

Partial Non-Delivery Notification

Presented to the 47th IETF

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Problem to Solve

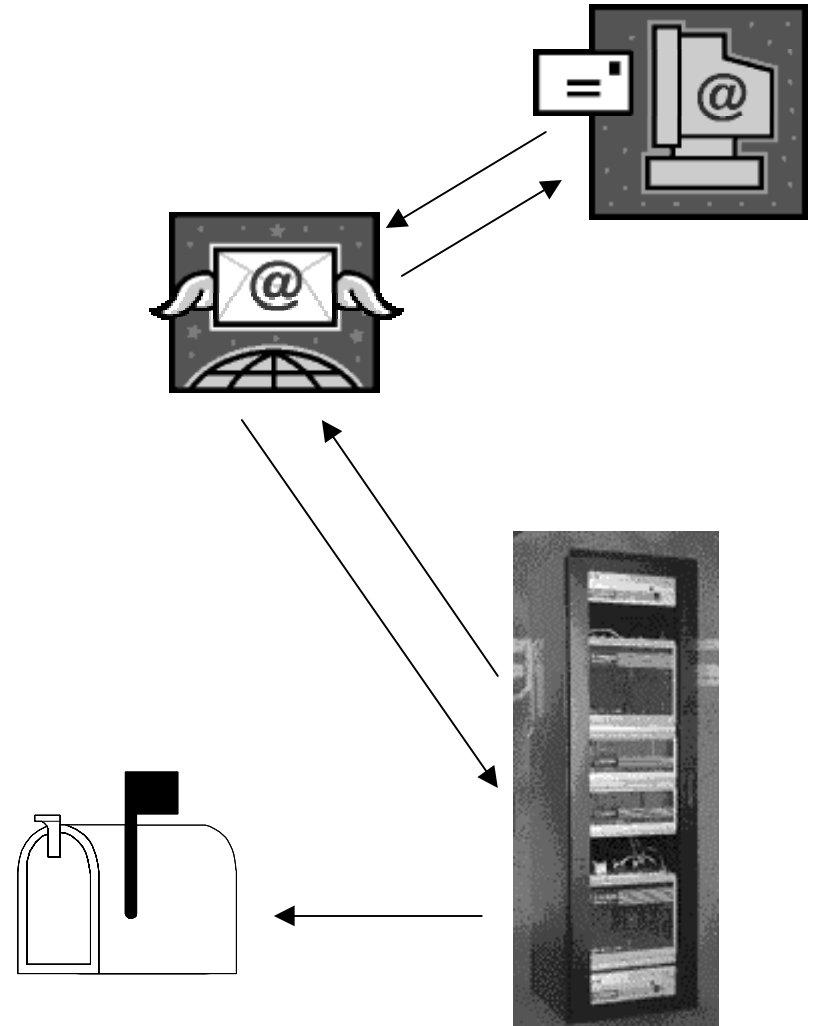
- ◆ How to Integrate Voice Messaging Systems into the Internet Mail Infrastructure?
- ◆ Voice Messaging Systems Don't Have Capabilities of Typical Internet Mail End-Points
 - **Limited Rendering Capability**
 - **Not Easily Extendable**
 - **Limited Resources on a Per-User Basis**

General Problem & Motivation

- ◆ How to Exchange Messages With Devices of Lesser Capability.
- ◆ Motivation
 - **Legacy Messaging Infrastructure**
 - **Represents Massive Capital Investment**
 - **Hundreds of Millions of Current Subscribers**
 - **As in Internet Environment, Cannot Expect Changeover to Current Capabilities in Short Term**

Environment

- ◆ Sender Composes MIME Message With Voice Attachment(s) and Attachment(s) the Recipient System Cannot Render
- ◆ Recipient System Receives Message
- ◆ Recipient System Delivers Parts to Subscriber
- ◆ Recipient System Notifies Sender of Undeliverable Parts



PNDN

- ◆ Extend DSN (RFC 1894)
 - **Current DSN: All-Or-Nothing**
 - **Novelty is Per Recipient Reporting Consolidation**
- ◆ Proposal: Extend Concept from
 - **Per Recipient to**
 - **Per Recipient *and* Part**
- ◆ Scope of PNDN Is
 - **How To Identify Parts**
 - **How To Interpret Reports**

PNDN Format

- ◆ Content-Type: multipart/report; report-type:delivery-status
- ◆ MIME Toss-Away
- ◆ Human Readable Explanation of What Happened
- ◆ Machine Parsible Explanation
 - **Message-ID**
 - **1*(Part/Recipient Disposition)**
- ◆ Part/Recipient Disposition Blocks Collapsible

Identifying Parts

- ◆ **Original-Content-ID**
 - **Useful for Automated Agents**
 - **Not So Useful for Humans**
 - **Not Prevalent In Sending UA's**
- ◆ **Original-Content-Description**
 - **Extremely Useful for Humans**
 - **Not Prevalent in Sending UA's**
- ◆ **Original-Content-Disposition**
 - **Often Has at Least the File Name**
 - **Prevalent in Sending UA's**
- ◆ **Original-Content-Type**
 - **Has the Part Type**
 - **Often Has at Least the File Name**
 - **Very Prevalent in Sending UA's**

Part Dispositions

- ◆ Action
 - **Delivered**
 - **Interpret the Message Delivered**
 - **Because Parts Were Delivered**
 - **User Confusion Otherwise**
 - **Notified About Parts Not Delivered**
- ◆ Status: 5.6.1
 - **Permanent Failure**
 - **Media Not Supported**
- ◆ Conversion With Loss Performed Not Recommended for Telephony Messaging

Discussion