

Congestion Control for DCCP

Nathalie Romo Moreno, CCWG @IETF117



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Congestion Control for DCCP

Motivation

- Application for Multipath DCCP

Current Status

Congestion control algorithms currently standardized and part of the Linux kernel implementation for DCCP

- Congestion Control ID 2 – RFC4341 : TCP-like Congestion Control
Based on RFC793, RFC2581, RFC3465, and RFC3517
- Congestion Control ID 3 – RFC4342: TCP-Friendly Rate Control (TFRC), based on RFC3448
- Congestion Control ID 4 RFC5622: TCP-Friendly Rate Control for Small Packets (Experimental), based on RFC 4828

New CCIDs implementations for Linux Kernel (out of tree)

- Congestion Control ID 5-> Based on BBRv1
https://github.com/telekom/mp-dccp/blob/mpdccp_v03_k5.10/net/dccp/ccids/ccid5.c
- Congestion Control ID 6-> Based on BBRv2
https://github.com/telekom/mp-dccp/blob/mpdccp_v03_k5.10/net/dccp/ccids/ccid6.c
- Congestion Control ID 7-> Based on Cubic
https://github.com/telekom/mp-dccp/blob/mpdccp_v03_k5.10/net/dccp/ccids/ccid7.c

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Target

- Standardize BBR and CUBIC TCP Congestion Control algorithms as new CCID (Congestion Control ID) profiles for DCCP

Work done

- Individual draft for CCID5 (an implementation of BBRv1) at ICCRG <https://datatracker.ietf.org/doc/html/draft-romo-iccr-g-ccid5> (Expired)

How to move forward?

- Does the standardization of a BBR-based CCID requires to have BBR standardized as an RFC? What are the alternatives?
- Would it be possible to have different CCID profiles for BBRv1 and BBRv2 ?
Existing individual draft for BBR <https://datatracker.ietf.org/doc/html/draft-cardwell-iccr-g-bbr-congestion-control> started as a specification of BBRv1, current version specifies BBRv2
- CUBIC RFC is informational, is it possible to have a CCID profile that references it?