

SLIM: Selecting (human) Language for Internet Media

draft-tomkinson-slim-multilangcontent-00
draft-gellens-slim-negotiating-human-language-00

Slides version 2 (November 9, 2014)

General Problem

- Humans use various languages
- Protocols need to use ones that facilitate communication
- Problem most acute when lacking context
- E.g., email to mailing list or group of people
- E.g., placing emergency call or call center

SLIM's Scope

- SLIM tackles two specific problem spaces:
 - Email
 - Interactive calls
- These are two well-constrained areas where solutions are in progress

A Multilingual Content Type

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Problems being addressed

- Sending mail to recipients with unknown preferred languages
 - Especially where the poor results of machine translation is unacceptable
 - E.g., mail to customers, clients, prospects
- Single-language email conversations stifling collaborative communication in a multi-lingual team
 - Need to promote inclusivity

Important points

- New Content-type: multipart/multilingual
- Email client selects the message part based on user's preferred language
- Multilingual preface to show for non-conforming email clients
- Translated subjects for list views
- Optional unmatched message part to show when there is no preferred language match

Status so far

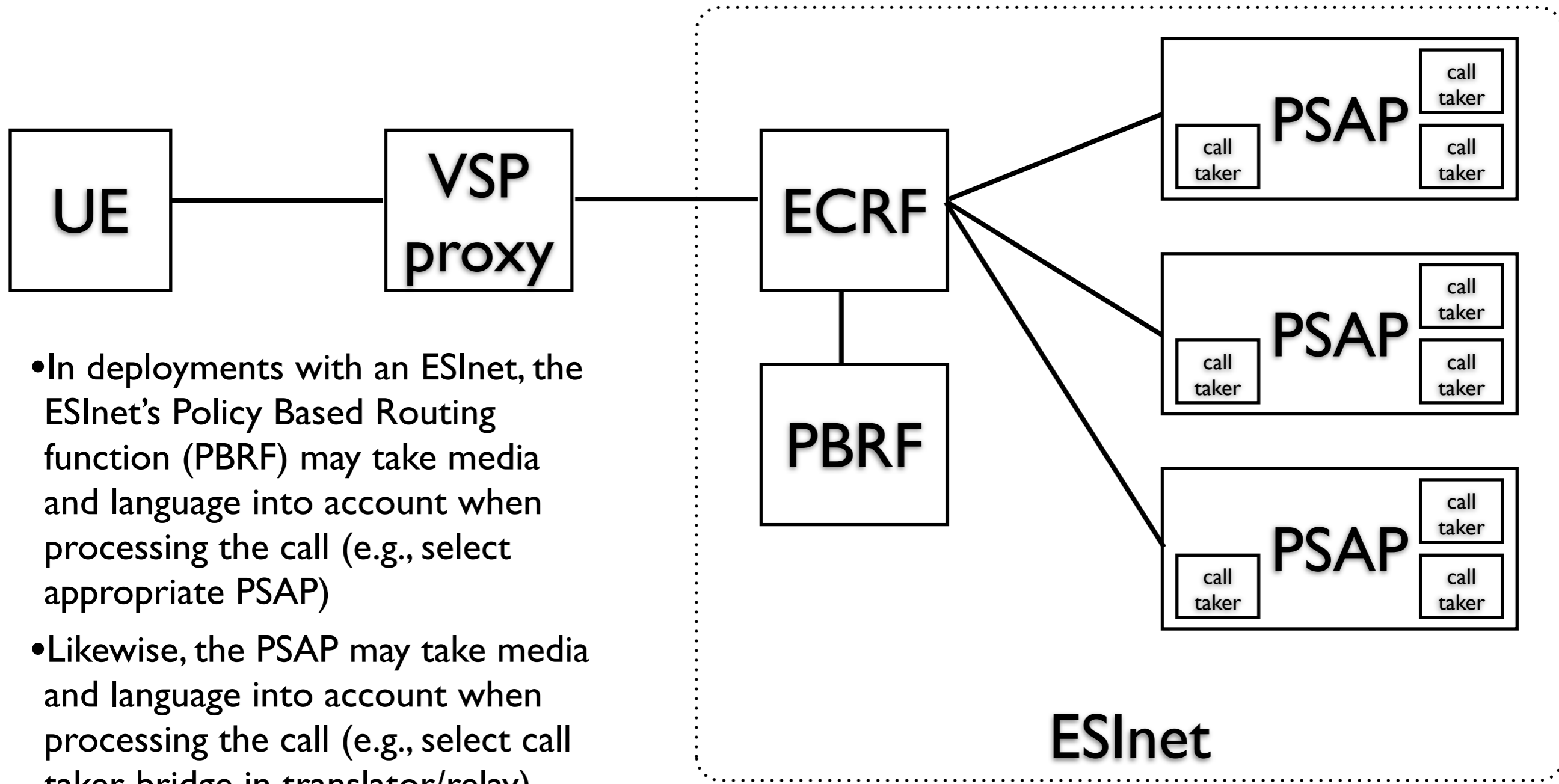
- Pretty complete solution including running code at Mimecast
- Need to refine and improve further for wider acceptance in internet community
- Very keen for more input
- Discussion will be within SLIM working group
- Trials of message format to start soon

Negotiating Human Language and Media in Calls

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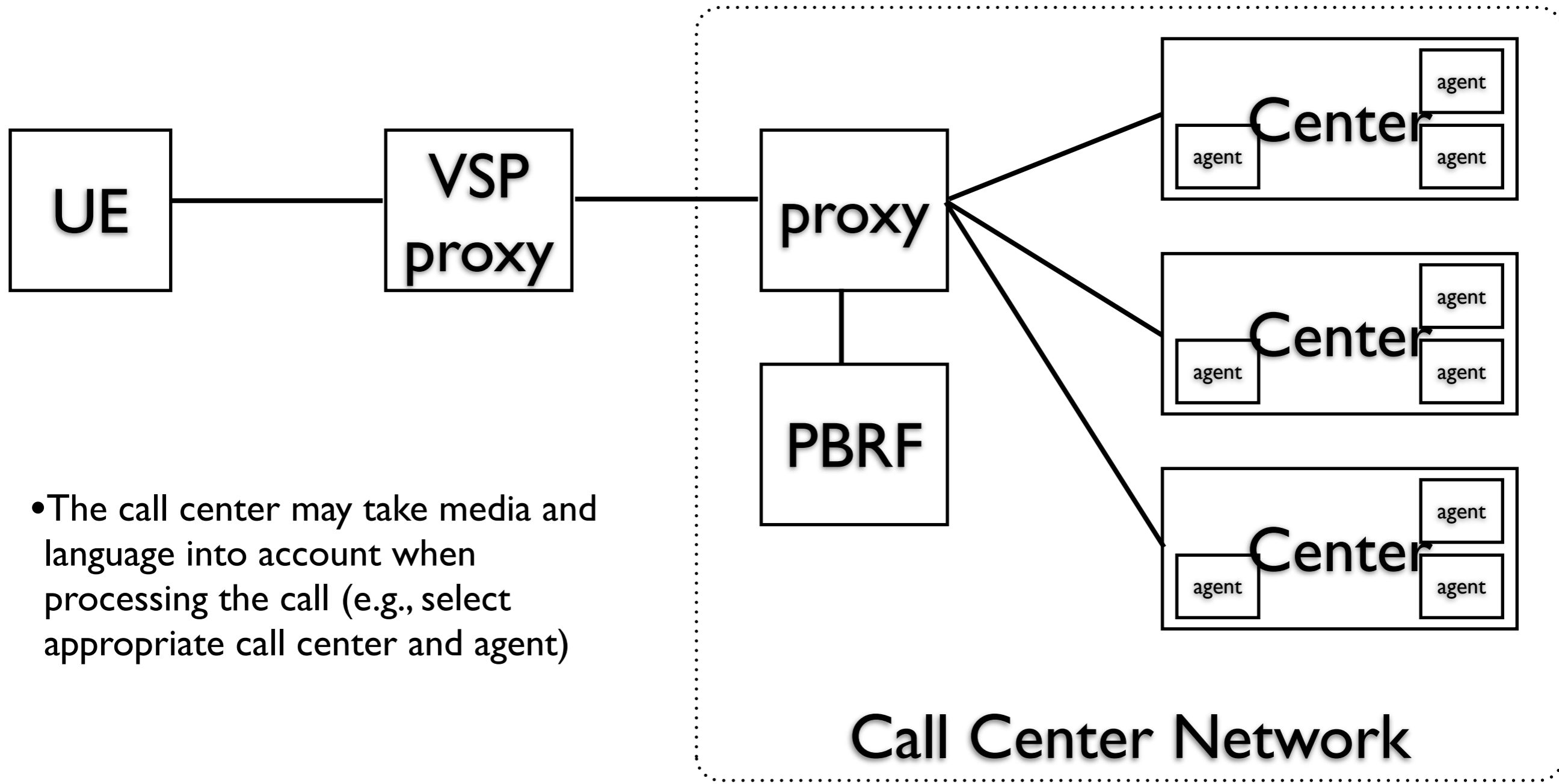
- Enable matching the caller's language (in conjunction with media) needs with called party capabilities
- Language may be spoken, written, signed
- Especially needed without context/ understanding (e.g., not calling a friend)
- Primary use case is emergency services
- Also useful when calling a call center

- Human language (spoken/written/signed) can be negotiated in conjunction with media (audio/text/video)
- The user may use one or a set of languages, while the PSAP/call center supports a set of languages and media
- Negotiation selects the user's most preferred language and media supported by the call center
- This is conceptually similar to the way other aspects of each media stream are negotiated using SDP (e.g., media type and codecs)
- Both sides are aware of what was negotiated
- Call can be routed to a facility that supports the language/media or resources can be bridged in



- In deployments with an ESInet, the ESInet's Policy Based Routing function (PBRF) may take media and language into account when processing the call (e.g., select appropriate PSAP)
- Likewise, the PSAP may take media and language into account when processing the call (e.g., select call taker, bridge in translator/relay)

Emergency Calling case



- The call center may take media and language into account when processing the call (e.g., select appropriate call center and agent)

Call Center case

Proposal

- SDP stream attribute: RFC 5646 language tags in preference order
- Send/receive values usually set the same
- Text cautions against overly complex values and “silly states” (signed language for audio)

History

- This work has been kicking around for a few years with considerable debate as to which level should negotiate (SDP or SIP)
- Extensive evaluation showed that no proposal was perfect but all could work
- SDP selected because it eliminates the risk that the language and media negotiated in SIP don't match the media SDP negotiated

Open Issues

- Need for conveying language preference information beyond ordered list
 - none, 3-level (ideal/OK/poor), q-value
- Continuing discussions on complexity vs completeness (how much of language communication usage needs to be able to be technically specified versus just used)