Tutorial 3

Cyber Security: The Importance of CERTs
(Computer Emergency Response Teams)

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Keywords: Cyberspace, Human Development and Security, Pacific Computer Emergency Response team (PacCERT), Japan Pacific ICT Centre, Governance, Privacy, globalization, IT Age, Next Generation Internet.

Abstract: The current and future dynamic development and innovation in the field of Information Communications Technologies (ICT) create a platform for the ubiquitous connectivity via Cyberspace for anywhere at any time for anyone worldwide. Having millions of people all over the planet, connected to the Internet via his/her PC, laptop, or any portable mobile device create opportunities for communication all kind of information and content which may or may not be always contributing to the betterment of mankind.

Among thousands of different interest groups and social networks in countries worldwide, there are also groups that may wish to create, distribute or promote the information that may put state security, national economy and society in danger. Given the current complexity of the Internet and the ICT hardware and software infrastructures, in conjunction with the human factor, establish four basic categories that may trigger malfunction of the Internet and ultimately a cyberspace worldwide. These categories are:

1) Hardware:
   a. Connectivity;
   b. Reliability;

2) Software:
   a. Malware and spams;
   b. Configuration;
   c. Interoperability;

3) Human factor:
   a. Terrorist driven attack(s);
   b. Politically and Economically driven attack(s);
   c. War(s), etc.;

4) Natural disasters:
   a. Flooding;
   b. Earthquake(s);
   c. Volcanic explosion(s), etc.;

All across the globe, there are many professional groups of experts working together to make sure that the Internet and ICT function properly. There number of the Computer Emergency Response Teams (CERTs) that operate and cover a specific region on the planet, such as Australian CERT [1], Japanese CERT [2], US CERT [3], APCERT [4] and PacCERT [5]. The regional CERTs coordinate and monitor the Internet in collaboration with the regional network service providers, security vendors, government agencies, as well as the industry associations.

The author worked as a Chair of the Pacific CERT and First Director of Japan Pacific ICT Centre and will discuss the importance of CERT in the South Pacific Region as an essential part of the Global Internet and Cyberspace Infrastructure. Many member countries in the south pacific region do not have access to Internet and local ICT infrastructures with necessary strategic tools to address their socio-economic issues.
References:

Speaker’s Biography

Professor Babulak is an accomplished international scholar, researcher, consultant, educator, professional engineer and polyglot.
- Keynote Speaker at the International Conference on Communication Systems and Network Technologies, 2011 (CSNT-2011), organized by SMVDU, Katra, (J&K) and MRI Labs, Katra, Jammu, India,
- Plenary Keynote Speaker at the International Conference on Advances in Computing and Communications 2011 (ACC-2011), in Kochi, India;
- Invited Panel Speaker at the ITU Kaleidoscope Conference, Dec. 2010 in Pune, India;
- Invited Speaker at the University of Cambridge, UK, March 2010 and March 2009;
- Panel Speaker at the KIZUNA WINDS Symposium Tokyo Feb 2010;
- Invited Speaker at National University of Yokohama and University of Electro-Communications in Tokyo, December 2009;
- Invited Panel Chair and Speaker at MIT, USA, May 2010 and September 2005;
- Fellow of the Royal Society for the encouragement of Arts, Manufactures and Commerce (FRSA),
- Chartered Fellow of British Computer Society (FBCS),
- Senior Member of ACM, Mentor and Senior Member of IEEE,
- served as a Chair of the IEEE Vancouver Ethics, Professional and Conference Committee.
- His academic and engineering work is recognized internationally by the Engineering Council in UK, European Federation of Engineers and credited by the British Columbia and Ontario Society of Professional Engineers in Canada.
- Professor Babulak speaks 14 languages, a member of the Institution of Engineering Technology (MIET), American Society for Engineering Education (MASEE), American Mathematical Association (MAMA) and Mathematical Society of America (MMSA).
- His biography is cited in the Cambridge Blue Book, Cambridge Index of Biographies and number of issues of Who’s Who.