Decentralized + Distributed
Emissions of PSL-like data

Ian Williams (he/him)
Sr. Security Engineer, AWS
Why now?

• Infrastructure has matured heavily since 2016
• Multi-tenant environments more common (☁)
• Scaling issues are different than 2016/prior
• Small(er) set of use-cases – DMARC went elsewhere
Decentralized
(there's only so many of us)
Service Team Model @ AWS

• Teams owners of all facets of their service
• Advised by specialist groups (e.g. my team)
• Many-many service teams company-wide
Single points of failure = difficult

- Single team for all of $company doesn’t scale
- Self-service enablement of application teams ideal
- DNS easy to delegate, not so w/ registry model
Distributed
(many region, wow)
Scale @ $cloud

• Per-region/per-service DNS naming
• At least one DNS record per region/service
• Regions + services grow multiple times yearly
• (some services) per-resource zones/clustering
• Multi-tenant environment w/ rapid growth
How to publish?

• Current route requires aggregation
• Scaling difficult with any SPoF
• Large number of records, regular growth
• Decentralization → self-service
Private/disconnected networks

- Clouds made up of many disconnected networks
- Administrators might share their network with others
- PSL has little/no support for non-Internet networks
- Resources unique to the network, can’t be pre-aggregated
Other (PSL-supported) use-cases

• DNS-as-a-service (if DNS gets used)
• Wide-impact check ("are you sure?")
• Other consumer logic (browsers et. al.)
Thank you!