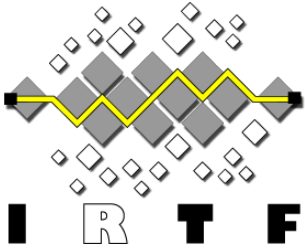


Update on the Internet Research Task Force

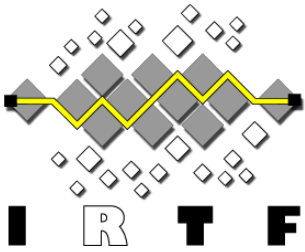
Aaron Falk
IRTF Chair

IETF-77 – Anaheim



IRTF Meetings this week

- Seven Research Groups (RGs) are meeting this week
 - Delay Tolerant Networking RG
 - Internet Congestion Control RG
 - Host Identity Payload RG
 - Peer2Peer RG
 - Routing RG
 - Scalable, Adaptive Multicast RG
 - Virtual Networks RG
- Reviewed the SAMRG with the IAB



IRTF RFCs

- 8 IRTF RFCs published since last IETF
 - Enabled through the publication of RFC5743
 - 7 more drafts in review

RFC5743 - Definition of an Internet Research Task Force (IRTF) Document Stream

RFC5726 - Mobile IPv6 Location Privacy Solutions ([MOBOPTS](#))

RFC5757 - Multicast Mobility in Mobile IP Version 6 (MIPv6): Problem Statement and Brief Survey ([MOBOPTS](#))

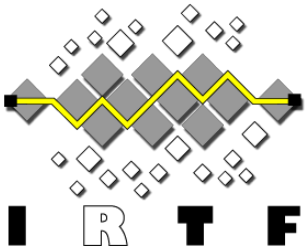
RFC5765 - Security Issues and Solutions in Peer-to-Peer Systems for Realtime Communication ([P2PRG](#))

RFC5772 - A Set of Possible Requirements for a Future Routing Architecture ([RRG](#))

RFC5773 - Analysis of Inter-Domain Routing Requirements and History ([RRG](#))

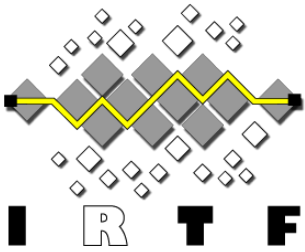
RFC5782 - DNS Blacklists and Whitelists ([ASRG](#))

RFC5783 - Congestion Control in the RFC Series ([ICCRG](#))



New Research Group: VNRG

- Virtual Networks RG
 - Chartered last month
 - Chairs: Martin Stiemerling, NEC; Joe Touch, USC/ISI
 - Met this week
 - A key Q: How to identify & bind processes/VMs to virtual networks
 - Many approaches to virtualization:
 - Found in testbeds, data centers, GRID, cloud services
 - Global Internet, testbed, & enterprise emphases quite different
 - Working towards common framework, terminology



RG Energy Levels

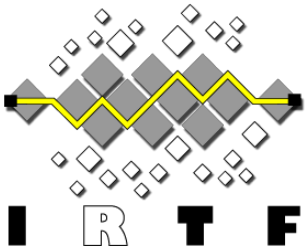
(e.g., mailing list discussion &/or f2f meetings)

Active

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

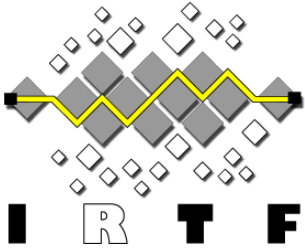
Quiescent

- MOBOPTS
- NMRG
- **PKING**



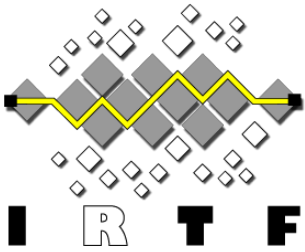
Other news

- NetFPGA tutorial last Sunday
- E2E RG closed after 26 years
 - Worked on slow start and improved round-trip time estimation, Random Early Drop, Integrated and Differentiated Services, Weighted Fair Queuing, PAWS, and Transaction TCP
- Working with secretariat to improve IT integration for IRTF



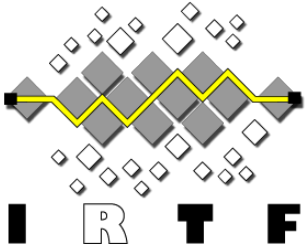
Improving the IRTF

- `irtf-interest` list
- Standing IRTF Research BoF
- Dots for RG chairs



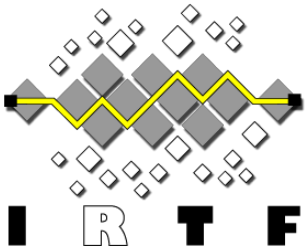
Internet of Things BarBoF

- Multiple use-cases:
 - **Silicon cockroaches**: small objects, sensors, RFID/asset-tracking, bio-medical devices
 - **Machine-to-machine**: cyber-physical systems, actuators, building networks, energy systems, automotive systems/networks
- Characteristics (shared by some)
 - Order(s) of magnitude bigger than the Internet
 - No computers or humans at endpoint
 - Inherently mobile, disconnected, unattended



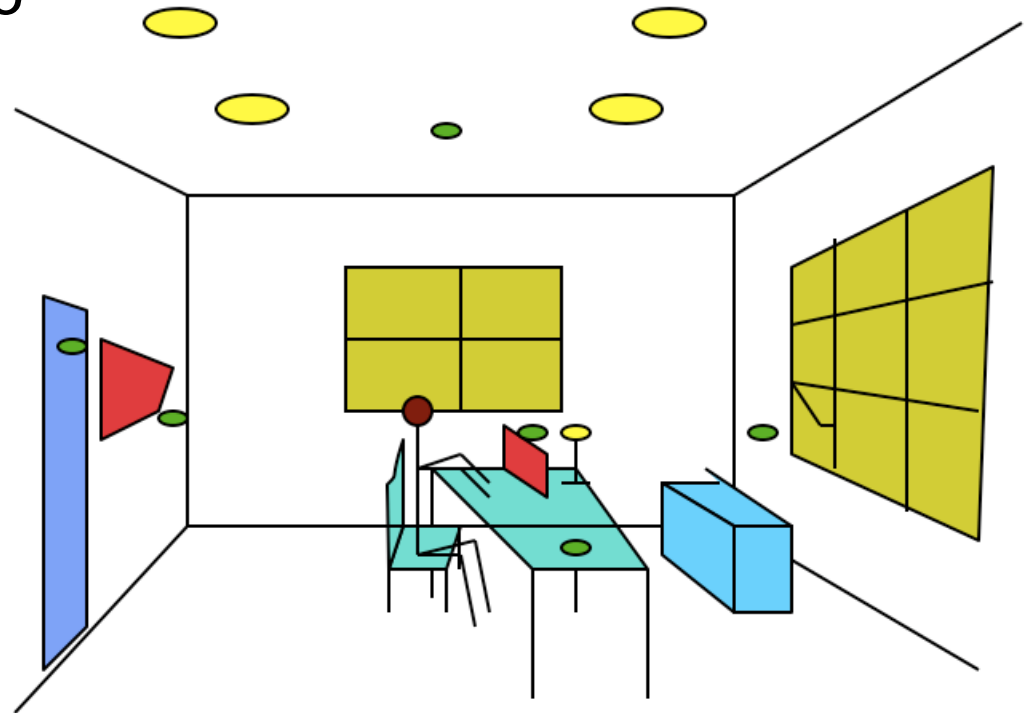
Related Research Topics

- Security, Privacy, Authentication
- Identity, Naming
- Authority (by people; by devices)
- Discovery, Naming
- Management, Maintenance
- Policy, Preferences
- Presence (of people; of devices)
- Location
- Capabilities, services
- Information model
- Coordination among many objects

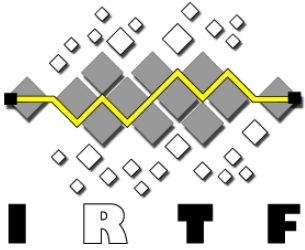


Example Application: Building Networks

- Scope:
 - Include all entities that provide useful services to people
 - E.g., IT, lights, doors, HVAC
- Research:
 - Location
 - Presence
 - Authority
 - Preferences
 - Information model
 - Security

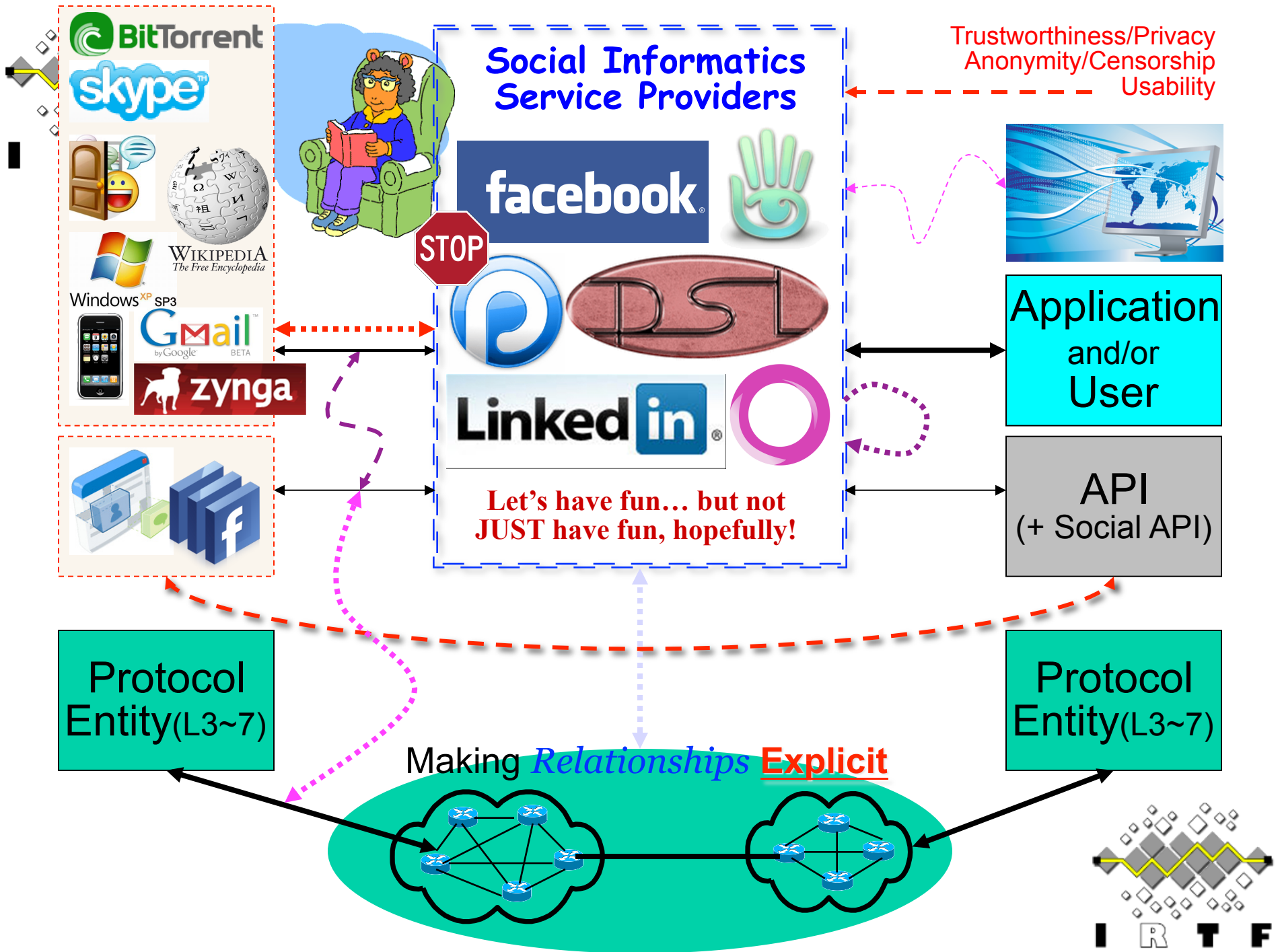


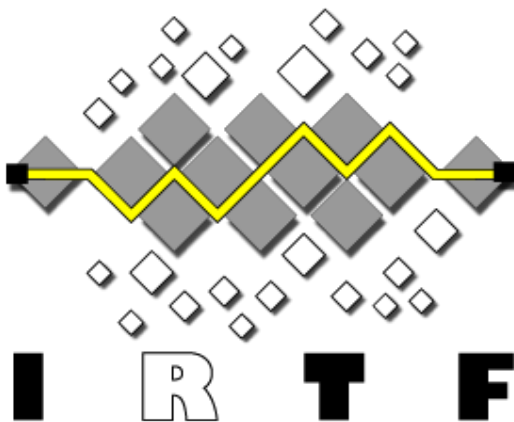
Bruce Nordman BNordman@LBL.gov



Other new work proposals

- Social informatics & Internet protocols (next slide)
- Economics, Law, and Policy
 - Network Neutrality RG?
- Privacy in the Cloud





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