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Introduction of CCDS

- Toward Trustful IoT Life -

Connected Consumer Device Security Council (CCDS) Tsukasa Ogino, Representative Director

Contents



- Recognition of Current issues
- CCDS Overview
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- CCDS other activities

ISSUE: Threats from Cooperated Devices

If even Single App is safe, but may be vulnerable in cooperated situation



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Trust (safety and security) Level Difference $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$



Value and Cost Balance





Different Priority and Judgement level Product domain by domain

CCDS Overview

- Name: General Incorporated Association: Connected Consumer Device Security Council
- Establishment: October 6, 2014
- Chairman: Hideyuki Tokuda (Professor of Keio University, Cabinet Security Advisor)
- Representative Director: Tsukasa Ogino (Specially Appointed Professor, Kyoto University)
- Managing Director: Kosuke Ito (Zero-one Laboratory)
- Directors: Atsuhiro Goto (Professor, Institute of Information Security, SIP: PD) Katsutoshi Hasegawa (President, eSOL Co., Ltd.) Hiroyuki Hattori (President, Witz Co., Ltd.)
- Number of members: 129

(Official members or higher: 43, General members: 62, Academic members: 14, Liaison members: 10)

- Main businesses:
 - 1. Internal/external trend investigation on security in various field of life devices, and interchange/cooperation with internal/external organizations
 - 2. Development of security technology which satisfies safety and security of life devices
 - 3. Development of security design process, development/preparation of verification method guidelines and promotion of international standardization
 - 4. Preparation/control of life device verification environment, verification business and human resource development on security, public relations/dissemination activity, etc.

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SCOPE:



Embedded/IoT/M2M in general, Connected Consumer Devices which are not operated (monitored and controlled) by professionals



CCDS Organization

R&D Units activities

- Unit 1 (stationed in Okinawa):
 - Unit Leader: Dr. Inoue, Assoc. Prof. of Hiroshima City Univ.
 - R&D in Car Hacking (CAN) hacking, USB Hacking, Feedback fuzz data processing function on fuzzing tool, etc.
- Unit 2:
 - Unit Leader: Dr. Ogino, Kyoto Univ.
 - R&D in Home GW vulnerability research, Auto Vulnerability checker for Android apps, etc.

Cyber Security Policy for Vitalizing Society and its sustainable development by NISC

経済社会の活力の向上及び持続的発展	~費用から投資へ~
Security By Design (SBD)	
System Design with Security Consideration	なIoT(モノのインターネット)
システム ■ ITOIII PIdIIIIII diu uesigni stage	い対策を敷合的に実施するための
本制等を整備 本制等を整備	が現代正日町に天地するための
Preparation of the general guidelines	等を整備
to affect security on IoT system	充・美証事業の美施
■セキュリティ、イントでリッパエ来社会の正定	
▶ 企業におけるセキュリティに係る取組が市場等から正当に評価される仕組みの構築	<u>el Fin</u>
Enforcement of the technology development	and proof trial
in consideration of the characteristic (long l	ife cycle,
Imit of the processing capacity) of the IoT	system,
「 Importance of the hardware genuine nature	
▶ サイバーセキュリティ産業の振興に向けた制度の見直し(リバースエンジニアリング等)	Bardelm for Business
▶ IoTシステム等のセキュリティに係る国際的な標準規格や相互承認枠組み作りの国際的議論を主導	
▶ 知財漏えい防止強化など、公正なビジネス環境を整備	▲自動運転車の実証実験

出典:NISC:サイバーセキュリティ戦略(案)より

CCDS External Cooperation

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内閣サイバーセキュリティセンター National center of Incident readiness and Btrategy for Cybersecurity

IoT Security Guideline Dev.

WG on the Development Guideline for the Smart-society

情報処理

Design Process Guide = Security by Design
Security Testing Guide ->International Std.

toward the safe and secure IoT service/product development!

NISC

IoT Vuln. Evaluation PF Dev. ・Vulnerability Testing Tool Development ・Testing Scenario Development Developing the Security Testing Platform

PLAN: Security Development Guideline Definition

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CCDS life device security guideline for each field v1.0 0 CCDS

Purpose

Since threats for each product field vary, security actions are summarized in view of each field based on IPA "Development guideline of connecting world" to easily disseminate the security-by-design concept in the industry.

Target field

Onboard unitFinancial terminal(ATM)IoT gatewayAccounting terminal(POS)

<complex-block>

Major contents of guideline

- Target system configuration
- Anticipated security threat
- Security action in each phase of product life cycle

(Relationship with IPA "Development guideline of connecting world")

3rd party security evaluation for entire product and security measure function

English Version are coming soon!

Position of guideline for each CCDS field (private opinion)

Founding the 3rd Party Security V&V Evaluation Center

CCDS IoT Vulnerability Testing Units

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Other CCDS activities

- Usability WG
 - Objective: Discussing UI design as a part of security countermeasures to keep the IoT devices in secured
 - Collaboration with HCD-net(人間中心設計推進機構)
 - Leader: Ueyes' Design
 - Kicked off in Aug., 2016., participating about 20 members
- Device Security Technology SWG
 - Objective:
 - Building comprehensive security countermeasure technologies MAP (categorizing) for IoT devices
 - Envisioning to develop the Implementation Guideline for IoT security countermeasures in future
 - Leader: SELTECH, Deputy Leader: DNP (Dai-Nippon-Printing)
 - Kicked off in Jun., 2016., participating about 35 members