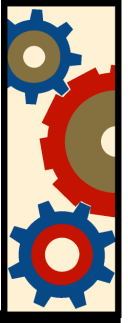




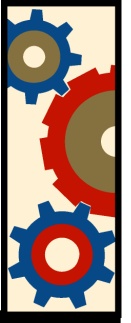
Monitoring and debugging anycast DNS servers

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ISC

The problem with anycast



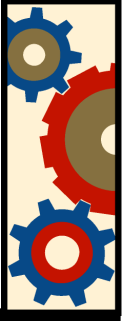
The problem with anycast



... is that it is anycast.



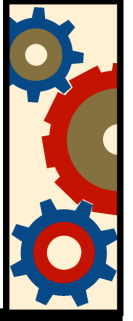
Disentangling the web



- Need some way of distinguishing between each node and server.
- Minimum is to have one routable unicast address per server, switch, router.



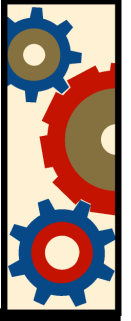
Which servers do I see?



- root servers are running BIND or NSD
 - they both support the hostname.bind query
 - special query:
 - `dig @f.root-server.net hostname.bind ch txt`
 - various encoding schemes used by the root server operators
 - If you know there is a local instance in your area and your queries go to a remote site, ask your ISP/upstream.



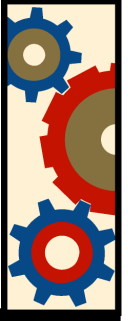
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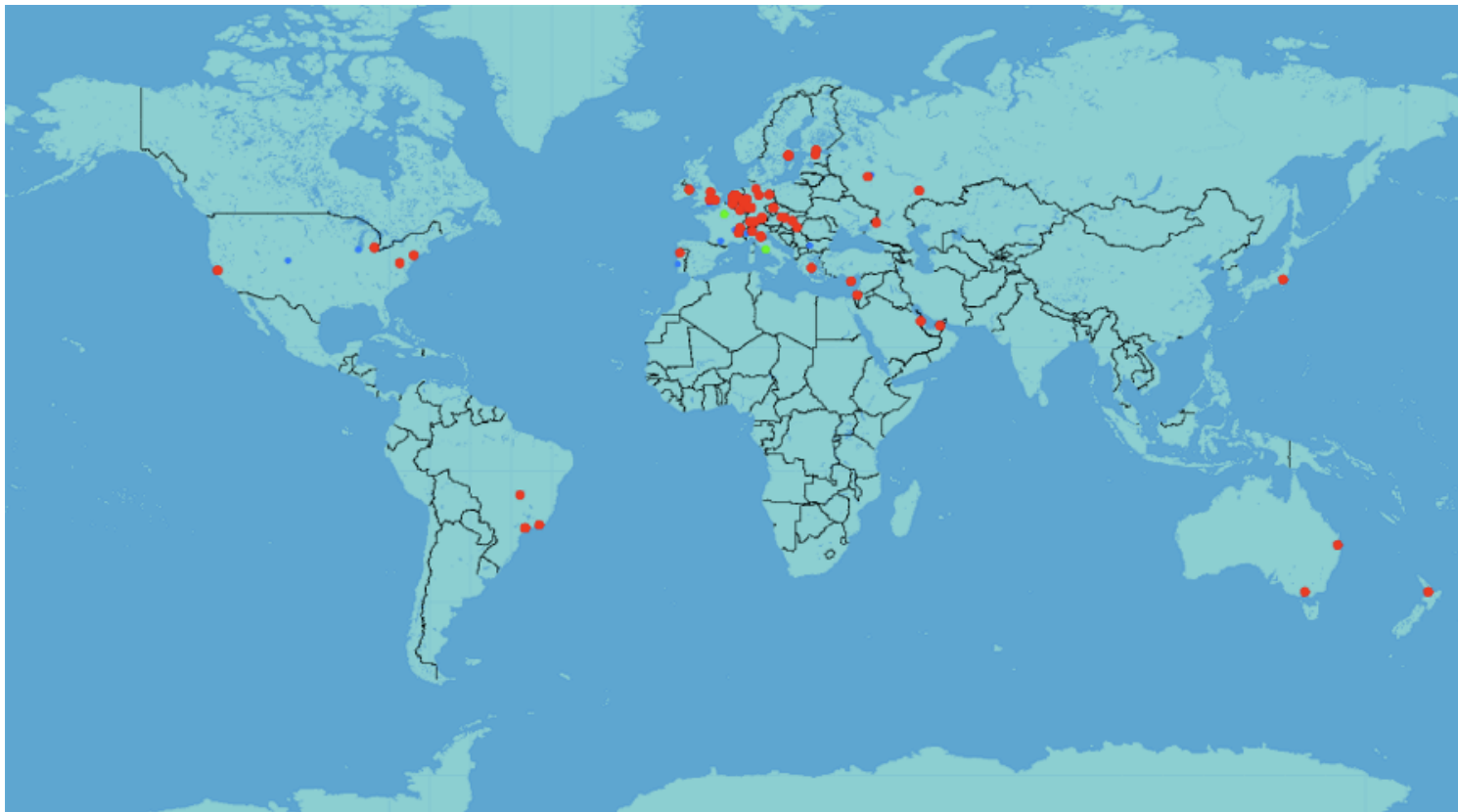
- You can only reach one anycast node from any given place, usually the closest one (from a network/BGP point of view)



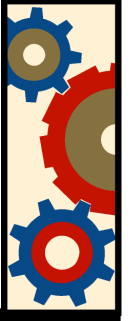
How to monitor?



- One option: use a distributed network of probes. (e.g. RIPE NCC DNSMON)



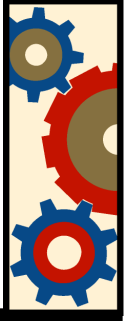
Using the unicast addresses



- Can definitely identify each individual piece of the system
- ssh, SNMP, etc



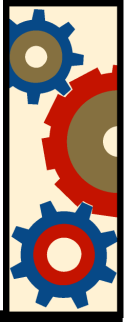
Detecting BGP leaks



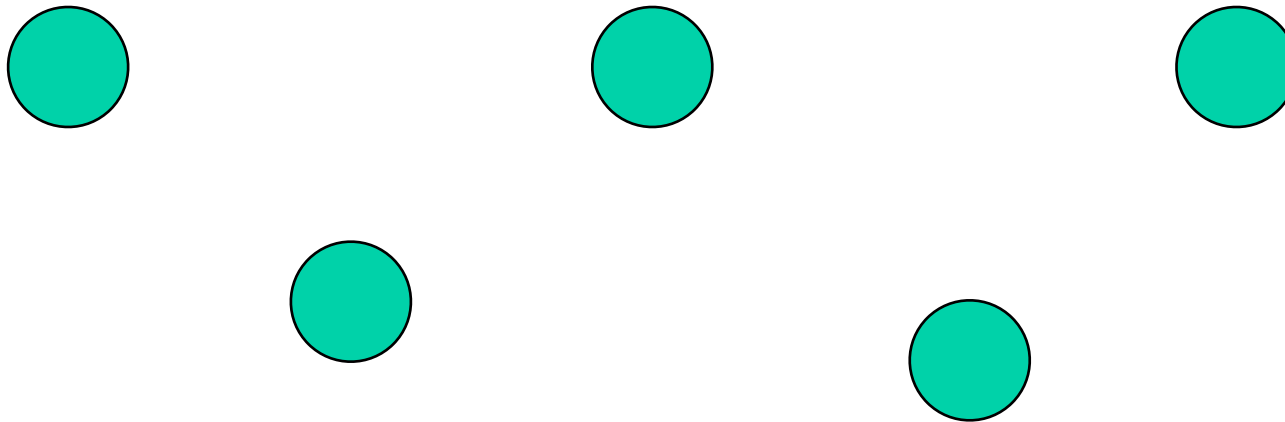
- When using the local/global deployment scheme, check that there are no leaks
- How to know where the BGP announcements are coming from
 - most reliable way is to use a unique ASN for each local and global node.
 - Look at the ASPATH in your BGP table and you will know where it comes from, so which ISPs you need to talk to fix the leak.



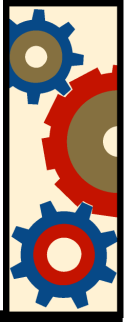
Monitor consistency in the cloud



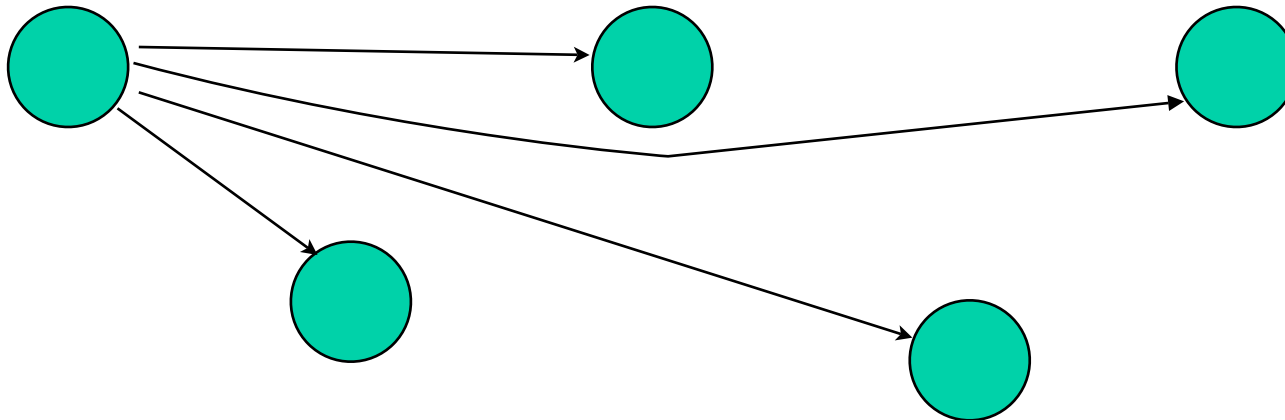
- Implement checks to watch for SOA synchronisation on the whole cloud
- Implement full mesh notify messages



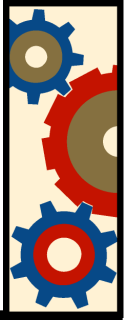
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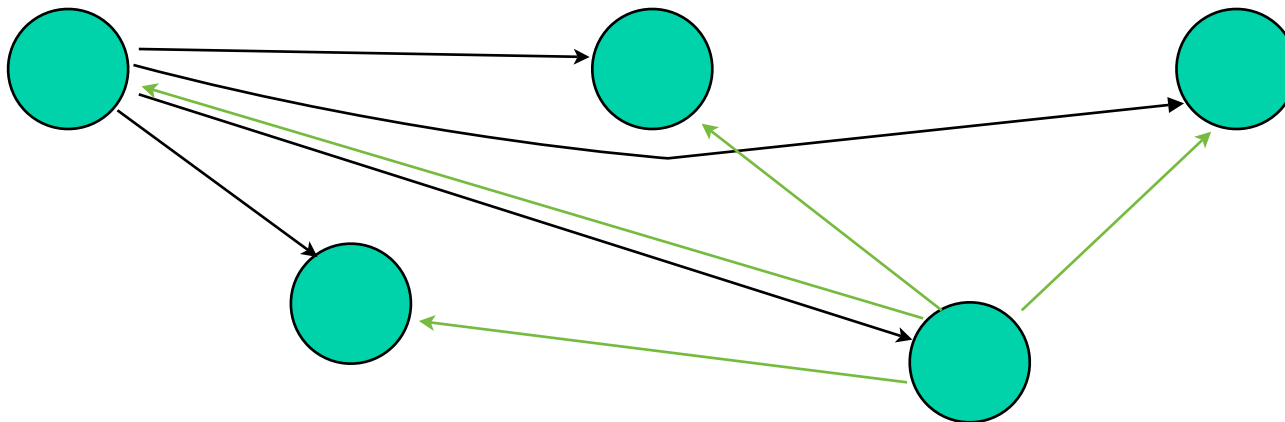
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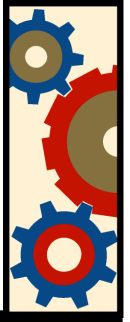
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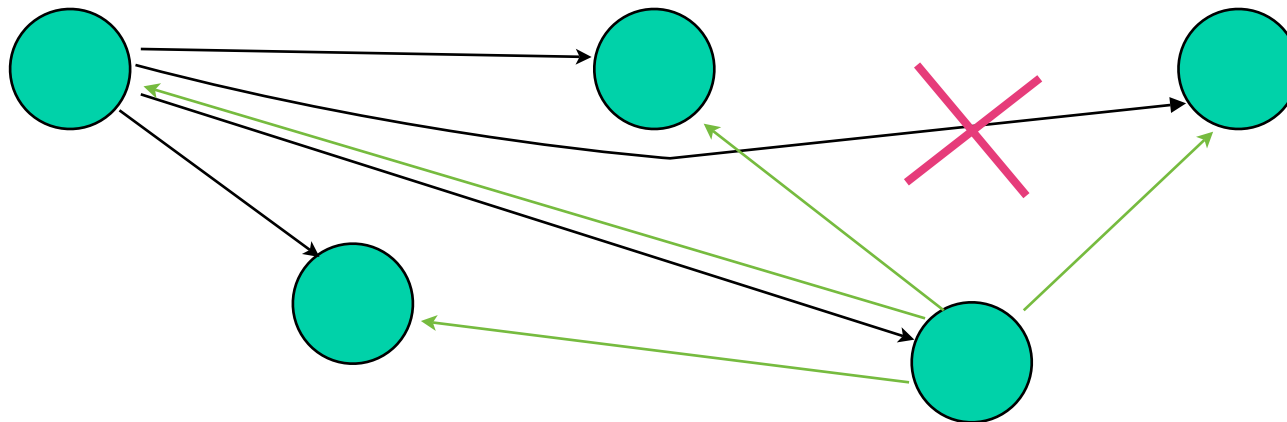
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Monitor consistency in the cloud



- Implement checks to watch for SOA synchronisation on the whole cloud
- Implement full mesh notify messages





Questions?

<http://www.isc.org>

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