

An Architecture for Transport Layer Mobility (Revision 00)

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Overview

Various schemes have been talked about for dynamic rebinding of transport protocol connections

- For SCTP, DCCP, TCP, ...
- Call these **transport layer mobility** protocols/extensions
 - Can be used to build a mobility system without Mobile IP

Transport Layer Mobility (TLM)

These solutions can avoid some of the architectural/infrastructural requirements that network layer mobility schemes require, and better handle things like congestion control and re-estimation of path properties

Each TLM method has its own rebinding means, specific to the transport protocol

- For instance, SCTP ADDIP & Change Primary is very different from TCP Migrate

But there are some commonalities ...

Common TLM Requirements

Transport layer mobility techniques commonly require:

- Detection, configuration, and notification from lower layers when moving into new networks and off of old ones
- Location management - there's no Home Agent ... have to use dynamic DNS, SIP, or similar

Avoid Replication of Effort

- In research implementations so far, there has been some replication of effort
 - Separate (per protocol) user-level daemons to monitor interfaces, etc
- Unifying efforts could avoid some wastefulness
 - Easier to research
 - More practical to deploy

Transport Layer Mobility Architecture

Abstract out common needs and implement them in a single place with a generic interface

- Existing protocols can be used
 - e.g. DNS/SIP for location management, ND/RD for movement detection
- Leave each transport to define its own rebinding scheme
- Informational document?

Future Work

Should TSV take up the task of defining a common architecture to facilitate development of transport layer mobility protocols?

- There are scads of Mobile IP groups
 - and HIP mobility
 - is there room for another mobility architecture?