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CoreDNS

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CoreDNS

- CoreDNS = a DNS server that chains middleware:
 - Kubernetes, etcd, caching middleware (and lots more)
- E.g. replace kube-dns:
 - kube-dns (= SkyDNS2 + dnsmasq + sidecar)
 - CoreDNS and a few middleware:
 - Kubernetes, cache, proxy, health, prometheus

CoreDNS is configurable pipeline of middleware



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Project update

- Inception level project
- New logo \o/
- Want to become cloud native service discovery of choice
- Small team of core contributors
- Drive-by-commits
- Most active area is (new) middleware
 - But also gRPC and TLS (let's encrypt integration)



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gRPC



Where are we now?

- Able to replace kubedns
- DNS Server (file based, XFR, DNSSEC, on-the-fly signing)
- Can do gRPC
- Cross pollination with Caddy
 - <https://forum.caddyserver.com/c/coredns>
 - ServerType plugin
- Easy (build-time) enabling of middleware



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gRPC



Where do we want to go?

- Zero-touch DNSSEC
- Replace kube-dns?
- gRPC instead of DNS? (need Let's Encrypt?)
- Callback/watches instead TTL
- Polish/speed
- CNCF cluster to play with
- Policy integration for multi-tenancy



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CoreDNS - Salon

- What is DNS service discovery:
 - Primer on SRV records
- DNS extension mechanism: EDNS0
- Debuggability: how to improve? What are common issues?
- DNS limitations:
 - UDP buffer size vs TCP 64k max
 - 255 max name
 - 63 max label