Information Security in Taiwan:
Research Policies and Programs by Ministry of Science and Technology

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Abstracts:

The development of Taiwan's cloud computing and information security industry promotes the information security technology research, facilitates industry consolidation and development, and strengthens industrial competitiveness. Ministry of Science and Technology (MOST, formerly National Science Council, NSC) offers long-term investment of resources and sponsors grants for academics advanced technology R&D and training, hereby lays the foundation for technology industries constructing their competitive advantage.

Taiwan Information Security Center (TWISC) was thereby established in 2005 to integrate research energy of academics and enterprises. In 2006, The International Collaboration for Advancing Security Technology (iCAST) program was then built to start a three-year project between Taiwan and USA. One of the iCAST research results is the Intrusion Detection and Event Analysis System (IDEAs), an international collaboratively developed, machine-learning based adaptive SOC. Several technologies employed in IDEAs were filed to be patents (US8,307,459B2; US8,341,742B2; US8,505,080B2).

Then MOST then supported the System Security Assurance and Anti-Hacker Environment R&D Program, which aimed on botnet detection, honeynet deployment, web application service security, malware detection, intrusion detection and prevention, and SOC integrated event monitoring and analysis platform. This program thereafter transformed to the Cloud Computing and Information Security Program and runs till now. The Cloud Computing and Information Security Program aims on (a) cloud computing and security, and (b) information security and anti-hacker technology. The former includes virtualization, privacy protection, infrastructure security, cloud management, service and innovative application development, while the latter covers system and application security, security test, malware and botnet detection, digital forensic, and cryptography. From now on, research issues about Advanced Persistent Threat (APT), big data analysis, mobile device security, and social network are promoted by this program. Meanwhile, researches and projects are realized as network and cloud defense platforms, such as Government Cloud, Cloud Development Platform, Academic ISAC, Government ISAC, NCC ISAC, Academic SOC, etc.

To spread the research results, MOST also proposes the security society network service project, the security product validation/testing project and the virtual attack/defense platforms. Therefore, such projects are encouraged: (1) proposals with clear industrial, entrepreneurial or international cooperative organizations; (2) proposals with research result future application plan; (3) projects use Capability Maturity Model Integration (CMMI) as the execution guideline; and (4) integrated research projects. The research results are released in open source format at OpenFoundry platform (http://ossf.openfoundry.org). Also, out-performing research groups demonstrated their research results in 2011, 2012 & 2013 Taipei International Invention Show and Technomart, so that the research results can be introduced to industries and corporations.

Being participated in these programs, in addition to the IDEAs at iCAST,

our lab targets on computer intelligence researches of security issues on network, computer system and cloud, mobile device, document and web content, and their integration for preventing APT. Also, we collaborate with academics and enterprises such as CMU, III, Acer, CHT, Trend Micro, etc. to develop applicable security solutions.