threats, including Denial of Service (DoS) attacks, fraud, and privacy breaches that result in lost revenue and productivity, poor customer experiences, compliance violations, and damage to the corporate brand. Oracle SD-WAN protects IP-based systems and services from these threats and delivers secure real-time communications across trusted and untrusted networks alike.

Oracle SD-WAN incorporates Oracle’s secure, application-aware, flexible, extensible (S.A.F.E.) architecture, a comprehensive vision that ensures the availability of services, systems, and applications across disparate networks. It uses dedicated resources to ensure that data in transit cannot be intercepted or compromised. Data sent across public links is encrypted using either 128-bit or 256-bit advanced encryption standard (AES). A stateful, zone-based firewall offers packet filtering services and data segmentation using virtual routing and forwarding (VRF) enabling a single appliance to securely host multiple customer or department networks. Oracle SD-WAN is also capable of transparently forwarding all internet traffic to the Zscaler secure cloud gateway, and running next-generation firewall (NGFW) services by Palo Alto Networks.

FAST DEPLOYMENT AND EASY, CENTRALIZED MANAGEMENT

IT managers frequently encounter interoperability problems when connecting on-premises systems to each other and to cloud communications services. These problems can reduce network agility and reliability, delay projects, increase costs, and put investments at risk of obsolescence.

The Easy Edge capabilities in Oracle SD-WAN allows a tech-savvy central IT team to preconfigure the SD-WAN appliance, which can then be factory shipped directly to a branch or remote location. At the remote location, a non-technical individual may unbox, plug in, and power up the device to get connected to the SD-WAN. Also, the basic view with configuration templates feature ensures easy ongoing configuration and management of the appliance.

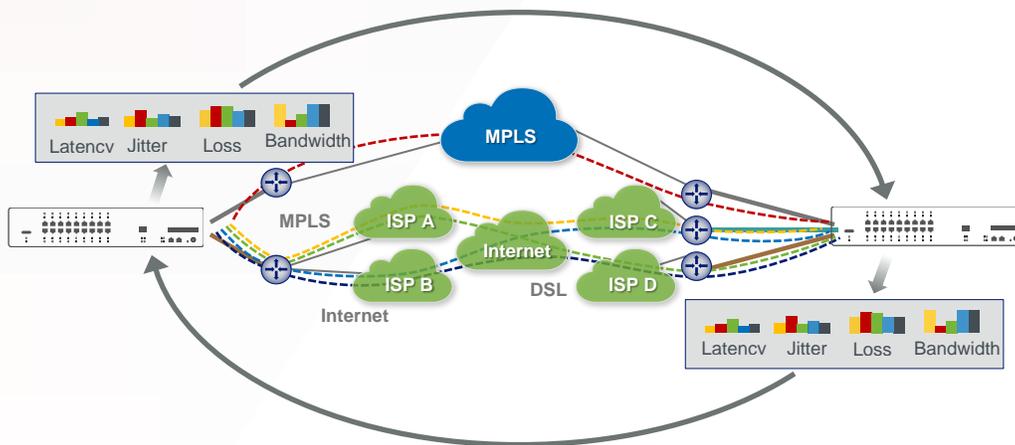
The network control node (NCN) is the management and orchestration point for Oracle SD-WAN. Beyond being the central point for SD-WAN and services configuration, the NCN establishes dynamic connections between client appliances. The NCN can be located on-premises or in the cloud with all Oracle SD-WAN appliances so that they are eligible to act as the NCN.

Key Business Benefits of Failsafe Oracle SD-WAN

- Increase resiliency and reliability
- Experience superior QoE
- Maintain high network availability
- Maintain continuous uptime for mission critical applications
- Reduce WAN legacy costs
- Deploy rapidly and easily
- Protect IT infrastructure, services, and applications with built-in security
- Increase bandwidth performance

ASSURED RELIABILITY AND INTEROPERABILITY

Impairments and failures can occur anywhere in a communications network, and they are difficult to detect, isolate, and repair. Oracle SD-WAN includes a complete set of carrier-grade routing and survivability features that ensure business continuity in the face of network failures and impairments. Oracle SD-WAN is a hybrid WAN that interconnects with dedicated multiprotocol label switching (MPLS) circuits plus public internet connections to build a WAN infrastructure. Regardless of the underlying network, Oracle SD-WAN monitors and tracks WAN performance for Quality of Service (QoS) that includes bandwidth reservation and real-time, best-path selection to create a reliable, high-performance WAN.



The failsafe Oracle SD-WAN connects disparate IP networks increasing capacity, reliability, and security.

With support for popular border gateway protocol (BGP) and open-shortest-path-first (OSPF) routing protocols, Oracle SD-WAN lowers costs and network complexity by eliminating the need to maintain multiple branch devices. Beyond router protocol support, other service—such as WAN optimization, dynamic host configuration protocol (DHCP) server and relay, and network address translation (NAT)—are also available. When combined, these capabilities further reduce the need for additional branch hardware such as legacy routers or WAN optimization controllers.

Oracle SD-WAN

Deployed in thousands of sites across more than 40 countries, the Oracle SD-WAN product family provides market-leading, trusted, failsafe SD-WAN technology. Oracle SD-WAN delivers superior application reliability and resiliency while unlocking the benefits of branch consolidation.

Related Products

- Oracle SD-WAN Edge
- Oracle SD-WAN Aware (Analytics)

Related Hardware Appliances

- Oracle Talari E50
- Oracle Talari E100
- Oracle Talari D2000
- Oracle Talari D600

CLOUD AND VIRTUAL APPLIANCES

Oracle Talari CT800

This appliance runs in the AWS cloud and supports up to 500 Mb/sec full-duplex and can be the designated network controller for an Oracle WAN. Oracle Talari CT800 can provide secure, aggregated cloud access over broadband or direct connect links to ensure high-quality and reliable access to IaaS, SaaS, and internet locations.

	Oracle Talari CT800 Instance Requirements for 500 Mb/sec	Oracle Talari CT800 Instance Requirements for 200 Mb/sec
Instance type	c5.4xlarge	C3.2xlarge
Number of CPUs	16	8
RAM	32 GB	15 GB
Storage	40 GB	40 GB
Network interfaces	3	3

Oracle Talari VT800

This appliance supports up to 2 Gb/sec full-duplex. It runs in a VMware vSphere virtual server, Microsoft Hyper-V hypervisor, or Microsoft Azure cloud platform and provides the same SD-WAN functionality as a physical appliance. Note that the maximum supported performance varies based on the hypervisor or cloud platform selected.

	Requirements
Processors	64-bit, 3 GHz or better, with support for advanced encryption standard new instructions (AESNI) such as found in Intel Xeon 5600
Operating system	1 dedicated Ethernet port, but no more than 7 total Ethernet ports
Dedicated storage	40 GB
Dedicated virtual CPUs	1 to 4 depending on performance level
Dedicated RAM	2 to 4 GB depending on performance level

PHYSICAL APPLIANCES

APPLIANCE	CAPABILITIES
<p>Oracle Talari D6000</p> 	<p>Oracle Talari D6000 is for data centers or large offices supporting an aggregation of WAN bandwidth up to 5 Gb/sec* full duplex. It can act as an edge appliance or network controller.</p>
<p>Oracle Talari D2000</p> 	<p>Oracle Talari D2000 brings reliability and higher bandwidth to large data centers, call centers, UCaaS or CCaaS. It is optimized for large amounts of small packets, making it ideal for VoIP and VDI situations. Oracle Talari D2000 supports up to 2 Gb/sec full duplex of WAN bandwidth across the union of private WAN links and public internet connections.</p>
<p>Oracle Talari E100</p> 	<p>Oracle Talari E100 is an edge appliance for a small- to medium-sized branch office and supports a total of up to 500 Mb/sec full-duplex across multiple WAN links. It is designed to bring an easy-to-install, service-rich appliance to support next generation WAN edge. Oracle Talari E100 offers a high degree of service flexibility.</p>
<p>Oracle Talari E50</p> 	<p>Oracle Talari E50 is an SD-WAN solution designed for customers who require an easy-to-deploy and operate multiservice WAN edge physical appliance to connect small, branch-office locations such as retail or mobile sites. It supports a total of up to 100 Mb/sec full-duplex performance across multiple WAN links while delivering key edge network features including routing, firewall, and WAN optimization.</p>

PHYSICAL APPLIANCE SPECIFICATIONS

	ORACLE TALARI E50	ORACLE TALARI E100	ORACLE TALARI D2000	ORACLE TALARI D6000
Location	Small site or home location	Medium to small branch	Data center or call center	Large data or call center
Maximum bandwidth	100 Mb/sec Full-duplex	500 Mb/sec Full-duplex	2 Gb/sec Full-duplex	5 Gb/sec* Full-duplex
Control node	—	✓	✓	✓
High availability	—	✓	✓	✓
Geo redundancy	—	✓	✓	✓
Ports	4x1 GE RJ45 2 general 1 management 1 auxiliary	6x1 GE RJ45 5 general 1 management	2 x 10 GE SFP+ 9 x 1 GE RJ45 9 general 1 management	2x10 GE SFP+ 4x10 GE (SR-FTW) 5x1 GE RJ45 5 general 1 management 6 optical ports

	ORACLE TALARI E50	ORACLE TALARI E100	ORACLE TALARI D2000	ORACLE TALARI D6000
Fail to wire	1 pair: 2x1 GE	2 pairs: 4x1 GE	4 pairs: 8x1 GE	2 pairs: 4x1 GE 2 pair optical: 4x10 GE
Management ports	—	Serial console Ethernet	Serial console Ethernet	Serial console Ethernet
Other ports	Ethernet port	2 USB 2.0	—	—
LCD	—	2x16	—	—
Size	1U: 44 mm (W) x 249 mm (D) x 137 mm (H) (1.7" x 7.3" x 5.4") Desktop option	1U: 431 mm (W) x 305 mm (D) x 44 mm (H) (16.9" x 12.0" x 1.7")	1U: 437 mm (W) x 737 mm (D) x 42.6 mm (H) (17.2" x 25.6" x 1.7")	1U: 436.5 mm (W) x 737 mm (D) x 42.6 mm (H) (17.2" x 25.6" x 1.7")
Operating temp	0° to 45° C	0° to 40° C (32° to 104° F)	5° to 35° C (41° to 95° F)	5° to 35° C (41° to 95° F)
Storage temp	-40° to 70° C (-40° to 158° F)	-20° to 70° C (-4° to 158° F)	-40° to 70° C (-40° to 158° F)	-40° to 70° C (-40° to 158° F)
Relative humidity	5% to 90% non-condensing	5% to 90% operating environment; 5% to 95% storage environment	10% to 90% non-condensing	10% to 90% non-condensing
Power	Non-redundant power supply; 36 watt power adapter 100-240 volts AC; 50-60 Hz AC input frequency	100-240 volts, 50-60 Hz, 3-1.5 A max, 200W	Redundant, hot swappable 1200 W AC power supply; 100-240 volts 50-60 Hz	Redundant, hot swappable 1200 W AC power supply; 100-240 volts 50-60 Hz

*- the 5 Gbps performance level is based upon passing traffic through the appliance line card interfaces

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