

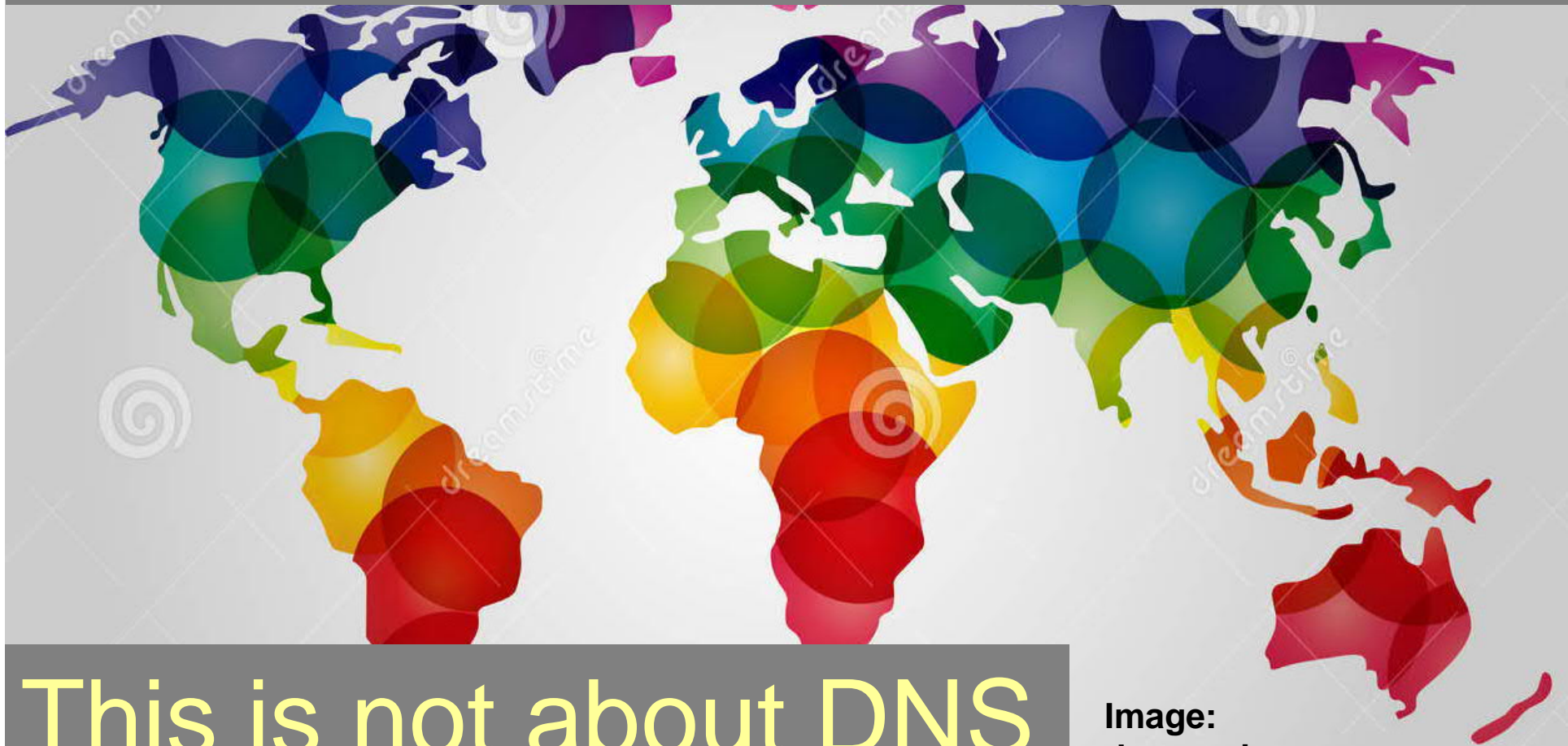
Limited Domains and Internet Protocols

**draft-carpenter-limited-
domains-01**

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**IETF 102
July 2018**

This is not about political or linguistic splintering of the Internet



This is not about DNS

Image:
dreamstime.com

Fact 1: many types of limited domain are appearing

- Home & small office networks
- In-vehicle networks
- Building services
- SCADA networks
- Sensor networks
- IoT edge networks
- Enterprise & campus networks
- Data & hosting centres (may be distributed)
- Network slices
- CDNs

Fact 2: limited domain technologies are appearing

- Differentiated Services
- Network function virtualisation
- Service Function Chaining
- Data Centre Network Virtualization Overlays
- Segment Routing
- Autonomic Networking (ACP)
- Homenet (HNCP...)
- Creative use of IPv6 (flow label, extension headers, address bits)
- Deterministic Networking

The challenge

- IETF doctrine has been that Internet standards should be universal in scope and applicability.
- But in the context of limited domains, some standards need to be limited in applicability.
- A limited use requirement potentially adds complexity to the protocol and its security design.
- We know that, inevitably, a protocol intended for a particular scenario *will* be used elsewhere.
- The challenge is to reconcile these aspects.

To Be Done

- Derive common aspects of Limited Domains
- Make the case that some protocols should be standardised to interoperate only within a Limited Domain Boundary.
 - Such protocols are not required to operate across the Internet as a whole.
- Make the case that we need to define a Limited Domain Boundary
 - And a protocol to securely define domain membership

Discussion + next steps

- Comments? Questions?

