Integrated Capability Management for Improved Cyber Safety and Security

Abstract

The cyberspace transcends across various logical and physical domains including critical information infrastructure, financial systems, military systems, health systems, automotive and transport systems, education systems, and personal information and privacy. It is also apparent that various domains are converging because of increased connectedness of “everything” through the Internet of Things (IoTs), leading to even greater security problems that cannot be addressed by technology alone. For example: the electromagnetic space and cyberspace convergence presents positive developments, but at the same time involves serious repercussions with regards to physical and logically cyber Safety and security. Current solutions to cybersecurity challenges are strongly ICT or technology focused, mostly dealing with protecting information and systems rather than people’s safety and security. It has been demonstrated through various cyber incidents that cybersecurity has huge social, environment, financial, and physical impacts affecting systems, but also users’ safety and security. It has also been shown through various research studies, that technology on its own is not adequate to address the myriad cybersecurity incidents that threatens people’s safety and security in the cyberspace. As such, it is very important that novel approaches are considered when initiating cybersecurity solutions or technologies such that these solutions take into consideration the integrated capabilities that are affected by cybersecurity challenges in order to create a positive security posture for nations and individuals. In this talk, we will share a well-researched and tested ICM (integrated capability management) approach on defining, building, deploying, and sustaining cybersecurity capabilities that consider both physical and logical cyber safety and security challenges affecting technological solutions, people, and processes.

Bio

Dr Jabu Mtsweni is a Research Group Leader for Cyber Defence at the Council for Industrial and Scientific Research (CSIR) and research fellow at the University of South Africa. He is also a member of the ITU-study group on cybersecurity in South Africa. His research interests and technical expertise are in secure software development, software and firmware reverse engineering, malware analysis, threat intelligence, web security and general cyber warfare. He has over 14 years academic and industry experience and has published over 50 peer-reviewed conferences and journal papers/articles both in local and international forums. Jabu Mtsweni has also publicly presented and actively contributed at various local and international technology forums over the years, such as at ITWeb Security Summit, TEDx, SADC Cybersecurity Conference, ISSA, and recently NextGeneration Threats Conference where he shared the stage with Mikko Hypponen and Keren Elazari. Dr Mtsweni is also a co-organizer of Random Hacks of Kindness (Pretoria) and a member of Suganang Foundation, focusing of human capital development in the ICT space. Over the years, Dr Mtsweni has received a number of research and excellent awards for his work, leadership, and community engagement.