# RTP for media-on-demand

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# Issues

generalized carriage of stored payload types ➠

- name mapping
- fragmentation
- bundling/multiplexing
- meta information
- RTP as file ”format on a wire”:
  - send times
  - “clean points”

# Name mapping

- short PT vs. longish/variable length names
- now: “register” types in profile
- predictable mapping of existing name spaces to dynamic PTs via SDP, SMIL, . . . :
  - FourCC
  - GUID
  - QuickTime
- ➠ a=rtpmap:98 GUID:4D494E41-0000-0010-8000-00AA00389B71/90000
- use “Java” names: com.foobar.codec1
- avoid multiple names for same PT?

# Fragmentation

- split long storage unit into MTU-sized RTP packets
- *cannot* just chop ➠ single packet loss $\rightarrow$ lose whole ADU
- mark beginning/end of ADU ➠ marker bit
- delineate units ➠ same timestamp, increasing sequence number
- modes:

**open:** current AVT = carry global information in each packet, semantic fragmentation

**hidden:** encoder/decoder library call ➠ opaque global information (with length) + he

**blind:** simply chop, possibly with position indication

- RTP header extension
- payload prefix ➠ need to presence indicate out-of-band
- common payload type ➠ indirection

# Aggregation and multiplexing

- short (audio) payloads into larger packet for efficiency
- can be done transparently
- solutions:
  - aggregation service for similar-sized packets
  - RFC 2198: block PT, timestamp offset, length ➠ same timestamp frequency for all

# RTP + SDP as "universal multimedia file format transporter"

- meta information about content and encodings (later)
- send time
- seekable, not playable for fast-forward
- clean point (e.g., I frame) for editing

Options:

- header extensions ➠ transparent
- payload prefix ➠ same issues as for fragmentation
- IPv6 "next payload" idea?

## Meta information

- file formats contain useful information beyond SDP
- traffic information ➠ extend b objects
- e.g., ASF Content Description Objects
- carry in SDP as a=*item*value, e.g.,

```
a=author:W. Shakespeare
a=title:The Tempest
a=copyright:(c) Time-Warner
```