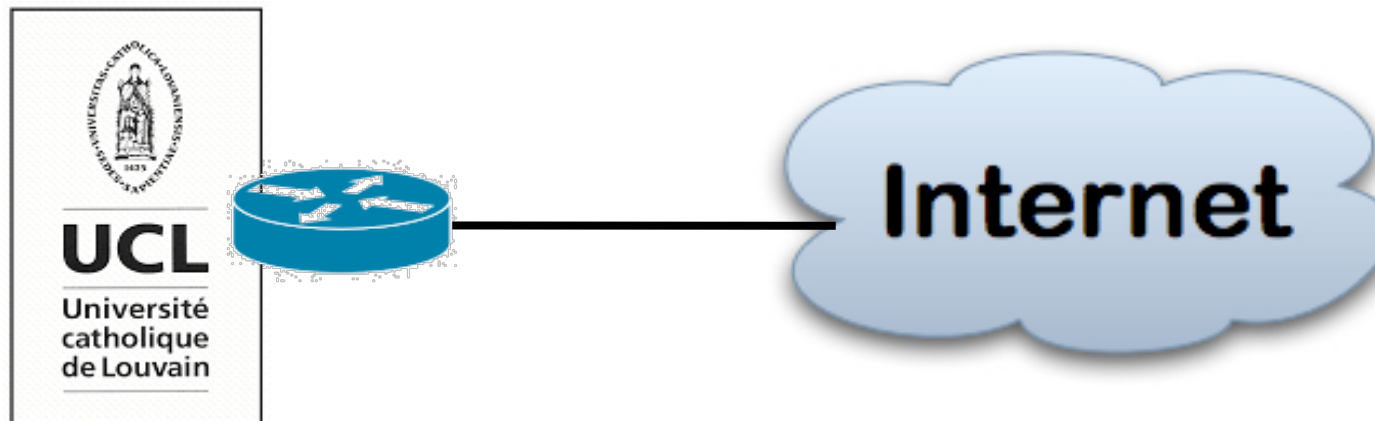


Some Experimental Results on LISP

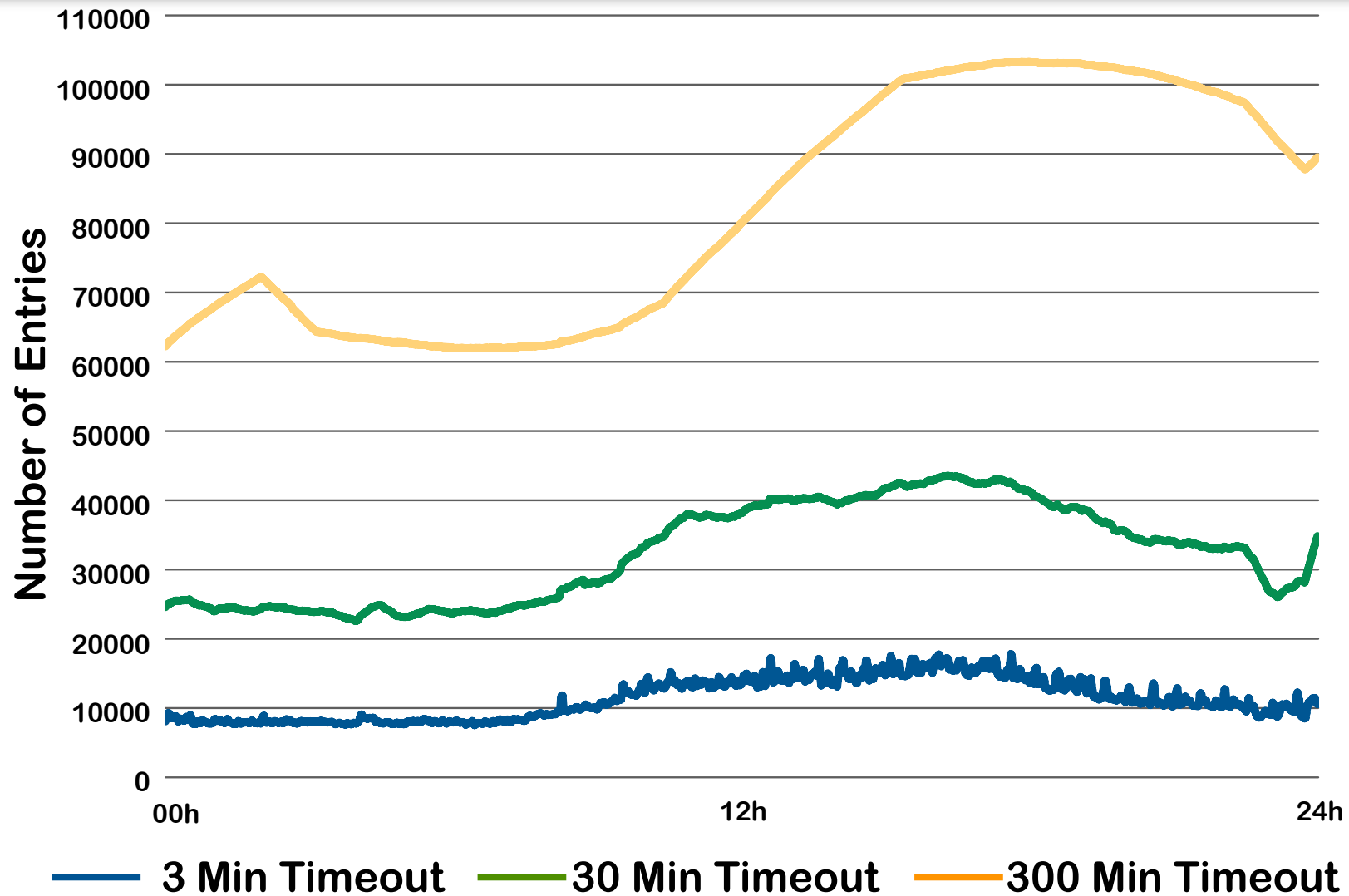
L. Iannone

LISP Cache Emulation

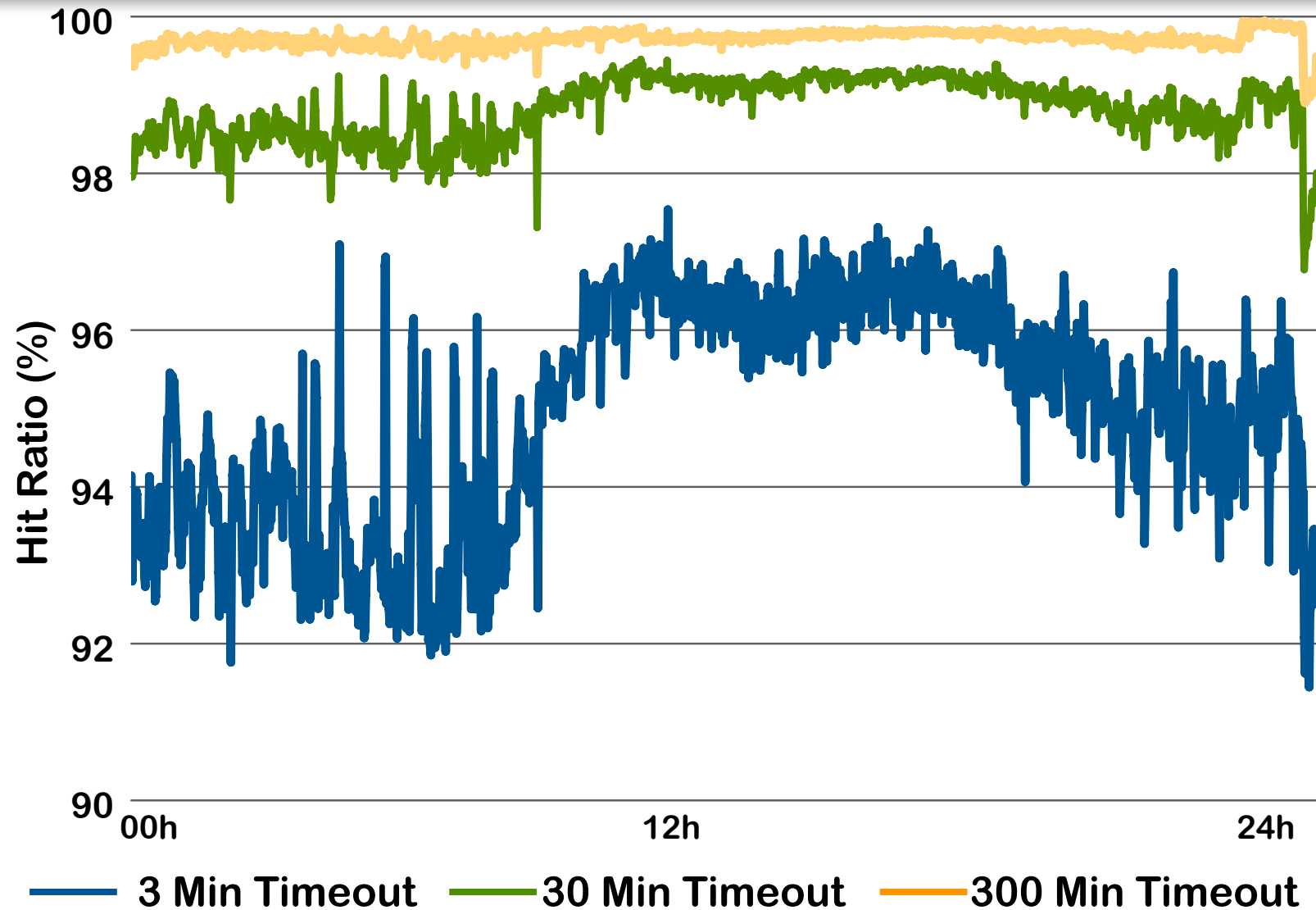


- Full Netflow (v7) on border router
- 1 Gigabit link to Belnet
- ~10000 users (/16 prefix block)
- Analysis: flow-tools + custom software
- /BGP Granularity of mappings
 - iPlane data set

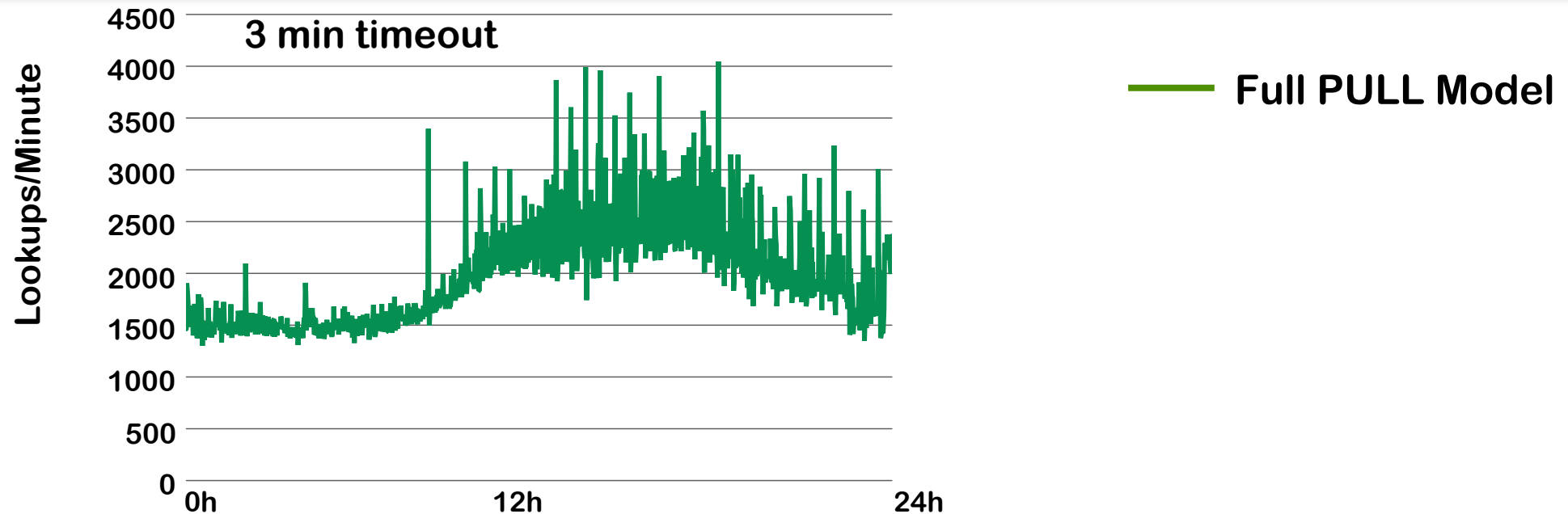
Mappings' Cache Size



Hit Ratio

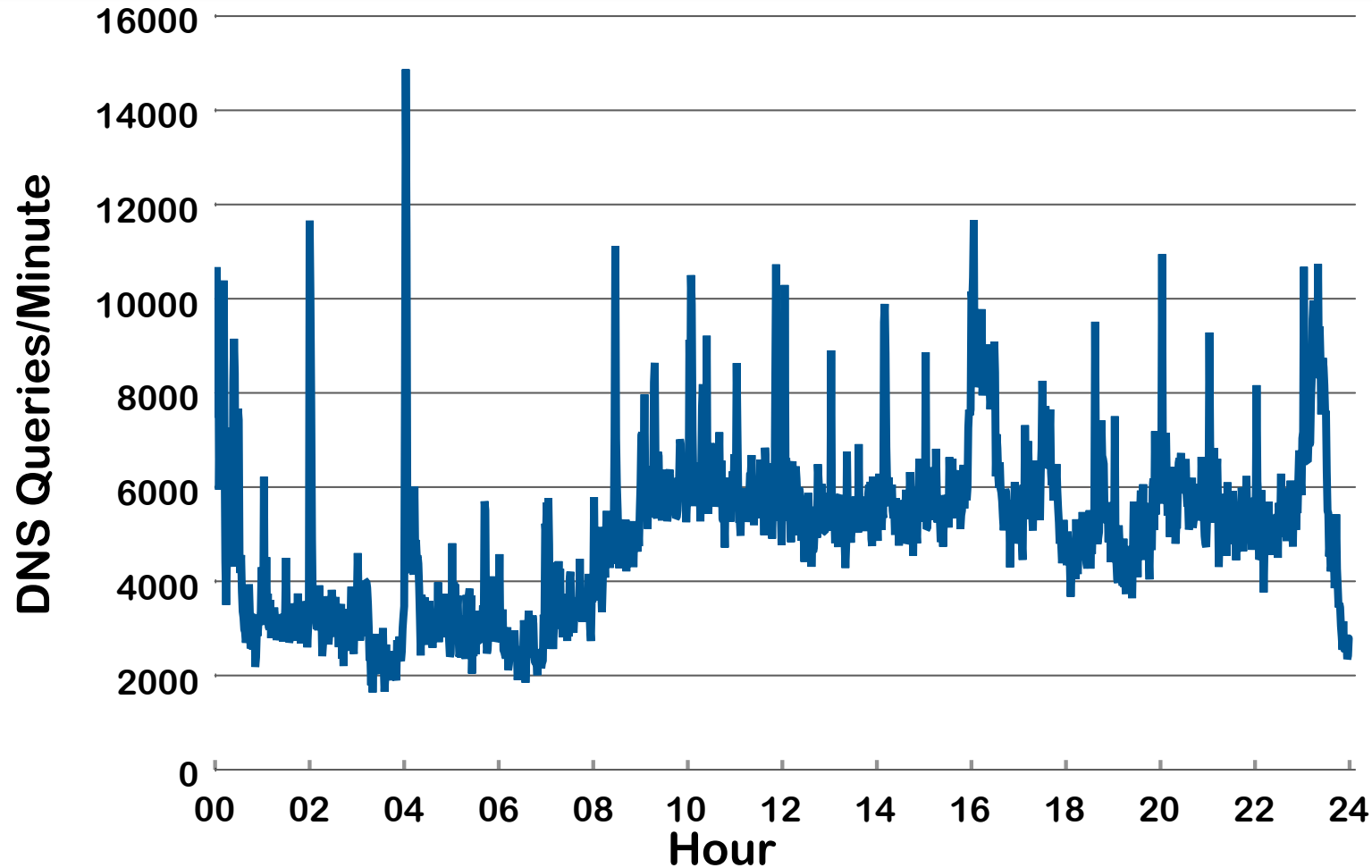


Lookups - Full PULL Model



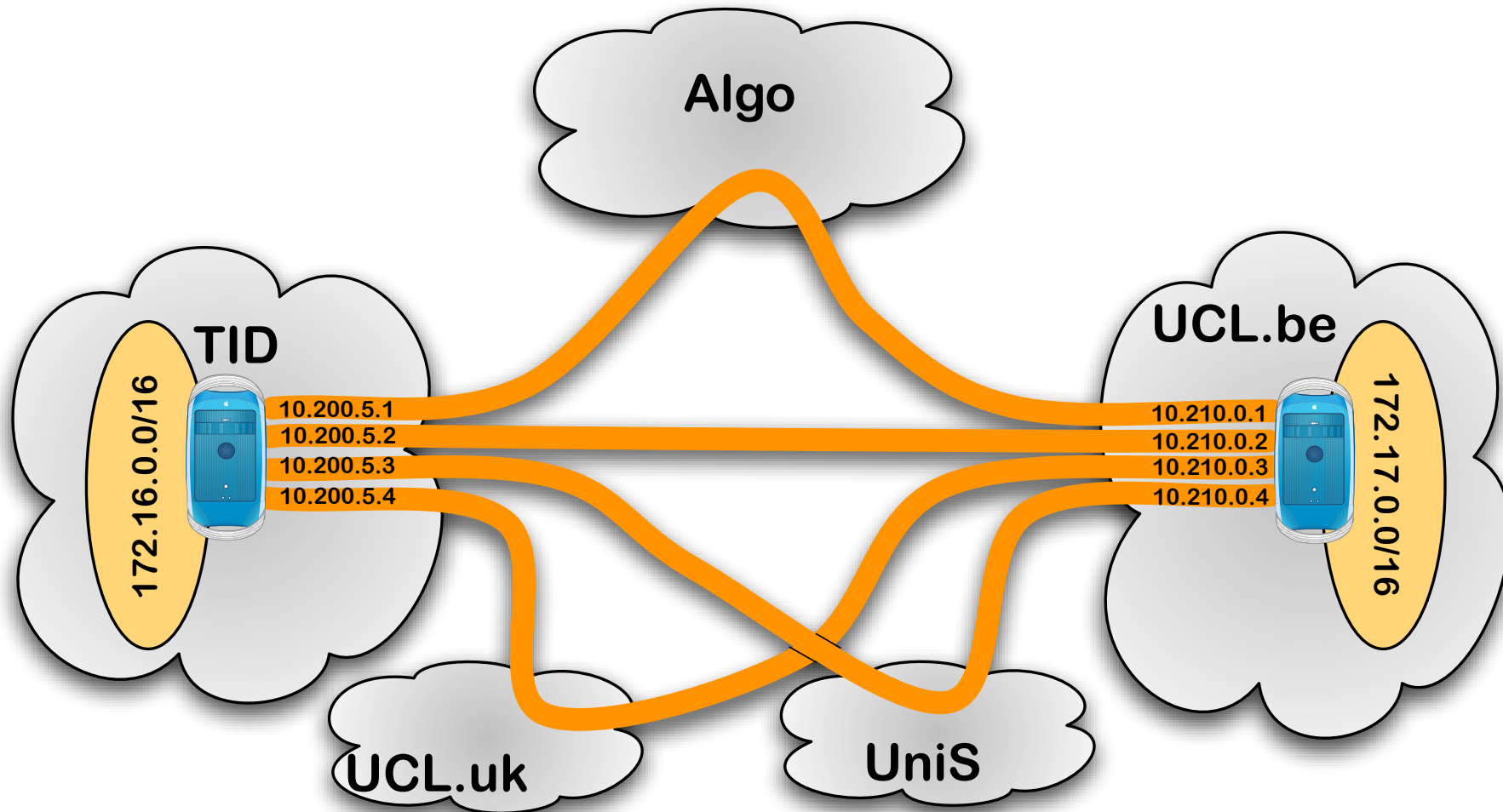
Timeout	Period	1 RLOC	2 RLOCs	3 RLOCs
3 min.	Night	10.17 kbps	12.17 kbps	14.17 kbps
	Day	34.97 kbps	41.85 kbps	48.74 kbps
30 min.	Night	2.04 kbps	2.44 kbps	2.84 kbps
	Day	8.95 kbps	10.71 kbps	12.47 kbps
300 min.	Night	0.163 kbps	0.195 kbps	0.227 kbps
	Day	2.68 kbps	3.21 kbps	3.74 kbps

DNS Lookups



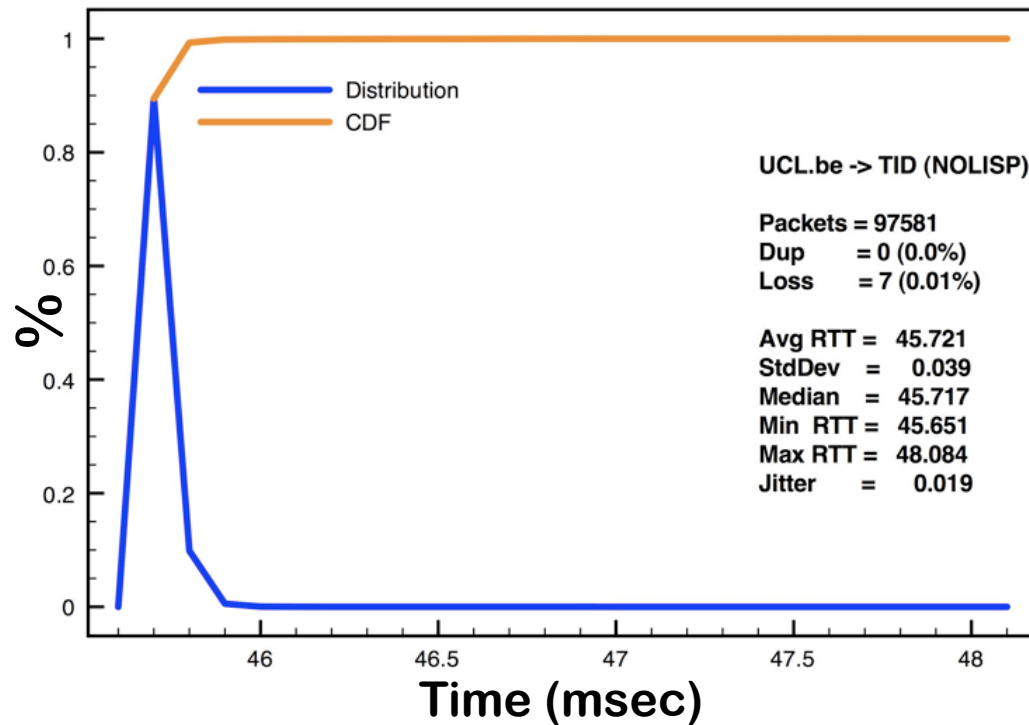
- **Daily Report (Per-Minute Granularity)**

OpenLISP TestBed

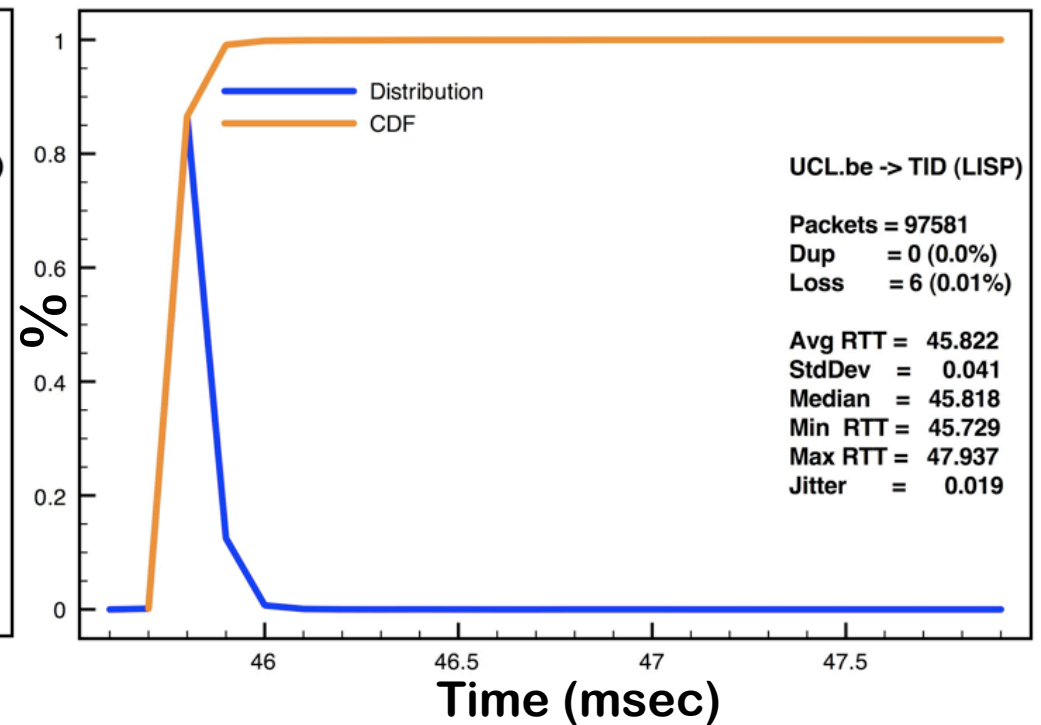


RTT Measurements

Without LISP



With LISP



Conclusions

- **Cache:**
 - Trade-off between size and lookups
 - Small Timeout: Small Cache Size & Good Hit Ratio
- **Lookup Overhead:**
 - Smaller than DNS
- **Tunnelling Overhead:**
 - Between 2% and 15%
- **Next Steps:**
 - Same analysis one year later (suggested by B. Carpenter)
 - Different Traces (anybody interested?)
 - Analyze the impact of scan on the Cache
 - Different Mapping Granularity
 - Impact on the connection setup

Pointers:

- <http://inl.info.ucl.ac.be/publications/cost-caching-locatorid-mappings>
- <http://www.ietf.org/internet-drafts/draft-burness-locid-evaluate-01.txt>
- <http://tools.ietf.org/id/draft-iannone-openlisp-implementation-01.txt>
- <http://inl.info.ucl.ac.be/software/openlisp>