# INNOVATIVE SD-WAN TECHNOLOGY

Enhance network performance and increase ROI with Ecessa WANworX™

Many of the WAN deployments today are based on older technology that was acceptable when businesses did not run at breakneck speed, or when operations didn't grind to a halt when connectivity was disrupted. Today's cloud-based applications, data centers and distributed networks, where so much is virtualized and delivered as-a-service, makes limited bandwidth and network outages no longer acceptable.

For these reasons, Ecessa created the WANworX product line; the most cost effective, scalable and flexible Software-Defined Wide Area Network (SD-WAN) solutions available. The unique combination of robust hardware, innovative software, network design and support services allows organizations with multiple locations to combine private MPLS/T1 leased lines and public broadband links. This creates secure, cost effective, high capacity, high quality, reliable and resilient networks.

The Ecessa WANworX products are offered both as premise based appliances and virtual instances. The technology leverages dedicated Ecessa presence at the edge, data center, corporate headquarters and Cloud to provide a scalable end-to-end solution. All traffic management features are located on the appliance with policies and configurations being managed through a web application. Routing and traffic shaping is done locally or globally within an existing corporate network leveraging multiple WAN connections from any combination of wired and wireless transports.
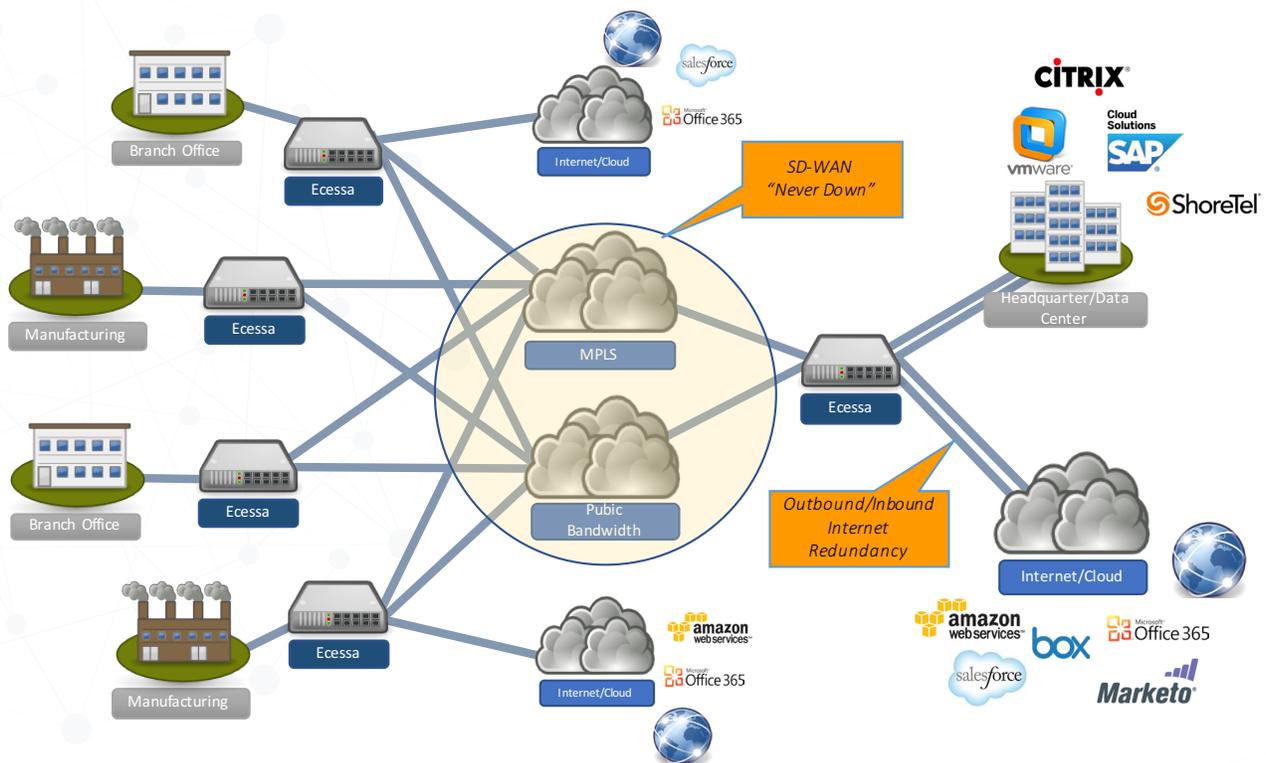
Business problems solved by WANworX

SD-WAN solutions, like WANworX, allow businesses to improve the user experience over any connection, whether that be premium-priced MPLS, lower-cost broadband, or cellular 4G or LTE. When coupling the potential savings in leveraging lower cost transports and reduced IT management with the efficiencies derived from increased bandwidth and always connected or active-active networks, businesses can easily justify an SD-WAN deployment.

What can an organization expect with SD-WAN deployment?

Improved Network Performance

There has been a dramatic increase in network complexity, demanding a new approach to how IT looks at its network and application performance infrastructures. Organizations are reliant on virtualization and new highly distributed application architectures, along with the reliance on remotely hosted business applications. Applications are coming from everywhere—the Cloud, Software as a Service (SaaS), data centers or branch, and even from users adding applications never approved by IT departments. This means performance can suffer due to the limitations of physics, as well as network complexity.

Additional Bandwidth

- Add broadband Internet services to augment MPLS for a secure hybrid WAN.
- Put standby failover lines to work as part of an active network, available to carry all traffic in case of a primary link failure.

Improved Application Performance

- Predictable application performance regardless of link quality, WAN disruptions, jitter, delay, or packet loss. WANworX monitors and adjusts traffic paths in real-time for exceptional application performance.
- Quickly roll out bandwidth-intensive applications such as video, Virtual Desktop Infrastructure (VDI) and guest Wi-Fi, with lower costs and greater user experience.
- Best-in-market performance on VoIP. No more dropped calls.
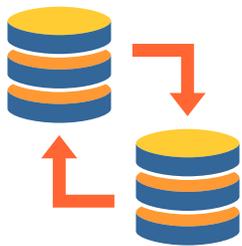
Network Redundancy

One of the most expensive, and least quantifiable, costs associated with technology and networking today is the cost of downtime. The more organizations rely on technology for their day-to-day operations, the more detrimental any amount of downtime becomes.

Business Continuity Demands a Highly Reliable and Resilient WAN

- Achieve greater than 99.999% WAN performance over public/private Internet links.
- Application traffic is prioritized and routed over the best links.

Never Down™ Performance Eliminates the Need for Failover

- Traffic instantly routes to one of your alternate links so you never experience application interruption, even in the event of link disruptions.
- 100% uptime = Never Down network peace of mind.

Reduced Telecom and Networking Expenses

Many of the new SD-WAN solutions can be used to improve and secure Internet connectivity, making it more competitive with expensive legacy WAN technologies such as T1 or MPLS. In some cases, SD-WAN technology uses Internet broadband connections to augment, or even replace, more expensive solutions. SD-WAN applies security and Virtual Private Networking (VPN) technology to broadband Internet connections, making them more secure. Additionally, SD-WAN has the advantage of removing potentially expensive routing hardware, by provisioning connectivity and services via the Cloud.

Manage or Reduce Connectivity Costs

- Use lower-cost broadband services to supplement or replace MPLS, with better price performance, resulting in faster ROI.

Single Carrier Reliance and Last Mile Issues

- Combine multiple carriers' links to eliminate single provider failure and last mile vulnerability.

- End reliance on high cost MPLS, such as service over all links, with WANworX Quality of Service (QoS).

- Makes broadband a viable enterprise alternative.
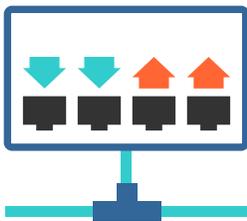
Network Scalability

Enterprise customers are demanding more flexible, open and cloud-based WAN technologies, rather than installing proprietary or specialized WAN technology that often involve expensive fixed circuits, or proprietary hardware.

Company Growth

- Scalable so you can add locations incrementally.

- Creates the flexibility to use broadband connections and/or MPLS at new locations.

Case Study: Impressive ROI and fast Payback

Egan Company, a large commercial construction firm headquartered in Minneapolis, MN, saves over $100,000 annually per site in technology expenses using WANworX SD-WAN solutions. WANworX has allowed Egan to decommission their MPLS network and instead use multiple, lower cost Internet connections. WANworX also improves their application performance, enabling additional cost savings by leveraging VDI, which eliminates significant equipment and maintenance expenses.

"With Ecessa's help our virtual PCs and VoIP systems at our remote sites have far greater usability and far greater reliability," Jim Nonn, CIO, Egan Company.

ECESSA Insight™

Management tools

Ecessa Insight™ is a centralized, browser-accessed management tool that gives IT staff the ability to configure, manage and monitor any Ecessa solution. Ecessa Insight provides customers with an end-to-end management tool that assists in the deployment of any Ecessa solution, as well as access to detailed network and device performance data in the years to come. The application can easily be customized through the use of multiple user-definable apps such as maps, dashboards and reports.

The customizable, widget-based framework enabled by Ecessa Insight allows users to build a single-pane-of-glass view, simplifying many common management tasks such as configuration and monitoring. This highly configurable and flexible orchestrator provides organizations with the ability to view multiple layers of physical and geographical topologies. Everything from configuration changes to an overview of network status can be accomplished on any device, anywhere and at any time. When paired with an Ecessa solution, an organization will not only minimize the time required to manage the network, but will gain unprecedented insight into network and application performance.

Other benefits provided by WANworX SD-WAN

WAN Resiliency

You're doing everything you can to ensure your network is Never Down. That's Ecessa's mission. We help you leverage WAN links from different carriers and manage the flow of traffic over all lines, giving you predictable application performance regardless of link quality, WAN disruptions, jitter, delay, or packet loss. WANworX monitors and adjusts traffic paths in real time for exceptional application performance.

High Availability (Hardware Failover)

All Ecessa products support active hardware failover. In the unlikely event of a controller failure the secondary device will seamlessly take control of all traffic, adding another layer of network resiliency.

Disaster Recovery (Geographic Redundancy)

Because you must always be ready for disasters, every Ecessa device supports full mesh networking, allowing you to designate a remote/branch unit to take over network control in the event of a data center failure.

Fault Tolerance (Fail-to-Wire)

Ecessa's Fail-to-Wire option keeps a data path open during unexpected interruption, like power losses, of an Ecessa unit.

Management Features

Ecessa provides multi-tier management services via CLI, device GUI and web application interfaces; there is a convenient method for any user. Global enterprise management is provided with our Ecessa Insight with a single-pane-of-glass. Features also include QoS traffic management for guaranteed performance for all business-critical applications, and global management through Ecessa Insight of all enterprise and remote WAN resources.

Monitoring and Reporting

All Ecessa products support Simple Network Management Protocol (SNMP), netflow, remote syslog, email notifications and comprehensive alert logs for immediate awareness and network troubleshooting.

VoIP Support Features

For organizations with SIP-based applications, WANworX has you covered with built-in SIP proxy, SIP registrar, call ladder, firewall and VPN gateway. It also supports transparent SIP redirect, SIP load balancing and seamless call failover, which means your VoIP network will be rock solid and your calls will not drop due to WAN issues.

DNS Features

Authoritative DNS provides local WAN redundancy. DNS Dual-Role provides disaster recovery survivability and server failover provides true server redundancy.

Load Balancing

WANworX features intelligent traffic management and load balancing and can be configured with WAN link redundancy, automatic failover and fallback protection for 24/7 Internet availability.

Scalable

WANworX controllers scale to fit your needs. From small office/home office to branch/remote office to data center, we'll help you configure a virtualized WAN to suit your needs today - and that will grow as your data needs inevitably expand.

Unparalleled Support

Ecessa provides toll-free installation assistance and optional enhanced 24/7 service agreements.

Unit specifications

Data Center/Headquarter Solutions

	WANWorX WVDC-10	WANWorX WVDC-20	WANWorX WVDC-30	WANWorX WVDC-40	WANWorX WVDC-50	WANWorX WVDC-60	WANWorX WVDC-VI
Redundant WAN Links Supported	Up to 15	Up to 15	Up to 15	Up to 25	Up to 25	Up to 25	Up to 25
Remote Sites Supported	Up to 25	Up to 50	Up to 500	Up to 500	Up to 500	Up to 500	Up to 500
Traffic Throughput	350 Mbps	750 Mbps	1.25 Gbps	4 Gbps	10 Gbps	20 Gbps	See Table 1
Encrypted Throughput	150 Mbps	175 Mbps	400 Mbps	650 Mbps	1 Gbps	1 Gbps	See Table 1
Interface Speeds	10/100/1000 (Ethernet)	10/100/1000 (Ethernet)	10/100/1000 (Ethernet)	10/100/1000 (Ethernet) / Optional 4 Gbps (Fiber)	10/100/1000 (Ethernet) / Optional 10 Gbps (Fiber or Copper)	10/100/1000 (Ethernet) / Optional 10 Gbps (Fiber or Copper)	Server Dependent
Number of Ports	6	6	6 or 10	8	8, 10 or 12	10, 12, 14, or 16	Server Dependent
Intelligent Load Balancing	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound
Built-in Firewall	✓	✓	✓	✓	✓	✓	✓
Built-in VPN (IPsec & SSL)	✓	✓	✓	✓	✓	✓	✓
Full Mesh Network Routing	✓	✓	✓	✓	✓	✓	✓
Full Authoritative DNS Server	✓	✓	✓	✓	✓	✓	✓
QoS Traffic Management	✓	✓	✓	✓	✓	✓	✓
Event Reporting (SNMP, netflow)	✓	✓	✓	✓	✓	✓	✓
High Availability (HA Support)	✓	✓	✓	✓	✓	✓	✓
Fail-to-Wire / Network Bypass	✓	✓	✓	✓	✓	✓	Server Dependent
Ecessa Insight Compatible	✓	✓	✓	✓	✓	✓	✓
Form Factor	Physical	Physical	Physical	Physical	Physical	Physical	Virtual
Power	Adapter 100-240 Volt 50-60Hz. 36 Watts	Adapter 100-240 Volt 50-60Hz. 36 Watts	Integrated 100-240 Volt 50-60 Hz. 100 Watts	Integrated 100-240 Volt 50-60 Hz. 220 Watts	Integrated, Redundant, Hot Swappable 100-240 Volt 50-60 Hz. 300 Watts	Integrated, Redundant, Hot Swappable 100-240 Volt 50-60 Hz. 300 Watts	Server Dependent
Mounting Options	Desktop	1U	1U	1U	1U	1U	N/A
Dimensions (WxDxH)	9.4"x6.5"x1.7"	16.9"x12.0"x1.7"	16.9"x16.3"x1.7"	16.9"x16.3"x1.7"	17"x18.4"x1.7"	17"x18.4"x1.7"	N/A
Part Number	WVDC-10	WVDC-20	WVDC-30	WVDC-40	WVDC-50	WVDC-60	WVDC-VI

Virtual Product Performance Matrix

Processor	RAM (Gbytes)	Speed (GHz)	# of Cores	Minimum Bi-Directional Throughput (Mbps)			
				WAN-WAN	SD-WAN	VPN	Encrypted SD-WAN
Intel Core i5, i7, Xeon	4	2	4	980	360	280	225
			2	872	320	249	200
			1	776	285	222	178
		2.4	4	1150	420	325	250
			2	1024	374	289	223
			1	911	333	257	198
		2.8	4	1200	475	380	275
			2	1068	423	338	245
			1	951	376	301	218
		3.1	4	1500	1000	350	550
			2	1355	890	579	490
			1	1188	792	515	436

Unit specifications

Remote Solutions

	WANWorX WVR10	WANWorX WVR20	WANWorX WVR30	WANWorX WVR40	WANWorX WVR50	WANWorX WVR60	WANWorX WVR70
Redundant WAN Links Supported	Up to 3	Up to 15	Up to 15	Up to 25	Up to 25	Up to 25	Up to 25
Remote (Mesh) Sites Supported	Up to 3	Up to 25	Up to 50	Up to 500	Up to 500	Up to 500	Up to 500
Traffic Throughput	150 Mbps	350 Mbps	750 Mbps	1.25 Gbps	4 Gbps	10 Gbps	20 Gbps
Encrypted Throughput	75 Mbps	150 Mbps	175 Mbps	400 Mbps	650 Mbps	1 Gbps	1 Gbps
Interface Speeds	10/100/1000 (Ethernet)	10/100/1000 (Ethernet)	10/100/1000 (Ethernet)	10/100/1000 (Ethernet) / Optional 4 Gbps Fiber)	10/100/1000 (Ethernet) / Optional 10 Gbps (Fiber)	10/100/1000 (Ethernet) / Optional 10 Gbps (Fiber or Copper)	10/100/1000 (Ethernet) / Optional 10 Gbps (Fiber or Copper)
Number of Ports	6	6	6	6 or 10	8	8, 10 or 12	10, 12, 14, or 16
Intelligent Load Balancing	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound	Inbound & Outbound
Built-in Firewall	✔	✔	✔	✔	✔	✔	✔
Built-in VPN (IPsec & SSL)	✔	✔	✔	✔	✔	✔	✔
Full Mesh Network Routing	✔	✔	✔	✔	✔	✔	✔
Full Authoritative DNS Server	✔	✔	✔	✔	✔	✔	✔
QoS Traffic Management	✔	✔	✔	✔	✔	✔	✔
Event Reporting (SNMP, netflow)	✔	✔	✔	✔	✔	✔	✔
High Availability (HA Support)	✔	✔	✔	✔	✔	✔	✔
Fail-to-Wire / Network Bypass	✔	✔	✔	✔	✔	✔	✔
Ecessa Insight Compatible	✔	✔	✔	✔	✔	✔	✔
Form Factor	Physical	Physical	Physical	Physical	Physical	Physical	Physical
Power	Adapter 100-240 Volt 50-60Hz. 36 Watts	Adapter 100-240 Volt 50-60Hz. 36 Watts	Integrated 100-240 Volt 50-60 Hz. 100 Watts	Integrated 100-240 Volt 50-60Hz. 220 Watts	Integrated 100-240 Volt 50-60Hz. 220 Watts	Integrated, Redundant, Hot Swappable 100-240 Volt 50-60 Hz. 300 Watts	Integrated, Redundant, Hot Swappable 100-240 Volt 50-60 Hz. 300 Watts
Mounting Options	Desktop	Desktop	1U	1U	1U	1U	1U
Dimensions (WxDxH)	9.4"x6.5"x1.7"	9.4"x6.5"x1.7"	16.9"x12.0"x1.7"	16.9"x16.3"x1.7"	16.9"x16.3"x1.7"	17"x18.4"x1.7"	17"x18.4"x1.7"
Part Number	WVR-10	WVR-20	WVR-30	WVR-40	WVR-50	WVR-60	WVR-70

About Ecessa

Ecessa designs and manufactures networking hardware and software that provides constant and seamless network connectivity for businesses. The company's line of WAN controllers has over 10,000 field installations. Ecessa Edge™, PowerLink™ and WANworX™ controllers enable organizations of all sizes to use any type of private or public network bandwidth to reliably run their Internet and cloud-based applications, connect their offices worldwide and distribute traffic among a fabric of multiple, diverse WAN links, ensuring business continuity by removing bottlenecks and eliminating network downtime. The company's SD-WAN technology optimizes Never Down™ performance of business-critical applications, aids in lowering IT costs and makes it easier to provision, maintain and support business networks and the applications that run over them.