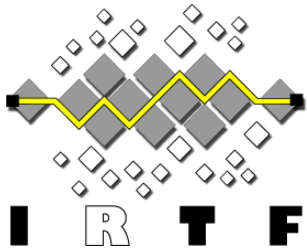


Update on the Internet Research Task Force

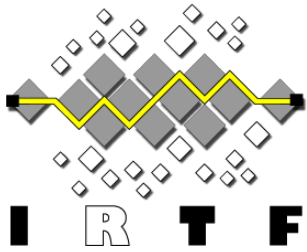
Aaron Falk
IRTF Chair

IETF-78 – Maastricht



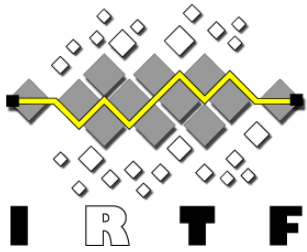
Outline

- IRTF Update
- Introduction to the Transport Modeling Research Group



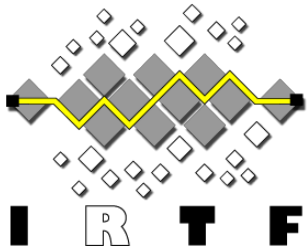
IRTF Meetings this week

- Eight Research Groups (RGs) are meeting this week
 - Delay Tolerant Networking RG
 - Internet Congestion Control RG
 - Host Identity Payload RG
 - Mobility Optimizations RG
 - Network Management RG
 - Peer2Peer RG
 - Scalable, Adaptive Multicast RG
 - Virtual Networks RG
- Reviewed the VNRG with the IAB



Status

- IRTF RFCs
 - No IRTF RFCs published since last IETF
 - 1 draft in RFC Editor queue
 - IRTF docs to be added to data tracker
 - See `draft-hoffman-alt-streams-tracker`
- `irtf-discuss` list (*whoops*)
- Next IRTF Chair?



RG Energy Levels

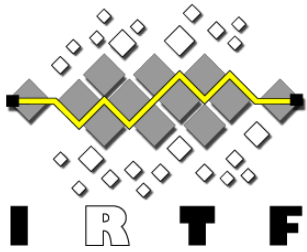
(e.g., mailing list discussion &/or f2f meetings)

Active

- ASRG
- CFRG
- DTNRG
- HIPRG
- ICCRG
- P2PRG
- NMRG
- RRG
- SAMRG
- TMRG
- VNRG

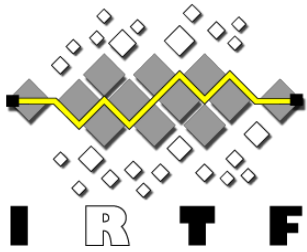
Quiescent

- MOBOPTS
- **PKING**



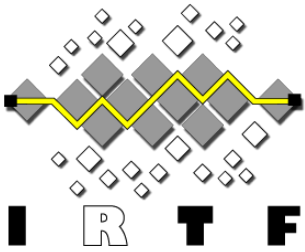
Possible New Research Topics

- Internet of Things
- Clouds
- Machine Learning & Communication Systems
- Economics & Policy
- Social Networks



Intro to the TMRG

Founding chair: Sally Floyd
Current chair: Lachlan Andrew

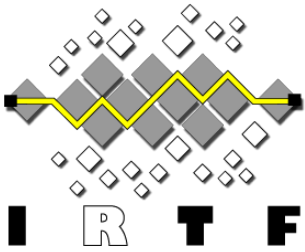


Chartered to produce...

- a survey of ***models*** used in simulations, analysis, and experiments for the evaluation of transport protocols.
- broad set of simulation ***test suites***
- set of recommendations for test suites for experiments in test beds.

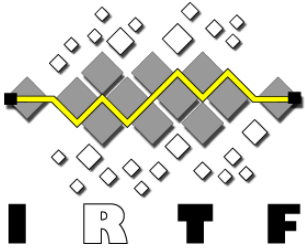
The goal:

Improve methodologies for evaluating transport protocols



Not chartered to...

- discuss the **design** of new congestion control mechanisms
- discuss **modifications** to existing congestion control mechanisms, except in terms of the models needed for the evaluation of such mechanisms
- produce **evaluations** of specific congestion control mechanisms.

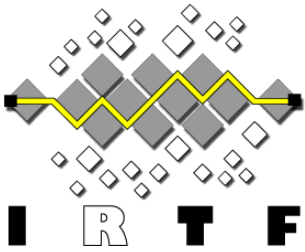


What is a transport model?

Set of assumptions about network and traffic conditions implicit in evaluation

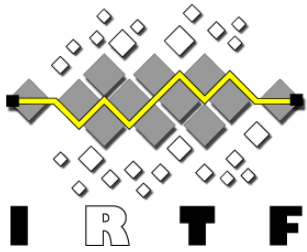
- Topology
- RTTs
- flow arrivals / durations
- greediness of flows

Not necessarily a mathematical model



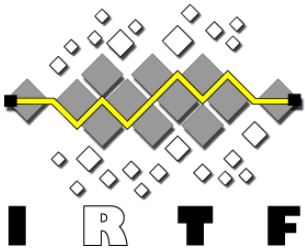
Documents

- **RFC 5166: Metrics for the Evaluation of Congestion Control Mechanisms.**
S. Floyd, editor. RFC 5166, Informational, March 2008.
- **Tools for the Evaluation of Simulation and Testbed Scenarios .**
S. Floyd and E. Kohler, editors.
Internet-draft draft-irtf-tmrg-tools-05, work in progress, February 2008.
Status: Some RG feedback. Feedback and contributions are welcome.
- **Common TCP Evaluation Suite**, L. Andrew and S. Floyd, Editors,
Internet-draft draft-irtf-tmrg-tests-02.txt, work in progress, July 2009.
Status: evolving slowly. Based on
 - **Towards a Common TCP Evaluation Suite**, L. Andrew, C. Marcondes, S. Floyd, L. Dunn, R. Guillier, W. Gang, L. Eggert, S. Ha, and I. Rhee, PFLDnet, March 2008.
- **An NS2 TCP Evaluation Tool Suite**,
G. Wang, Y. Xia, and D. Harrison,
Internet-draft draft-irtf-tmrg-ns2-tcp-tool-00, work in progress, April 2007.



Possible future documents

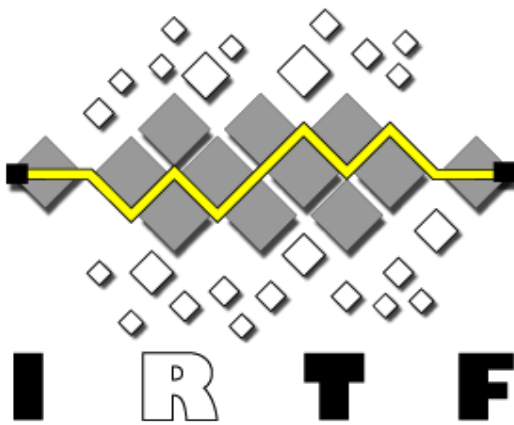
- **Metrics for the Evaluation on Admission Control Systems.**
Suggested by Sean Moore and Dah Ming Chiu.
- **Known “corner cases” ??**



Recent discussion

Evaluation of effect of faster flow start

- Background:
 - Proposal for larger initial window in TCP
 - Measurements from data centres show “improvement”
- Questions:
 - How do we assess degradation to other users?
(Especially those with slow connections)
 - What inferences about the network (thin pipe vs congested)?



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