

# **Content Hint for Internet Mail**



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# Background



- Context of Message Important to Many User Agents (UA)
- Message Context Implies Certain Expectations By Users
  - “Voice Mail is More Important Than Bulk E-Mail”
  - “Page / SMS is More Important Than Voice Mail”

# Intelligent UA Processing



- Context Can Give Hint to Mail Transfer Agent (MTA) How to Handle Delivery
- Context Can Give Hint to User Agent (UA) For User Indication of Message Type (e.g., Icon, Sorting of Inbox, etc.)
- Context Can Give Hint to UA for Presentation

# Autodetection Not Sufficient



- Is a Message Composed of a
  - Text Part
  - Audio Part
  - Image Part
- A Text Message With Voice Annotation and a “Nifty” Stationary JPEG?
- A Music File With the Albumn Cover and Liner Notes?

# Even Obvious Isn't Really



- Is a Message Composed of a text, audio/g726, image/tiff-f
  - A Fax Message With a Voice and Text Annotation?
  - A Text Message With an Attached Scan?
  - A Voice Message Forwarded from an E-Mail UA?
- Cost of Scanning Entire Message Can Be Prohibitive for Service Provider Scale

# Need



- Method of Identifying Message as Belonging to a (small number of) Enumerated Message Classes
  - Such That It Does Not Require Scanning the Entire Message
  - Such That It Is Extensible
  - Such That Mismarked Messages Are Still Deliverable

# Approach



- Create Top-Level, RFC 822 Message Attribute, Content-Hint
- Use of Attribute is Local to UA or MTA
  - Presentation / Icons
  - Viewer to Use
  - Reply Composition Tool
  - etc.
- Only a Hint: OK if Wrong

# Content-Hint



- Register Content-Hint Types With IANA
- Envisioned Initial Types
  - voice-message
  - fax-message
  - video-message
  - sms-message
  - none
  - X-mumble



# Security Considerations



- Spoofing Message Type to Interpret Binary Data
- Don't Willy-Nilly Accept Content-Hint: Application!
- Don't Rely 100% on Content-Hint for Processing
  - Opens Mail Bomb Attack By Sending Small Messages With Wrong Content / Hint

# **Thanks!**



## **More Discussion?**

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