



Twenty Eighth National
Conference on Communications



Workshop on “Standards Driven Research” at NCC 2022

24 May 2022, 1000-1700 IST



Workshop on “Standards Driven Research” at NCC 2022

< Panel Discussion >

< Challenges in Standards-Driven
Research >

< By >

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TSDSI 1.0 - Security Assurance

- Security Assurance of Devices, Products and Components
 - Backdoors, Insecure implementation of protocols, Programming errors and Trojans
- Conducting Systematic Cybersecurity Assessment
 - Vulnerability Assessment
 - Penetration Testing
 - Formal Verification of protocols
 - Resilience to Emerging Threats
- Applications
 - The digital businesses that are highly scalable
 - Critical sector organizations
 - Transaction processing industry, where the speed of processing is rising multi-fold
 - Small and medium enterprises that have limited resources in investing security solutions



TSDSI 1.0 - Unified Authentication Framework

- Trends in 5G Networks
 - Confluence of 5G and IoT
- 5G Use Cases
 - Smart Commerce/Banking, Intelligent Transport, Smart Agriculture, Smart Cities, Smart Grid, Smart Water, Industry 4.0, Smart Education, Smart Health
- Develop APIs pertaining to application-specific requirements for integration with vendor provided components
- Conduct field trials for monitoring and meeting application-level Quality of Service requirements
- Need to achieve Cloud Interoperability, Security and Performance with low resource overhead



TSDSI Roadmap 2.0

- Security standards for IoT and M2M
 - Increasing number of attack vectors
 - Securing every link in the chain (Device Security, Communication Security, Modem Security, SIM Security, Network Security, Application backend server security)
 - Formal Security Analysis
 - Privacy implications
 - Un-linkability and Unobservability
- Quantum Security
 - Quantum Key Management and Distribution
 - Securing Internet of Things using Post-Quantum Cryptography
 - Low-Resource Quantum Cryptography
 - Efficient implementation of ciphers on Quantum Computers
 - Attack-Resilient Quantum Computing



Thank You

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