

Results from a Workshop on Naming & Addressing in the Future Internet

Dagstuhl/Germany, March 1 – 4, 2009

the workshop participants

Routing research group meeting. March 27, 2009

Workshop Scope and Goals

- advance identifier-locator separation issue
- provide input to community at large

- brought together various expertise
- focus on concepts — no specific proposals
- organized by Lixia Zhang, Scott Brim, Jari Arkko, Lars Eggert, Marcelo Bagnulo, and Christian Vogt

**all workshop material available at
<http://www.dagstuhl.de/09102>**

- discussion must continue



Participants

- Bengt Ahlgren, SICS
- Jari Arkko, Ericsson
- Marcelo Bagnulo, UC3M
- Roland Bless, Univ. of Karlsruhe
- Scott Brim, Cisco
- Leslie Daigle, Internet Society
- Lars Eggert, Nokia
- Kevin Fall, Intel
- Bryan Ford, MPI Saarbrücken
- Paul Francis, MPI Kaiserslautern
- Andrei Gurtov, HIIT
- Joel Halpern, Redback
- Tony Li, Redback
- Michael Menth, Univ. of Würzburg
- Raquel Morera, Telcordia
- Benno Overeinder, NLnet Labs
- Phil Roberts, Internet Society
- Javier Ubillos, SICS
- Christian Vogt, Ericsson
- Klaas Wierenga, Cisco
- Lixia Zhang, UCLA

Workshop Agenda

- focus on conceptual discussion
- all discussion in plenary
- lead-in presentations to feed discussion
- lightening talk opportunities

- lead-in presentations
 - What is the problem? Differing views (Lixia)
 - What should an identifier describe? (Leslie)
 - Routing-scalability-related requirements (Tony)
 - Implications from an identity point of view (Klaas)
 - Infrastructure implications (Benno)
 - Solution space taxonomy (Christian)

Discussion Topics

- reasons for identifier-locator separation
 - problems in existing Internet
 - what to identify?
- necessary and desired properties
 - of identifiers
 - of locators
 - of mapping system
- implications and costs
 - infrastructure requirements
 - performance
 - security
- real-life examples of identifier-locator separation
- how to move forward?

Reasons For Identifier-Locator Separation

- location-independent reachability
 - global and robust referability
 - session continuity despite re-addressing
 - session referability
 - simplified network renumbering
- } to support:
- mobility
 - multi-homing
 - privacy

considered out of scope

- session mobility across stacks
- locally optimized mobility

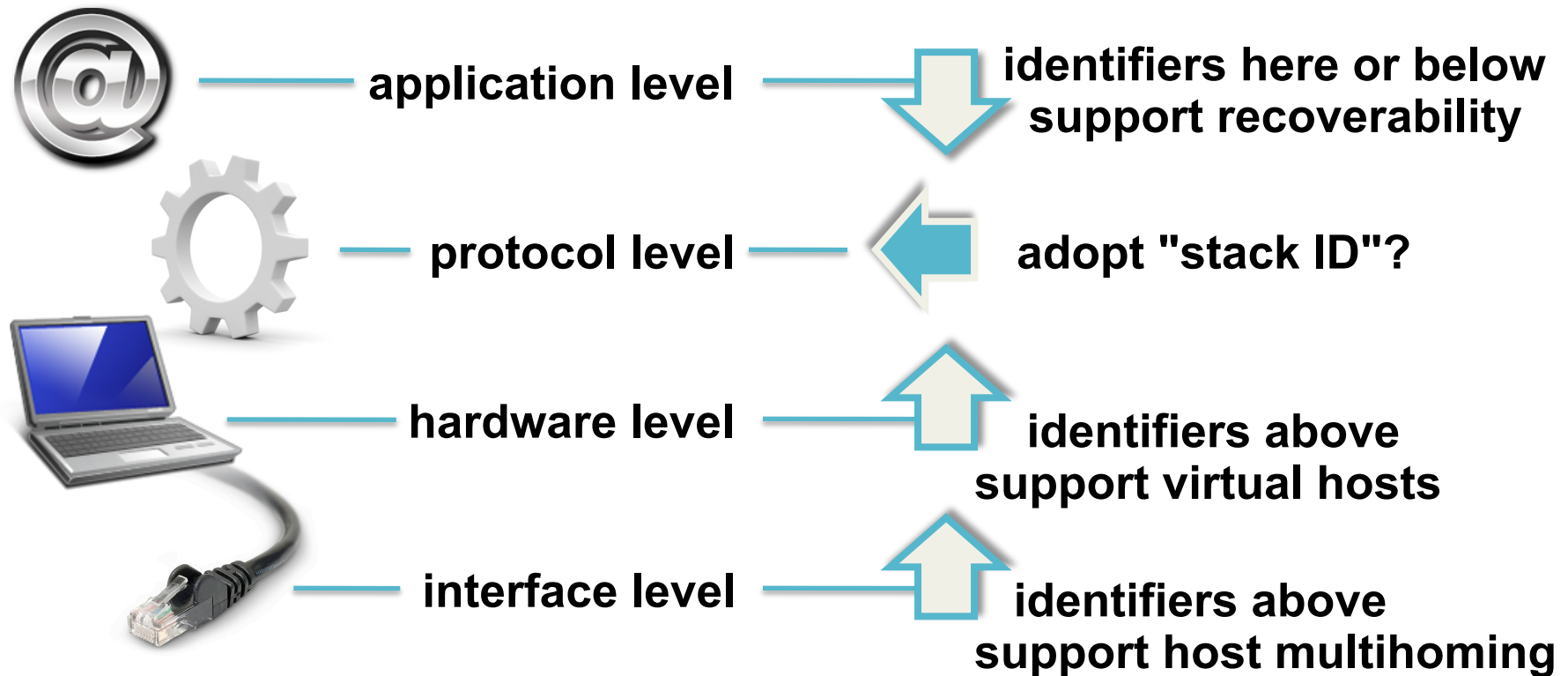
Necessary and Desired Properties

- identifiers**
- topology-independent
 - stable, at discretion of owner
 - unambiguous
 - distinguishable (two for same object?)
 - facilitate session-level referrals

- locators & routing**
- topologically sensitive
 - multihoming-capable
 - local/constant cost for topological changes

- mapping system**
- trustable
 - updatable at slow-mobility rates
 - local/constant cost for updates

What to Identify?



- anything to be referenced needs to be identified
- some identifiers application-specific
- stack ID considered one fundamental identifier

Small Step — But Forward

- certainly no unanimous agreement
 - but confined everyone's understanding
 - broadened everyone's mind
 - shaped idea of how to tackle the challenge
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- but only a small step
 - discussion must continue in community at large