

## CLOUD NETWORKING PORTFOLIO

Arista Networks is the leader in building software defined, open cloud networks for today's data center, Web 2.0, and cloud computing environments. Purpose-built, best-of-breed hardware and Arista EOS®, the world's most advanced network operating system, combine to maximize system uptime, simplify IT operations, and enable custom programmability so the network can do what your business requires it to do. Arista's Ethernet switches natively integrate with OpenStack Neutron, Microsoft OMI, and VMware NSX to provide automated provisioning, workload mobility and pervasive workload visibility for virtualized and cloud environments. Arista delivers the most efficient, reliable and best performing 10GbE, 40GbE, and 100GbE platforms.

## THE EOS DIFFERENCE

NETWORK APPLICATIONS			
<p><b>OpenWorkload</b></p> <ul style="list-style-type: none"> <li>Enables true workload mobility</li> <li>Fully supports all network virtualization technologies</li> <li>Provides VMware NSX, OpenStack and Microsoft OMI integration for orchestration and fast provisioning</li> <li>Simplifies troubleshooting with both physical and virtual network visibility, down to the VM-level</li> </ul>	<p><b>Network Telemetry</b></p> <ul style="list-style-type: none"> <li>Builds a network that proactively monitors, detects and notifies when issues arise</li> <li>Delivers real-time wire data to applications from Splunk, ExtraHop, Corvil and Riverbed</li> <li>Leverages Arista's Network Tracers to provide deep virtual to physical to application visibility</li> </ul>	<p><b>Smart System Upgrade</b></p> <ul style="list-style-type: none"> <li>Provides non-disruptive upgrades of data center elements</li> <li>Utilizes intelligent insertion and removal which enables elements to gracefully exit and enter network topology</li> <li>Integrates with application and infrastructure components</li> </ul>	
<p><b>ORCHESTRATION</b></p> <p><b>OpenStack and VMware NSX Integration</b></p> <ul style="list-style-type: none"> <li>Automates provisioning of physical switches by tapping into virtual network configuration</li> <li>Auto VLAN Provisioning</li> <li>Eases troubleshooting with intelligent topology aggregation/discovery</li> <li>Leverages contributed OVS plug-in and ML2 plug-in to OpenStack Neutron project</li> </ul> <p><b>DirectFlow</b></p> <ul style="list-style-type: none"> <li>Enables SDN networks to be built using standard L2/L3 control plane while programmatically handling specific traffic flows or exception traffic</li> <li>Allows control over data plane by directly configuring TCAM</li> <li>Provides ability to develop SDN network traffic engineering application in controller-less mode</li> </ul> <p><b>OpenFlow</b></p> <ul style="list-style-type: none"> <li>Controller agnostic OpenFlow capable switches</li> <li>Enables OpenFlow controllers to filter and redirect traffic on Arista switches</li> </ul>	<p><b>APPLICATION VISIBILITY</b></p> <p><b>Network Tracers</b></p> <ul style="list-style-type: none"> <li>VM Tracer enables the network engineer to have visibility into which VMware hosts and VMs are on a given physical network port</li> <li>MapReduce Tracer tracks and interacts with Hadoop workloads directly connected to Arista switches ensuring faster rebalancing and recovery in case of a node failure or congested link</li> <li>Health Tracer facilitates infrastructure resiliency at the hardware and software layer to increase overall service availability</li> <li>Path Tracer monitors and detects issues with all paths in an active-active Layer 2 or Layer 3 ECMP network</li> </ul> <p><b>DANZ TAP Aggregation/Advanced Mirroring</b></p> <ul style="list-style-type: none"> <li>Enables cost-effective visibility into application and network performance</li> <li>Provides advanced traffic monitoring and filtering</li> <li>Facilitates precision filtering and flow analysis with timestamps</li> <li>Captures all 10/40/100GbE network traffic for recording and analysis</li> </ul> <p><b>LANZ</b></p> <ul style="list-style-type: none"> <li>Identifies buffer congestion BEFORE drops occur</li> <li>Provides proactive congestion management and notification</li> <li>Enables real-time queue depth analysis and streaming</li> <li>Tracks latency, microbursts &amp; packet loss</li> </ul>	<p><b>AUTOMATION</b></p> <p><b>Zero Touch Provisioning (ZTP)</b></p> <ul style="list-style-type: none"> <li>Automates provisioning of infrastructure using standard protocols</li> <li>Reduces cost of deployment and speeds time to production for new services</li> <li>Provides full customization with advanced scripting capabilities</li> <li>Eliminates human errors</li> <li>Combines with VM Tracer to fully automate deployment of a virtualized data center</li> </ul> <p><b>Zero Touch Replacement (ZTR)</b></p> <ul style="list-style-type: none"> <li>Automates provisioning of replacement switches</li> <li>Reduces outage times</li> <li>Eliminates human errors</li> </ul> <p><b>DevOps Integration</b></p> <ul style="list-style-type: none"> <li>Natively supports Puppet, Chef and Ansible</li> <li>Extends Puppet/Chef command line tools into EOS CLI</li> <li>Automates network configuration in same manner as servers</li> <li>Allows network state inventory</li> <li>Provides configuration version control</li> </ul>	
PROGRAMMABLE FOUNDATION			
<p><b>SysDB</b></p> <pre> graph TD     SysDB((SysDB)) --- CloudVision((Cloud Vision))     SysDB --- CLI((CLI))     SysDB --- ASICDriver((ASIC Driver))     SysDB --- 3rdPartyAgents((3rd Party Agents))     SysDB --- STP((STP))     SysDB --- MLAG((MLAG))     SysDB --- OSPFBGP((OSPF/BGP))         </pre>	<p><b>eAPI</b></p> <ul style="list-style-type: none"> <li>JSON-based, language agnostic API that gives applications and scripts complete programmatic control over Arista EOS</li> <li>Simplifies integration with multi-vendor tools and infrastructure</li> <li>Reduces cost of operations by facilitating automation of IT workflows</li> </ul>	<p><b>Open, Unmodified Linux</b></p> <ul style="list-style-type: none"> <li>Allows programmability at every level</li> <li>Makes Linux tools available on the switch (eg, Ping, TCPdump, Ganglia, Nagios)</li> <li>Customizes, installs and runs BASH/Python/Perl scripts</li> </ul>	<p><b>AEM</b></p> <ul style="list-style-type: none"> <li>Enables operators to respond to real-time events and automate routine tasks</li> <li>Automates actions based on pre-defined triggers</li> <li>Predictive fault management</li> </ul>

# UNIVERSAL CLOUD NETWORK

## MLAG

- Standards based multipathing technology
- Eliminates spanning tree from the topology
- Maximizes uplink bandwidth in an active/active mode

## ECMP

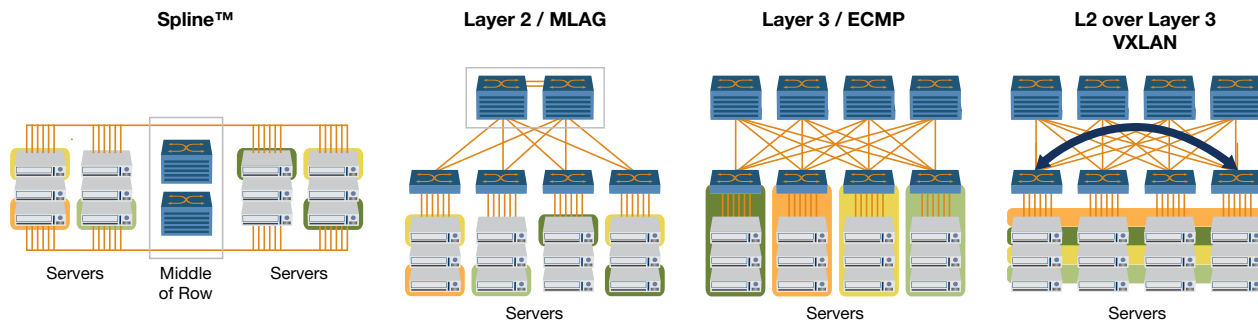
- All active multipath for Layer 3
- Standards based protocols (OSPF, IS-IS, BGP)
- Exceptional scale with consistent performance in 2 tiers

## VXLAN

- Layer-2 over Layer-3 active multipath using ECMP (up to 64-way)
- L2 extensions for stateful VM-VM over Layer-3
- Extends L2 with exceptional scalability (16M virtual networks)

Product Line Overview	GbE		10/40/100GbE Deep Buffer			Ultra-Low Latency			10/40GbE Uplinks			10GBASE-T			10GBASE-T			10/40GbE				10/40GbE Spline™				10/40/100GbE Spine							
	7010T	7048T	7280SE			7150S			7050S		7050Q	7050T			7050TX			7050SX				7050QX		7250QX	7304X	7308X	7316X	7504E	7508E				
Chassis	7010T	7048T	7280SE			7150S			7050S		7050Q	7050T			7050TX			7050SX				7050QX		7250QX	7304X	7308X	7316X	7504E	7508E				
Model Number	48		64	68	72	24	52	64	52	64	16	36	52	64	48	64	72	96	128	64	72	96	128	32	32S	64	7504E	7508E					
Height	1RU	1RU	1RU			1RU			1RU			1RU			1RU			1RU				2RU		1RU	2RU	1RU	2RU	1RU	2RU				
Line Card Slots	-	-	-			-			-			-			-			-				-		4	8	13RU	21RU	7RU	11RU				
Backplane Capacity	-	-	-			-			-			-			-			-				-		10Tbps	20Tbps	40Tbps	15Tbps	30Tbps					
Switching Capacity	176Gbps	176Gbps	1.28Tbps	1.36Tbps	1.44Tbps	480Gbps	1.04Tbps	1.28Tbps	1.04Tbps	1.28Tbps	1.28Tbps	720Gbps	1.04Tbps	1.28Tbps	960Gbps	1.28Tbps	1.44Tbps	1.92Tbps	2.56Tbps	1.28Tbps	1.44Tbps	1.92Tbps	2.56Tbps	2.56Tbps	2.56Tbps	5.12Tbps	10Tbps	20Tbps	40Tbps	11.52Tbps	23.04Tbps		
Per Slot Capacity	-	-	-			-			-			-			-			-				-		1.28Tbps In/1.28Tbps Out	1.92Tbps In/1.92Tbps Out		-						
Forwarding Capacity	132Mpps	132Mpps	900Mpps			360Mpps	780Mpps	960Mpps	780Mpps	960Mpps		540Mpps	780Mpps	960Mpps	720Mpps	960Mpps	1.08Mpps	1.44Bpps	1.44Bpps	960Mpps	1.08Mpps	1.44Bpps	1.44Bpps	1.44Bpps	1.44Bpps	3.84Bpps	7.5Bpps	15Bpps	30Bpps	7.2Bpps	14.4Bpps		
40GbE/100GbE Ready	-	-	40GbE	40GbE	100GbE	40GbE			40GbE			-	-	40GbE			1.08Bpps		1.08Bpps			40GbE			40GbE					40GbE/100GbE			
<b>Ports</b>																																	
100/1000 BASE-T	48	48	-			-			-			-			-			-				-		-	-	-	-	-	-	-			
100Mb/1Gb/10Gb BASE-T	-	-	-			-			-			-			-			-				-		-	-	-	-	-	-	-			
1/10GbE (SFP+)	4	4	48	48	48	24	52	48	52	48	8	4	4	-	-			-				48	48	48	96	-	4	-	192	384	768	192	384
10/40GbE	-	-	16/4	8/2	24/6	-	-	16/4	-	16/4	64/16	-	-	16/4	16/4	16/4	24/6	48/12	-/8	16/4	24/6	48/12	-/8	96/32	96/32	256/64	512/128	1024/256	2048/512	576/144	1152/288		
100GbE	-	-	-	2	2	-			-			-			-			-				-		-	-	-	-	-	-	-	48	96	
SFP+ Options	CR, AOC, SRL, SR, LRL, LR											CR, AOC, SRL, SR, LRL, LR, ER, ZR, DWDM, 100/1000TX												CR, AOC, SRL, SR, LRL, LR, ER, ZR, DWDM, 1000TX									
Port-Port Latency	3usec	4.5-14.0usec	under 4usec			350ns	380ns	380ns	800ns-1.35usec	800ns-1.15usec		3.3usec			3usec			550ns				550ns		550-1900ns	550-1900ns		550-1900ns		3.5-13.0usec				
Forwarding Technology	Store and Forward	Store and Forward	Store and Forward			Cut-Through			Cut-Through			Cut-Through			Cut-Through			Cut-Through				Cut-Through		Store and Forward				Store and Forward					
Buffer Size	4MB	768MB	9GB - Dynamic Allocation			9.5MB - Dynamic Allocation			9MB - Dynamic Allocation			9MB - Dynamic Allocation			12MB - Dynamic Allocation			12MB - Dynamic Allocation				12MB - Dynamic Allocation		48MB	96MB	192MB	384MB	72GB - Dynamic Allocation	144GB - Dynamic Allocation				
<b>Environmental</b>																																	
AC + AC Power Redundancy	Yes	Yes	Yes			Yes			Yes			Yes			Yes			Yes				Yes		Yes				Yes					
DC Power	Yes	Yes	Yes			Yes			Yes			Yes			Future			Future				Yes		Future		Future				No			
N+1 Hot Swappable Fans	Yes	Yes	Yes			Yes			Yes			Yes			Yes			Yes				Yes		Yes				Yes					
Average/Max Power Draw	52/65W	174/300W	263/381W	TBD	262/399W	191/334W	191/450W	224/455W	103/185W	125/220W	192/303W	244/289W	347/405W	372/430W	305/367W	315/387W	349/440W	355/455W	507/740W	140/220W	148/230W	158/240W	235/415W	162/332W	150/302W	622/1229W	1560/2262W	2986/4360W	6006/9324W	2490/3010W	5050/5790W		
Front-to-Rear/Rear-to-Front Air	Yes / Yes	Yes / Yes	Yes / Yes			Yes / Yes			Yes / Yes			Yes / Yes			Yes / Yes			Yes / Yes				Yes / Yes		Yes / Yes				Yes / No					
<b>Features</b>																																	
EOS Single Binary Image	Yes	Yes	Yes			Yes			Yes			Yes			Yes			Yes				Yes		Yes				Yes					
Latency Analyzer (LANZ)	No	No	Yes			Yes			No			No			Yes			Yes				Yes		Yes				Yes					
VM Tracer	Yes	Yes	Yes			Yes			Yes			Yes			Yes			Yes				Yes		Yes				Yes					
Zero Touch Provisioning (ZTP)	Yes	Yes	Yes			Yes			Yes			Yes			Yes			Yes				Yes		Yes				Yes					
Max VLANs	4096	4096	4096			4096			4096			4096			4096			4096				4096		4096				4096					
Max MAC Entries	84K	16,000	256K			64,000			128,000			128,000			288,000			288,000				288,000		288,000				256,000					
Multi Chassis LAG	Yes - 32 Link	Yes - 32 Link	Yes - 128 Link			Yes - 32 Link			Yes - 32 Link			Yes - 32 Link			Yes - 64 Link			Yes - 64 Link				Yes - 64 Link		Yes - 64 Link				Yes - 64 Link					
Jumbo Frames	9,216Bytes	9,216Bytes	9,216Bytes			9,216Bytes			9,216Bytes			9,216Bytes			9,216Bytes			9,216Bytes				9,216Bytes		9,216Bytes				9,216Byte					
Max ARP Entries	84K	16,000	96K			64,000			16,000			16,000			32,000 (208K UFT *)			32,000 (208K UFT *)				32,000 (208K UFT *)		32,000 (208K UFT *)				128,000					
Max Routes (IPv4 / IPv6)	16K/8K	14K	64K/12K			84,000/21,000			16,000/8,000			16,000/8,000			16K/8K (144K/77K UFT *)			16K/8K (144K/77K UFT *)				16K/8K (144K/77K UFT *)		16K/8K (144K/77K UFT *)				64,000/16,000					
BGP/OSPF	Yes	Yes	Yes			Yes			Yes			Yes			Yes			Yes				Yes		Yes				Yes					
Multicast Routing	PIM-SM	PIM-SM	PIM-SM			PIM-SM			PIM-SM			PIM-SM			PIM-SM			PIM-SM				PIM-SM		PIM-SM				PIM-SM					
Multicast Groups	8K	2048	64K			23,000			8000			8000			8000			8000				8000		8000				64,000					

## Cloud Networking: 2-tier Leaf/Spine or 1-tier Collapsed Spine



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