

From Spam to Cyber Security

Roles and Challenges for Operators

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The Internet Society

Founded in 1992 by Internet Pioneers as an international non-profit organization

- Organizational home of the Internet Engineering Task Force (IETF)
- 100+ organization members
- Tens of thousands of individual members
- 90+ chapters worldwide
- Regional Bureaus: Africa, Europe, Latin America & Caribbean, North America, South & South East Asia

Internet Society Chapters



Internet Society

Priorities and Activities at the Intersection of Internet Technology and Policy

- Fostering an open, innovative, and trusted Internet worldwide
- Advancing policies and strategies that strengthen the Internet's growth and evolution
- Enabling a vibrant organization and vital global community to advance the Internet's future
- Empowering people to achieve human potential through unencumbered Internet use

Unsolicited Email

As internet users, we've all received messages from people and organizations we do not recognize.

Messages that look like they come from our bank and ask for our bank information.

Email promotions with our favorite store in the "From" line" only to take us to a website infected with malware.

Email from people we have never met asking for personal details in order to “award” you with a significant financial payment.

What is Spam?

- **Unsolicited bulk e-mail?**
- **Unsolicited commercial e-mail?**
- **Mail people did not ask for?**

How much is there?

- **Nobody knows**
- **Ask your providers**
- **90% to 95% typical**



Problems caused by spam

Undermine users' confidence in using email

Consume bandwidth or storage capacity

Undermine privacy, if users' email addresses are collected or used inappropriately

Transmit content that is deceptive, offensive or illegal

Deceive recipients about who sent a message

Internet Society Combating Spam Project

*Our activities are based on the Internet Society's role as
Convener/Facilitator*

- **Toolkit of documents and materials**

- Collection of reference materials that includes online learning modules, videos and documents in English, French and Spanish
- Materials collected from technical organizations and experts. Also developing new materials prepared by experts from within the industry to focus on introductory topics
- Collected materials will be located in a “library repository” web site for access by policy makers and the technical community in developing countries

- **Workshops for Policy Makers**

- Outlining roles (Policy Makers, Technical Community, Industry Experts, Tools) and relationships
- Dialogue with Industry experts regarding tools, techniques, risks and on-going partnerships

- **Technical Workshops**

- Technical Workshops held in conjunction with regional Network Operator Group (NOG) and Regional Internet Registry (RIR) meetings in developing regions to provide opportunity for “hands-on” discussions with Experts (e.g. from IETF, GSMA, and MAAWG) on standards and operational approaches to spam mitigation
- ISOC Chapters and members in Developing Countries are used as key resources to enable the establishment of long term issue discussion partnerships within their local community

Partnering with Industry Organizations

- M³AAWG – *Messaging, Malware, Mobile Anti-Abuse Working Group*
- LAP – *London Action Plan*
- IETF – *Internet Engineering Task Force*
- ITU-D – *Development Sector*

MAAWG - Working with the Expert Community

- Is an industry organization focused on addressing the operational aspects of preventing spam, malware, phishing, botnets and cybersecurity threats from impacting networks and the flow of legitimate information.
- Working with ISOC to provide experts for workshops and materials for the Spam toolkit repository
- Develops Best Current Practices
 - Port management
 - Botnet mitigation
 - Abuse desk
- Provides training and outreach to interested network operators and organizations

You can find out more at <http://www.maawg.org>

Working with LAP

- LAP membership includes representatives from the government regulatory and enforcement community and interested industry members.
- LAP members stay connected and share information that is critical for any organization engaged in anti-spam regulation and enforcement.
- LAP has expanded its mandate to include additional online and mobile threats, including malware, SMS spam and Do-Not-Call.
- Information on LAP can be found here:
<http://londonactionplan.org>

IETF

- Internet standards
- Best current practices
- All volunteers, technical experts
- Working model:
 - Mostly by e-mail
 - Three meetings / year
 - Web site: <http://www.ietf.org>



Partnering with the ITU-D

- Study Group 2 Question 3 - *Securing Information and communication networks: Best practices for developing a culture of cybersecurity*
- Sharing of information for Best Practice development
- Working with the ITU on updating the ITU 2005 Spam Report

What does a Spammer need?

A spammer needs three elements to run a spam operation:

- a list of email addresses
- content to be sent
- and a means to send it

Why is spam bad?

- Crowds out real e-mail
- Credibility of senders, networks, and countries
- Enables fraud, crime and other intrusive behavior



Spam is bad because



Spam and spammers are constantly evolving and have become a growing threat as unsolicited email becomes the delivery mechanism for malware, botnets and phishing attacks

Sender Creditability - Remember those ubiquitous, grammatically challenged emails promising you a huge sum of money if you helped a wealthy foreigner extract ...

A Country's Reputation – “Nigerian” criminals are infamous for running "419" phishing scams that bait individuals into giving up credit card details or other personal information. "419" refers to the article of the Nigerian Criminal Code dealing with fraud.

Everyone has a part in addressing the problem

- Governments
- Technical Community
- Industry
- Network Operators/ISPs
- Users

Role of Government

- Decide what action to take
- Define spam
- Declare that spam is illegal
- Determine to enforce the law, if law developed
- Work with industry, technical community and users to collaborate on ways to address the problem
- With spam defined, cross broader efforts can succeed to address spam coming from outside the country

Why consider Legislation

Define spam

Specify what (legitimate) businesses must do to avoid their marketing messages being identified as spam

Australian Spam Legislation...

Spam is defined as any email, SMS or instant message that:

- Promotes a product or service to the recipient
- Deceptively and dishonestly attempts to obtain a financial advantage from the recipient

It is not necessary for messages to be sent in bulk or to contain offensive or illegal content, to be spam

Rules are specified for sending commercial email, SMS or instant messages:

- Recipient must have *consented* to the sending of the message
- Message must accurately *identify the sender*, and indicate how the sender can be contacted
- Message must indicate how the recipient can *unsubscribe* from receiving further messages

The Spam Law in the Netherlands specified

There is no definition of “spam” in the law.

It addresses unsolicited electronic communications
Whether by fax, computer, device or phone

So, it is much broader than “spam”

The Netherlands, Telecommunications Act 2004 Art. 11.7,1

The use of automatic calling systems without human intervention, faxes and electronic messages for transmitting unrequested communication to subscribers for commercial, idealistic or charitable purposes will only be permitted if the sender can demonstrate that the subscriber concerned has given prior consent for this, notwithstanding that laid down in paragraph 2.

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2. Any party who has received electronic contact information for electronic messages as part of the sales of his product or service may use this information for transmitting communication for commercial, idealistic or charitable purposes in relation to his own similar products or services, provided that with the obtaining of the contact data the customer is explicitly given the opportunity to submit an objection in a straightforward manner and free of charge against the use of his electronic contact information and, if the customer has not taken up this opportunity, he is offered the opportunity with each communication transmitted to submit an objection against the further use of his electronic contact information under the same conditions. Article 41, paragraph 2, of the Personal Data Protection Act is applicable mutatis mutandis.

Role of the Technical Community

- Examine Solutions
- Develop Standards
- Prepare Best Practices and Guidelines
- Work with Policy Makers
- Function as a trusted source

Role of the ISP/Network Operator

No easy solutions

- Work with Policy Makers and Technical Community on approaches for implementation
- Adopt Industry Standards and Best Practices
- Network with other ISPs

Note

- Dealing with spam is not a competition issue
- Spammers rely on ISPs not talking to each other

Users

Need Education

- How to avoid their email addresses becoming targets for spam
- How to recognise spam
(especially scam email and SMS messages)
- What to do when they receive spam

Businesses must be educated on Best Practices

- How not to spam when marketing
- Those who do not follow the rules, code of conduct and best practices will need to be confronted

Spam has moved to Mobile

SMS text spam is growing by >> 100%/year in some markets

- China, India, Korea, South Africa - subscribers receive multiple text spams per day
- Mobile phone is trusted device making mobile spam more lucrative for the spammer
- Prepaid SIM cards popular source – cheap and difficult to trace

What can you DO to address spam

Collaboration and Cooperation among Network Operators, ISPs and Policy Makers is key to spam mitigation

- Develop Best Current Practices
- Create trusted Ad-hoc groups to address particular threats and to exchange information
- Participate in the dialogue
- Keep Policy Makers informed
- Keep the discussion going
- Make it a multistakeholder endeavor

The spam problem - It's a fine balance



- As Internet access grows and broadband becomes more widely available there is an increasing need to bridge the awareness gap in dealing with unsolicited forms of electronic communication known as spam.
- The big challenge for networks is dealing with the sheer volume of unsolicited mail generated and broadcast by illegal organizations and passed on by unsuspecting individuals impacting Internet access.
- Stopping the proliferation of spam requires not only perseverance but an ever-increasing learning curve

Internet Society Spam Project Information

- Web page where previous workshop and webinar presentations have been posted
<http://internetsociety.org/what-we-do/policy/combating-spam-project>
- Spam Tool Kit Includes materials donated by IETF, MAAWG, LAP, GSMA and other experts, with regional data contributed by University of Texas research through NSF grant. The tool kit is located at
<http://internetsociety.org/spamtoolkit>

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