

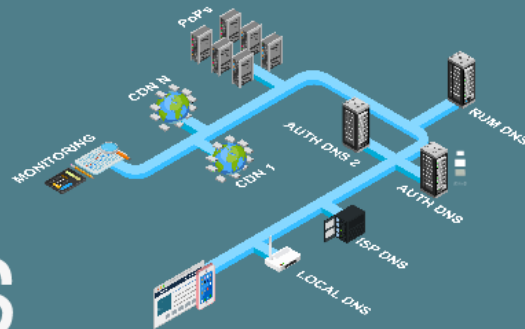
How Dual DNS Improves Resiliency



Samir Jafferli
Staff SRE, LinkedIn

Overview of LinkedIn's Edge Services

- DNS
- CDN
- RUM DNS



Closing thoughts

Questions?

[linkedin.com/in/jafferli](https://www.linkedin.com/in/jafferli)

How Dual DNS Improves Resiliency



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Staff SRE, LinkedIn



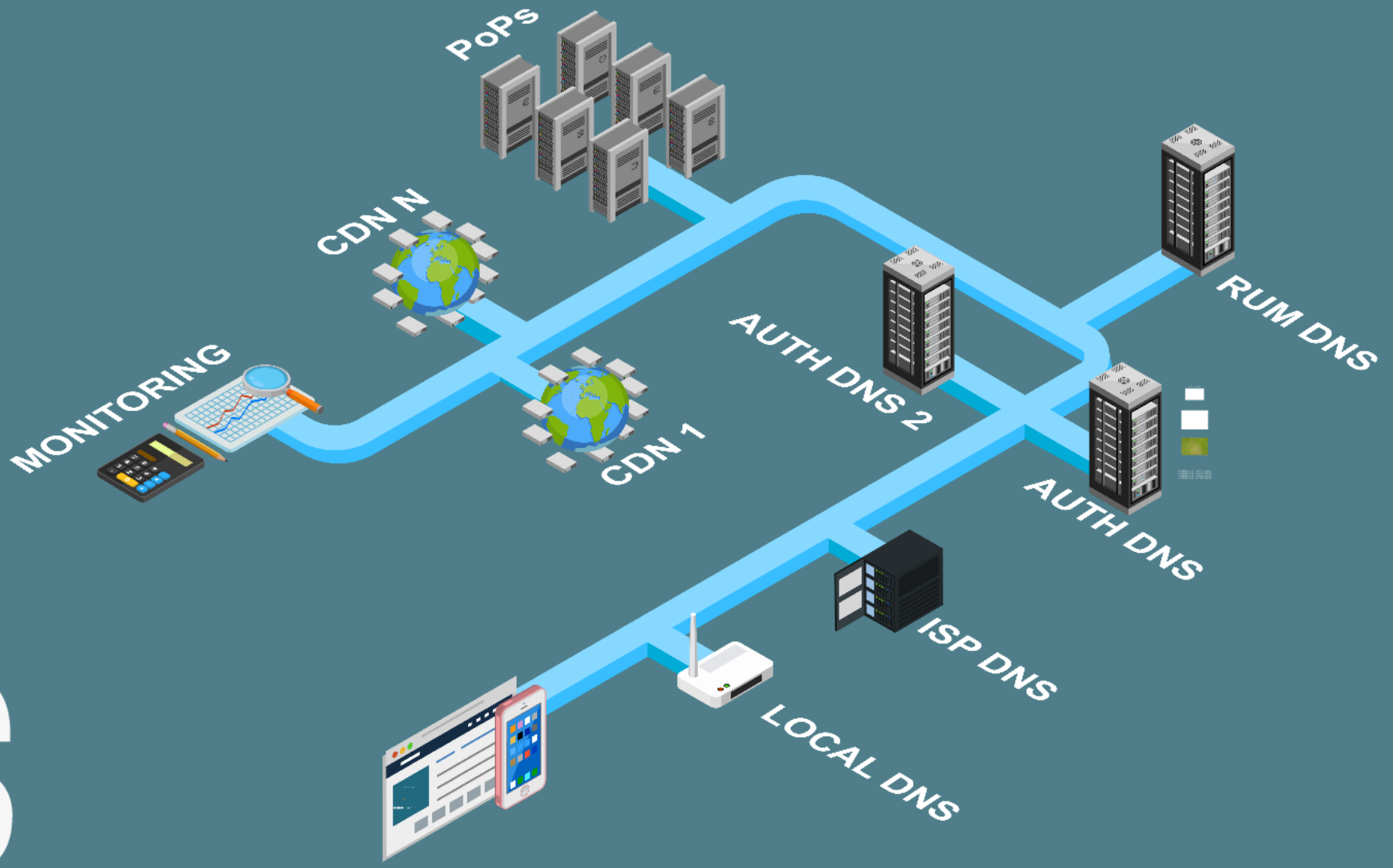
Samir Jafferali
Staff SRE, LinkedIn

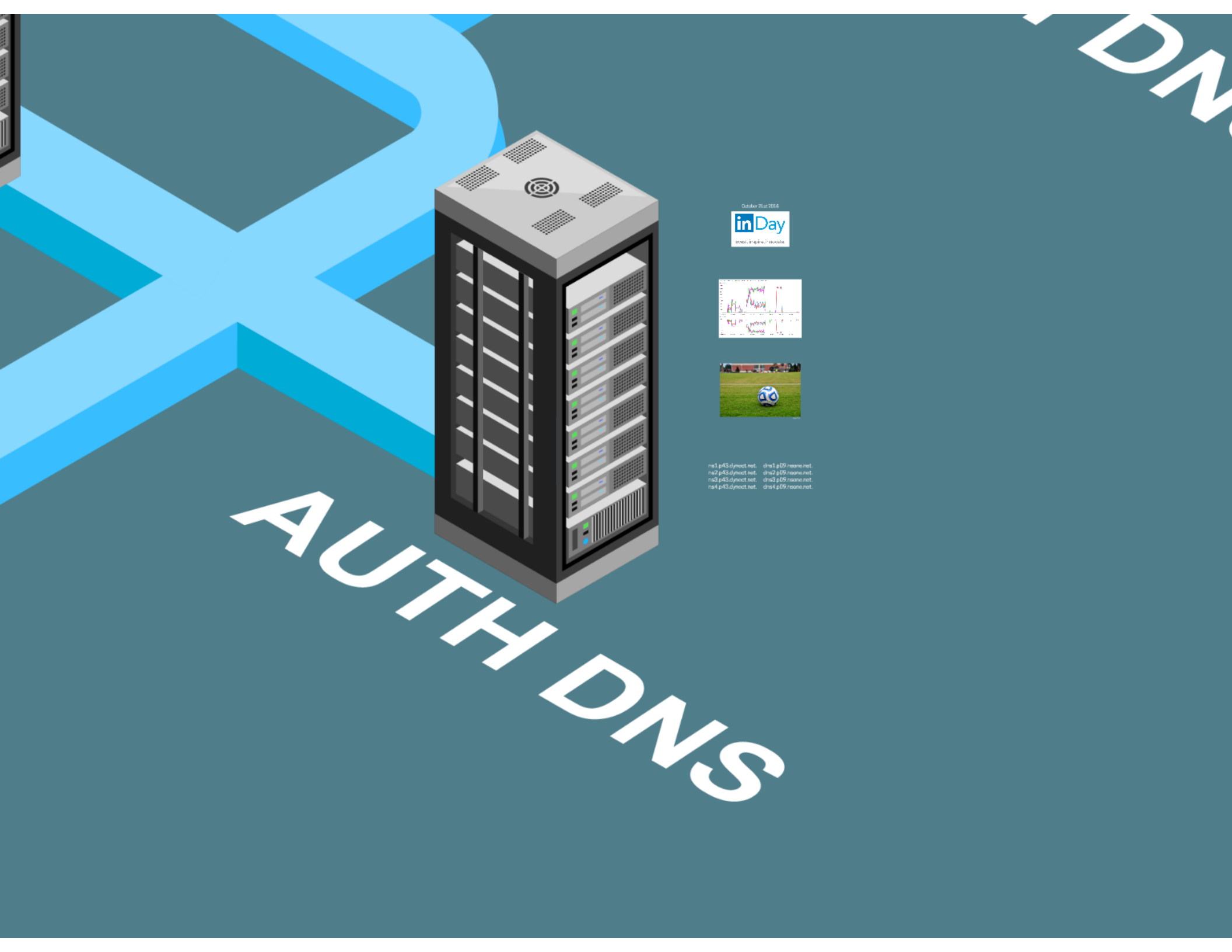
Overview of LinkedIn's Edge Services

- DNS
- CDN
- RUM DNS



S





ns1.p43.dynect.net. dns1.p09.name.net.
ns2.p43.dynect.net. dns2.p09.name.net.
ns3.p43.dynect.net. dns3.p09.name.net.
ns4.p43.dynect.net. dns4.p09.name.net.

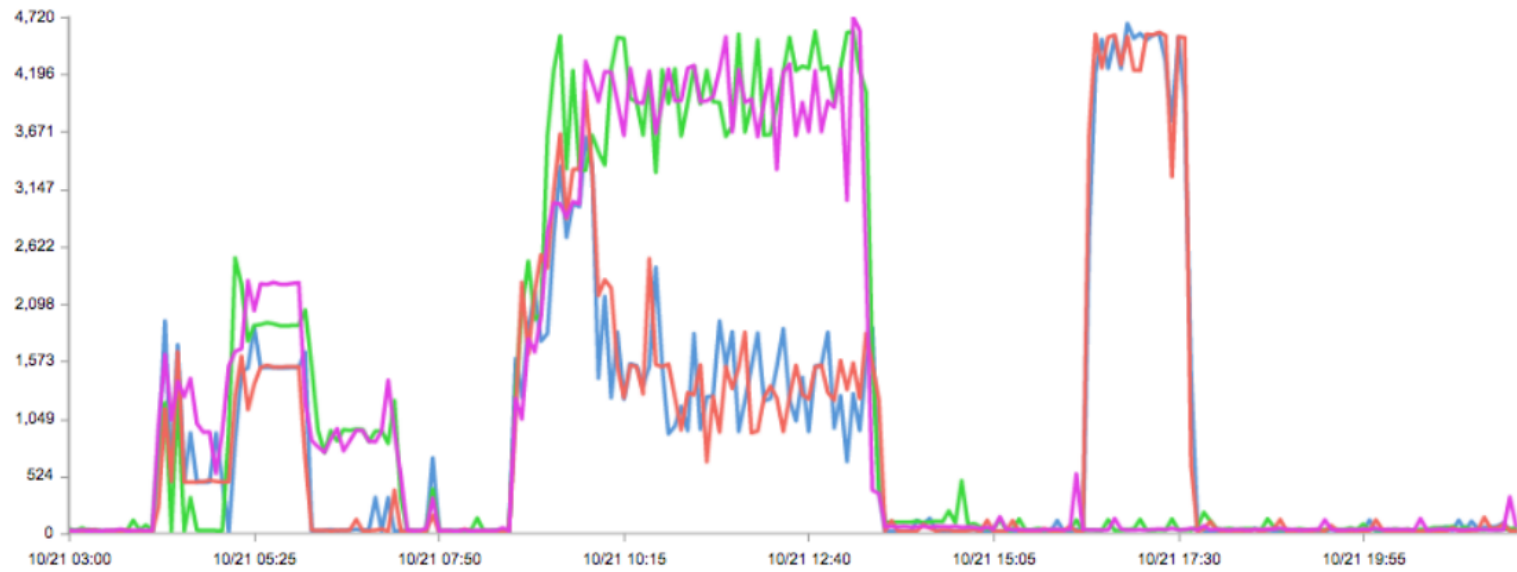
October 21st 2016



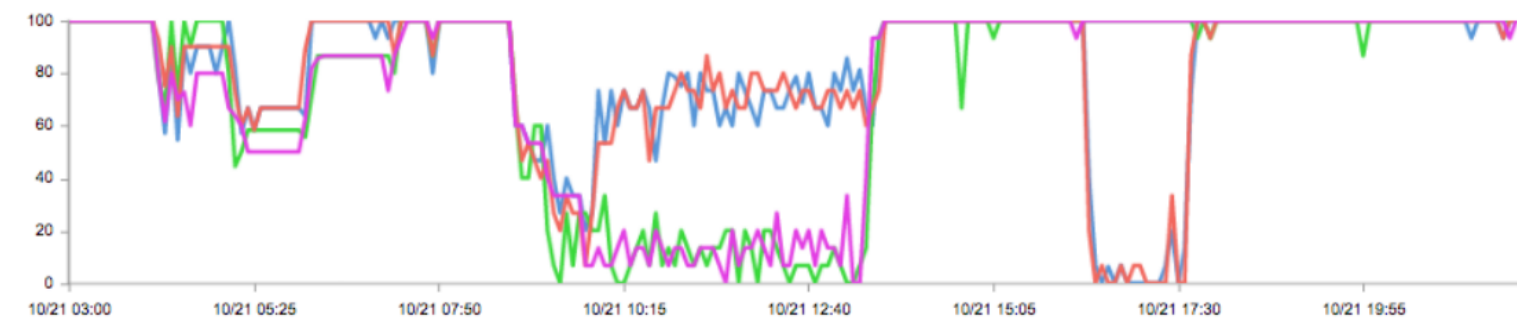
invest. inspire. innovate.

Test : ns1.p43.dynect.net ns2.p43.dynect.net ns3.p43.dynect.net ns4.p43.dynect.net

Response (ms)

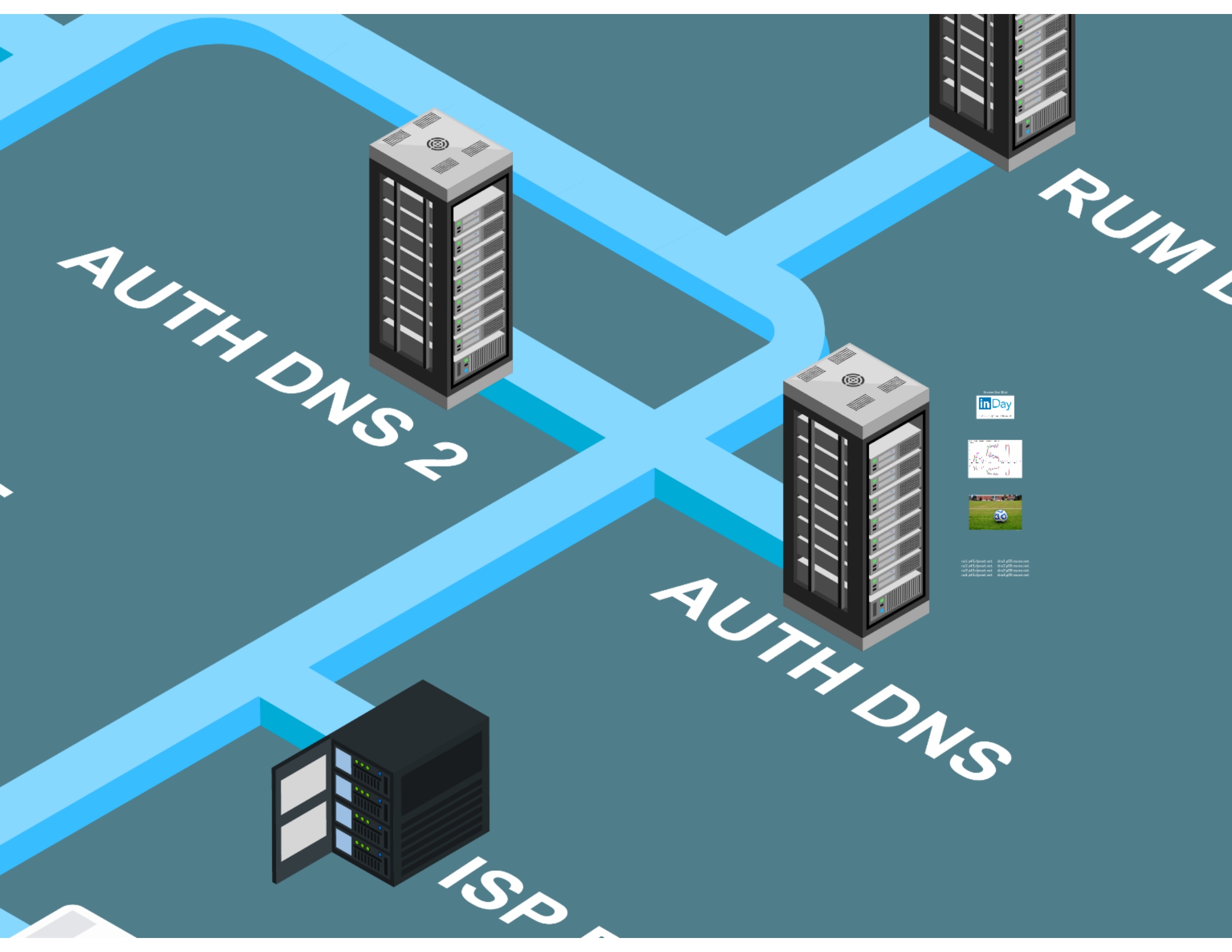


% Availability





faungg / Flickr



ns1.p43.dynect.net.

ns2.p43.dynect.net.

ns3.p43.dynect.net.

ns4.p43.dynect.net.

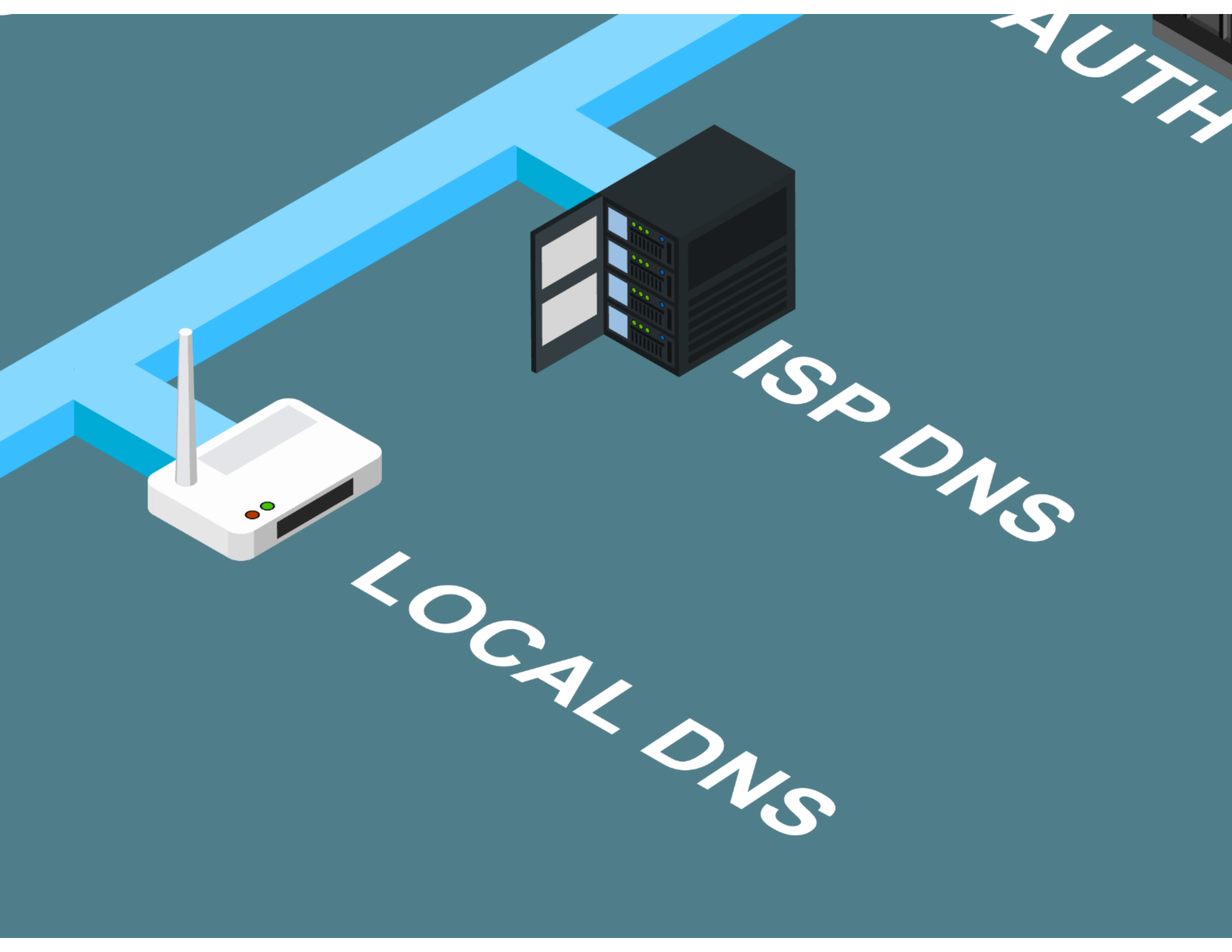
dns1.p09.nsone.net.

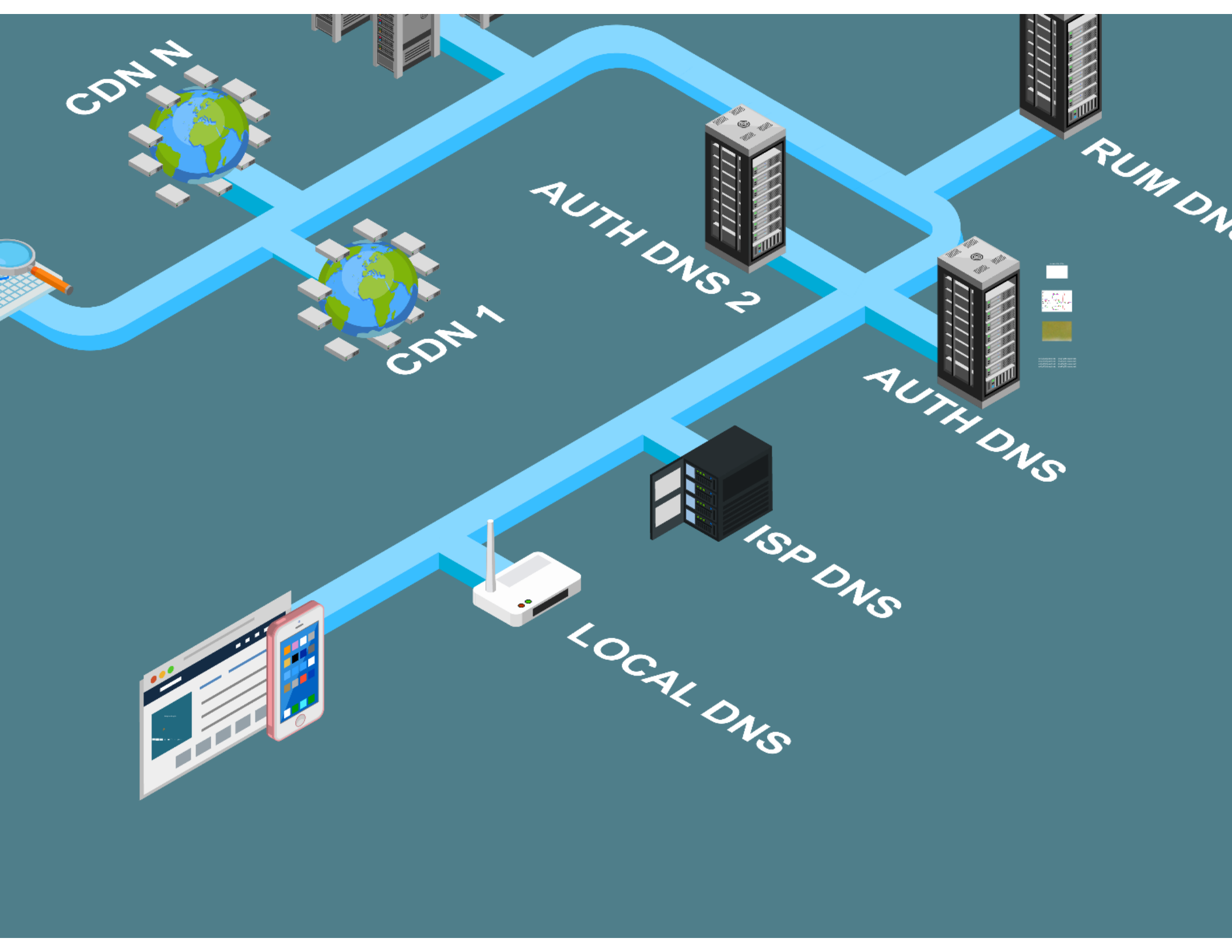
dns2.p09.nsone.net.

dns3.p09.nsone.net.

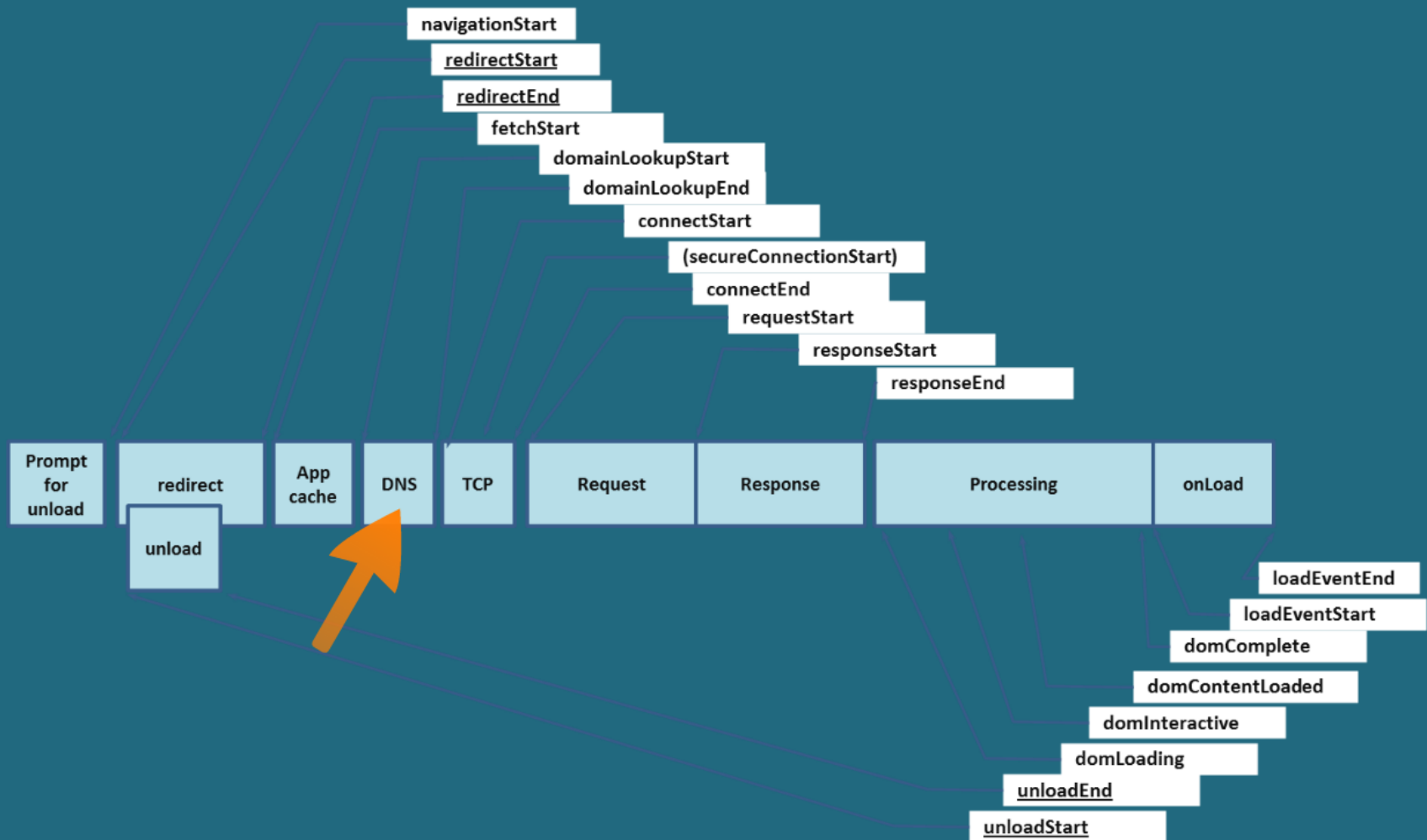
dns4.p09.nsone.net.



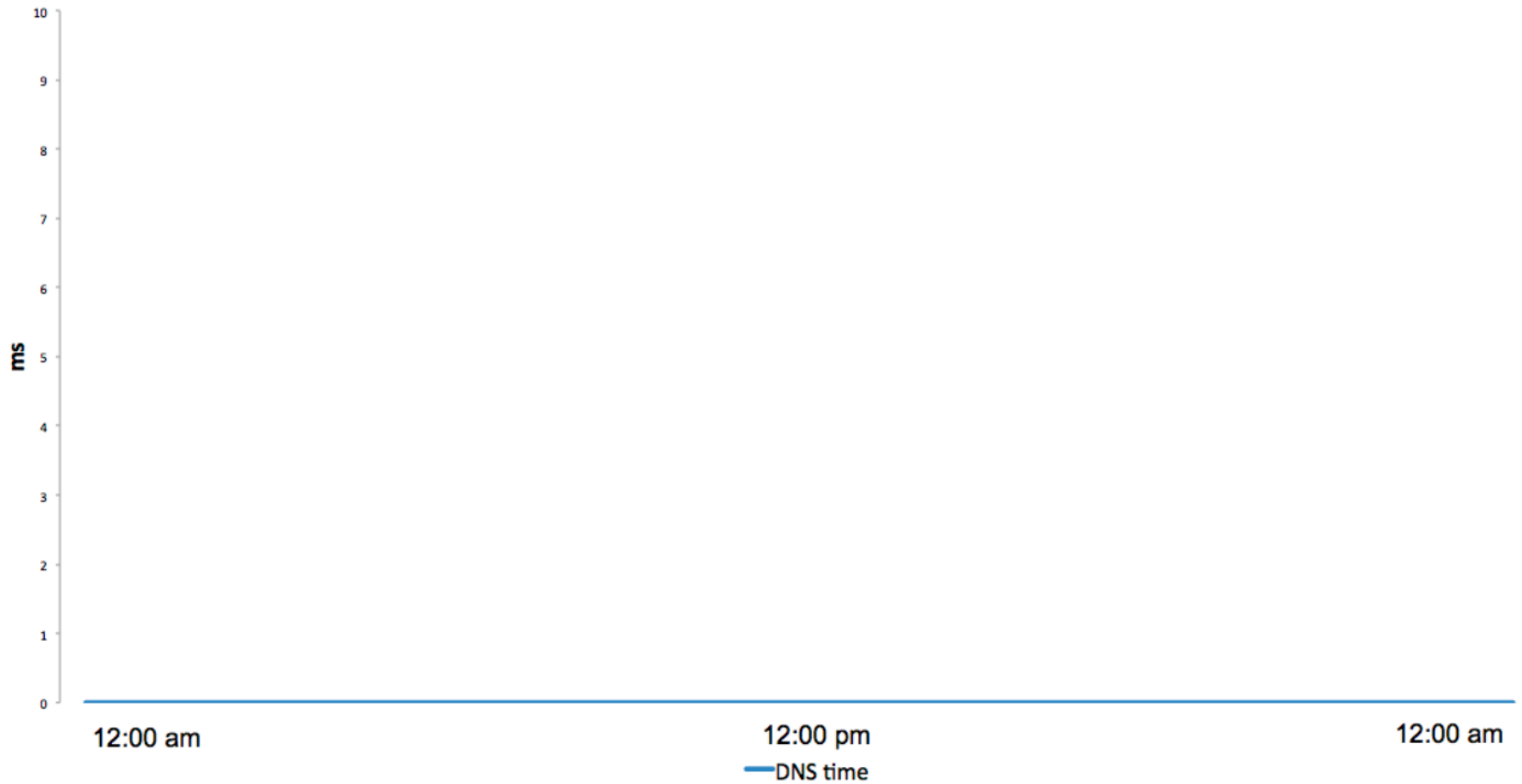




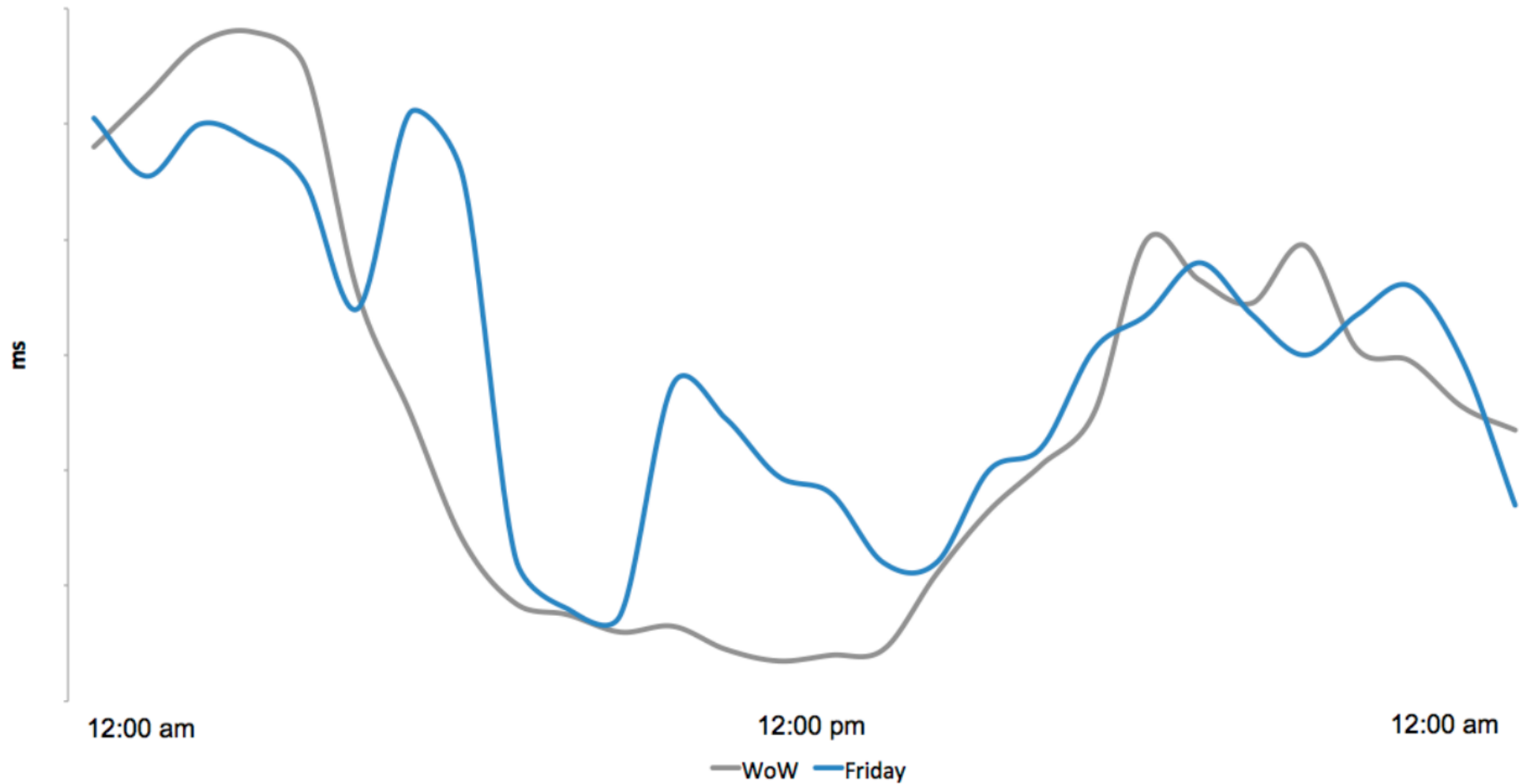
Navigation Timing API



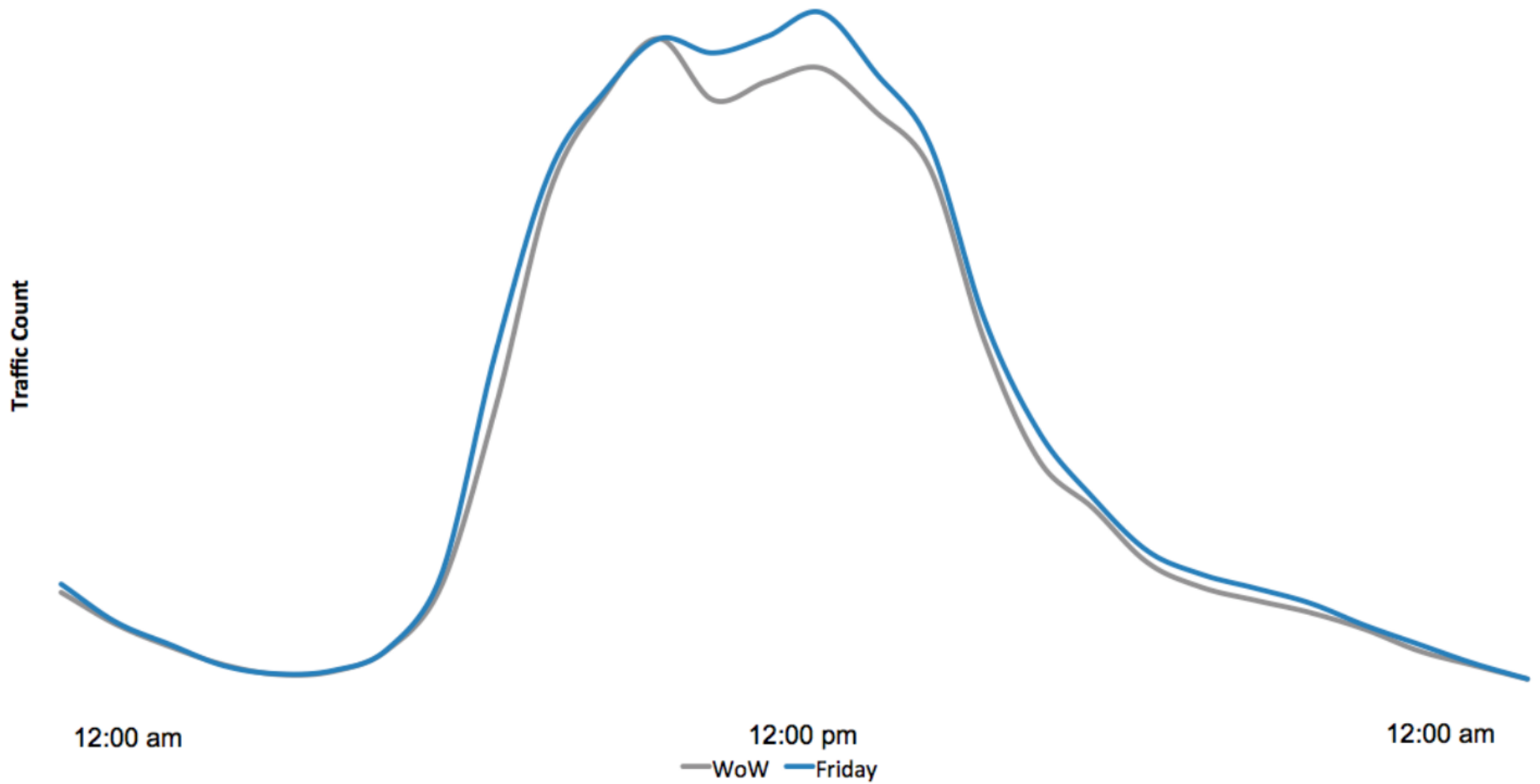
90th DNS times every day



90th non-zero DNS times on Friday Oct 21st 2016



Traffic count on Friday Oct 21st 2016



Basic vs. Advanced zone

Basic zones: static records

Advanced zones:

- GeoDNS
- Health checking
- Weighted Round Robin
- Dynamic

Keep your zones in sync

Basic zones: Use AXFR

DNS Tool

Home

History

Admin

Advanced Search

Samir Jafferli

Zone:

licdn-beta.com

Records Total: 125

New Record

Review Changes

Record	TTL	Type	Value	Locked
				☐ all
test-me-now-11111-55555.licdn-beta.com.	86400	A	7.7.7.7	Delete d n
test-one-last-time-said-the-person-yup.licdn-beta.com.	86400	A	4.4.4.4	Delete d n
test-right-now-yes-sir-ree.licdn-beta.com.	86400	A	33.3.3.3	Delete d n
test-something-now-1111-3444-2222.licdn-beta.com.	86400	A	9.9.9.9	Delete d n
test-test-test-0001.licdn-beta.com.	86400	A	3.3.3.3	Delete d n
test-test-test-121323123-test-11111.licdn-beta.com.	86400	A	3.3.3.3	Delete d n
test.cname.licdn-beta.com.	86400	CNAME	proddkim1024._domainkey.linkedin.com.	Locked d n
test.licdn-beta.com.	86400	TXT	222	Delete d n
test.licdn-beta.com.	86400	TXT	updated one more test	Delete d n
test001.licdn-beta.com.	86400	TXT	test003	Delete d n

2. Advanced zones

Manually sync at first

Now have DNS Sync Tool

3. Alert on zone diffs

- Lowest common denominator features
- No DNSSEC with advanced zones
- SOA won't match with advanced zones
- Don't undelegate NS if completely down during DDOS

IETF Proposal - Serving Stale Data to Improve DNS Resiliency

- draft-tale-dnsop-serve-stale-01
- <https://datatracker.ietf.org/doc/draft-tale-dnsop-serve-stale/>
- Some resolvers already support this

Closing thoughts

Questions?

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