

Revision of the Binary Floor Control Protocol (BFCP) for use over an unreliable transport

draft-sandbakken-dispatch-bfcp-udp-01

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One Example Scenario

- BFCP used for presentation channel in SIP videoconferencing
- BFCP server and participant roles negotiated (offer/answer)
- A “normal user endpoint” might do the server role
 - Point-to-point
 - Point-to-multipoint (potential internal MCU)
- BFCP server and/or participant potentially behind NATs

Motivation

- How it all began

The motivation for using an unreliable transport for BFCP messages is fuelled by network deployments where RTP proxies or media relays are present for NAT and firewall traversal. ...
- Trivial and workable extension as goal
 - Not a major re-write or effectively a new protocol
- Extending our existing BFCP stack was minor work
- Adding BFCP over UDP on the proxy in question was trivial

Overview of Extensions

- Minor changes to transaction model
 - All requests now have a response to complete transaction
 - Retransmission timer to ensure reliability
 - Transaction Initiator flag to distinguish between server-/client
 - One pending request per entity (ordering, congestion control)
- Goodbye/GoodbyeAck dissociate (useful for TCP/BFCP)
- Specified new error message, if data cannot be parsed
- DTLS MUST be supported
- ICE/STUN if applicable and needed

Next Steps Wish list

- Dispatch “rough consensus” allowing work to be finished
- Finalise extensions
 - Security considerations/mechanisms
- Deal with large messages/potential fragmentation
- Merge into RFC4582bis and RFC4583bis
 - Also addressing known issues and erratas
- Either deployed, implementation ongoing or scheduled
 - Video conferencing vendors with identical problems
 - IMTC best current practice for role-based video
 - (Not arguments as such, but when considering alternatives ...)

Even More Motivation

- Available - with little effort - today
- Utilising installed RTP proxies or media relays

... In these deployments, TCP may neither be applicable nor appropriate, for example, due to lack of support for TCP media relay, ICE-TCP or a standard UDP tunneling approach.

- Voila! UDP tends to work easier
 - If RTP works, UDP/BFCP works
- Use same traversal mechanisms and infrastructure
 - ICE, STUN, H.460 and so on, if needed

Alternatives

- “Need here and now” vs. “Ideal, correct and generic solution”
 - Sympathi && !FUD
- Will need UDP-tunnelling and ICE-TCP for other protocols
- UDP-tunnelling
 - No generic, standards track approach within IETF
- ICE-TCP
 - In motion, will take time though for deployment
 - Problem with direct connection success rate
- We strongly believe the extensions described represents the best way forward in a timely manner