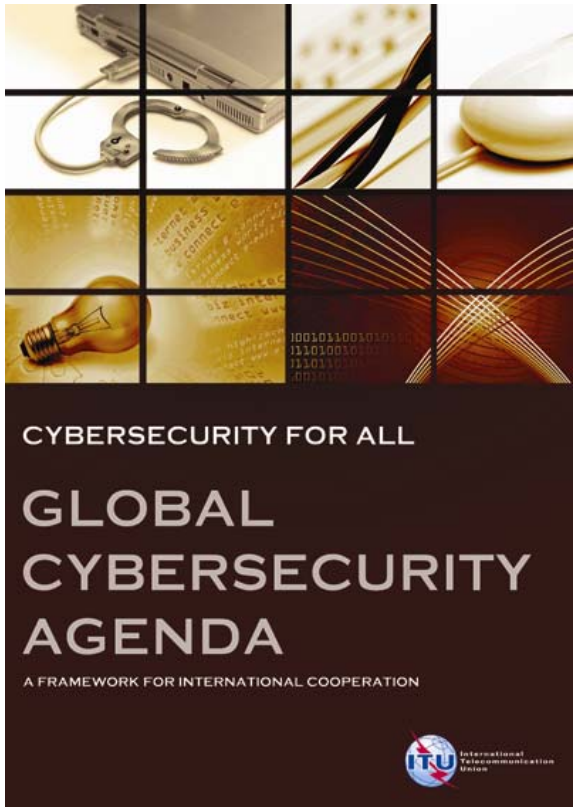
Cybersecurity for ALL



An Overview of ITU's Cybersecurity Activities

ITU Regional Cybersecurity Forum for Americas
23 November 2009 in Santo Domingo, Dominican republic

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ITU Telecommunication Development Bureau
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Introduction to ITU

- Leading UN agency for information and communication technologies (ICT)
- Founded in 1865, ITU is the oldest specialized agency in the UN system
- Global focal point
  for governments and the private sector with 191 Member States,
  900+ Sector Members and Associates
- ITU Headquarters in Geneva,
  11 regional and area offices,
  700 staff of 80 nationalities

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ITU Activities

- ITU work is implemented through its three Sector's:

Standardization (ITU-T)

Radiocommunication (ITU-R) **Development (ITU-D)**

- ITU also organizes TELECOM events:

ITU TELECOM WORLD 2009: an event for the global telecommunication and information communication technology (ICT) sector, and a platform for global telecommunications and ICTs

- ITU Website: www.itu.int/

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Cybersecurity Issues and Challenges

- Constant evolution of the nature of cyber threats
- Vulnerabilities in software and hardware applications and services changing and increasing
- Countries are increasingly at risk and under attack
- Low entry barriers and increasing sophistication of the type of cybercrimes committed
- Loopholes in current legal frameworks
- Absence of appropriate national organizational structures to deal with the threats
- Inadequate cooperation amongst the various stakeholders and stakeholder groups

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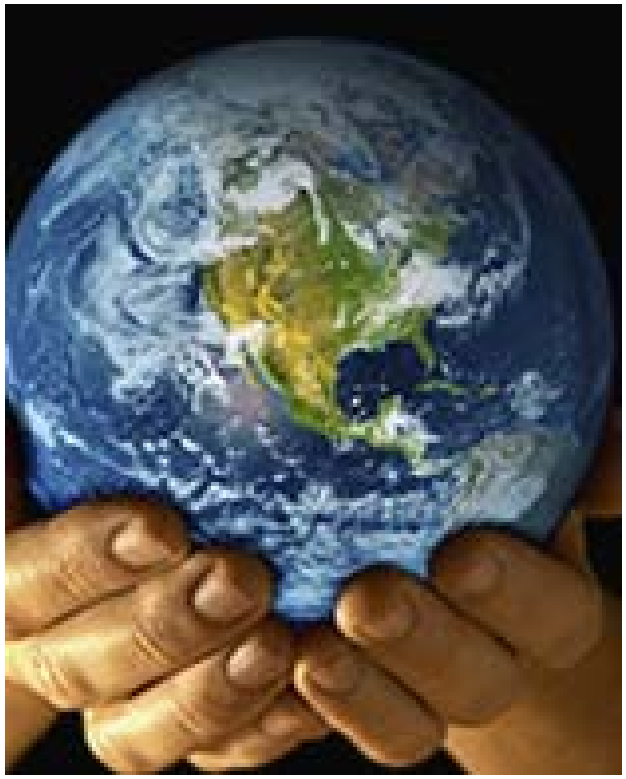
Global Cybersecurity Cooperation



The lack of cybersecurity is global problem that cannot be solved by any single entity alone!

The world is faced with the challenging task of developing harmonized and comprehensive strategies at the global and international level and implementing these with the various relevant national, regional, and international stakeholders in the countries

WSIS and Promoting a Global Culture of Cybersecurity

From WSIS Phase II: *Tunis Agenda*

39. We seek to build confidence and security in the use of ICTs by strengthening the trust framework. **We reaffirm the necessity to further promote, develop and implement in cooperation with all stakeholders a global culture of cybersecurity**, as outlined in UNGA Resolution 57/239 and other relevant regional frameworks.

This culture requires **national action** and **increased international cooperation** to strengthen security while enhancing the protection of personal information, privacy and data. Continued development of the culture of cybersecurity should enhance access and trade and must take into account the level of social and economic development of each country and respect the development-oriented aspects of the Information Society.

Global Framework for Cybersecurity

At the World Summit on the Information Society (WSIS) in 2005, ITU was entrusted by leaders of the international community to act as the facilitator for

WSIS Action Line C5:

"Building confidence and security in the use of ICTs"

ITU and Cybersecurity

- ITU constitutes a unique global forum to discuss cybersecurity.
- The **ITU Secretary-General has set cybersecurity as a top priority**.
- **ITU Membership has been calling for a greater role to be played by ITU** in matters relating to cybersecurity through a number of Resolutions, Decisions, Programs and Recommendations.

- ITU provides a global perspective and expertise and is promoting cybersecurity through a range of activities.

ITU Global Cybersecurity Agenda

"Building confidence and security in the use of ICTs"

In 2007, ITU Secretary-General launched the **Global Cybersecurity Agenda**, an international framework for collaboration on Cybersecurity matters that addresses **five main areas**:

1. **Legal Measures**
2. **Technical and Procedural Measures**
3. **Organizational Structure**
4. **Capacity Building**
5. **International Cooperation**

Legal Measures

- Summary of objective:

Harmonization of legal frameworks and
the elaboration of strategies for cybercrime legislation
globally applicable and interoperable
with national/regional legislative measures

Related activities/initiatives

Resources	Publications	Training and Events
• ITU Cybercrime Legislation Resources • **ITU Toolkit for Cybercrime Legislation**	• **ITU Publication on Understanding Cybercrime: A Guide for Developing Countries**	•Capacity building, training (training for judges, etc.) •Regional workshops and events

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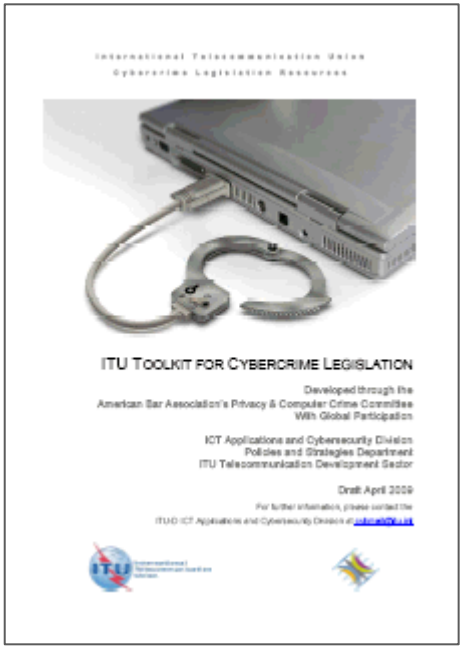
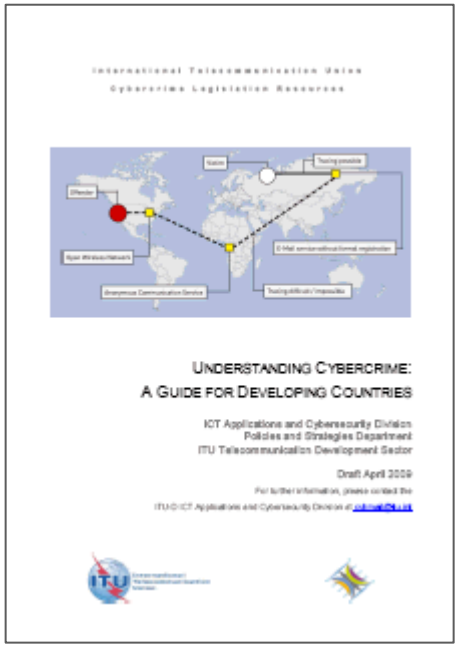
Examples of Recent Initiatives

ITU Toolkit for Cybercrime Legislation aims to provide countries with sample legislative language and reference material that can assist in the establishment of harmonized cybercrime laws and procedural rules.





ITU Publication on Understanding Cybercrime: A Guide for Developing Countries provides a comprehensive overview of the most relevant topics linked to the legal aspect of cybersecurity and cybercrime.

- www.itu.int/ITU-D/cyb/cybersecurity/legislation.html

Technical and Procedural Measures

- Summary of objective :

Development of strategies for the establishment of globally accepted security protocols, standards, minimum security criteria and accreditation schemes for hardware and software applications and systems

Related activities/initiatives

Security Activities

- ITU Standardization Work
- ICT Security Standards Roadmap promoting collaboration
- ITU Radiocommunication security activities

Study Groups

- ITU-T Study Group 17
- ITU-T Study Group 2

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Cybersecurity Study Group Activities in ITU-T (Standardization)

- Focus on different topic areas
  - Security, access and transport networks, multimedia, signaling, numbering, naming and addressing, tariffs, IP and NGN
- Cooperation and collaborative activities with many organizations including regional telecom forums, IETF, ISO,IEC, ETSI, etc.
- Examples of specific ITU-T activities related to cybersecurity and Child Online Protection include:
  - Study Group 17
    Primary focus on communication security
    The Leading Study Group on security for ITU-T
  - Study Group 2
    Operational aspects of service provision and telecommunication management works on harmonizing
    numbering resources for child helplines, etc.

Specific Cybersecurity Study Group Activities in ITU-T (Standardization)

- Study Group 17 has primary focus on communication security and is the Lead Study Group on security for ITU-T

Work under way under Study Group 17 Questions:

Working Party 1 Network and information security	Working Party 2 Application security	Working Party 3 Identity management/Languages
Q 1 Telecommunications systems security project Q 2 Security architecture and framework Q 3 Telecommunications information security management Q 4 Cybersecurity Q 5 Countering spam by technical means	Q 6 Security aspects of ubiquitous telecommunication services Q 7 Secure application services Q 8 Telebiometrics Q 9 Service oriented architecture security	Q 10 Identity management architecture and mechanisms Q 11 Directory services, Directory systems, and public-key/attribute certificates Q 12 Abstract Syntax Notation One (ASN.1), Object Identifiers (OIDs) and associated registration Q 13 Formal languages and telecommunication software Q 14 Testing languages, methodologies and framework Q 15 Open Systems Interconnection (OSI)

Other Cybersecurity Initiatives in ITU-T

- Correspondence group on exchange of network digital forensics
- Draft Recommendation on Traceback use cases and capabilities
- X.1240-series of Recommendations on technical means for countering spam
- Supplement 5 to ITU-T Recommendation E.164
- New Draft Recommendation on 'Specification of an Intl Numbering Resource for use in the provisioning of International Help lines'

Some Cybersecurity Initiatives in ITU-R (Radiocommunication)

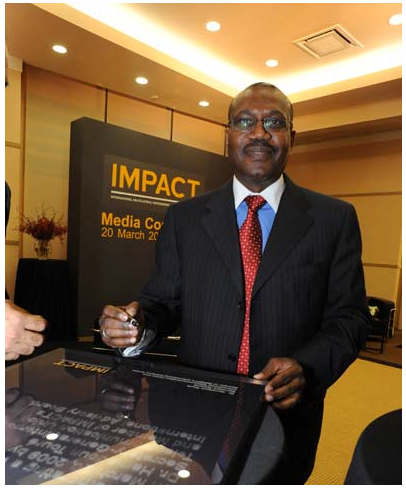
- Radio spectrum global frequency management is increasingly important for building confidence and security and creating an enabling environment in the use of ICTs

- Some examples of ongoing activities include:
  - Recommendation ITU-R M.1457
    "Security mechanism incorporated in IMT-2000"
  - Recommendation ITU-R M.1645
    "Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000"
  - Recommendation ITU-R M.1223
    "Evaluation of security mechanism for IMT-2000"
  - Recommendation ITU-R M.1078
    "Security principles for IMT-2000"

Organizational Structures

- Summary of objective :

Elaboration of global strategies for the creation of appropriate national and regional organizational structures and policies on cybercrime, watch, warning and incident response and universal identity systems



ITU Secretary-General Dr Hamadoun Touré

Related activities/initiatives

Partnerships

- International Multilateral Partnership Against Cyber Threats (IMPACT) collaboration services
- Partnerships with other entities to deliver specific services to Member States

Projects

- Development of national computer incident response teams (CIRTs) and watch, warning and incident response related training
- Etc.

Training / Assistance

- Capacity building and training
- Regional workshops and events
- Direct assistance to countries

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ITU-IMPACT Alliance
Background Information

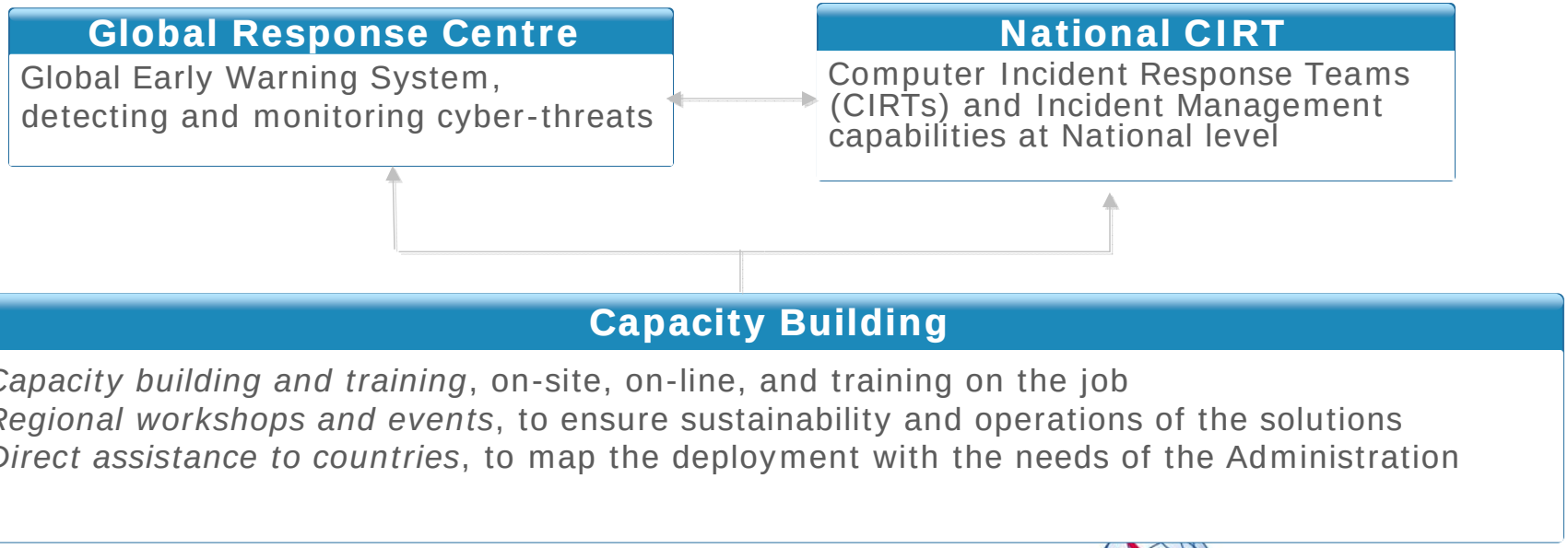
- ITU launched the Global Cybersecurity Agenda (GCA) as framework for international cooperation
- Within GCA, ITU and the International Multilateral Partnership Against Cyber-Threats (IMPACT) are pioneering the deployment of solutions and services to address cyber-threats on a global scale.
- In September 2008, ITU and IMPACT signed a Memorandum of Understanding (MoU)
- IMPACT's global headquarters in Cyberjaya, Malaysia becomes the physical home of the GCA.
- In March 2009 the global headquarters of IMPACT inaugurated by Malaysia's Prime Minister Dato' Seri Abdullah Haji Ahmad Badawi and ITU Secretary-General Dr Hamadoun Touré

ITU-IMPACT Alliance
Partners

Key intergovernmental organizations	Industry and academia	Leading cybersecurity training institutions
▪ United Nations ▪ International Police Organization INTERPOL ▪ Etc.	▪ Symantec Corporation ▪ Kaspersky Lab ▪ F-Secure Corporation ▪ Trend Micro Inc. ▪ Microsoft Corporation ▪ Cisco Systems Inc. ▪ Dell Inc. ▪ Etc.	▪ The SANS™ Institute ▪ International Council of E-Commerce Consultants (EC-Council) ▪ The Honeynet Project ▪ (ISC)² Inc.

ITU-IMPACT Activities

The ITU Telecommunication Development Bureau (BDT) is facilitating the implementation process, managing communication and needs assessment with Member States and coordinating with IMPACT, to ensure effective delivery of the services provided.



Global Response Centre (GRC)

- Main Objectives: GRC acts as the foremost cyber threat resource centre for the global community. It provides emergency response to facilitate identification of cyber threats and sharing of resources to assist Member States

Two Prime Highlights

NEWS (Network Early Warning System)

- Information collaboration platform providing
  - Real time threat monitoring and assessment
  - Statistical cyber threat trend analysis
  - Malware threat centre

ESCAPE (Electronically Secure Collaboration Application Platform for Experts)

- A collaborative platform for authorized cyber experts to pool resources and remotely collaborate with each other in a secure and trusted environment
- A comprehensive and growing database of key resources around the world

Establishing National CIRTs

- Initiative: To provide Incident Management, Advisories and Mailing List services, plus IMPACT ESCAPE and NEWS integration and Local Honeypot deployment

- Incident Response and Handling
- Vulnerability Analysis and Handling
- Alerts and Warnings
- Technology Watch
- Training and Awareness

ITU will support countries in the implementation of the National CIRT through the establishment of the overarching policy framework to support this technical solution and related watch, warning and incident response capabilities as part of a national strategy.

Capacity Building

- Training and services that will be offered include scholarship for developing countries and organization of specific training workshops to facilitate knowledge sharing

- IMPACT is building a catalogue of courses, according to the requirements expressed by ITU, in order to respond to the training needs expressed by the countries

ITU-IMPACT Alliance
Status of collaboration

- Fourty countries joined the ITU-IMPACT collaboration

Burkina Faso, Cape Verde, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Ghana, Kenya, Mauritius, Nigeria, Seychelles, Sudan, Tanzania, Uganda and Zambia

Egypt, Iraq, Morocco, Saudi Arabia, Syrian Arab Republic, Tunisia and United Arab Emirates

Afghanistan, India, Indonesia, Israel, Lao, Malaysia, Nepal and Philippines

Andorra, Bulgaria, Italy, Montenegro, Poland, Romania, Serbia and Switzerland

Brazil and Costa Rica

Note: By the end of the year, all Member States that confirmed their participation will be able to access the Global Response Center (GRC)

- First regions to benefit: Together with the ITU-EC project, ten countries from the African region: Burundi, Burkina Faso, Cote D'Ivoire, Ghana, Kenya, Nigeria, Rwanda, Tanzania, Uganda and Zambia; four countries from EU region, namely Romania, Montenegro, Poland and Serbia

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Capacity Building

- Summary of objective :

Development of global strategies to facilitate human and institutional capacity building across all relevant aspects of cybersecurity

Related activities/initiatives

Toolkits and Resources

- ITU National Cybersecurity/ CIIP Self-Assessment Tool
- ITU Toolkit for Promoting a Culture of Cybersecurity
- ITU Botnet Mitigation Toolkit and pilot projects

IMPACT Project

- IMPACT Training and Skills Development Centre
- IMPACT Research Division

Training and Events

- Capacity building and training across all the pillars of the GCA
- Targeted workshops and events

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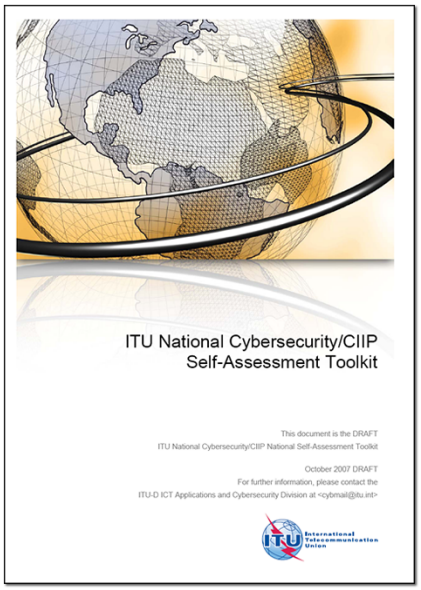
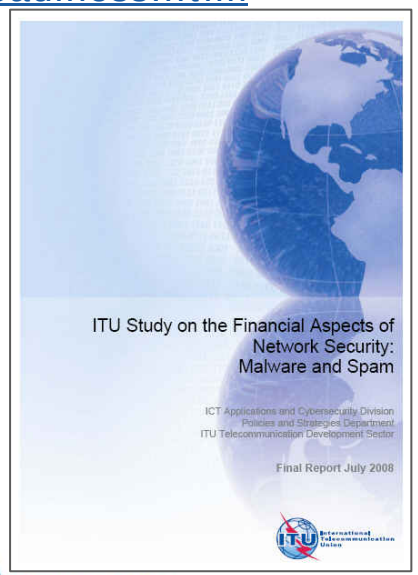
Examples of Some Ongoing Initiatives



ITU National Cybersecurity/CIIP Self–Assessment Tool

To assist governments in examining existing national policies, procedures, norms, institutions and other elements necessary for formulating cybersecurity strategies

- www.itu.int/ITU-D/cyb/cybersecurity/readiness.html



ITU Study on the Financial Aspects of Network Security: Malware and Spam, 2008

The study develops a framework within which the financial impacts and implications can be assessed and brings together the many disparate sources of financial data on malware and spam.

- www.itu.int/ITU-D/cyb/cybersecurity/spam.html

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ITU-EC HIPCAR Project

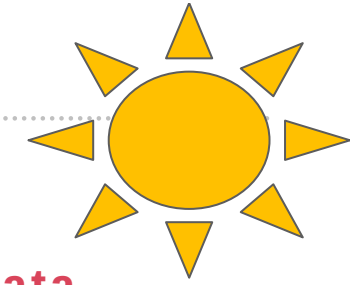
Enhancing Competitiveness in the Caribbean through the Harmonization of ICT Policies, Legislation and Regulatory Procedures

Harmonization in this project involves promoting the development of consistent, coherent and effective ICT policies, legislation and regulations across the Caribbean, aimed at:

- enhancing regional competitiveness and socio-economic & cultural development
- facilitating market integration
- create an enabling environment for ICT development & connectivity
- fostering investment in improved ICT capacities & services
- protecting ICT consumers' interests

HIPCAR is part of a global ITU-EC project for ACP countries, also involving Africa and the Pacific...

Project work areas & partners



Work areas:

1) ICT Legislative Framework – information society issues, e.g. eCommerce (transactions & evidence); **cybercrime**; **privacy & data protection**; **interception of communications**; access to public information
2) Telecommunications Acts Review: universal access/service
3) Telecommunications Acts Review: interconnection & licensing
4) eGovernment

Partner organisations at country level:

- Bodies responsible for ICT policy and regulation
- Organisations representing the ICT service industry & ICT consumers
- Organisations responsible for ICT capacity development (CoEs, etc.)

Partner organisations at regional & international level

- CARICOM Secretariat
- Caribbean Telecommunications Union (CTU)
- Caribbean Centre for Development Administration (CARICAD)
- Caribbean Association of National Telecommunications Organizations (CANTO)
- Eastern Caribbean Telecommunications Authority (ECTEL)
- European Commission

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Project implementation – two phases

Phase I - Development of regional models in each work area
(based on int'l best practices & country experiences)

a) Assessment of current situation
b) ICT policy guidelines
b) Draft model legislation supporting these policies
c) Implementation guidelines for transposing the model legislation into local laws & regulations

Phase I workplan – key elements:

1. Undertake a regional assessment & prepare the draft proposals
2. Review & finalize the proposals through 2 consultation workshops with regional working groups and country focal points
3. Clearance of the proposals by the project Steering Committee
4. Follow-up advocacy of the proposals in the countries with the support of CARICOM Secretariat & CTU
5. Validation of the proposals through a regional Senior Officials' meeting

Phase II – Country-level implementation

Transposition of regional models into national policies, laws & regulations (with adaptation as needed) including implementation assistance & capacity building

HIPCAR Working Group 1
– Information Society Issues, e.g. eCommerce & cybersecurity

Activities to date:

- Organization of Project Planning Meeting (Grenada, 15-16 December 2008)
- Designation of Country Focal Points & Working Group members
- Constitution of the Working Group & hiring of regional experts
- Preparation of & request for comments on draft Assessment Reports on the current situation in the Caribbean relating to the WG's six work areas: eCommerce (Transactions & Evidence), Access to Public Information, Privacy & Data Protection, Cybercrime, Interception of Communications
- Work undertaken by: - senior regional expert: Karen Stephen-Dalton
  - junior regional expert: Pricilla Banner
- Project management by ITU (in collaboration with CTU):
  - Manager: S. Bazzanella, Coordinator: K. Ludwig

www.itu.int/ITU-D/projects/ITU_EC_ACP/hipcar

Examples of Some Ongoing Initiatives

ITU Regional Cybersecurity Forums

8 regional cybersecurity events held in 2007 and 2008 in all regions.

Three more took/will take place in 2009:

- **2009 ITU Regional Cybersecurity Forum for Africa and Arab States** held in Tunisia, 4-5 June 2009
- **2009 ITU Regional Cybersecurity Forum for Asia Pacific** held in India, 23-25 September 2009
- **2009 ITU Regional Cybersecurity Forum for Americas** to be held in Dominican Republic, 23-25 November 2009

- www.itu.int/ITU-D/cyb/events/

International Cooperation

- Summary of objective :

Development of proposals to enhance international dialogue on issues that pertain to cybersecurity and enhance cooperation and coordination across all relevant activities

Related activities/initiatives

Working Together	Information Sharing	Conferences/ Events
• ITU Secretary-General High Level Expert Group (HLEG) deliverables	• ITU-IMPACT collaboration • ITU Cybersecurity Gateway • **ITU's Child Online Protection (COP) initiative**	• World Telecommunication and Policy Forum WTPF 2009 • Regional cybersecurity forums

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Child Online Protection

Child Online Protection (COP)

- COP is a global initiative created by ITU, as part of the Global Cybersecurity Agenda, aims to address cybersecurity holistically.

COP Objectives:

- Identify risks and vulnerabilities to children in cyberspace
- Create awareness
- Develop practical tools to help minimize risk
- Share knowledge and experience

- www.itu.int/cop/

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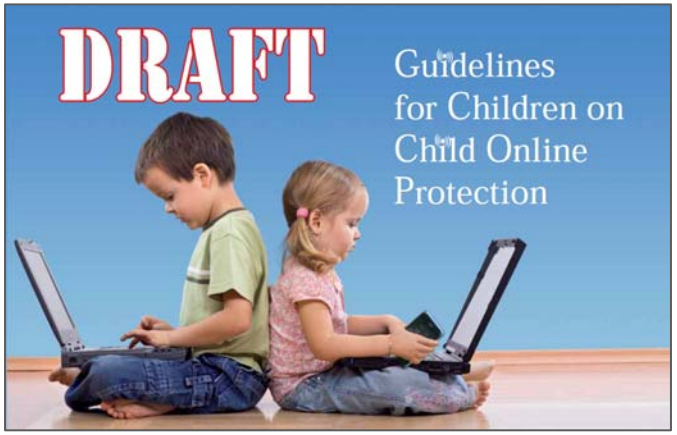
Child Online Protection (COP) Guidelines

- Guidelines for Children
- Guidelines for Parents, Guardians and Educators
- Guidelines for Industry
- Guidelines for Policy Makers



The Draft Guidelines can be found online at: www.itu.int/COP

The Guidelines were presented in October at
ITU TELECOM WORLD 2009

ITU-D's Approach to Cybersecurity

Needs for global solutions and harmonized international frameworks

ITU Global Cybersecurity Agenda (GCA)

Integrated approach to cybersecurity undertaken within the WTDC Program 3 managed by ITU-D's ICT Applications and Cybersecurity Division

Implementation at national, regional and international level

Special focus on developing countries

Multi-stakeholder approach

ITU Study Groups work – ITU Conferences outcomes

Addressing the specific requirements of the countries, to provide strategies at national level

Links to More Information

- An Overview of ITU Activities in Cybersecurity
  - www.itu.int/cybersecurity/
- ITU Global Cybersecurity Agenda
  - www.itu.int/cybersecurity/gca/
- ITU-D ICT Applications and Cybersecurity Division
  - www.itu.int/ITU-D/cyb/
- ITU National Cybersecurity/CIIP Self-Assessment Toolkit
  - www.itu.int/ITU-D/cyb/projects/readiness.html
- ITU Cybercrime Legislation Resources
  - www.itu.int/ITU-D/cyb/cybersecurity/legislation.html
- ITU Botnet Project Website
  - www.itu.int/ITU-D/cyb/cybersecurity/projects/botnet.html
- Regional Cybersecurity Forums and Conferences
  - www.itu.int/ITU-D/cyb/events/
- ITU Child Online Protection (COP)
  - www.itu.int/cop/

Thank You!

For more information on ITU's Cybersecurity Activities visit the website at: www.itu.int/cybersecurity/

or contact cybmail@itu.int