9/10 April 2024

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QUANTUM NETWORKS
SUMMIT 2024

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12.00 **Registration & Lunch**

14.00 **TUTORIAL** SESSION

CHAIRMAN
Melchior Aelmans,
Chief Architect Global Service Providers,
Juniper Networks

14.00 **Safeguarding Networks in a Post-Quantum World**
Traditional encryption methods, once considered impregnable, may soon be vulnerable to quantum threats, posing significant risks to our digital security. Delving into the realm of quantum-resistant encryption and why quantum computing poses a threat to current security systems. Discussing the details of solutions available today and the long-term approach.
- Impact of quantum computing to cryptography and how it impacts network security
- The need to act now to make your networks future-proof from quantum computers
- Current solutions to safeguard the networks from quantum threats
- Infrastructure needed to build QKD-based solutions

Rakesh Kandula, Technical Marketing Engineer, Cisco

Stephen DiAdamo, Research Scientist, Cisco

15.30 Coffee/Exhibition/Networking Break

16.00 **Presenting ETSI ISG QKD Standardization Works**
QKD standardization is likely to have relevance to future standards for quantum networks. Describing the ISG QKD activities:
- Security standards toward certification of QKD modules
- Specifications of characterization methods
- SDN control

Martin Ward, Chair of ETSI ISG QKD

17.00 End of the Tutorial

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08.00 Registration & Welcome Coffee

MORNING SESSIONS

CHAIRMAN MORNING & AFTERNOON
Teun van der Veen, Senior Consultant, TNO

09.00 KEYNOTE ADDRESS

09.00 **Quantum-Safe Networks: Securing the Quantum Future**

Martin Charbonneau, Head Quantum Enablement Network Infrastructure BG, **Nokia**

09.20 QUANTUM KEY DISTRIBUTION SYSTEM SESSION

09.20 **Reviewing Continuous Variable QKD (CV-QKD)**
Over the last two decades, remarkable progress has occurred in both the theoretical and experimental aspects of Quantum Key Distribution (QKD) systems. Discussing one of the most recent innovations in these systems, Continuous Variable QKD (CV-QKD), which, unlike traditional QKD solutions, can be easily implemented in existing optical networks.

Vanesa Diaz, CEO, LuxQuanta

09.40 **On the Scalability of QKD Networks for Telecommunications**
The scalability of Quantum Key Distribution (QKD) networks is a pressing concern as we navigate the quantum landscape. Delving into the global progress of QKD networks, highlighting challenges that demand resolution for scalability and current efforts to overcome them.

Thorsten Groetker, Business and Technology Consultant, EvolutionQ

10.00 Coffee/Exhibition/Networking Break

10.30 **QKD Migration Strategies Implemented by Telco Operators**
Telecom operators are uniquely positioned to support a seamless and early migration by developing Quantum-Safe Network (bandwidth) as a Service where possible. Presenting the current state-of-the-art QKD networks and implementations.

Jean-Sébastien Pegon, Head of Business Development, ID Quantique

10.50 **Building Quantum-safe Networks with Symmetric Key Distribution**
Introducing an approach to symmetric key distribution that enables robust, scalable, and future-proofed security without reliance on asymmetric encryption and without the need for QKD.

Melchior Aelmans, Chief Architect Global Service Providers, Juniper Networks

11.10 **Quantum Safe Transport Security for Network Operators**
Explaining why quantum computing poses a threat to transport security solutions like MACsec & IPsec. Presenting the basic principles behind QKD solutions and how we can help customers to deploy these solutions now.

Rakesh Kandula, Technical Marketing Engineer, Cisco

11.30 **Build your IP/MPLS Network Now, Enable Quantum-Safe Encryption as Needed**
Focusing into the pivotal role of Operational Enablement in Quantum-Safe Networks (QSN), exploring the synergies between the Telecommunication Network Operating Center (NOC) and the Security Operation Center (SOC). As we navigate the landscape of quantum threats, it is imperative to understand the dynamic interplay between connectivity and cryptography.
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Hooman Bidgoli, Senior Product Line Manager, **Nokia**

12.00 Lunch

AFTERNOON SESSIONS

14.00 SERVICE PROVIDERS REPORT SESSION

CHAIRMAN
Patrick Donegan,
Founder & Principal Analyst,
HardenStance

14.00 AT&T Qujata Open-Source Post Quantum Cryptography Simulation Tool
Describing how Qujata aims to provide a viable solution for full stack PQC protocol testing, enabling AT&T (and other organizations) to be Quantum Safe by providing insights for building impact analysis, planning, and crypto agility environment.

David Bachar, Senior Cyber Security Product And Tech Lead Software Delivery Services, AT&T

14.20 Quantum Technologies for Safer and Smarter Cities
Diving into the use of quantum encryption and quantum sensors to secure critical infrastructure, enable precise traffic management, and enhance environmental monitoring. Through engaging use cases and interactive demonstrations, painting a vision of cities where quantum technology plays a pivotal role in ensuring both security and sustainability.

Dr. Raul V. Rodriguez,
Vice President,
Woxsen University

14.40 Highlighting Works by Telefonica Research Groups
- Quantum infrastructures (the EuroQCI project or our Quantum ring in Madrid, the MadQCI)
- Quantum network architecture, and our proposal for applying the experience of QKD deployments to a general Quantum Internet approach
- Quantum Network Digital Twins, and how we are using them to experiment with Quantum technologies in network evolution.

Dr Diego R. Lopez,
Telefonica I+D

15.00 Eurofiber: Cross-border Fibernetworks Enabling Quantum Internet
Discussing open access digital infrastructure as an enabler for quantum networks. Focussing on bringing QKD from innovation to proposition and on the integration of quantum internet technology in network infrastructures and operations.

Marc Hulzebos, Business Innovation Officer, Eurofiber

15.20 Coffee/Exhibition/Networking Break

15.50 ARCHITECTURE AND DESIGN PRINCIPLES SESSION

15.50 Field Learnings of Interoperating Quantum and Classical Networks
Sharing key findings obtained from ongoing lab and field engagements, as well as discussing alternatives for the design of interoperable networks.

Farzam Toudeh-Fallah, Director Quantum Communications R&D, Ciena

16.10 The Business Case for Quantum-safe Network
Looking at the business impact and economics of quantum-safe networks, when or why would anyone need to worry about quantum-safe networks today as a working quantum computer that is able to successfully attack current security mechanisms won't be available soon.

Melchior Aelmans, Chief Architect Global Service Providers, Juniper Networks

16.30 A Space Enabled Quantum Internet
Proposing an analysis of a network based on a best-path approach, where either fiber- or satellite-based elementary links can be concatenated to form a repeater chain.
Demonstrating how satellite links will play a significant role on the future large-scale quantum internet.

Teun van der Veen, Senior Consultant, TNO

16.50 QUANTUM AND OPTICAL NETWORKS SESSION

16.50 The Unbreakable Light: The Rise of Recording-Proof Photonic Encryption
Describing the Photonic Encryption, a groundbreaking advancement in encryption technology. Unveiled here for the first time, this cutting-edge technology capitalizes on photoelectric physics to offer robust protection against current and future cryptographic analysis technology and advanced computational capabilities.

Dr. Eyal Felstaine, Chief Business Officer, Cyber Ridge

17.10 Adaptation of Quantum-Secured Optical Channels to Future Quantum Networks
Discussing the adaptation of quantum-secured optical channels from today's point-to-point short distance applications to future quantum-secured networks, along different approaches that include Quantum Teleportation and One-Way Quantum Repeaters.

Farzam Toudeh-Fallah, Director Quantum Communications R&D, Ciena

17.30 Optical Transport Layer 1 Connectivity, Ready for the Quantum-era
Outlining methods and value proposition current generation of Quantum Safe Optical Transport provides, as well as key design considerations that assure Quantum Safe Optical Transport solution evolution deep into Quantum era.

Pedja Dragovic, Senior Product Line Manager, Nokia

Sylvain Chenard,
Quantum Safe Networking Solution Leader,
Nokia

17.50 End of the Conference

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SUMMIT 2024

Quantum Networks Summit 2024
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Don't forget to come and relax after a hard and profitable day, with the end of play cocktail on **Tuesday 9th April**.

After the last session, come and enjoy a glass of champagne while networking casually in a relax atmosphere, with our experts, peers and fellow colleagues.

We are looking forward to seeing you there !

Our room block at a special rate at the Hyatt Regency Etoile is **sold out**.

Please find below a selection of neighboring hotels and booking platforms in order for you to find a hotel close to the Palais des Congrès.

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Click on the pictures to access the online booking platforms
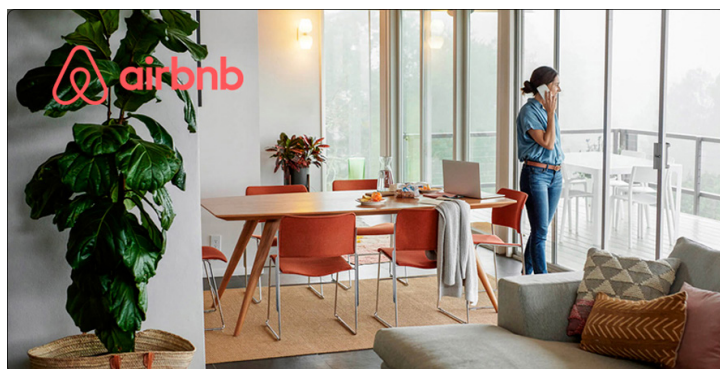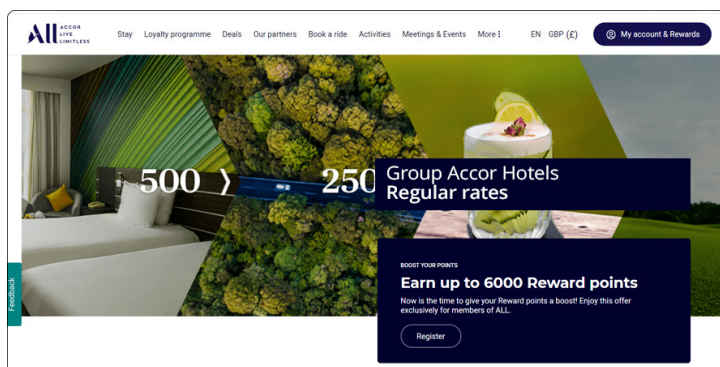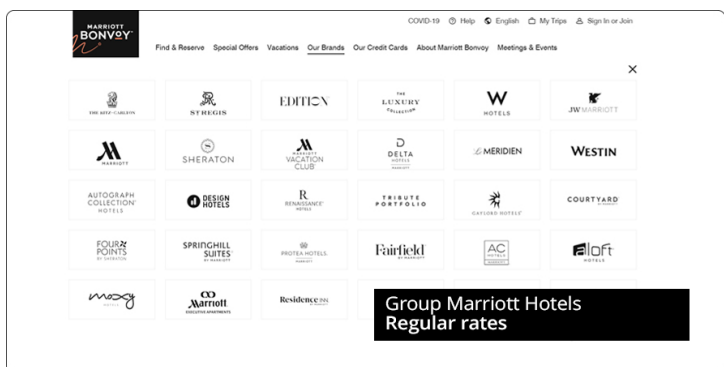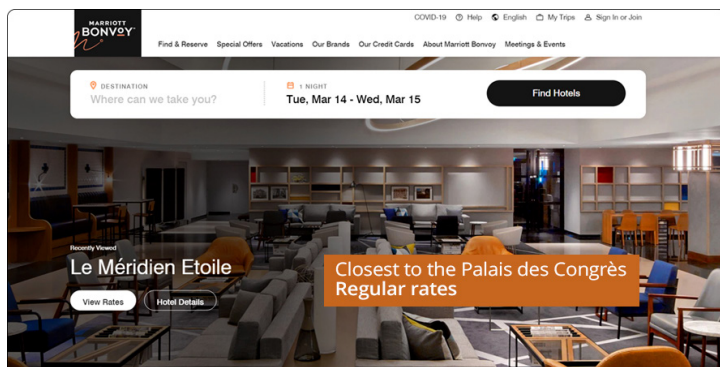
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