National Workshop on Cyber Security for Critical Infrastructure

(27-28, Sept 2019) @ SETS, Chennai

Critical Infrastructure that powers the Nation are getting more and more advanced. They apparently run over a complex software stack, just like regular Information Technology products so the vulnerabilities existing in that stack could potentially affect the Critical Infrastructure as well. A two-day National workshop on "Cyber Security for Critical Infrastructure" was jointly organised by Society for Electronic Transactions and Security(SETS), Chennai and Centre for Development of Advanced Computing(C-DAC), Bengaluru focusing mainly on attacks that are carried over Critical Infrastructure and how they could be potentially mitigated. Other topics such as Lightweight Cryptography, SCADA Security/ IoT/ IIoT Security, DNS Security, AI/ML/DL and its role in Cyber security of ICS-CI and Indigenous solutions were also covered by reputed speakers from various R&D Institutions and private sector companies.

[Left to Right: Ms. Suganya, Shri. Bindumadhava, Dr. Ajeet Bajpai, Dr. SAV Satya Murthy, Dr. Sarat]

Dr. Sarat, Executive director, SETS delivered the welcome address where he briefed about the initiatives from SETS and C-DAC that are in line with it's commitment to promote cyber security. Dr. Sarat also talked about the ongoing projects and Cyber Security solutions developed by SETS.

Shri. Bindumadhava, Centre Head & Senior Director, C-DAC, Bengaluru gave the perspective of the workshop and spoke on how IoT devices brought about a paradigm shift in security. He expatiated on transforming National Protection Schemes and adopting compliance testing and certifying equipment right from the device level.

The inaugural address was delivered by Dr. Ajeet Bajpai, Director General, National Critical Information Infrastructure Protection Centre (NCIIPC), New Delhi. He spoke about the National Cyber Coordination Centres (NCCC) being set up in various places by CERT-In. Dr. Ajeet expressed his concerns on the disrupting capabilities of the threat vectors and the alarming breach of elementary devices. He also stressed on how air gapped networking cannot be breached is a myth. He insisted on developing an ecosystem where in the focus is not only providing solutions/products, but also needs to provide support and maintenance.

Dr. SAV Satya Murthy, Former Director IGCAR, DAE and Director VMRF delivered the keynote address. He talked about various cyber security incidents carried on Critical Infrastructure around the world and the importance of protecting Industrial Control Systems (ICS). He recommended incorporating cyber security from the design stage and adopting standard operating procedures. He also talked about configuration change management and maintaining a strict air gap is paramount in a critical infrastructure.

Workshop covered the following topics over the course of two days (27/09/19 - 28/09/19):

- Smart grid: R&D Cyber Security challenges by Shri. Bindumadhava, Centre Head & Senior Director, C-DAC Bengaluru.

- IoT Classification, Identification and Security Enforcement by Prof. R. K. Shyamsundar, Distinguished V. Professor, Dept. Of Computer Science and Engineering, IIT Bombay.

- Cyber Security framework in Utilites by Shri. P. K. Agarwal, Director, POSOCO.

- Hardware based Security for Industrial Instruments by Ms. Mini TT, ABB Global Industries and Services Pvt Ltd.

- Lightweight Protocols by Dr. Sumanta Sarkar, TCS Innovation Lab, Hyderabad.

- IoT Security by Shri. Hari Babu, Joint Director, C-DAC Bengaluru.

- DNS Security by Dr. Balaji, Joint Director, C-DAC Bengaluru.

- Cryptosystem Validation FIPS-140 2 Perspective" by Dr. P. V. Ananda Mohan, C-DAC Bengaluru.

- Role of Next generation firewall in securing Critical Infrastructure by Shri. Thirupathi, Senior Network Analyst, SETS.

- Visibility in Critical Infrastructure - Shri. Rajest Kalluri, Joint Director, C-DAC Bengaluru.

- Securing Critical Infrastructure with Machine Learning by Dr. Parag Rughani, Associate Professor at Gujarat Forensic Sciences University.

- Securing Critical Infrastructure in Quantum Era: PQC by Dr. Prem Laxman Das, Sr. Scientist, SETS.

- Securing Critical Infrastructure in Quantum Era: QKD by Dr. Jothi Ramalingam, Scientist SETS.

- Secure Crypto Devices for Cyber Infrastructure by Ms. Suganya, Scientist, SETS.

Workshop concluded with Panel Discussion on "Need of Indigenous Solutions/products in Securing the Nation's Critical Infrastructure" by Shri. Omveer Singh, Director, Meity; Dr. Jagadeesh, BARC, DAE; Dr. Sriram Biradavolu, CEO, Telengana Cyber Security CoE; Shri. Narendra Nath, Joint Secretary, NSCS; Ms. Smita Purushottam, Founder, SITARA; Dr. Sarat, ED, SETS; Shri. Senthil Kumar, Associate Director, C-DAC.