1	**The Document Requiring Conformity:**	**USGv6 Profile Version 1.0, July 2008. (NIST SP500-267)**
2	**Product Identifier:**	**Dell EMC Networking OS**

3 Supplier's Name, Address and SDOC Contact Details

Dell, Inc.
1 Dell Way, Round Rock, TX 78682
SDOC Contact: Jeff Yin (Jeff_Yin@dell.com)

4 Product as Tested/Declared: *Product Identifier, version/revision information, details of configuration tested.*

Dell EMC Networking OS 9.10(0.1)

5 Product Family (other products using same IPv6 stack(s) to which these results are declared to apply). ***Check Product Family attestation below.***

S-Series: S3048-ON, S31XX Series, S4048-ON, S4048T-ON, S4810, S4820T, S5000, S6000, S6010-ON, S6100-ON
Z-Series: Z9100-ON, Z9500
C-Series: C9010 Network Director and C1048P Port Extender
Blade Switches: MXL 10/40GbE Blade, PowerEdge FN I/O Module
PowerEdge M I/O Aggregator, PowerEdge FN I/O Aggregator (Host Only)

6 USGv6 Capability summary. (For each distinct IPv6 stack in the product provide a summary of its USGv6 capabilities below and include a detailed test result summary). *e.g. example-prod-id/stack-1: USGv6-v1-Host: IPv6-Base+Addr-Arch+IPsec-v3+IKEv2+SLAC+Link=Ethernet.*

USGv6-v1-Router:IPv6-Base+Addr-Arch+SLAAC+Link=Ethernet, USGv6-v1-Host: IPv6-Base+Addr-Arch+SLAAC+Link=Ethernet

7 Self Contained or Composite SDOC? (Must indicate one).

YES	*All of the declared USGv6 capabilities of this product are addressed by orginal test results reported in this SDOC.*		*Some or all of the USGv6 capabilities of this product are provided by the use and/or integration of umodified components that have their own unique USGv6 SDOCs. All of the relevant referenced SDOCs are identified in section 8 and attached. This product's page 2 will indicate which capabilities are provided by specific referenced components (product-id/stack-id).*

8 Additional Declarations / Attachments: *(List supplier & product-id/stack-id for referenced and attached test results in the case of composite products).*

	Component Supplier	Product ID:	Stack ID:	Notes:
[1]	**Dell EMC**	S4810	**9.10(0.1) Host**	**Management Interface**
[2]	**Dell EMC**	S4810	**9.10(0.1) Router**	
[3]				
[4]				

9 Supplementary Attestations *(Answer all).*

	YES	*This product is fully functional in dual stack environments.That is, no claimed capabilities are invalidated ifthis product is operated in a dual stack (6 and 4)network environment.*	**YES**	*This product is fully functional in IPv6 only environments. That is, no claimed capabilities are invalidated if this product is deployed in a network environment that does not support Ipv4.*
	YES	*This SDOC contains a capabilities test report for each unique IPv6 stack in the product. If not, the stacks/ports not covered are documented, and how their Ipv6 capabilities differ from those reported are explained.*	**YES**	*All of the products listed in the product family in section 5 are implemented such that their USGv6 capabilities are identical in form and function across the entire product family. The specific conformance and interoperability test results for the USGv6 capabilities of an identified member of this product family are provided in this SDOC. The SDOC attests that these tested USGv6 capabilitiesare identical and unmodified for all the products cited above.*

10 Signature | Digitally signed by Jeff_Yin DN: dc=com, dc=dell, dc=amer, ou=Austin, ou=Users, cn=Jeff_Yin Date: 2016.12.20 09:56:59 -08'00' | **Date** 12/19/2016

Print Name / Title Jeff Yin / Principal Engineer

See instructions for fields 1-12 on Page 4.

11	Suppliers Declaration of Conformity for USGv6 Products: Declared Capabilities and Test Results Summary								
Product Id:	**Dell EMC Networking OS**		**Stack Id:**			**9.10(0.1) Router**			
			Context /	Supported Capabilities			USGv6 Testing Program Results		
Spec / Reference	Section	USGv6-v1 Profile Requirements	Configuration Option	Host	Router	NPD	Test Suite Conformance/NPD	Test Lab / Result ID, Note #, or Component Ref	Test Suite Interoperability	Test Lab / Result ID, Note #, or Component Ref
SP500-267	**6.1**	**IPv6 Basic Requirements**								
		support of IPv6 base (IPv6;ICMPv6;PMTU;ND)	IPv6-Base		P		**Basic_v1.*_C**	UNH-IOL/25025	**Basic_V1.*_I**	UNH-IOL/25027
		support of PMTU Discovery Protocol requirements	PMTU		P		**Basic_v1.*_C**	UNH-IOL/25025	**Basic_V1.*_I**	UNH-IOL/25027
		support of stateless address auto-configuration	SLAAC		P		**SLAAC-V1.*_C**	UNH-IOL/25026	**SLAAC-V1.*_I**	UNH-IOL/25028
		support of Creation of Global Addresses	SLAAC - c(M)		P		**SLAAC-V1.*_C**	UNH-IOL/25026	**SLAAC-V1.*_I**	UNH-IOL/25028
		support of SLAAC privacy extensions.	PrivAddr				*Self Test*		*Self Test*	
		support of stateful (DHCP) address auto-configuration	DHCP-Client				**DHCP_Client_v1.*_C**		**DHCP_Client_v1.*_I**	
		support of automated router prefix delegation	DHCP-Prefix				*Self Test*		*Self Test*	
		support of neighbor discovery security extensions	SEND				*Self Test*		*Self Test*	
SP500-267	**6.6**	**Addressing Requirements**								
		support of addressing architecture reqts	Addr-Arch		P		**Addr_Arch_v1.*_C**	UNH-IOL/25198	**Addr_Arch_v1.*_I**	UNH-IOL/25199
		support of cryptographically generated addresses	CGA				*Self Test*		*Self Test*	
SP500-267	**6.7**	**IP Security Requirements**								
		support of the IP security architecture	IPsecv3				**IPsecv3_v1.*_C**		**IPsecv3_v1.*_I**	
		support for automated key management	IKEv2				**IKEv2_v1.*_C**		**IKEv2_v2.*_I**	
		support for encapsulating security payloads in IP	ESP				**ESPv3_v1.*_C**		**ESP_v1.*_I**	
SP500-267	**6.11**	**Application Requirements**								
		support of DNS client/resolver functions	DNS-Client				*Self Test*		*Self Test*	
		support of Socket application program interfaces	SOCK				*Self Test*		*Self Test*	
		support of IPv6 uniform resource identifiers	URI				*Self Test*		*Self Test*	
		support of a DNS server application	DNS-Server				*Self Test*		*Self Test*	
		support of a DHCP server application	DHCP-Server				*Self Test*		**DHCP_Serv_v1.*_I**	
SP500-267	**6.2**	**Routing Protocol Requirements**								
		support of the intra-domain (interior) routing protocols	IGW		P		*Self Test*	Self Declaration	**OSPFv3_v1.*_I**	
		support for inter-domain (exterior) routing protocols	EGW		P		*Self Test*	Self Declaration	**BGP_v1.*_I**	
SP500-267	**6.4**	**Transition Mechanism Requirements**								
		support of interoperation with IPv4-only systems	IPv4		P		*Self Test*	Self Declaration	*Self Test*	
		support of tunneling IPv6 over IPv4 MPLS services	6PE				*Self Test*		*Self Test*	
SP500-267	**6.8**	**Network Management Requirements**							Self Test	
		support of network management services	SNMP		P		*Self Test*	*Self Declaration*	Self Test	
SP500-267	**6.9**	**Multicast Requirements**								
		support of basic multicast	Mcast				*Self Test*			
		full support of multicast communications	SSM				*Self Test*		*Self Test*	
SP500-267	**6.10**	**Mobility Requirements**								
		support of mobile IP capability.	MIP				*Self Test*		*Self Test*	
		support of mobile network capabilities	NEMO				*Self Test*		*Self Test*	
SP500-267	**6.3**	**Quality of Service Requirements**								
		support of Differentiated Services capabilities	DS		P		*Self Test*	*Self Declaration*	*Self Test*	
SP500-267	**6.12**	**Network Protection Device Requirements**								
		support of common NPD reqts	NPD				**N1|N2|N3|N4_v1.3**			
		support of basic firewall capabilities	FW				**N1_FW_v1.3**			
		support of application firewall capabilities	APFW				*Self Test*			
		support of intrusion detection capabilities	IDS				**N3_IDS_v1.3**			
		support of intrusion protection capabilities	IPS				**N4_IPS_v1.3**			
SP500-267	**6.5**	**Link Specific Technologies**								
		support of robust packet compression services	ROHC				Self Test		Self Test	
		support of link technology [O:1]	Link=Ethernet		P		Self Test	*Self Declaration*	Self Test	*Self Declaration*
		(repeat as needed) support of link technology	Link=							
12		**< Check HERE if this stack's DOC includes additional information about tested capabilities and options on an attached page 3 of notes.**								

Level	Level of support for USGv6-v1 Requirements for capability.
	Blank - SDOC makes no declaration for this capability.
P	Passed required tests of USGv6-V1 requirements for these capabilities.
N	See notes page for details on the level of support of USGv6-v1 reequirements for this capability.
X	USGv6 capability not supported in product.

Color	Indication of USGv6-v1 Recommended Level of Support for device type / stack role.
	Indicates capability that is recommendend as mandatory (unconditional MUST) in the USGv6-v1 Profile.
	Indicates cabability that is unusal for a given device type / stack role. Do not select without careful analysis.
	Indicates capability that is left optional / oncditional by the recommedations of the USGv6-v1 Profile.

Test Suite - Specific USGv6 Test suite used for test. See: http://www.antd.nist.gov/usgv6/test-specifications.html

Test Lab / Result ID - Abbreviation of accredited laboratory and its local identifier for this test result.

Note # - reference to a detailed note about this capability or result on attached page.

Component Ref - Supplier / Product / Stack ID of distinctly tested component that provides this capability.

Field 13	Product Id:				Stack Id:						
				Context /	Supported Capabilities			Notes about USGv6-v1 Capabilities.			
Note #	Spec / Reference	Section	USGv6-v1 Profile Requirements	Configuration Option	Host	Router	NPD	Test Suite Conformance/NPD	Test Lab / Result ID, Note	Test Suite Interoperability	Test Lab / Result ID, Note
1											
Discussion:											
2											
Discussion:											
3											
Discussion:											
4											
Discussion:											
5											
Discussion:											
6											
Discussion:											
7											
Discussion:											
8											
Discussion:											
9											
Discussion:											
10											
Discussion:											

Vendor's General Notes / Discussion about this Product / Stack's capabilities:

11	Suppliers Declaration of Conformity for USGv6 Products: Declared Capabilities and Test Results Summary								
Product Id:	**Dell EMC Networking OS**		**Stack Id:**			**9.10(0.1) Host**			
			Context /	**Supported Capabilities**			**USGv6 Testing Program Results**		
Spec / Reference	Section	**USGv6-v1 Profile Requirements**	Configuration Option	**Host**	**Router**	**NPD**	Test Suite Conformance/NPD	Test Lab / Result ID, Note #, or Component Ref	Test Suite Interoperability	Test Lab / Result ID, Note #, or Component Ref
SP500-267	**6.1**	**IPv6 Basic Requirements**								
		support of IPv6 base (IPv6;ICMPv6;PMTU;ND)	IPv6-Base	P			**Basic_v1.*_C**	UNH-IOL/24152	**Basic_V1.*_I**	UNH-IOL/24155
		support of PMTU Discovery Protocol requirements	PMTU	P			**Basic_v1.*_C**	UNH-IOL/24152	**Basic_V1.*_I**	UNH-IOL/24155
		support of stateless address auto-configuration	SLAAC	P			**SLAAC-V1.*_C**	UNH-IOL/24153	**SLAAC-V1.*_I**	UNH-IOL/24156
		support of Creation of Global Addresses	SLAAC - c(M)	P			**SLAAC-V1.*_C**	UNH-IOL/24153	**SLAAC-V1.*_I**	UNH-IOL/24156
		support of SLAAC privacy extensions.	PrivAddr				*Self Test*		*Self Test*	
		support of stateful (DHCP) address auto-configuration	DHCP-Client				**DHCP_Client_v1.*_C**		**DHCP_Client_v1.*_I**	
		support of automated router prefix delegation	DHCP-Prefix				*Self Test*		*Self Test*	
		support of neighbor discovery security extensions	SEND				*Self Test*		*Self Test*	
SP500-267	**6.6**	**Addressing Requirements**								
		support of addressing architecture reqts	Addr-Arch	P			**Addr_Arch_v1.*_C**	UNH-IOL/24154	**Addr_Arch_v1.*_I**	UNH-IOL/24157
		support of cryptographically generated addresses	CGA				*Self Test*		*Self Test*	
SP500-267	**6.7**	**IP Security Requirements**								
		support of the IP security architecture	IPsecv3				**IPsecv3_v1.*_C**		**IPsecv3_v1.*_I**	
		support for automated key management	IKEv2				**IKEv2_v1.*_C**		**IKEv2_v2.*_I**	
		support for encapsulating security payloads in IP	ESP				**ESPv3_v1.*_C**		**ESP_v1.*_I**	
SP500-267	**6.11**	**Application Requirements**								
		support of DNS client/resolver functions	DNS-Client	P			*Self Test*	*Self Declaration*	*Self Test*	
		support of Socket application program interfaces	SOCK				*Self Test*		*Self Test*	
		support of IPv6 uniform resource identifiers	URI				*Self Test*		*Self Test*	
		support of a DNS server application	DNS-Server				*Self Test*		*Self Test*	
		support of a DHCP server application	DHCP-Server				*Self Test*		**DHCP_Serv_v1.*_I**	
SP500-267	**6.2**	**Routing Protocol Requirements**								
		support of the intra-domain (interior) routing protocols	IGW				*Self Test*		**OSPFv3_v1.*_I**	
		support for inter-domain (exterior) routing protocols	EGW				*Self Test*		**BGP_v1.*_I**	
SP500-267	**6.4**	**Transition Mechanism Requirements**								
		support of interoperation with IPv4-only systems	IPv4	P			*Self Test*	*Self Declaration*	*Self Test*	
		support of tunneling IPv6 over IPv4 MPLS services	6PE				*Self Test*		*Self Test*	
SP500-267	**6.8**	**Network Management Requirements**							Self Test	
		support of network management services	SNMP				*Self Test*		Self Test	
SP500-267	**6.9**	**Multicast Requirements**								
		support of basic multicast	Mcast				*Self Test*			
		full support of multicast communications	SSM				*Self Test*		*Self Test*	
SP500-267	**6.10**	**Mobility Requirements**								
		support of mobile IP capability.	MIP				*Self Test*		*Self Test*	
		support of mobile network capabilities	NEMO				*Self Test*		*Self Test*	
SP500-267	**6.3**	**Quality of Service Requirements**								
		support of Differentiated Services capabilities	DS				*Self Test*		*Self Test*	
SP500-267	**6.12**	**Network Protection Device Requirements**								
		support of common NPD reqts	NPD				**N1|N2|N3|N4_v1.3**			
		support of basic firewall capabilities	FW				**N1_FW_v1.3**			
		support of application firewall capabilities	APFW				*Self Test*			
		support of intrusion detection capabilities	IDS				**N3_IDS_v1.3**			
		support of intrusion protection capabilities	IPS				**N4_IPS_v1.3**			
SP500-267	**6.5**	**Link Specific Technologies**								
		support of robust packet compression services	ROHC				Self Test		Self Test	
		support of link technology [O:1]	Link=Ethernet	P			Self Test	*Self Declaration*	Self Test	*Self Declaration*
		(repeat as needed) support of link technology	Link=							
12		**< Check HERE if this stack's DOC includes additional information about tested capabilities and options on an attached page 3 of notes.**								

Level	**Level of support for USGv6-v1 Requirements for capability.**	Color	**Indication of USGv6-v1 Recommended Level of Support for device type / stack role.**
	Blank - SDOC makes no declaration for this capability.		Indicates capability that is recommendend as mandatory (unconditional MUST) in the USGv6-v1 Profile.
P	Passed required tests of USGv6-V1 requirements for these capabilities.		Indicates cabability that is unusal for a given device type / stack role. Do not select without careful analysis.
N	See notes page for details on the level of support of USGv6-v1 reequirements for this capability.		Indicates capability that is left optional / ocnditional by the recommedations of the USGv6-v1 Profile.
X	USGv6 capability not supported in product.		

Test Suite - Specific USGv6 Test suite used for test. See: http://www.antd.nist.gov/usgv6/test-specifications.html

Note # - reference to a detailed note about this capability or result on attached page.

Field 13	Product Id:				Stack Id:						
				Context /	Supported Capabilities			Notes about USGv6-v1 Capabilities.			
Note #	Spec / Reference	Section	USGv6-v1 Profile Requirements	Configuration Option	Host	Router	NPD	Test Suite Conformance/NPD	Test Lab / Result ID, Note	Test Suite Interoperability	Test Lab / Result ID, Note
1											
Discussion:											
2											
Discussion:											
3											
Discussion:											
4											
Discussion:											
5											
Discussion:											
6											
Discussion:											
7											
Discussion:											
8											
Discussion:											
9											
Discussion:											
10											
Discussion:											

Vendor's General Notes / Discussion about this Product / Stack's capabilities:

General: This document describes network product from the identified supplier that claims support of USGv6 capabilities. General product and supplier identification is given on Page 1. Overall results of testing USGv6 capabilities for conformance, interoperability and network protection are given on Page 2. Detailed instructions for completing and interpreting each numbered field are given below. Note USGv6 Testing website at: http://www.antd.nist.gov/usgv6/testing.html. Contact: usgv6-project@antd.nist.gov.

Field	Description and Instructions
1	**The Document Requiring Conformity**: Identifies the profile version implemented. Not a user completable field.
2	**Product Identifier**: Supplier's concise name for the product declared.
3	**Suppliers Name, Address and Contact Details**: Company name and point of contact for SDOC questions, street address, phone and email.
4	**Product as Tested/Declared**: Product Identifier and detailed version information. If this SDOC reports oringal test results (page 2), include information about the specific product configuration(s) that was actually tested (e.g., hardware configuration, operating system, etc).
5	**Product Family**: A list of other products that use the same, unmodified IPv6 stacks such that their USGv6 capabilities are identical in form and function to the specific product configuration above. Test labs are only required to affirm the results for specific products tested. Test labs optionally may affirm recognized product families.
6	**USGv6 Capability Summary**: The USGv6 stack implementation summary as identified by the '+' notation described in the USGv6 profile, Appendix A. For each IPv6 stack implementation in the product, a distinct Stack Id and reference to the attached Results Summary page (Page 2).
7	**Self Contained or Composite SDOC**: If this SDOC relies on the test results of other disinct products, list the Supplier & Product ID/Stack IDs referenced and attach those original SDOCs to this one.
8	**Additional Declarations / Attachements:** List the supplier / product ID / Stack ID of any test results of composite components referenced by this SDOC.
9	**Supplementary Attestations**: Suppliers disclosure of IPv6 only capabilities; multiple stacks present; product family applicabilities. These are not included to qualify or disqualify a product from purchase considerations, but to inform network administrators of potential configuration options relevant to USGv6 interoperability. Check all that apply.
10	**Signature Block**: Wet ink signature of the responsible product manager, dated. Printed name and position title on the line below.
11	**Summary of Results**: The format of this table mirrors the USGv6-v1.0 capabilities checklist (USGv6 Profile, Appendix A). The 12 categories of USGv6 capabilities are listed as subheadings, with subsidiary functions as line items. Configuration options related to conditional implementation of selected capabilities.
	Product Id/Stack Id: The identification line of this page includes space for Product Id and Stack Id labels. Product Id is the same as given on Page 1. As there may be more than one unique IPv6 stack implemented in the product, the Stack Id field identifies the particular stack described. One Results Summary page per stack is required.
	Host, Router and Network Protection (NPD) columns identify 'preferred' options: cells in green represent the NIST recommendations. Cells in grey denote atypical options, very unlikely to be implemented. The procuring Agency may additionally tailor these fields to indicate requirements for this acquisition.
	Test Suite Conformance and Interoperability columns identify capability sets for which a public test suite exists, and the versions applicable to USGv6-v1.0 test results. Major version v1 and all its minor versions are deemed acceptable. Over time, new versions will be added and older ones retired. There may be periods when more than one major version is acceptable concurrently.
	The supplier completes the adjacent Test Lab and Result Id column with the test lab acronym and unique result identifier (See Test Lab and Accreditor page on the Website). The buyer may opt to query results with the test laboratory using the specified Result Id(s). The supplier may opt to provide particular explanation of some results (partial results, additional options) in which case reference to note on an attached page 3. (e.g. "See Note# N"). See the USGv6 testing website to identify the test lab, and find contact details.
	Cells marked ***Self Test*** have no associated public test suite. If implemented by the supplier, the required adjacent annotation is "*Self Declaration"*. Note that vendors declaring support for such a capability are declaring support for the associated specific requirements in the USGv6 Profile.
12	**Additional Options Tested**: Vendor checks if it is desired to record tested options not part of the 'Musts' in the profile. Explanations on the page following the results summary. **Headings and Special Notations**: as described.
	Options for Test Lab and Result Id: Currently 3 cases: (1) the test lab acronym and alphanumeric Id of the result set as assigned by the test laboratory; (2) 'Self declaration' denoting the supplier attests to adequate QA testing of the capability; (3) See attachment or note 'N', where the supplier explains variations in greater detail.
13	**Stack-1 Notes Instructions**: The supplier may choose to use the Notes (page 3) in order to clarify unsupported features or non passing results. Each Note # must reference the same Note # from Page 2.
	Complete the Note by including the Spec/Reference and Section (i.e. RFC or USGv6 Profile version), USGv6-v1 Profile Requirements, Config Option (i.e. IPv6-Base), choosing Host/Router/NPD, and Test Selection table version along with Test Lab Result ID. The Discussion includes details about the test result that will be disclosed to the buyer.

Further Description: http://www.antd.nist.gov/usgv6/testing.html, and NIST SP 500-267 USGv6 Testing Program Users Guide available at the website.