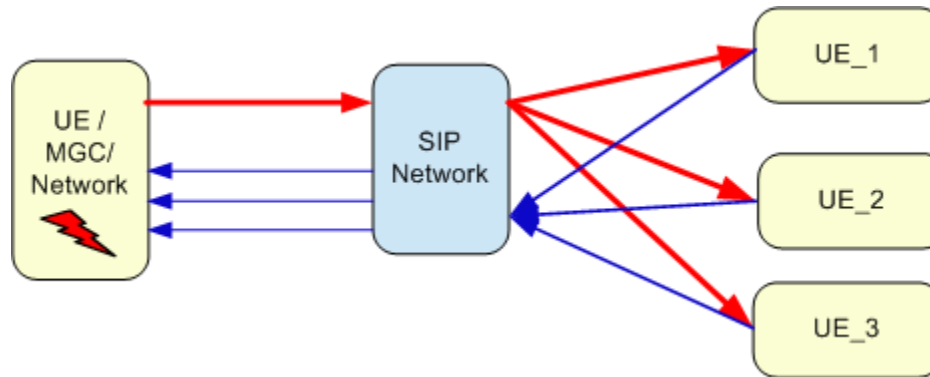


IETF 91 DISPATCH  
draft-jesske-dispatch-forking-  
answer-correlation-02

Roland Jesske

# Problemstatement



## SHOULD

- RFC3261 SIP defines Forking as an option
  - handling of responses should apply properly

## REALITY

- There are network elements/UE's that does not handle multiples early answers to forked INVITES properly or have restrictions
- Mainly network elements interworking with PSTN
- Interconnection agreements may allow only one early dialog because of load issues

# RFC's influencing the handling of Forking

- RFC3261 Description of forking and correct response handling
- RFC3841 Caller Preferences for the SIP → no fork directive
- RFC5393 Addressing an Amplification Vulnerability in SIP Forking Proxies → Max-Breadth header to avoid too many forked Requests
- RFC6228 SIP Response Code for Indication of Terminated Dialog → 199 response helps to close early dialogs.
- RFC3326 The Reason Header Field for SIP → "Heterogeneous Error Response Forking Problem", or HERFP (encapsulation of Response)
- RFC3262 Reliability of provisional responses → multiple responses need correct handling with PRACK. (Forking not mentioned in RFC)
- RFC3312 Integration of Resource Management and SIP → multiple resource reservation needed. (Forking not mentioned in RFC)
- ...

# Requirements for B2BUA providing Forking correlation

## **Why:**

- improve end to end interoperability with devices (UA, networks, and network components) which do not support multiples responses based on a forked request

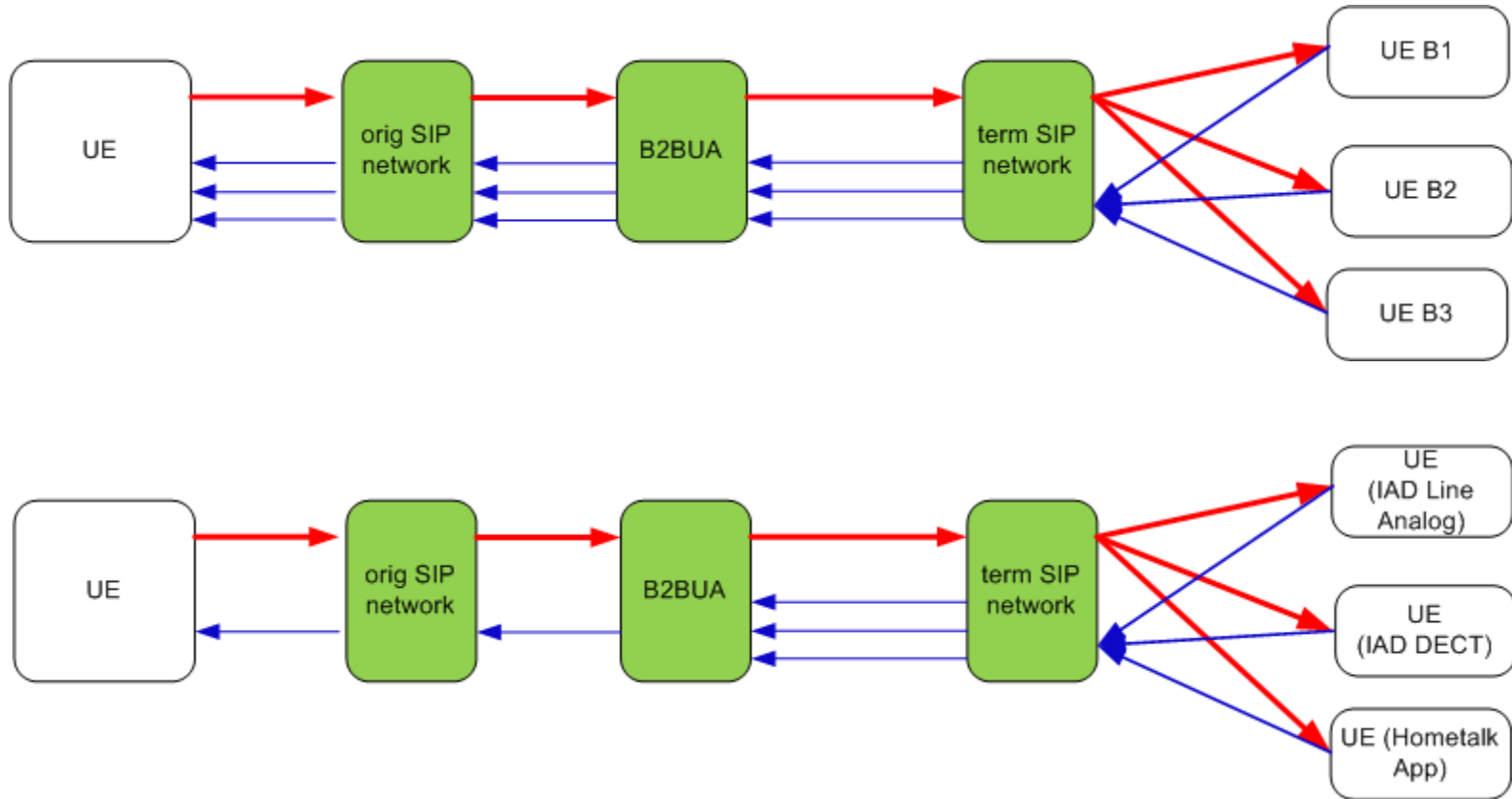
## **Requirement on B2BUA:**

- correlation/multiplex of multiples early dialogs to a single dialog
- source based correlation (does originating entity, network supports forking?)
- allow manipulation of SIP to avoid or reduce Forking (e.g. no-fork, Max-Breadth) based on SIP-network interconnection agreement.

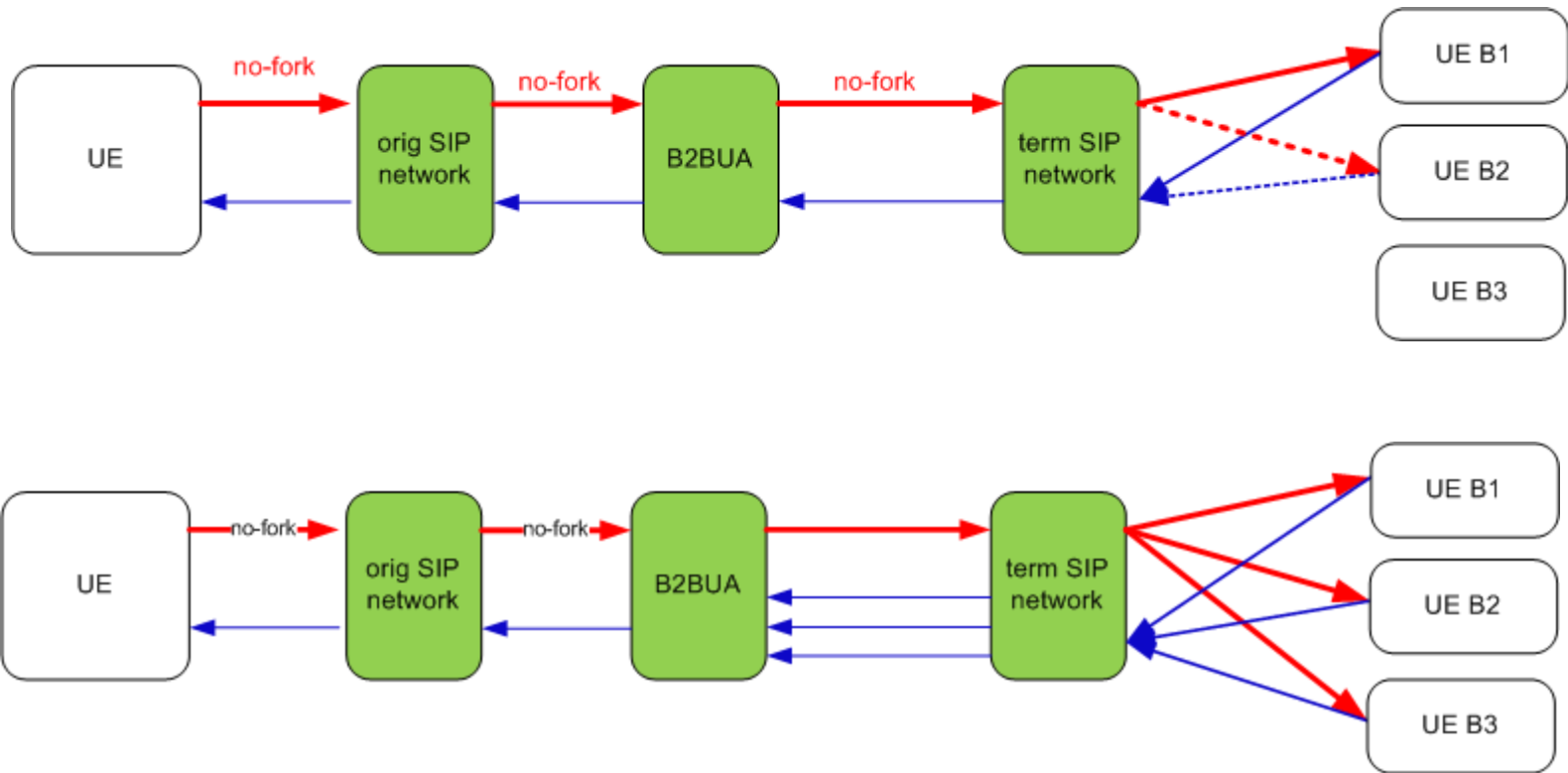
# Use Cases to be considered in the draft

- Normal Forking
- Forking (Multiples provisional responses without SDP)
- Forking (INVITE 100rel supported is set and in 18x a SDP with 100rel required is sent back)
- Forking (Forking use case with provisional responses with SDP using 100rel and preconditions)
- Multiples early dialogs due to call forwarding
- Announcements within the path
  - Avoidance of announcements
  - correct correlation of announcements
- Avoidance of Forking with no-fork and other mechanisms
- Other possibilities

# Forking Scenarios



# Forking Scenarios using Caller Preferences



Backup



# Current discussion of issues on the DISPATCH list

- General to label all messages in case they contain SDP
  - redraw figures
- Section 4.1
  - Figure 1 (normal Forking) to easy show more complex case
  - Question: what happens in case when UE relates to the last received information of last 18x

# Current discussion of issues on the DISPATCH list

- Section 4.2 Role of responses 180, 181, 182, 183 due to the scenarios.
  - Forwarding of call and 181 back
  - alert-info header
- Section 4.3 Use of 100rel when SDP answer of UA's are different compared to the offer. (e.g. Codec, PT)

Thank You