

RTP and the Datagram Congestion Control Protocol (DCCP)

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draft-ietf-dccp-rtp-01.txt

What is DCCP?

- A new IETF transport protocol
 - A peer to TCP, UDP, and SCTP
 - RFCs 4340-4342 (proposed standard)
 - <http://www.ietf.org/html.charters/dccp-charter.html>
- Think UDP plus...
 - Connection oriented
 - Pluggable congestion control
 - TCP-like and TFRC now
 - Others, perhaps more media friendly, can be defined in future
 - Partial checksums (UDP-lite style)
 - Service codes
- Expected to be useful for real-time multimedia applications
 - Draft defines RTP framing over DCCP + associated signalling

Framing RTP over DCCP

- Connection-oriented datagram protocol
 - Open a single connection for (multiplexed) RTP and RTCP
 - 1 DCCP-Data packet = 1 RTP packet
 - 1 DCCP-Data packet = 1 Compound RTCP packet
 - Close connection once RTCP BYE sent
- RTP and RTCP must obey congestion control
 - Requires rate adaptive codecs
 - Significant complexity with translators to non-congestion controlled environments
- Otherwise a relatively straight-forward mapping
 - Some RTP profiles not useful (e.g. RTP profile for TFRC)
 - Some minor conflicts between RTP and DCCP features:
 - SRTP conflicts with partial reliability
 - Some RTCP XR packets overlap with DCCP Ack Vector options

Signalling RTP over DCCP

```
v=0
o=alice 1129377363 1 IN IP4 192.0.2.47
s=-
c=IN IP4 192.0.2.47
t=0 0
m=video 51370 DCCP/RTP/AVP 99
a=rtpmap:99 h261/90000
a=dccp-service-code:SC=RTPV
a=setup:passive
a=connection:new
a=rtcp:51370
```

Usual SDP + comedia signalling

- Register new protocols for use on **m=** line
- Register **a=dccp-service-code:** attribute to signal service codes
 - Indicate type of media flowing
 - **SC:RTPA, SC:RTPV, SC:RTPT, SC:RTPO, SC:RTCP**
- Use **a=rtcp:** to signal multiplexed RTP and RTCP flows

Status

- For details see draft-ietf-dccp-rtp-01.txt
- Believe only minor details remain to be resolved
 - Expect -02 shortly after the meeting
 - Working group last call (hopefully) in the next few weeks
- Review from AVT community solicited to ensure makes sense from RTP viewpoint
 - Please comment to the dccp@ietf.org mailing list