



University of New Hampshire  
**InterOperability**  
Laboratory

## **Webinar**

# **The Current State of USGv6 and IPv6 Ready Logo Lab Perspective**

[www.iol.unh.edu](http://www.iol.unh.edu)

August 4, 2021

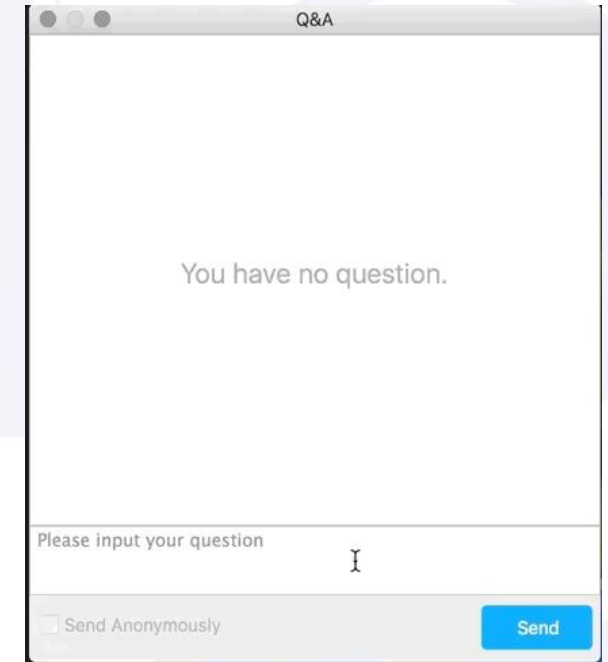
# Agenda

- USG Overview
- Testing Process
- IOL INTACT® Demo
- Membership Options
- Wrap-up / Q & A



# Housekeeping

- Q&A
  - Click Q&A to open the Q&A window
  - Type your question into the Q&A box. Click Send
  - All questions will be answered at the end of the presentation

A screenshot of a web-based Q&A interface. The window has a title bar with the text "Q&A". The main content area displays the message "You have no question." in a light gray font. Below this is a text input field with the placeholder text "Please input your question". At the bottom left of the form is a checkbox labeled "Send Anonymously", and at the bottom right is a blue button labeled "Send".

Q&A

You have no question.

Please input your question

☐ Send Anonymously

Send

# Your Presenters

## Michayla Newcombe



UNH-IOL Associate Director  
Overseas USGv6 & IPv6 Ready  
Logo Programs  
Quality Manager for ISO-17025

## Timothy Carlin

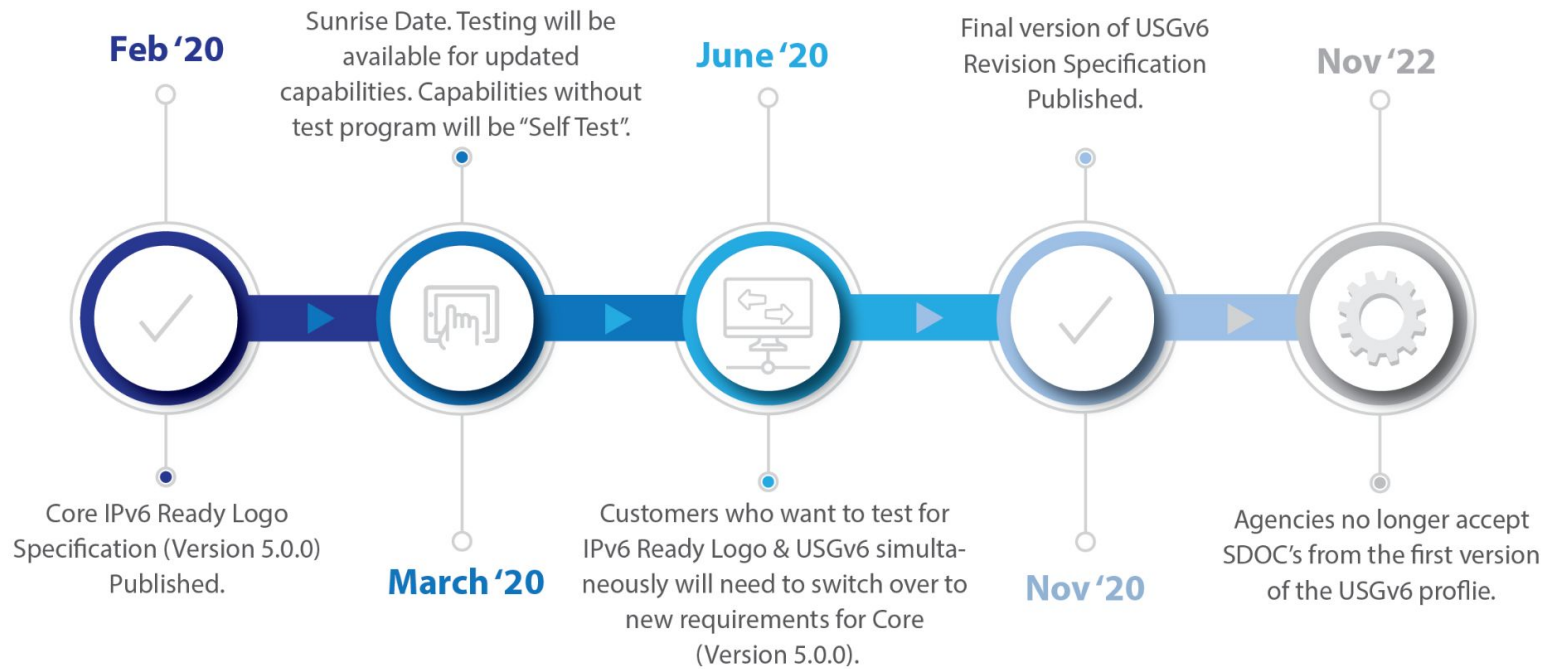


UNH-IOL, Senior  
Executive, Software Development  
Technical Lead for all IP, Routing,  
Security testing & development

# Key Dates

## The USGv6 & IPv6 Ready Logo Timeline

A general overview of the schedule for the new USGv6/IPv6 releases



# USGv6 vs IPv6 Ready Logo

- NIST & IPv6 Forum have an MOU to utilize IPv6 Ready Logo Test Specifications to ensure harmony among both test programs
- USGv6 Test Selection Tables(TSTs) document Required Test Cases
- TSTs published on the NIST USGv6 Program website
  - <https://www.nist.gov/programs-projects/usgv6-program/usgv6-revision-1>

# Lab Tested Capabilities

- Ready Logo Test Plans
  - Core Protocols (Finalized)
  - DHCPv6 (In Progress)
  - IPsec (Draft posted)
  - IKEv2 (Draft posted)
- UNH-IOL Test Plans
  - Address Architecture (Finalized)
  - IPv6-Only (Open for Comment)
  - OSPFv3 Interop. (Finalized)
  - BGP4+ Interop. (In Progress)
  - NPD (Final draft posted)
  - Application (Custom)





## New Capability: IPv6-Only

- A draft test plan is available for comment:
  - [https://www.iol.unh.edu/sites/default/files/testsuites/ipv6/IPv6\\_Only\\_Functional\\_Test\\_Specification.pdf](https://www.iol.unh.edu/sites/default/files/testsuites/ipv6/IPv6_Only_Functional_Test_Specification.pdf)
- Any questions or comments on the test suites can be sent to [usgv6-program@list.nist.gov](mailto:usgv6-program@list.nist.gov)
- Confirmation of the following in an IPv6-Only environment
  - Installation, Upgrade/Update, Configuration, Management, Instrumentation



# SDOC Information

- Stands for Suppliers Declaration of Conformity
- Supplier Owned
  - Communicates the set of tested IPv6 capabilities a product supports.
  - Capabilities are either lab-tested or self-tested (when no standard test plan exists).
- UNH-IOL Assists with SDOC creation
- Online Registry of Tested Products
  - <https://www.iol.unh.edu/registry/usgv6r1>

## USGv6 SDOC

(1) SUPPLIER CONTACT INFORMATION		(2) PRODUCT VERSION TESTED	(3) PRODUCT ID	
		(4) PRODUCT FAMILY	(5) APPLICABLE SERIES	
		Hardware	Software	
(6) SUMMARY OR COMPOSITE SDOC				
Summary: All of the declared capabilities of this product are addressed by original test results reported in this SDOC.				
Composite: Some or all of the capabilities of this product are provided by the use and/or integration of unmodified components that have their own unique 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, version, etc).				
REF	SUPPLIER	PRODUCT VERSION ID	CAPABILITY SUMMARY	COMPOSITE SDOC LINK
(7) PROFILES REFERENCED				
1. NIST SP 800-207v1 - USGv6 Requirements Profile				
(8) SUPPLEMENTARY ATTESTATIONS				
This product is fully functional in dual stack environments. That is, no carrier capabilities are introduced if the product is operated in a dual stack (3 and 4) network environment.				
This SDOC contains a capabilities test report for each unique IPv6 stack in the product. If not, the endpoints and specific performance and interoperability test results for the capabilities of an identified member of this product family are provided in this SDOC. The SDOC attests that these member capabilities are identical and unmodified for all the products listed above.				

SP800-207v1-1 SUPPLIERS DECLARATION OF CONFORMITY (SDOC) V1.0

# USGv6 Common Misconceptions

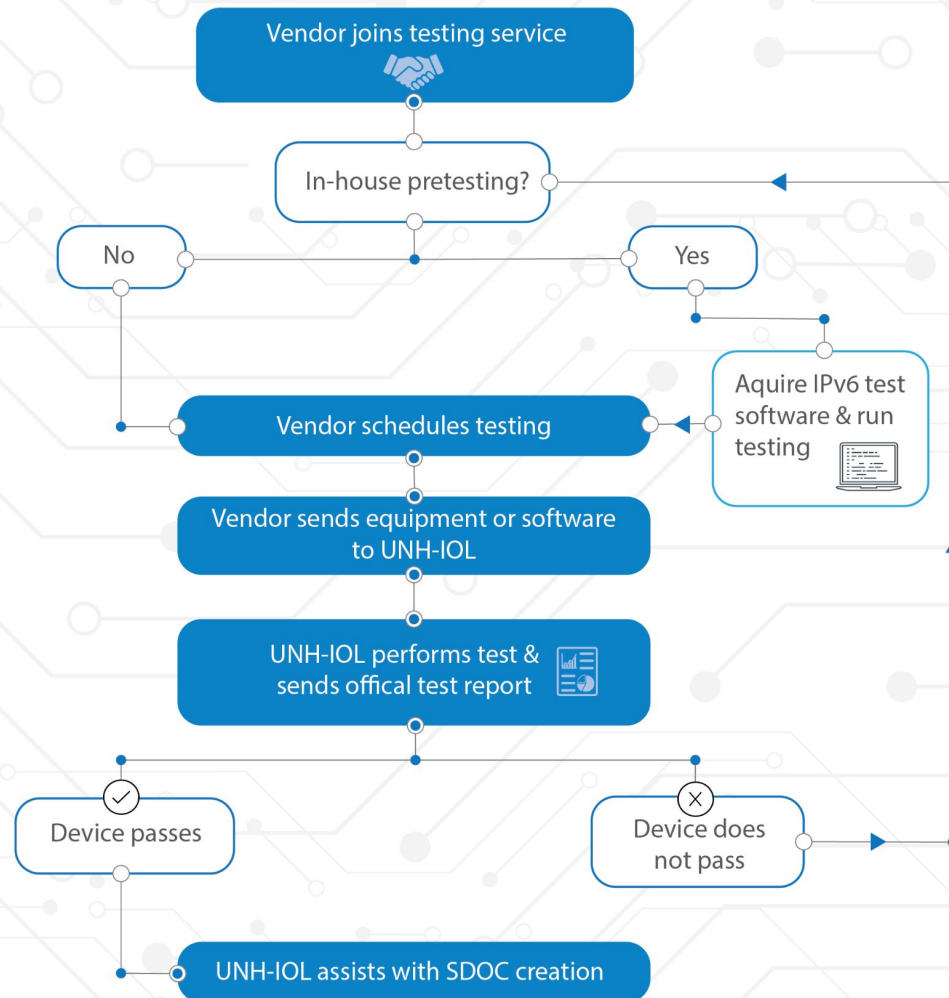
- Products don't conform to the USGv6 profile (there is no such thing as "USG certified") they conform to specific IPv6 requirement statements expressed as USGv6-r1 capability summary strings (CSS)
  - **Agency-Web-Server=USGv6-r1:Host+Core+SLAAC+Addr-Arch+Multicast+[IPsec|TLS]+DHCP-Client+URI+DNS-Client+Link=Ethernet**
- Having an SDOC does not necessarily mean a product has met any specific CSS requirements
  - It is up to users to examine the results and to see if they meet their acquisition requirements

# Increasing the Usability and Utility of USGv6

- Example requirement statements
  - See USGv6 Profile section 5 – Profile Usage Guidance and Examples.
- Default requirement statements
  - USGv6 Profile now specifies default definition of “IPv6 Capable” for several product types
    - USGv6-Capable-Host
    - USGv6-Capable-Router
    - USGv6-Capable-Switch
    - USGv6-Capable-NPP
    - USGv6-Capable-Application
  - SDoC now clearly identifies if products meet the above requirements.

[7] USGV6-CAPABLE REQUIREMENTS	
<input type="checkbox"/> USGV6-r1-Capable-Host	<input type="checkbox"/> USGV6-r1-Capable-Router <input type="checkbox"/> USGV6-r1-Capable-Switch <input type="checkbox"/> USGV6-r1-Capable-NPP
[8] PROFILE(S) REFERENCED	
i.	NIST SP 500-267Br1, USGv6 Profile

## USGv6 Testing Process



# IOL INTACT<sup>®</sup> Software

- Software that can be licensed for pre-testing proposes
- Conformance testing only
- Demo of software

# Membership Options

## IPv6 Host Membership

- o IPv6 Core Protocols
- o Address Architecture
- o DHCPv6
- o IPsec/IKEv2 End-Node
- o MLDv2

## Firewall Membership

- o Firewall, IDS, IPS

## IPv6 Router Membership

- o IPv6 Core Host/Router
- o Addr Arch Host/Router
- o DHCPv6 Client, Server and Relay Agent
- o MLDv2 Router
- o IPsec/IKEv2 End-Node/Security Gateway
- o OSPFv3 and BGP4+

## IPv6 Application

- Custom USG application testing

# Testing Platforms

- Hardware
  - Ship to UNH-IOL
- Software/Virtual
  - Upload with instructions to UNH-IOL
- Cloud
  - Methodology under development with NIST



## FAQs

Q: What will happen to SDOCs for R0 (original version of the profile)?

- A: The listing site won't be taken down however after the Nov 2022 date, agencies should no longer accept longer accept SDOCs from R0.

Q: Does my product need to pass everything?

- A: In order to claim compliance for a given capability a product must pass all test cases referenced by the applicable Test Selection Table.

Please type any questions you have into the “*questions*” window at anytime – we will address these now



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LinkedIn [@UNH InterOperability Lab](#)

## For More Information

- NIST USGv6 Program Website
  - <https://www.nist.gov/programs-projects/usgv6-program/usgv6-revision-1>
- IOL INTACT Information
  - [intact@iol.unh.edu](mailto:intact@iol.unh.edu)
- General lab inquiries
  - Michayla Newcombe [mnewcombe@iol.unh.edu](mailto:mnewcombe@iol.unh.edu)
  - Timothy Carlin [tjcarlin@iol.unh.edu](mailto:tjcarlin@iol.unh.edu)