

International Open RAN Symposium

September 17 – 19, 2024, in Golden, Colorado, USA

Day 1: All Participants

On day 1, all participants will be together in the same room. The morning will have introductory talks and prior successful projects.

The afternoon **lightning talks** will give participants time to explain who they are, what they are working on, and what joint projects they want to support, as described below.

Lightning Talks		
Format	Purpose	Avoid
1 speaker 1 slide 3 minutes or less Slides due 8/23	<ul style="list-style-type: none">• Introduce your organization• Facilitate workshop discussions on days 2 and 3• Consistent, repeatable, worldwide Open RAN testing<ul style="list-style-type: none">○ Summarize your current collaborations○ Propose topics for future collaborations	<ul style="list-style-type: none">• Do not market a product• Do not make a sales pitch• Do not embed videos or audio

Day 1 Joint Track

Time	Title	Speaker and Details
8:00–9:00	Registration	
8:55–9:00	In-person Facilities and Logistics	Jeremy Glenn (NTIA/U.S.) Emcee
9:00–9:05	Introductory Remarks	Sarah Morris, Principal Deputy Assistant Secretary, U.S. Department of Commerce
9:05–9:10	Opening Keynote	Don Graves, Deputy Secretary of Commerce, U.S. Department of Commerce
9:10–9:15	Opening Keynote	Stephan Lang, U.S. Coordinator for International Communications and Information Policy with the rank of Ambassador, U.S. Department of State
9:15–9:35	Overview: What is Open RAN, Opportunities, and the Role of Government	Diane Rinaldo (Open RAN Policy Coalition)
9:35–10:15	Panel: State of Play in Open RAN Viewed by Operators	Moderated by Diane Rinaldo (Open RAN Policy Coalition) Chris Boyer (AT&T) Svetlana Matt (EchoStar/DISH)

Time	Title	Speaker and Details
		Robinson Chiu (ChungHwa Telecom) Nguyễn Thanh Hải (Viettel Group)
10:15–10:35	Spotlight: NTT Docomo Global Open RAN progress	Hiroki Kuriyama, President & CEO, NTT DOCOMO GLOBAL, Inc.
10:35–10:50	Break	
10:45–11:30	Panel: International Cooperation by Governments in Open RAN	Moderated by Brian Larkin (NTIA/U.S.) Alex Weber (DHA/Australia) Mathieu Potter (ISED/Canada) Shinya Shimada (MIC/Japan) Tom Rumbelow (DSIT/UK)
11:30–12:15	Panel: Opportunities for Open RAN Worldwide	Moderated by Megan McMillan (CLDP/U.S.) Philip Varilla (DICT/Philippines) Rajesh Kumar Pathak (Bharat 6G Alliance/India) Maggie Chao (ITRI/Taiwan) Francisco Troyo (MICITT/Costa Rica) Badran Alomar (MCIT/Saudi Arabia)
12:15–13:15	Lunch	
13:15–13:50	Technical Successes: Consistent, Repeatable, Worldwide Testing	<p>INTRODUCTION</p> <p>Eng Wei Koo (Keysight Director of RAN Standards and Technology, O-RAN TIFG and MVP-C co-chair)</p> <p>O-RU CONFORMANCE</p> <p>Binbin Chen (Singapore SUTD Associate Professor and Deputy Director of Future Communication R&D Program)</p> <p>Mitsuhiro Kuchitsu (Rakuten Mobile Vice Division Manager of Technology & Strategy Division)</p> <p>O-DU CONFORMANCE</p> <p>Michele Polese (Research Assistant Professor, Open6G OTIC at Northeastern University)</p> <p>Binbin Chen</p> <p>THREE O-RUs, ENERGY SAVINGS</p> <p>Victor Lin (Auray OTIC and Security Lab Deputy Manager in Taiwan)</p>
13:50–14:05	Minimum Viable Profile (MVP) Update	Ojas Choksi, Principal Technologist (ATIS)
14:05–14:10	Introduce Purpose of Lightning Talks	Jeremy Glenn (NTIA) Emcee

14:10–14:49	Federally Funded Labs and Organizations Lightning Talks	<ul style="list-style-type: none"> • CRAIN Lab, U.S. Department of Commerce/NTIA/ITS • FutureG, U.S. Department of Defense (DoD) • i14y Lab/Deutsche Telekom • Idaho National Labs (INL) • Digital Catapult (UK) 	<ul style="list-style-type: none"> • Innovation, Science, and Economic Development (ISED), Canada • Industrial Technology Research Institute (ITRI), Taiwan • Taipei Economic & Cultural Office (TECO) in Denver • Ministry of Internal Affairs and Communications (MIC), Japan • MITRE • NIST, U.S. Department of Commerce • Ministry of Science and ICT (MSIT), Republic of Korea
14:49–15:22	Academia Lightning Talks	<ul style="list-style-type: none"> • ARA PAWR & OTIC (North America) with Iowa State University • Asia Open RAN Academy • CCI/VT xG Testbed and OTIC Washington DC Metro Area • KyungHee University • University of Leeds 	<ul style="list-style-type: none"> • National Yang Ming Chiao Tung University (NYCU) • University of New Hampshire InterOperability Laboratory (UNH-IOL) • NC State University • Pennsylvania State University • POWDER Lab / University of Utah • Rutgers University
15:22–15:37	Break		
15:37–17:15	Industry Lightning Talks	<ul style="list-style-type: none"> • Airspan • Booz Allen Hamilton • CableLabs • Capgemini • Deepsig • Ericsson • European Advanced Networking Test Center (EANTC) • EY • Fujitsu Network Communications • Globalstar • Hewlett-Packard Enterprises • Juniper • Lekha Wireless Solutions 	<ul style="list-style-type: none"> • LF-Aether • LIONS Technology Inc. • Mavenir • Nokia • OpenAirInterface • Parallel Wireless • Qualcomm • Radisys • Samsung • SOLiD • Tejas Networks • Viavi • VVDN Technologies • Virginia Tech Applied Research Corporation • zTouch Networks • TIP
17:15–17:30	Ad hoc lightning talks	Microphone will be passed around to those attendees who want to introduce themselves, who have not yet spoken. 30 seconds.	
17:30	End of Day 1		
18:00–20:00	No Host Welcome Reception at the Golden Mill, 1012 Ford Street, Golden, CO		

Day 2: Separate tracks for technical and policy/government discussions

Interactive Workshop — Format

Each interactive workshop will have a session leader and secondary leader. The workshop will start with an interactive discussion among all attendees. Attendees will then disperse into breakout sessions, to enable small group discussion. Each breakout session will focus on a different sub-topic. Attendees are requested to pick one breakout session. All attendees will reconvene for breakout session readouts and to form an action plan. All events associated with the workshop will be outlined in a thick green line, as shown here.

Day 2 Technical Track

Time	Title	Speaker and Details
8:00–9:00	Registration	
9:00–9:15	Introduction to Interactive Workshops	Jeremy Glenn (NTIA), Emcee
Interactive Workshop — Topics for test collaboration		
9:15–10:15	Interactive workshop discussion among all attendees	Discussion led by Paul Sludden (Digital Catapult/SONIC Labs UK), assisted by Maggie Chao (ITRI/Taiwan)
10:15–11:15	Breakout Sessions	#1 What labs are already collaborating? What are their collaboration goals? Maggie Chao (ITRI/Taiwan)
		#2 What types of tests should we conduct in multiple labs worldwide, to evaluate consistency and repeatability? Vijay K. Shah (North Carolina State University)
		#3 How can we progress consistent and repeatable testing by dividing the effort among multiple labs? N. K. Shankaranarayanan (Rutgers University)
		#4 How can existing labs provide training and workforce development to new labs? Michele Polese (Northeastern University)
		#5 What are labs willing to share (e.g., open source code and data)? Tracy Van Brakle (AT&T)
		#6 Security collaboration: current progress and next steps Syed Hussain (Pennsylvania State University) and Arup Bhuyan (INL)
11:15–11:30	Break	
11:30–12:15	Reconvene, report out from breakout sessions, and form an action plan	Discussion led by Paul Sludden and assisted by Maggie Chao
12:15–13:15	Lunch	
Interactive Workshop — Consistent, repeatable, international testing		
13:15–14:15	Interactive workshop: discussion among all attendees	Discussion led by Julie Kub (NTIA), assisted by Aloizio Da Silva

Time	Title	Speaker and Details
		(Commonwealth Cyber Initiative Virginia Tech)
14:15–15:45	Breakout Sessions	#1 How do we do resilience testing? Joe Constantine (Ericsson)
		#2 What testing do MNOs want (e.g., performance parity, use cases)? Farook Hussan (Verizon)
		#3 How can we achieve and demonstrate consistent, repeatable testing? Andreas Gladish (DT)
		#4 How accurate do tests need to be, and how large of differences are significant? Doug Montgomery (NIST/U.S.)
		#5 What test frameworks and automation are needed? Eng Wei Koo (Keysight)
		#6 How can we gather, sanitize, and maintain test data? (input and out) Replacing
15:45–16:00	Break	
16:00–17:00	Reconvene, report out from breakout sessions, and form an action plan	Discussion led by Julie Kub and assisted by Aloizio Da Silva
17:00–17:10	Policy Track summary	Kate Dimsdale (NTIA/U.S.)
17:10–17:30	Questions about the policy track	Kate Dimsdale (NTIA/U.S.)
17:30	End of Day 2	

Day 2 Policy Track

Time	Title	Speaker and Details
8:00–9:00	Registration	
9:00–9:05	Opening Remarks	Jaisha Wray (NTIA/U.S.)
9:05–9:35	Summary of Day 1 and Open RAN Scene Setter	Andy Thiessen (MITRE)
9:35–9:45	Briefing on Prague Proposals on Telecommunications Supplier Diversity and 5G Security	Pre-recorded Remarks Roman Packa, Chief Advisor to the Director of NUKIB, Czech Republic Cyber and Information Security Agency
9:45–10:45	Panel: Implementation of the Prague Proposals: Policies and Regulations to Strengthen Open RAN Adoption	Moderated by Corey Schirmer (NTIA/U.S.) Tom Rondeau (DOD/FutureG/U.S.) Tom Rumbelow (DSIT/UK) Tiffany Lin (ITRI/Taiwan) Mathieu Potter (ISED/Canada)
10:45–11:15	Break	
11:15–12:15	Panel: Capacity Building and Financing to Support Open RAN Deployments	Moderated by Megan McMillan (CLDP/U.S.) Mary Sloan (USTDA/U.S.) Richard Matias (Asia Open RAN Academy)

		Sabahat Iqbal (USAID/U.S.) Hiroyuki Nakashima (JBIC)	
12:15–13:15	Lunch		
13:15–14:15	Panel: What’s Next for Global Open RAN – Private and Public Sector Cooperation	Moderated by Alex Botting, ORPC Udayan Mukherjee (Intel) Sushil Rawat (Telus) Sadayuki Abeta (NTT)	
14:15 – 15:15	Panel: Importance of Standards Bodies Engagement for Policymakers	Moderated by Daniel Henry (NTIA/U.S.) Haseeb Akhtar (Ericsson delegate to O-RAN ALLIANCE WG1) Sophie Weston (Digital Catapult/UK) David Young (ATIS) Shariq Ashfaq (NTIA, 3GPP)	
15:15–15:30	Break		
Interactive Workshops for Policymakers			
15:30–15:35	Introduction to Breakout Sessions	Jaisha Wray (NTIA/U.S.)	
15:35–16:35	Breakout Sessions	#1 Investments Financial Support for Open RAN	Ean Hundley (DFC/U.S.)
		#2 Policy Government Role to Enable Telecommunications Supplier Diversity	Alex Botting (ORPC)
		#3 R&D and Testing How Policymakers Can Best Support R&D Efforts	Tom Rumbelow (DSIT/UK)
		#4 International Cooperation Next Steps in Practical Cooperation Between Likeminded Governments	Brian Larkin (NTIA/U.S.)
16:35–17:00	Reconvene, Report Out from Breakout Sessions, and Next Steps	Breakout Session Moderators	
17:00–17:10	Technical Track Summary	Julie Kub (NTIA/U.S.)	
17:20–17:30	Questions About The Technical Track	Julie Kub (NTIA/U.S.)	
17:30	End of Day 2		

Day 3: Technical Track Continues; Site Visits for Policy and Government Attendees

Day 3 Policy Track

On Day 3, the policy track will conduct a site visit to tour DISH Wireless's new [Open RAN Center for Integration & Deployment \(ORCID\)](#) in Cheyenne, Wyoming.

Buses will leave Golden at 9:00 am. The DISH tour begins 11:00 am.

The visit can only accommodate 80 people. Please indicate your interest in the tour when registering. Priority will be given to policy track attendees.



Day 3 Technical Track

Time	Title	Speaker and Details	
8:00–9:00	Registration		
9:00–9:15	Spotlight: Overcoming Open RAN Deployment Hurdles	Ajay Rajkumar (AT&T Network CTO and O-RAN Operator Advisory Team chair)	
Interactive Workshop — Confounding Issues that Impact Testing			
9:15–10:15	Interactive workshop: discussion among all attendees	Discussion led by David Debrecht (CableLabs) and Lauriston Hardin (NTIA/ITS)	
10:15–11:15	Breakout Sessions	#1 Do small lab-to-lab differences produce large differences in results?	Lincoln Lavoie (University of New Hampshire, InterOperability Laboratory)
		#2 What factors matter the most?	Tim O'Shea (DeepSig)
		#3 What factors can be ignored?	Todd Loeffelholz (Airspan)
		#4 How does the priority of features for commercialization impact testing	Sridhar Rajagopal (Mavenir)
		#5 Decoupled service management and orchestration (SMO)	Haseeb Akhtar (Ericsson delegate to ORAN ALLIANCE WG1)
		#6 Lifecycle management, CI / CD / CT	Irfan Ghauri (Open Air Interface Foundation)
11:15–11:30	Break		

Time	Title		Speaker and Details	
11:30–12:15	Reconvene, report out from breakout sessions, and form an action plan		Discussion led by David Debrecht (CableLabs) and Mark Poletti (CableLabs)	
12:15–13:15	Lunch			
Interactive Workshop — Building trust				
13:15–14:00	Interactive workshop: discussion among all attendees		Discussion led by Lauriston Hardin (NTIA/ITS), assisted by Ian Wong (Viavi Solutions)	
14:00–15:00	Breakout Sessions	#1	How can buyers trust that a lab produces consistent, repeatable, world-wide testing?	Ganesh Shenbagaraman (Radisys)
		#2	What makes consistent testing valuable to customers? What do you get when the testing is done?	Andy Thiessen (MITRE)
		#3	Are badging and certification enough? Is there something more specific that can be done to address MNO needs?	Abdel Bagegni (TIP)
		#4	How do we demonstrate performance parity to legacy systems?	Gustavo Correa Lima (CPQD)
		#5	Are technology readiness levels (TRL) necessary?	Charles Turyagyenda (Digital Catapult/SONIC Labs UK)
		#6	System integration	Monika Tarwala (Capgemini)
15:00–15:15	Break			
15:15–16:15	Reconvene, report out from breakout sessions, and form an action plan		Discussion led by Lauriston Hardin (NTIA/ITS), assisted by Ian Wong (Viavi Solutions)	
16:15–17:20	Discussion on collaboration Identify projects with strongest support, ask for two people to lead each topic, arrange interim meetings to progress work		Discussion led by Ian Wong (VIAVI) as TIFG co-chair, assisted by Olli Andersson (Telecom Infra Project)	
17:20–17:30	Close out		Jeremy Glenn, Emcee	
17:30	End of Day 3			