A Taxonomy of SIP B2BUAs
draft-kaplan-straw-b2bua-taxonomy
(now a WG doc)

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STRAW Working Group Topics

STRAW discussion topics

- Taxonomy
- Other
A similar chart...

Percentage of chart which looks like Pac-Man

- Looks like Pac-Man
- Does not look like
The Problem(s)

• To write a STRAW doc, we need to define what “types” of B2BUAs the doc applies to
• We could do this in every doc, or we could do it in one doc: a Taxonomy
• BUT, there may still be some STRAW docs that need to define special cases or sub-types
  – For example, a B2BUA that handles IPv6-IPv4 interworking may need to have different requirements than one that does only IPv4 or IPv6
So how many B2BUA types are there?

• Too many – this WG can’t define them all (we don’t even know them all!)

• But really we don’t need to list them all – just the major/basic types that would make a difference for STRAW stuff
  • E.g: relays media or not, transcodes media or not, acts like Proxy vs. full UA for headers, etc.

• So I’ve chosen to differentiate based on what “layer” the B2BUA operates at/on
The not-so-OSI B2BUA layer model

- Skynet/Siri
- Media generation
- Transcoding
- SRTP Termination
- Media relay
- Full SIP UAS-UAC
- Contact-replace

- Via/RR-proxy
- Via/RR-replace
- TLS
- Cleartext
- UDP
- TCP
- SCTP
- IPv4
- IPv6
- Data-link
- Physical

Media layer B2BUAs
- Media-termination B2BUA
- Media-aware B2BUA
- Media-Relay B2BUA
- Signaling-only B2BUA or SDP-Modifying Proxy-B2BUA

Signaling layer B2BUAs

Impacts more stuff in STRAW
Proxy-B2BUA

• This is a pure RFC-3261 Proxy, except...
  – It maintains enough state info to send in-dialog requests
  – Example: terminate a dialog by sending a BYE, or send UPDATE/re-INVITE to check liveness

• Does not modify headers/bodies
  – Except inserts Via/Record-Route, decrements Max-Forwards, etc., per 3261
Signaling-only B2BUA

• May replace any/all headers, terminates/processes REFER, modifies specific bodies, etc.
  – I.e., an App Server or non-media PBX

• Does NOT touch media
  – Does not modify SDP
New

SDP-Modifying Signaling-only B2BUA

• May replace any/all headers, terminates/processes REFER, modifies specific bodies, etc.
  – I.e., an App Server or non-media PBX

• Does NOT touch media, but DOES modify SDP
  – Understands SDP to some degree
Media-relay B2BUA

- A middlebox that relays UDP/TCP “media” packets, understands and modifies SDP
  - i.e., a plain-vanilla media-proxy
- Does NOT look into RTP/RTCP, does not transcode, terminate SRTP, munge RTP/RTCP, etc.
  - If it does that, it’s a media-aware or media-termination B2BUA
Media-Aware B2BUA

• A middlebox that knows it’s relaying RTP/RTCP, looks into them for quality stats, or terminates SRTP
  – i.e., most common SBC role
• Does NOT transcode nor act as a B2BUA at the RTP/RTCP layer
Media-termination B2BUA

• A middlebox that is a B2BUA for media, such as transcoders
  – This is the full shebang
  – This would be a PSTN gateway, except the context of a B2BUA would be SIP on both sides so PSTN Gateway wouldn’t apply
Open Issues

• Should we classify Conference Servers as B2BUAs for STRAW?
  – Right now they’re not really, because they’re typically multiple UAS’, not a UAS-UAC pairing