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Assessing the suitability of OverCord to satisfy new advances in P2P SIP

By: Erasmus Tyapa

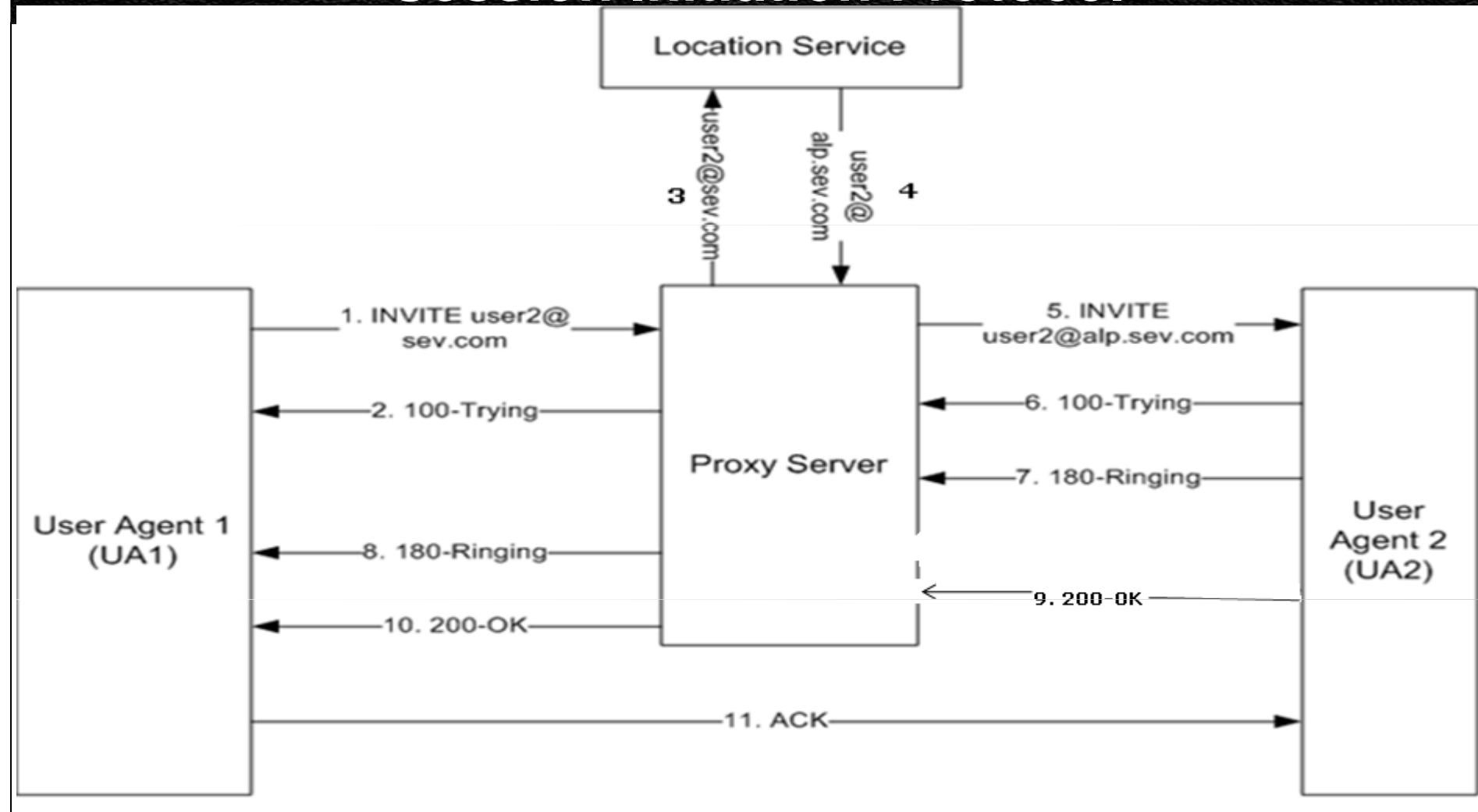
Supervisor: Prof. Alfredo Terzoli and Mr. Mosiuoa Tsietsi



Outline

- Introduction
- Background
- Work in IETF
- Open issues
- OverCord
- OverCord vs. RELOAD
- Current work and plan of action
- End

Session Initiation Protocol



Source : <http://docs.hp.com/en/5992-4080/ch01s05.html>

Peer-to-Peer SIP

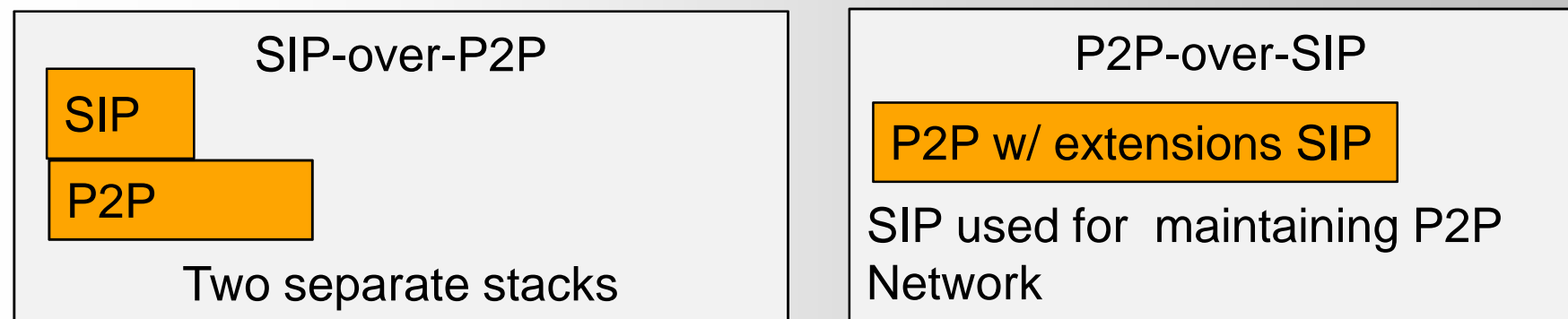
- P2PSIP effectively distributes the registration, location and lookup steps of SIP



- Registering a phone or a user with the P2P overlay network
- Looking up a phone or a user in the P2P overlay network
- Dynamically sharing information when peers join and leave, so that the load is balanced across peers, and so that the sudden loss of one or more peers does not cause the P2P network to lose track of its current registrars

P2P SIP Protocol layering

- Should the P2P layer be distinct from the SIP layer?



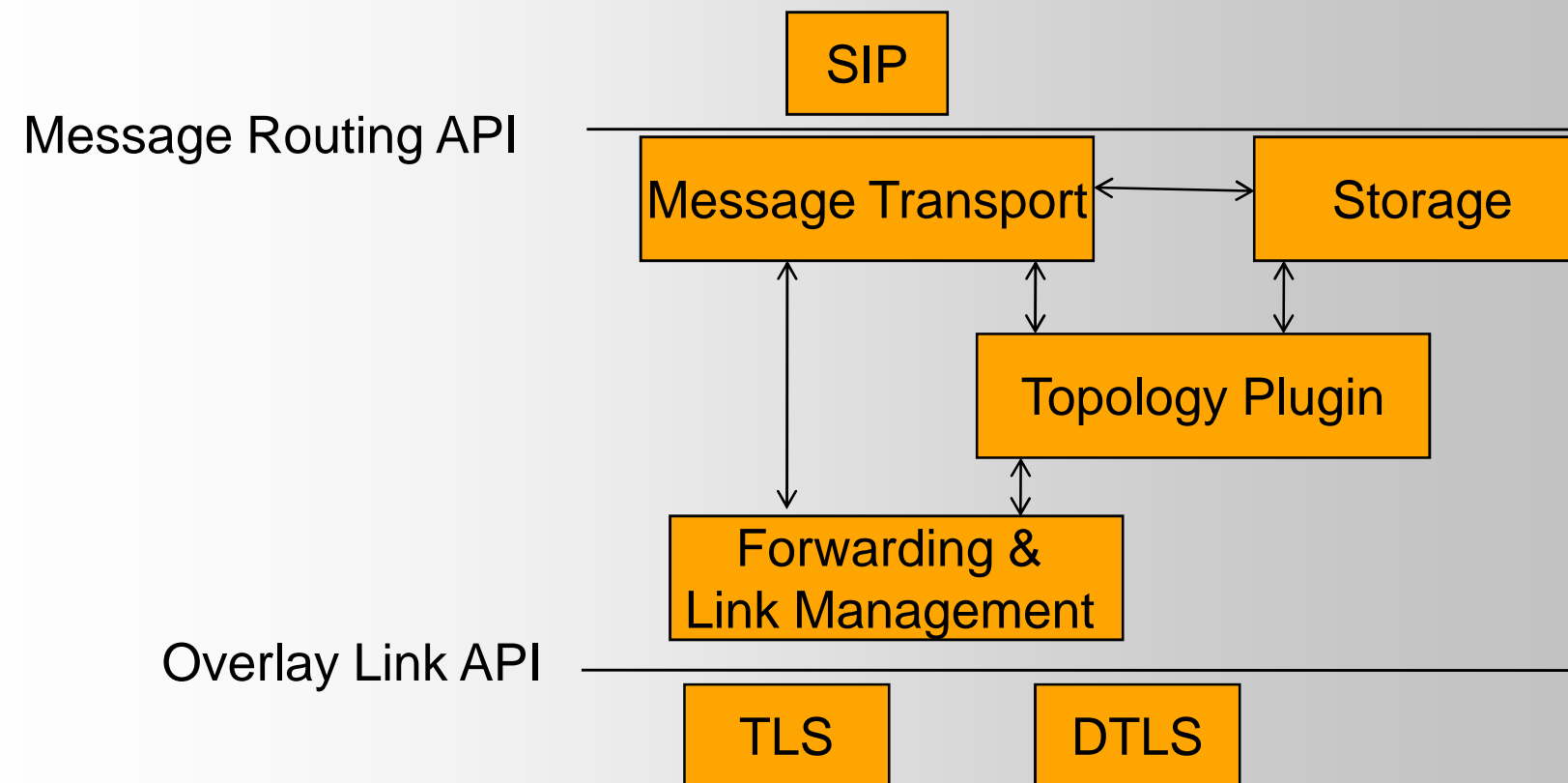
- SIP layer for registering users, resource lookup, establishing session, and a P2P layer for maintaining a distributed network.
- Overloading SIP causing high overhead, interoperable with other P2P applications.
- Should P2P layer support apps other than SIP?
 - Charter says only “cannot work on issues not relevant to P2P-based SIP”.

P2PSIP IETF debate on DHT

- Support multiple Distributed Hash Tables (DHTs)?
 - Pastry
 - CAN
 - Bamboo
 - Chord
 - Kademlia
- Which one or is it multiple DHTs, then
 - Is there a mandatory-to-implement DHT, or do we just specify one to use for testing?

RELOAD P2PSIP PROTOCOL

- Adapted by the P2PSIP working group as its starting point for the primary P2P-SIP protocol.



Adapted from: C. Jennings et.al (RELOAD Draft)



OPEN ISSUES

- P2PSIP RELOAD suitability to be leverage for both P2P live streaming and Video on Demand (VoD) services.
- Need to standardise more DHT algorithms.
- Issues of NAT, Currently being addressed by another Host Identity Protocol (HIP) Working Group

OverCord

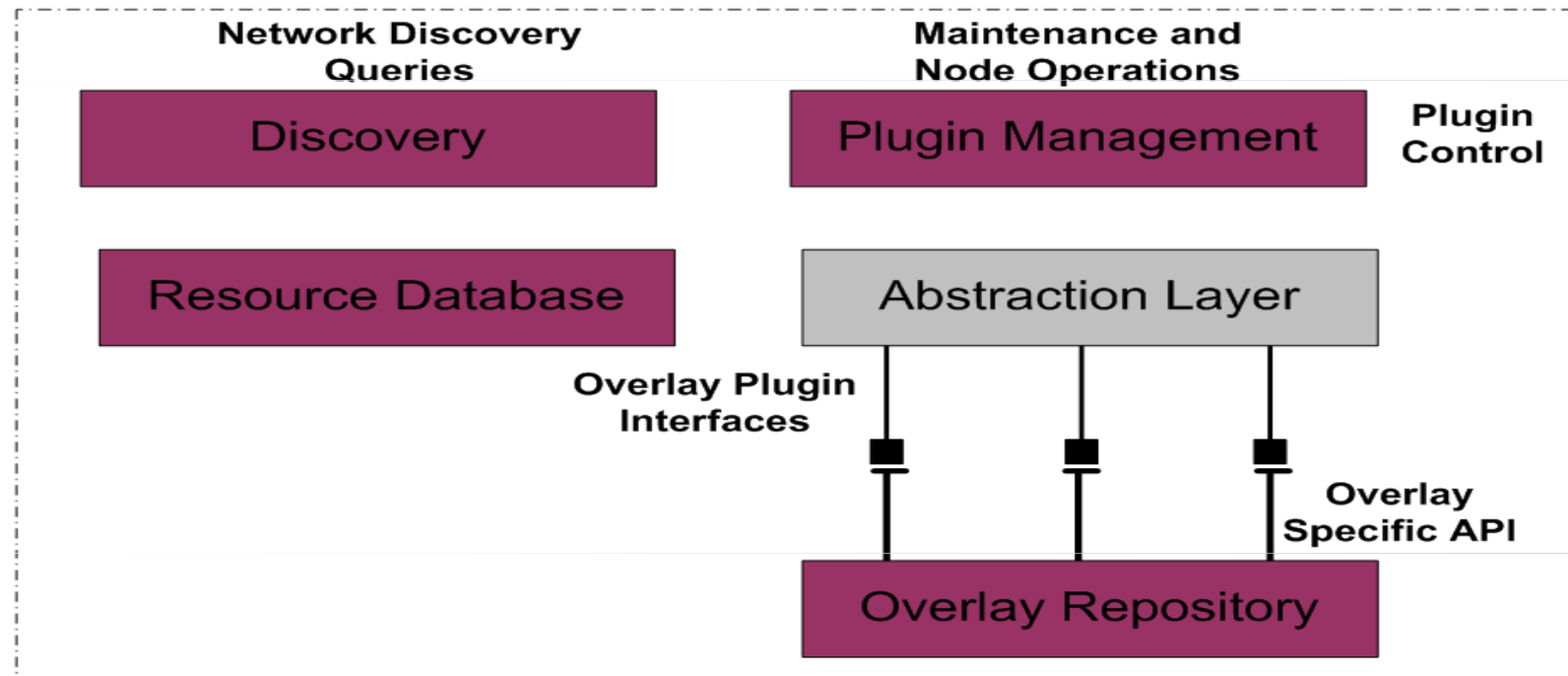
Applications
and Services

SIP UA

File Sharing

Distributed
Filesystem

Others



Source: Mosiuoa Tsietisi. Prototyping a Peer-to-Peer Session Initiation Protocol User Agent, Master thesis, Rhodes, March 10 2008.



OverCord vs. RELOAD

- Lot of similarity
- RELOAD has a central server
- OverCord and the concept of clients and peers



Action and remaining work

- Tested Jain SIP Applet Phone and P2P Jain SIP Applet Phone
- Testing and debugging the OverCord (Plan already in action)
- Testing some available P2PSIP systems (depend on time)
- Recommending changes to OverCord to move toward standardisation

END

- Thanks very much any comments,

