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Swarm analysis: 7 days of two popular swarms

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Overview

- Torrent details
- Attenuation rate of torrents
- Peer duration
- ASN statistics of interest
- Country-specific statistics
- Peer density

Torrent details

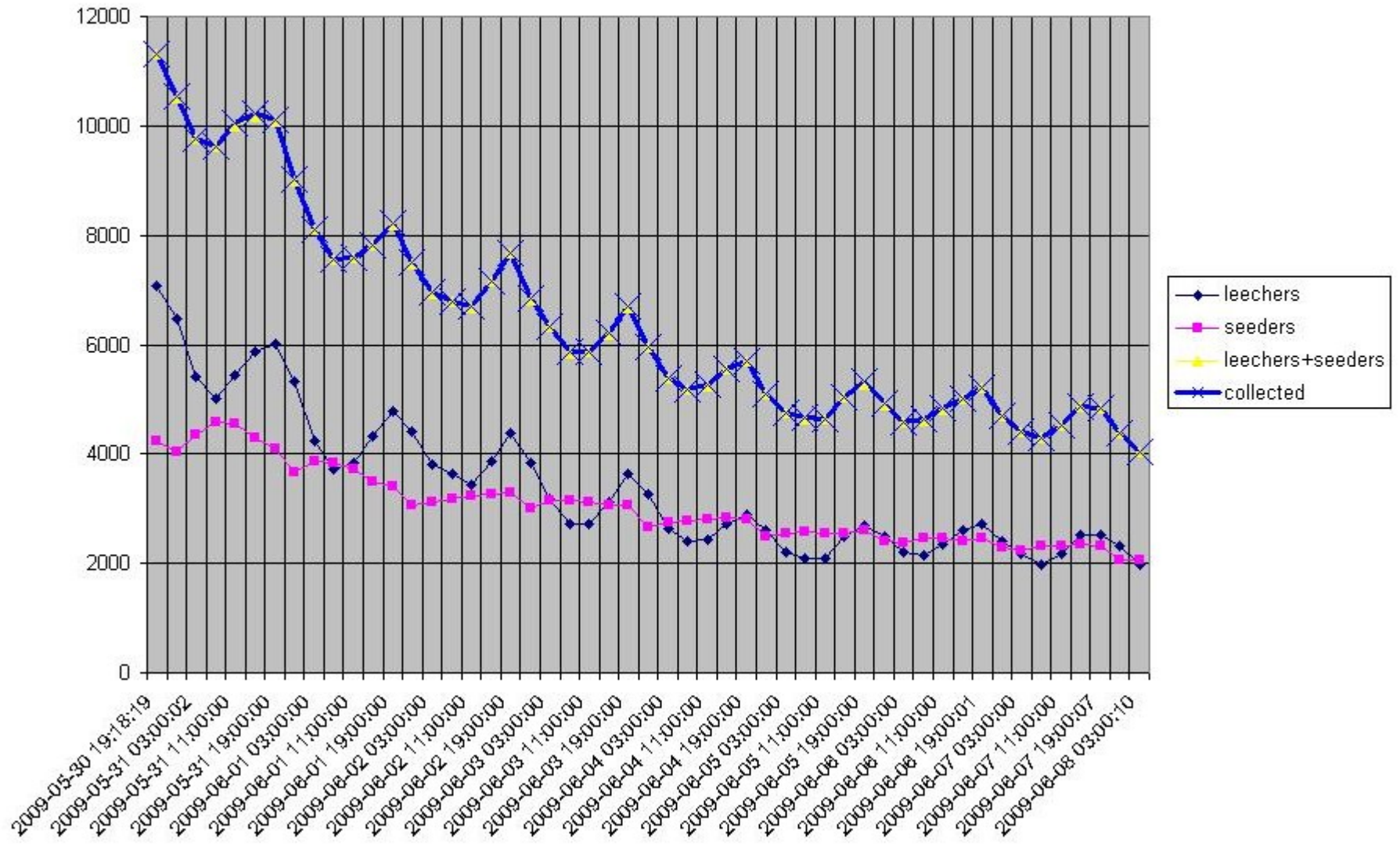
- Sniper: Cantonese language action movie (target audience: non-English speaking population.)
 - Swarm size: 122,437 peers across 165 countries.
- Push: English language action movie (target audience: English speaking population.)
 - Swarm size: 136,259 peers across 159 countries.
 - US release date: Feb 6, 2009

Torrent details

- Tracker used: TPB.
- Data collection methodology:
 - Dates: May 30, 2009 19:18:19 to Jun 6, 2009, 03:00:10 (GMT).
 - Frequency: every 4 hours.
- Raw data:
 - http://www.khirman.com/blog/7_days_SNIPER
 - http://www.khirman.com/blog/7_days_PUSH

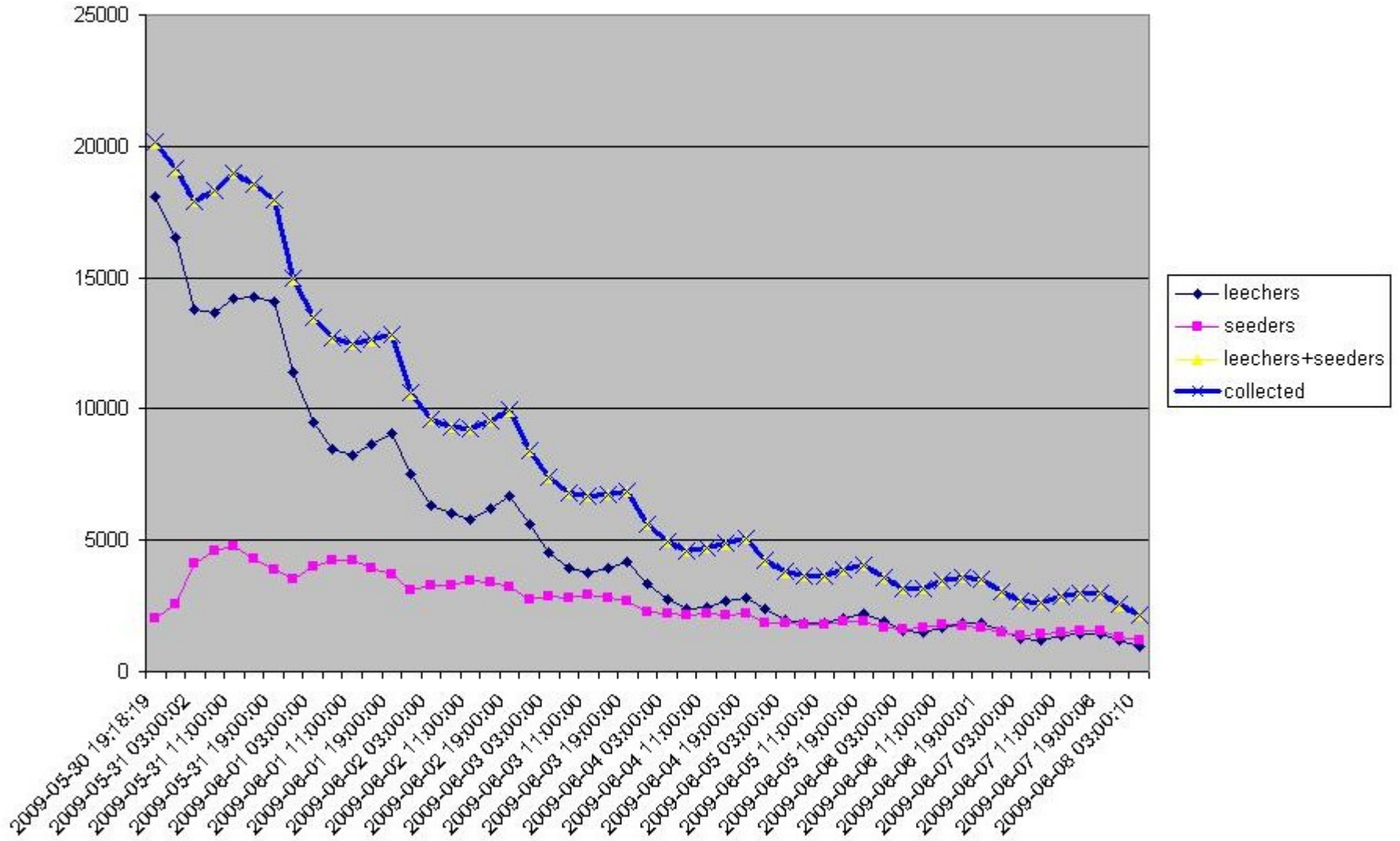
Attenuation rate of torrent (Sniper)

Swarm dynamics for ED821B7F9A1D72F08C8FF7978D5F6AE57C9D4258 (The Sniper)



Attenuation rate of torrent (Push)

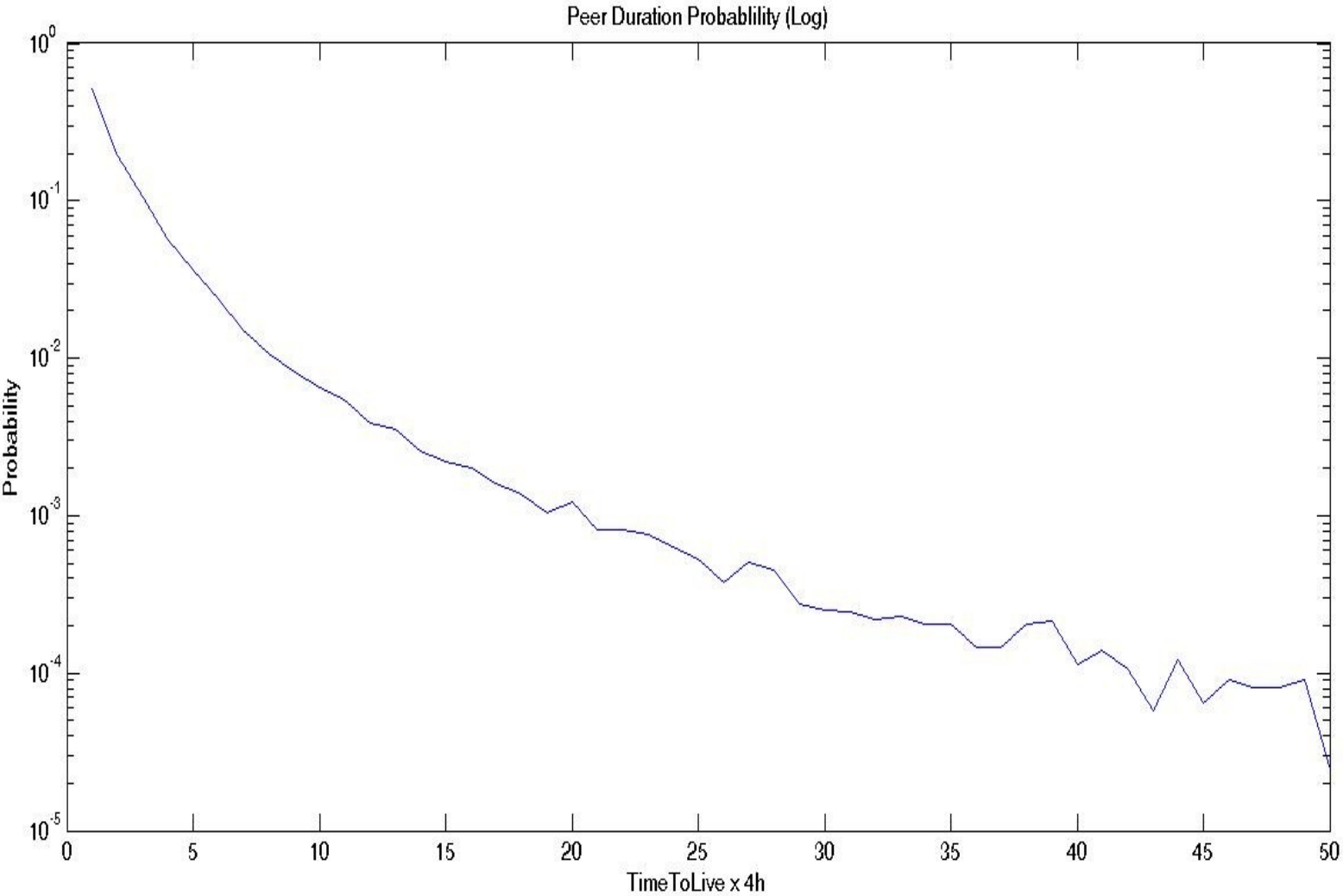
Swarm dynamics for 8B429EE560E2D9AE136B2D0B77F5B1F505735762 (PUSH)



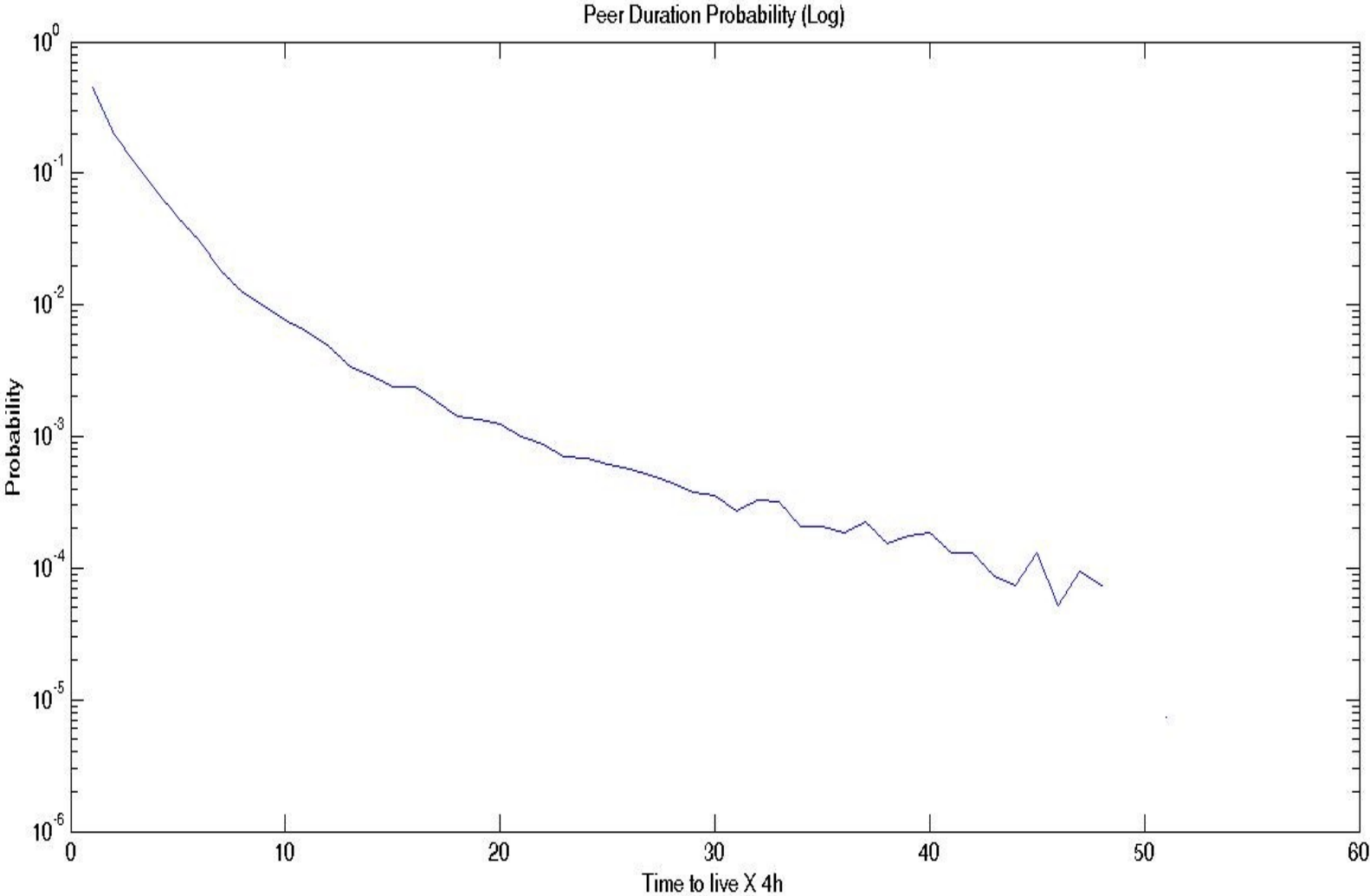
Peer duration

- Definition: Observed the same IP:port in multiple scrapes every 4 hours.

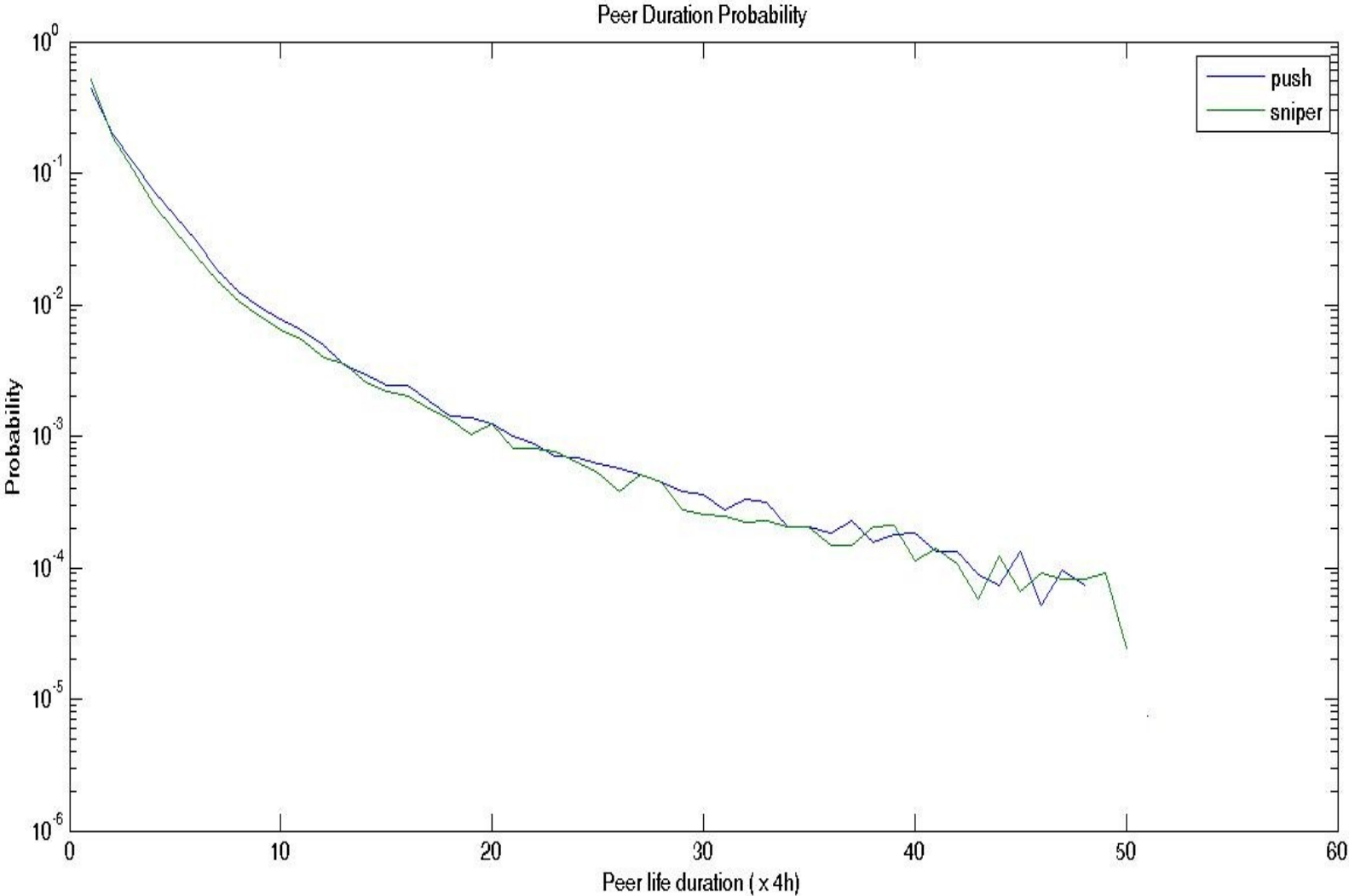
Peer duration (Sniper)



Peer duration (Push)



Peer duration (Combined)



ASN statistics of interest

Sniper

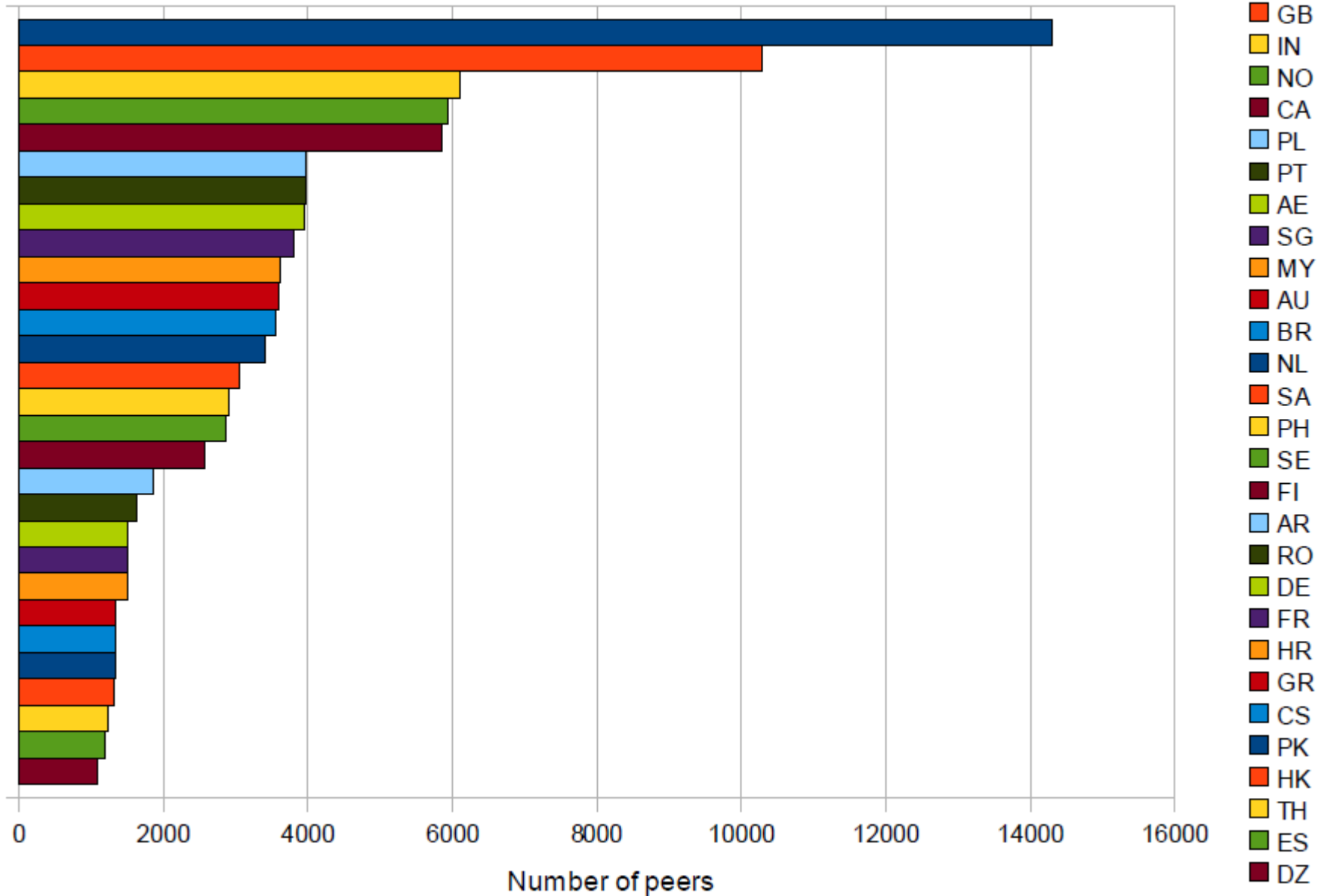
- Number of distinct ASNs: 2,836.
- Highest number of peers in an ASN: 3,873 (AE - UAE).
- Number of ASNs with 100-3,873 peers: 208.
- Number of ASNs with < 100 peers: 2,628.

Push

- Number of distinct ASNs: 2,821.
- Highest number of peers in an ASN: 7,491 (PL - Poland)
- Number of ASNs with 100-7,491 peers: 221.
- Number of ASNs with < 100 peers: 2,600.

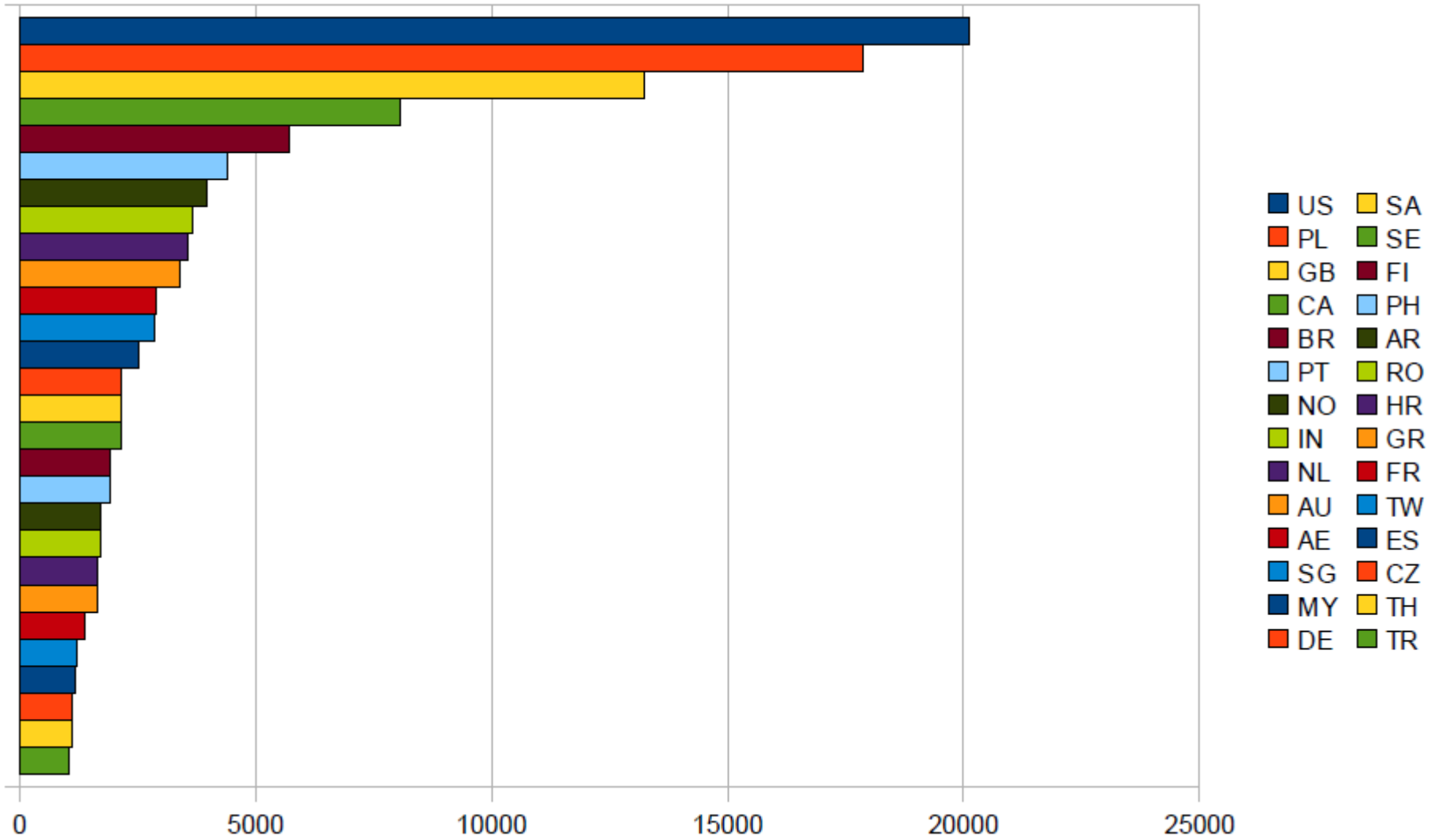
Country-specific statistics (Sniper)

Peers per country (1000+ peers)



Country-specific statistics (Push)

Peers per country (1000+ peers)



Peer density

- Definition: Number of peers per ASN (for top 5 ASNs)

Sniper

NO: 165 peers/ASN

GB: 133 peers/ASN

IN: 115 peers/ASN

CA: 45 peers/ASN

US: 27 peers/ASN

Push

GB: 176 peers/ASN

BR: 83 peers/ASN

PL: 66 peers/ASN

CA: 62 peers/ASN

US: 34 peers/ASN

Next steps

- Continue more mining.
- More data collection on torrents of local interest.
- Repeat data collection with more localized languages (Russian, Indian movies, etc.)
- Calculate statistics for these torrents to draw any conclusions.