

# **ICE Nomination, Bis**

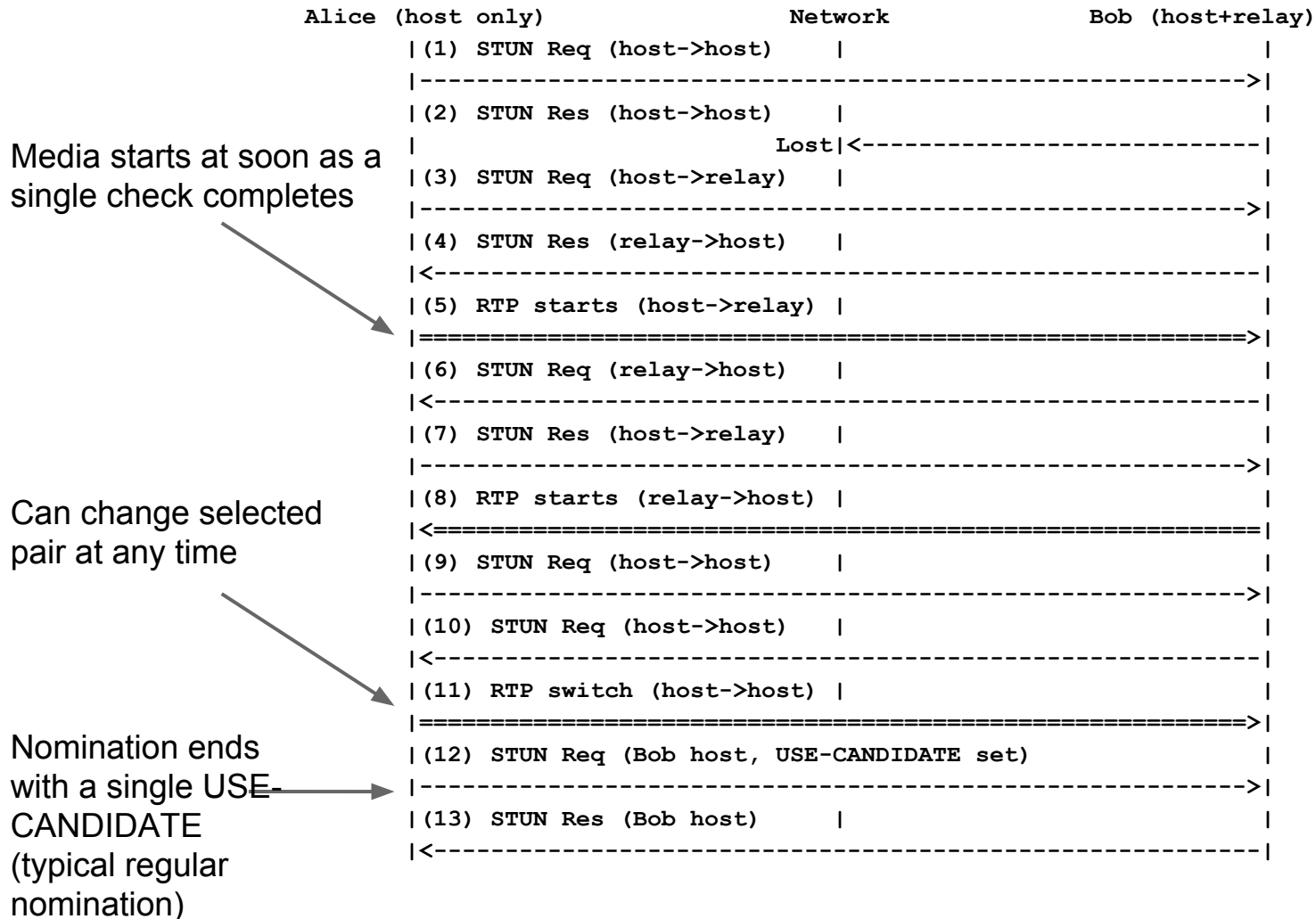
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# Deprecating Aggressive Nomination

## Aggressive Nomination:

- Doesn't allow controlling side to make dynamic decisions (e.g. based on RTT)
- Not necessary if we allow ICE to send media before nomination completes
- We keep all the benefits of aggressive nomination (fast), and all the benefits of regular nomination (control)

# Example: Early Send With Regular Nom



# Backwards Compatible

- Legal ICE behavior [RFC5245, p69]
- Worst case (nonconformant endpoints) is no worse than regular nomination
- Proposal:
  - New implementations MUST use this instead of aggressive nomination (when controlling)
  - If we mandate this for trickle, anything offering trickle will use this even when controlled
    - Because unknown options prevent use of aggressive
  - Therefore: put this into ICE-bis; mandate for trickle

# Continuous Nomination

- Switch selected pair at any time, even after ICE 'completed'
- Send new candidates if a new interface comes up, without ICE restart
- Useful for many scenarios:
  - wlan vs wwan  
(dynamically picking better path based on RTT/loss)
  - ICE mobility  
(dealing with interfaces going up/down)
  - TURN server selection  
(adding new TURN server after nomination)

# Operation

- Negotiated via ice-options:continuous
- All pairs are maintained unless released
- Controlling side can change selected pair at any time without signaling
  - Helps when case signaling is nuked by interface switch
  - USE-CANDIDATE informs controlled side should switch to the new pair as well
- New candidates can be added at any time
  - e.g. if new interface comes up
  - or new TURN server discovered
  - tricked as per usual process
  - simply added to existing candidate list

# Issues

- How are backup pairs released?
  - Timeout after N seconds without check?
  - Explicitly timed out using something like LIFETIME
  - Explicitly dropped using something like LIFETIME==0?
- Can controlled side drop unnecessary candidates?
  - For power or cost reasons, controlled side may not want to keep certain backup candidates
- How often are backup pairs checked?
  - Some may need to be checked every ~30 seconds to keep NAT/FW pinholes open
  - May have power implications

# Next Steps

- Regular/Aggressive changes to ice-bis?
- Adopt continuous nom as WG item?