Implementation Details

Application Server
- SIP Servlet implementing application logic
  - Successfully deployed in both WeSIP and Sailfin
- C/C++ event-driven application (the latest demo)

Media Server
- C/C++ application written from scratch
- Use of existing open source components to deal with well-known protocols, languages and features
  - reSIProcate (SIP)
  - oRTP (RTP/RTCP)
  - Expat (XML)
  - libCURL (HTTP/FTP)
  - Boost libraries as helpers
  - ffmpeg for video transcoding, etc.
The demo in action
The demo in action
The demo in action
The demo in action
Changes from -01 to -02

• All scenarios and flows have been updated to the latest specifications
  – Reflects changes in the core framework
  – Updated all flows involving IVR
    • Mixer flows will be updated in the next version

• Implementation has been updated
  – All drafts except VoiceXML are implemented
  – Several scenarios can be accomplished
    • ... but something still needs to be fixed
Framework

- Use of error codes is still unclear at times
  - e.g. when is 400 to be used?
  - What should be done with bodyless CONTROL messages? (payload is a MAY in the draft)
- from~to tags to address connections still remain a problem
  - cfw-id issue has been solved (SDP attribute)
- Crash recovery has not been dealt with yet
  - What happens if the AS crashes?
  - And what if it’s the MS to crash?
IVR

• repeatCount allows multiple iterations
  – Should the results of each iteration be notified, or only the last?
    • If each, where? All in dialogexit, or mid-dialog events?
  – If repeatCount involves a recording, is the recording overwritten or appended?
    • If appended, should silence be generated during other operations?
• Where and how to place recordings when “dest” is involved is still ambiguous
  – How to deal with file formats with headers? (e.g. wav)
  – What if uploading authorization is requested?
• The dialog model needs clarification
  – Schema says ordering is important
  – Is it also for operations in a requested dialog?
Mixer

• Some potential problems with join/unjoin
  – a~b~c and d~e~f already disconnected
  – Should an unjoin with id1=a~b and id2=d~e fail?
    • An “already unjoined” exception for labels c and f would appear

• XCON Data Model allows custom video layouts per user
  – Mixer draft instead doesn’t, is this desired?
    • Custom layout would allow simple “mirror on/off” (unavailable now)
    • Nevertheless, custom layouts eat more resources

• Video layouts envisage a static region mechanism
  – Collisions may happen
  – Rallocation of regions could be hard (e.g. moving all participants to the following region)
  – What about a simpler priority mechanism?
    • Region automatically chosen by the MS
    • But region may also be forced with the current mechanism…

• Voice Activated Switching needs clarification
Discussion

• Framework is improving and is almost done
• Both packages are evolving well
  – Many scenarios achievable
  – Currently, just a few issues
    • Implementation work to verify this is currently in full swing
  – Still some ambiguities in the specification for implementors

• Related to our draft:
  – Please read it and send us comments!
  – We do believe it contains a bunch of useful information
  – Ready to become a WG item? (yeah, again!)
Work in progress in Naples

• Check out our mediactrl site on sourceforge:
  – http://mediactrl.sourceforge.net/

• A summary of all our efforts related to mediactrl
  – Media Server implementation & docs
  – Application Server implementation & docs

• Download it, install it and play with it!
  – You won't find the latest stuff yet though...

• Looking for other implementations to come:
  – Interoperability tests @ next IETF?