Current and future needs for Wi-Fi Services, Performance and Security

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ITILv2 and ITILv3 #819214, CSOEP #100600 (DataCentre, Infrastructure, Process, Management, Security)
IRCA ISO/IEC 20000 ITSM (IT Service Management) #01193718, IRCA ISO/IEC 27001 ISMS (Security Management) #01193718

IT Professional Wi-Fi Trek 2015
#wifitrek

Globeron

25 September 2015
11.30am – 12.15pm

Certified Wireless Network Professional
cwnp

People have a vision to look further away
we call it a “tele” vision

“To see and to see what others do not see,
that is true vision and true wireless”

Understand the current wireless issues

Wireless installations - outdoor

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@Globeron

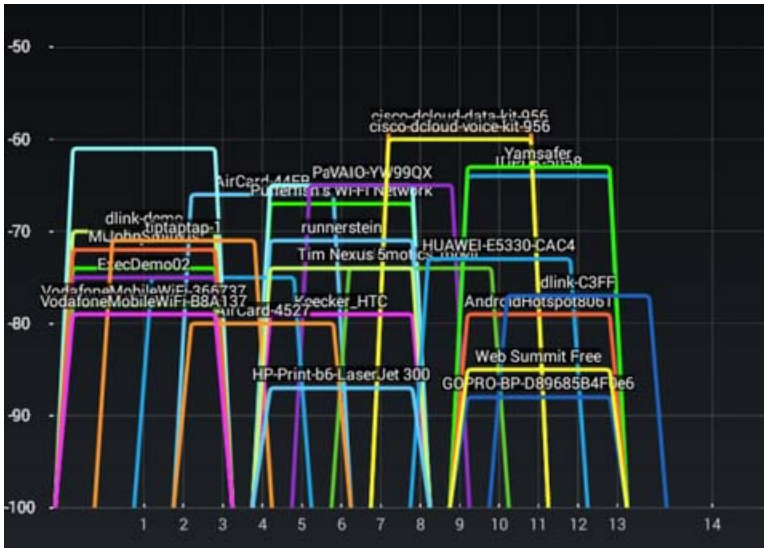
Wireless installations - indoor

Keith R. Parsons
@KeithRParsons

Scott Stapleton
@scottpstapleton

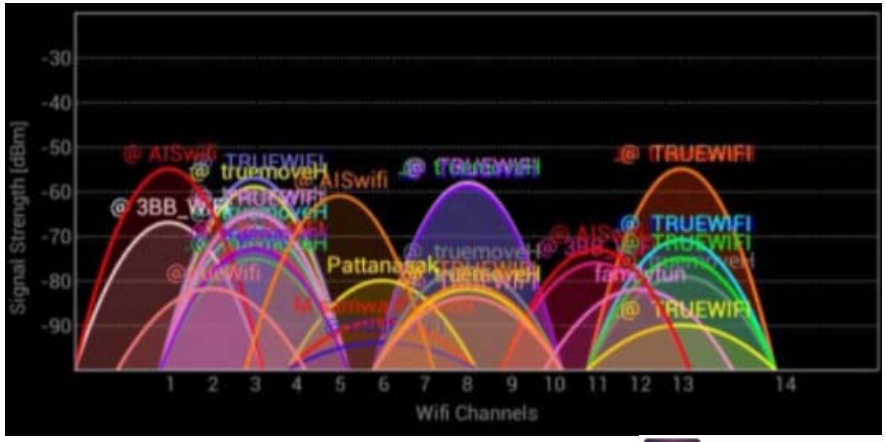
Eddie ★ Forero
@HeyEddie

…and many other challenges to design and deploy wireless networks



For example

Channel mapping



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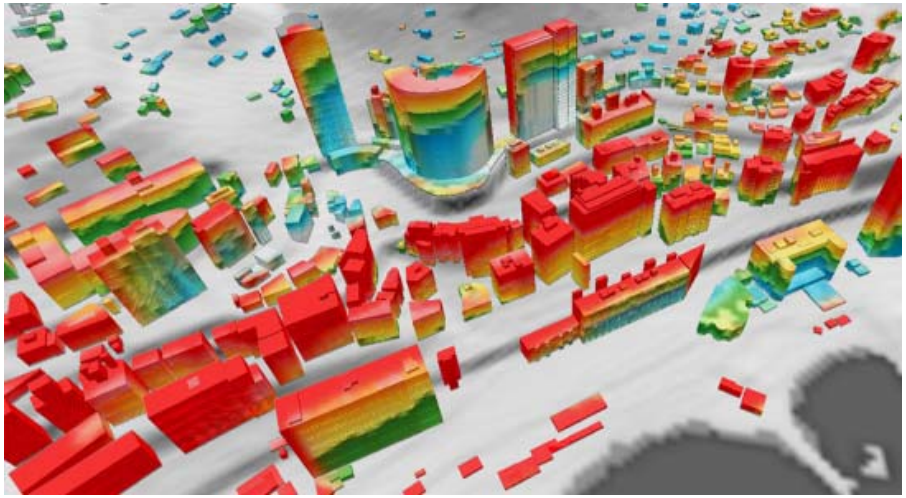
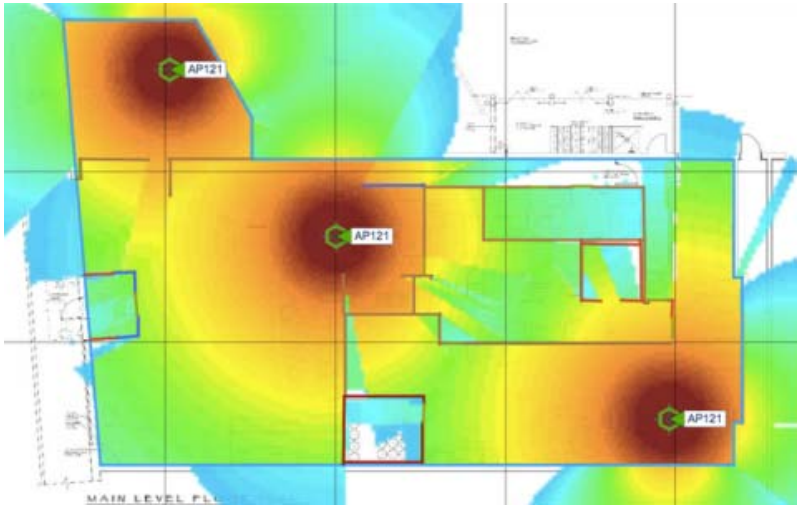
RF Coverage planning Outdoor / Indoor
plus continuous monitoring for service availability (24x7)





High Density – Wireless Cities / Smart Nations
Millions of people…many devices

- very dense areas (apartments, hotels, houses)
- 24x hours people are on the streets "moving crowd"
- One big WiFi zone in the city
- No channel coordination between ISPs and it is not possible with people managing their own WiFi at home
- both 2.4 GHz and 5 GHz are not enough, but will it ever be?

The issues: Capacity, Scalability and Management

- Number of client devices per Access Point (AP)
- Type of applications running on the devices (Voice, Video, Data)
- Performance and Roaming requirements
- New standards IEEE 802.11ac MU-MIMO (aka “Wave 2”)
- Backhaul capacity and Power over Ethernet requirements
- Number of Access Points managed by a Wireless Controller

  or connecting to a Cloud based controller
- International regulations for Cloud based management systems
- Location Based Services / Real Time Location Services
- Data/Voice integrations between Cellular/Mobile and WiFi networks

  (“3G / 4G” offload and Hotspots and Homespots)

Growing wireless CyberSecurity needs "Wireless is the access layer"

- Exponential growth of wireless/mobile/IoT/IoE devices
- Different wireless security capabilities for each device
- Convergence of wireless technologies (LTE-U/LTE-LAA/WiFi/BLE,Roaming)
- Many wireless security issues for different technologies
  (e.g. Hijacking, Man In The Middle attacks, Encryption vulnerabilities, Authentication issues)
- Wireless cloud services security challenges between countries
- Is this content compliant to government policies, regulatory, law ?
  (e.g. for terrorist activities, pornographic content, human trafficking, gambling, trading drugs)

Monetization of WiFi services

- Public WiFi networks and investments by Telco's at outdoor and indoor venues
- Cooperation between venue owners, telco's, system integrations, wireless vendors and marketing/media/content providers
  - To push mobile content (coupons, promotions)
  - to collect consumers behavior (walking paths in supermarkets)
  - Location based services
    (e.g. shortest path to the taxi stand in a shopping mall)
  - Sales enablement
    ("Showrooming", consumers browsing for products, but not buying in the store)
  - And many more solutions coming up

Lack of WiFi/wireless skills

- Wireless Network
  - Designers
  - Implementers
  - Security Professionals
  - Auditors
  - Support Specialists
  - Integration with Wireless Sales/Business
  - Integration with non-technical disciplines (legal / law enforcement, finance, etc.)

How to get the perfect team?

Lack of WiFi governance and standardization

- Unlicensed Spectrum (2.4 GHz and 5 GHz) for "low powered devices"
- No governance how to use the spectrum and how to deploy WiFi networks
- Everybody can deploy WiFi / Bluetooth and other technologies in their own way
- Vendors come up with their own "validated reference designs" based on their own product portfolio.
- No standardization of skills required per vertical market / industry to bid for or implement projects.
- No standardization for business critical or mission critical wireless services
- No integrations with other international frameworks for standardization

Governance – Standardization - Certification

Governance – Standardization - Certification

Governance

Standardization

Certified Professionals

Certified Auditors

Wireless Standard bodies

and more

ISO/IEC 20000-1:2011 ITSM Standard (1st version launched :2005)
and ISO/IEC 20000-2:2012 ITSM Standard (1st version launched :2005)
ITSMS: Information Technology Service Management Standard


INTERNATIONAL STANDARD

ISO/IEC 20000-1

Second edition
2011-04-15

Information technology — Service management —
Part 1:
Service management system requirements

Technologies de l'information — Gestion des services —
Partie 1: Exigences du système de gestion des services

Reference number
ISO/IEC 20000-1:2011(E)

© ISO/IEC 2011


INTERNATIONAL STANDARD

ISO/IEC 20000-2

Second edition
2012-03-15

Information technology — Service management —
Part 2:
Guidance on the application of service management systems

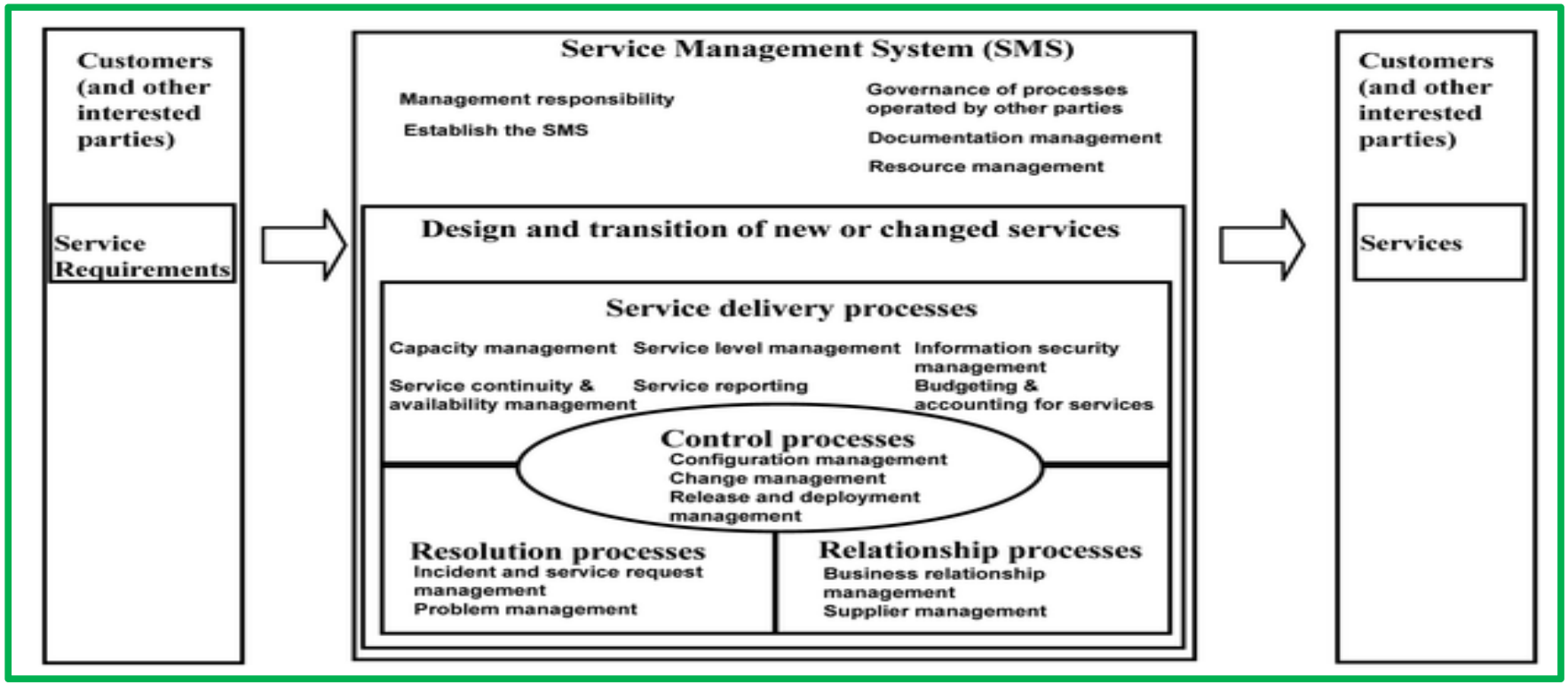
Technologies de l'information — Gestion des services —
Partie 2: Directives relatives à l'application des systèmes de management des services

Reference number
ISO/IEC 20000-2:2012(E)

© ISO/IEC 2012

ITSM – Service Management System and Wireless Service Management

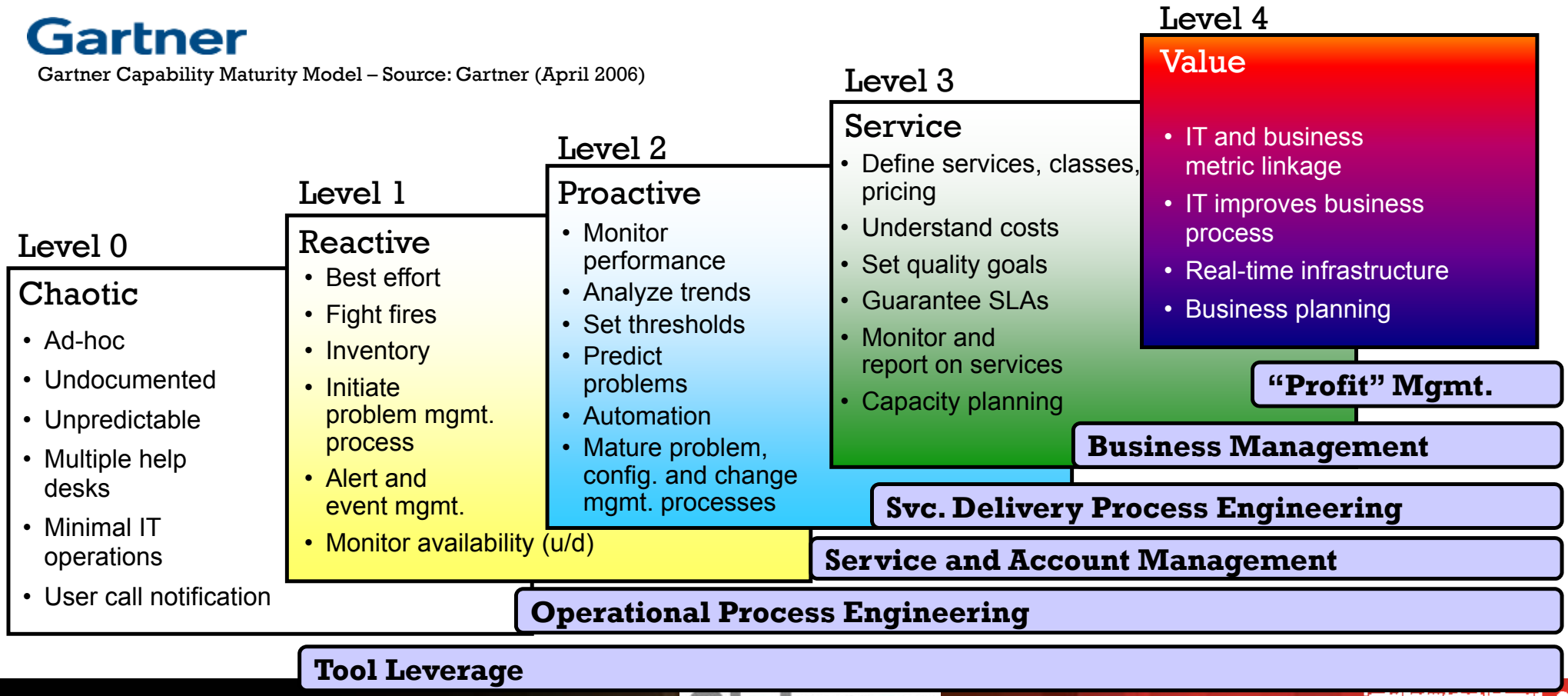
Wireless Service Management



Organisations' capability levels / Service Level Agreements (SLAs) at which level do you provide wireless service management?

Gartner

Gartner Capability Maturity Model – Source: Gartner (April 2006)



ISO/IEC 27001:2013 ISMS Standard (1st version launched :2005)
and ISO/IEC 27002:2013 ISMS Standard (1st version launched :2005)
ISMS: Information Security Management Systems

INTERNATIONAL STANDARD

ISO/IEC 27001

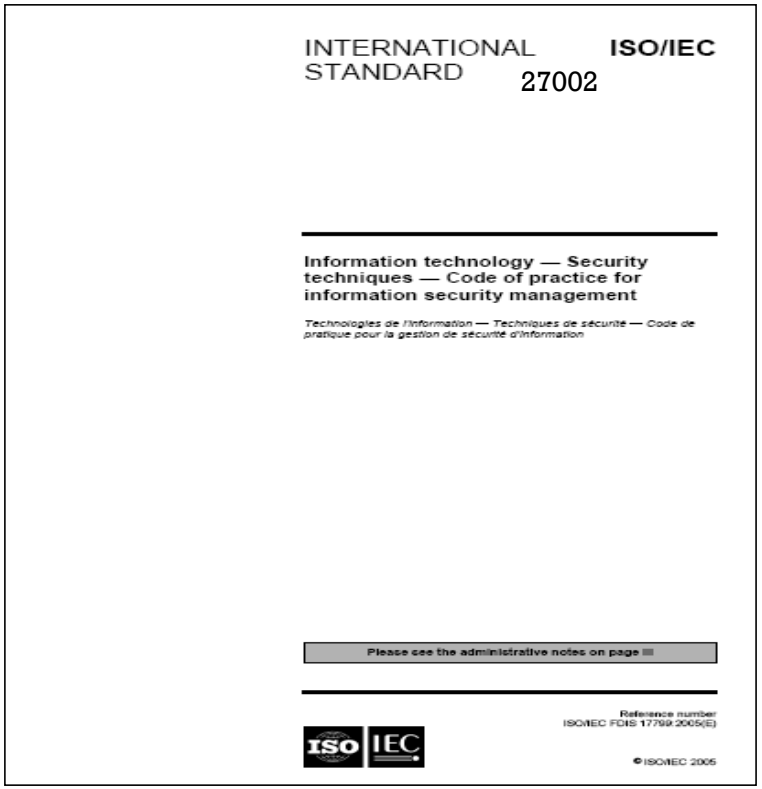
First edition
2005-10-15

Information technology — Security techniques — Information security management systems — Requirements

Technologies de l'information — Techniques de sécurité — Systèmes de gestion de sécurité de l'information — Exigences

Reference number
ISO/IEC 27001:2005(E)

© ISO/IEC 2005



INTERNATIONAL STANDARD

ISO/IEC 27002

Information technology — Security techniques — Code of practice for information security management

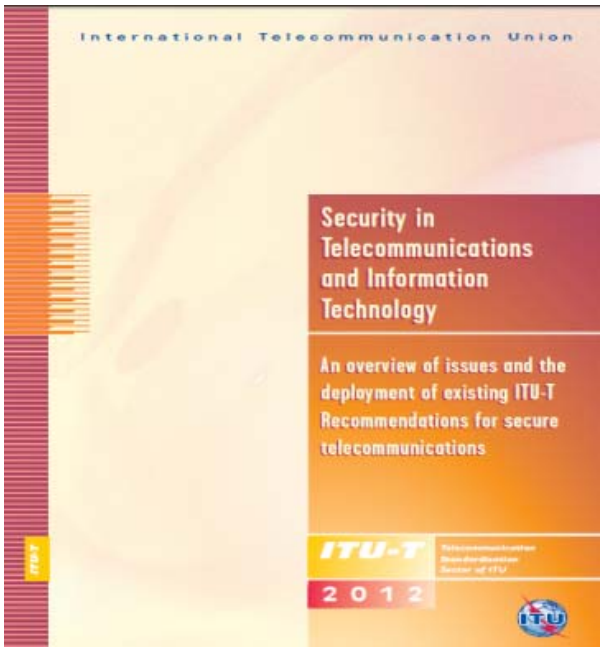
Technologies de l'information — Techniques de sécurité — Code de pratique pour la gestion de sécurité d'information

Please see the administrative notes on page iii

Reference number
ISO/IEC FDIS 17799:2005(E)

© ISO/IEC 2005

Security in Telecommunications and Information Technology



2012: The purpose of the ITU-T Manual on Security in Telecommunications and Information Technology is to provide a broad introduction to the security work of ITU-T. It is directed towards those who have responsibility for, or an interest in, information and communications security and the related standards, and those who simply need to gain a better understanding of ICT security issues and the corresponding ITU-T Recommendations.

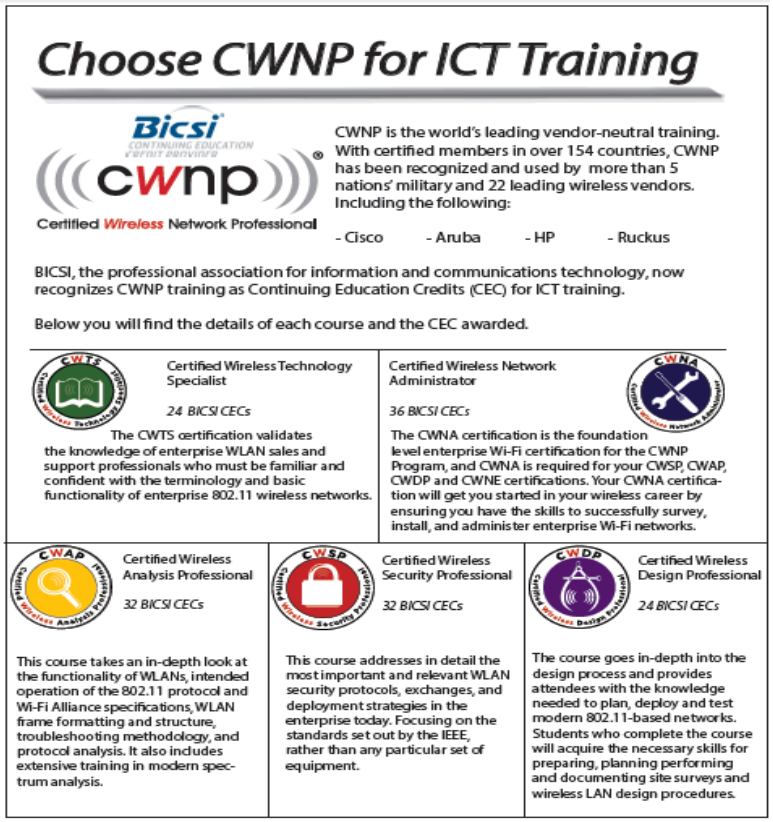
Industry Partner

ABIresearch

Global Cyber Security Index (GCI)

1. Legal
   - Criminal Legislation
   - Regulation & Compliance
2. Technical
   - CERT/CIRT/CSIRT
   - Standards
   - Certification
3. Organizational
   - Policy
   - Roadmap for Governance
   - Responsible Agency
   - National Benchmarking
4. Capacity Building
   - Standardization Development
   - Manpower Development
   - Professional Certification
   - Agency Certification
5. Cooperation
   - Intra-State Cooperation
   - Intra-Agency Cooperation
   - Public-Private Partnerships
   - International Cooperation

Wireless Professionals and BICSI Credentials
(Valid 27 March 2014 - 2016) Continuing Education Credits (CECs)



Choose CWNP for ICT Training

Bicsi CONTINUING EDUCATION FORUM PROVIDER

cwnp

Certified Wireless Network Professional

CWNP is the world's leading vendor-neutral training. With certified members in over 154 countries, CWNP has been recognized and used by more than 5 nations' military and 22 leading wireless vendors. Including the following:

- Cisco - Aruba - HP - Ruckus

BICSI, the professional association for information and communications technology, now recognizes CWNP training as Continuing Education Credits (CEC) for ICT training.

Below you will find the details of each course and the CEC awarded.

Certified Wireless Technology Specialist

24 BICSI CECs

The CWTS certification validates the knowledge of enterprise WLAN sales and support professionals who must be familiar and confident with the terminology and basic functionality of enterprise 802.11 wireless networks.

Certified Wireless Network Administrator

36 BICSI CECs

The CWNA certification is the foundation level enterprise Wi-Fi certification for the CWNP Program, and CWNA is required for your CWSP, CWAP, CWDP and CWNE certifications. Your CWNA certification will get you started in your wireless career by ensuring you have the skills to successfully survey, install, and administer enterprise Wi-Fi networks.

Certified Wireless Analysis Professional

32 BICSI CECs

This course takes an in-depth look at the functionality of WLANs, intended operation of the 802.11 protocol and Wi-Fi Alliance specifications, WLAN frame formatting and structure, troubleshooting methodology, and protocol analysis. It also includes extensive training in modern spectrum analysis.

Certified Wireless Security Professional

32 BICSI CECs

This course addresses in detail the most important and relevant WLAN security protocols, exchanges, and deployment strategies in the enterprise today. Focusing on the standards set out by the IEEE, rather than any particular set of equipment.

Certified Wireless Design Professional

24 BICSI CECs

The course goes in-depth into the design process and provides attendees with the knowledge needed to plan, deploy and test modern 802.11-based networks. Students who complete the course will acquire the necessary skills for preparing, planning performing and documenting site surveys and wireless LAN design procedures.

Globeron advised BICSI and CWNP LLC to add the CWNP training under BICSI for CECs (Continuing Education Credentials)

Globeron - BICSI Member: #237560

Verification (search on CWNP as provider)
https://www.bicsi.org/forms/search/outsidevendors/default.aspx

BICSI Credentials for CWNP training (Valid period 27 March 2014 – 2016):

- CWTS - 24 BICSI CECs
- CWNA - 36 BICSI CECs
- CWAP - 32 BICSI CECs
- CWSP - 32 BICSI CECs
- CWDP - 24 BICSI CECs

Skilled wireless professionals

Customer

Certified Sales Person
Selling Wireless

Certified Wireless & Cabling
installers and the right wireless
+ cabling measurement tools

Certified Wireless Auditor

Customer

Certified Wireless Designer
and Technical Specialist

Certified Wireless
Support teams

Certified Wireless Trainer

Certified Wireless
Professionals & Customer

Wireless Service and Security Management Standards

Wireless Service Management Standard (WSMS)

Note: Wireless = Mobile/Cellular, WiFi and indoor/outdoor mission/business critical wireless technologies

WSMS auditor / Certified Wireless Service Auditor is a wireless services professional with the knowledge and skills required to assess the conformance of an organization's wireless services management system as part of the ISO/IEC 20000 ITSM standard.

Wireless Service Security Management Standard (WSSMS)

Note: Wireless = Mobile/Cellular, WiFi and indoor/outdoor mission/business critical wireless technologies

WSSMS auditor / Certified Wireless Security Auditor is a wireless security professional with the knowledge and skills required to assess the conformance of an organization's wireless services management system as part of the ISO/IEC 27001 ISMS standard.

Together we need to get better quality wireless networks for mission and business critical services

1. **Click here**
   Wireless Service management & audit aligned with ITSM / ISO/IEC 20000:2011

2. **Click here**
   Wireless Security management & audit aligned with ISMS / ISO/IEC 27001:2013

3. **Standardization is needed for:**
   - Design
   - Analysis
   - Security
   - Audit (end to end service & security management)

4. **Accreditation Body for wireless services/technology**
   Cellular/Mobile, WiFi, etc.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