

Introduction to the Anti-Spam Research Group (ASRG)



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[NIST Spam Technology Workshop](#)

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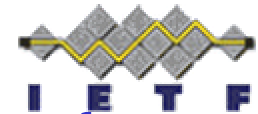
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1. IETF and IRTF

□ Internet Engineering Task Force (IETF)



- focuses on the short-term issues of engineering and standards making
- Operates more formally
- Consists of 100+ working groups working on Internet standards

□ Internet Research Task Force (IRTF)



- focuses on long-term research issues related to the Internet
- Operates more informally
- Consists of 12 research groups doing research on Internet related issues



2. Goals of the ASRG.

- **Research into Internet-wide solutions** to mitigate the sending and effects of spam
- **Pre-Standards work** for the IETF
- **Focus on technical** but may consider tools and techniques to aid the implementation of legal and other non-technical anti-spam measures



3. Some Causes of Spam.

□ Social Causes:

- Same criminal and malicious behavior as regular society
- Lack of sufficient funding for legal enforcement

□ Lack of Expertise Among End Users:

- Makes hijacking of computers easier
- Users do not care about securing computers

□ Economic Nature of the Internet:

- Cheap communications medium
- Low cost can be used for good and bad

□ Lack of Cooperation Among Network Operators:

- Inability to communicate blocking
- Unwillingness to deal with abuse reports



4. ASRG Research Agenda.

- **Problem Analysis**
- **Improving Existing Solutions**
- **Proposing New Solutions**



4.1. ASRG Research Agenda.

□ **Problem Analysis includes:**

- **Inventory of Problems** - analysis of spam-related problems
- **Analysis of Current Solutions** - inventory and analysis of current anti-spam solutions, their weaknesses and effectiveness
- **Analysis of Spam** - analysis of persistent patterns in spam and spammer behavior that can be used to improve existing and propose new solutions



4.2. ASRG Research Agenda.

- **Improving Existing Solutions includes:**
 - **Best Current Practices for Spam Control** - including email admins, end users, MTA developers, blacklist operators, etc..
 - **Filtering Standards** - dynamic updates, standard headers for MTAs, etc.
 - **Abuse Reporting Standards** - research into common standards for exchanging information about network and email abuse.



4.3. ASRG Research Agenda.

- **Proposing New Solutions includes:**
 - **Requirements and Evaluation Model** - to be used for evaluation of proposed solutions
 - **SMTP Session Verification** - verification of the SMTP transaction (e.g. LMAP, etc.)
 - **Message Verification** - verification of both the message headers and content (e.g. DomainKeys, Project Lumos, TEOS, etc.)



5. Current Status of the ASRG.

- Seeking Volunteers:
 - Abuse Reporting Standards
 - Best Current Practices
 - Filtering
 - Problem Analysis
 - SMTP and message verification
- Coordinating with industry
- BOF at the next IETF meeting on DNS authentication



6. Selected Proposals.

- ❑ Does Authentication Matter?
- ❑ Replacing SMTP?
- ❑ DNS-based Authentication Proposals

“Hostile armies may face each other for years, striving for the victory which is decided in a single day”

“Art of War”, Sun Tzu

6.1. Proposals - Does Authentication Matter?

□ Does Authentication Make a Difference?

- Do end users and ISPs care?
- Spammers can hijack user's identity!

□ Better Authentication With Better Identity?

- Users and ISPs will care more about domains and email addresses being stolen?
- Spammers will be more traceable
- Narrows the playing field
- “Quis custodiet ipsos custodes” – “Who will watch the watchers”?



6.2. Proposals - Replacing SMTP?

- Several proposals have been submitted to both the IETF and the ASRG
- Seek to create an traceable email system
- *Need for replacement has NOT been proven*
- Most discussions are taking place outside the ASRG (www.imc.org/mail-ng/)

6.3. Proposals - DNS-based Authentication Methods.

□ MTA Authorization Records in DNS:

- Seeks to eliminate forgery in SMTP transactions
- Uses DNS for publication of domain authorization data
- Significant issues remain to be addressed
- Several competing proposals (RMX, DMP, SPF, etc.)
- IETF BOF scheduled for March 4th, 2004 (Seoul)

□ MTA MARK

- Seeks to address the problem of hijacked computers
- Uses rDNS records to mark specific IPs as MTA or non-MTAs

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Questions? Comments?



[ASRG Website: asrg.sp.am](http://asrg.sp.am)