

Optimizing Content Delivery and Hosting Location



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Agenda



Introducing HTTP caching

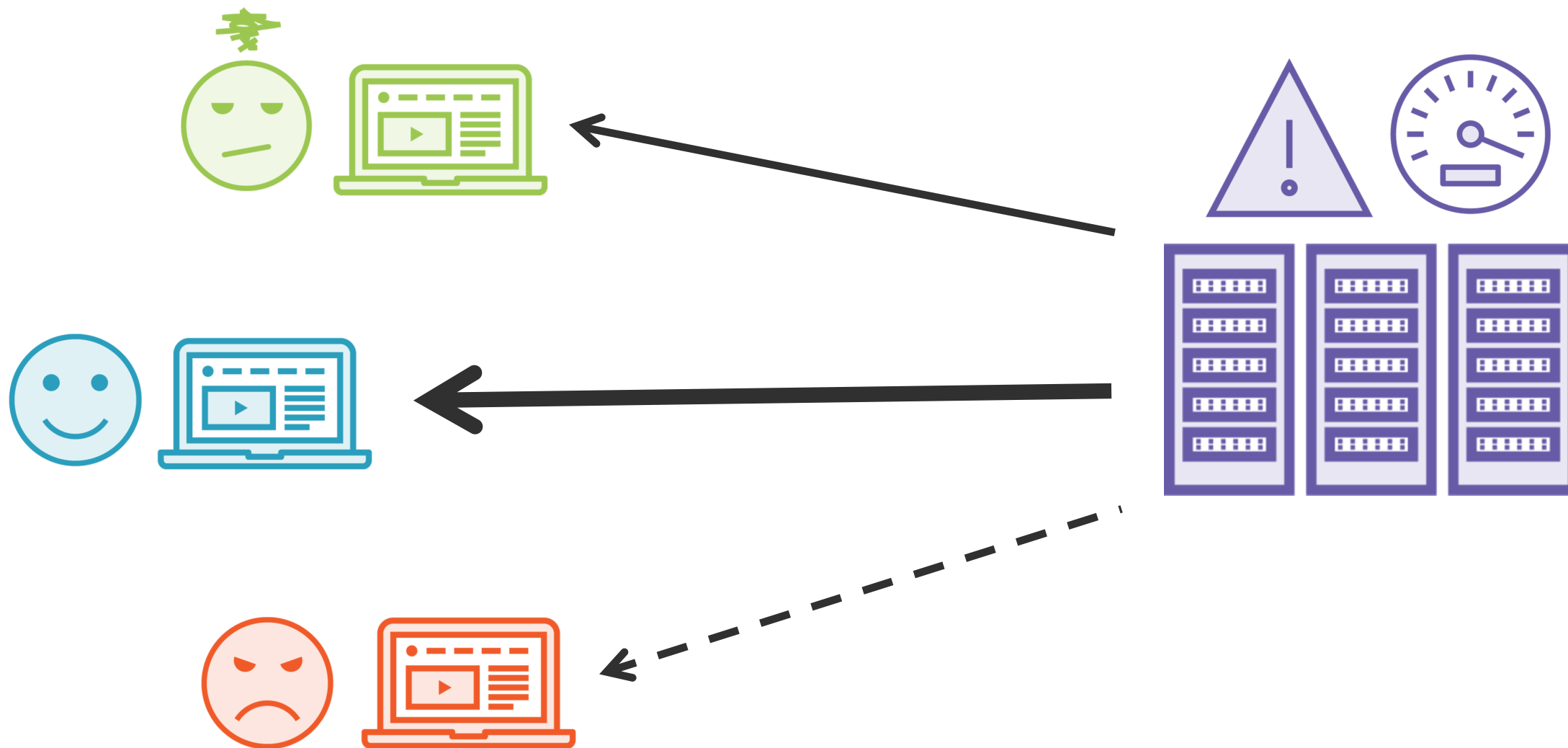
- Test on a real website

Cisco Catalyst 9300 app hosting

- ... using our CRM app!

Understanding Cisco AppDynamics

The Problem



Two General Solutions



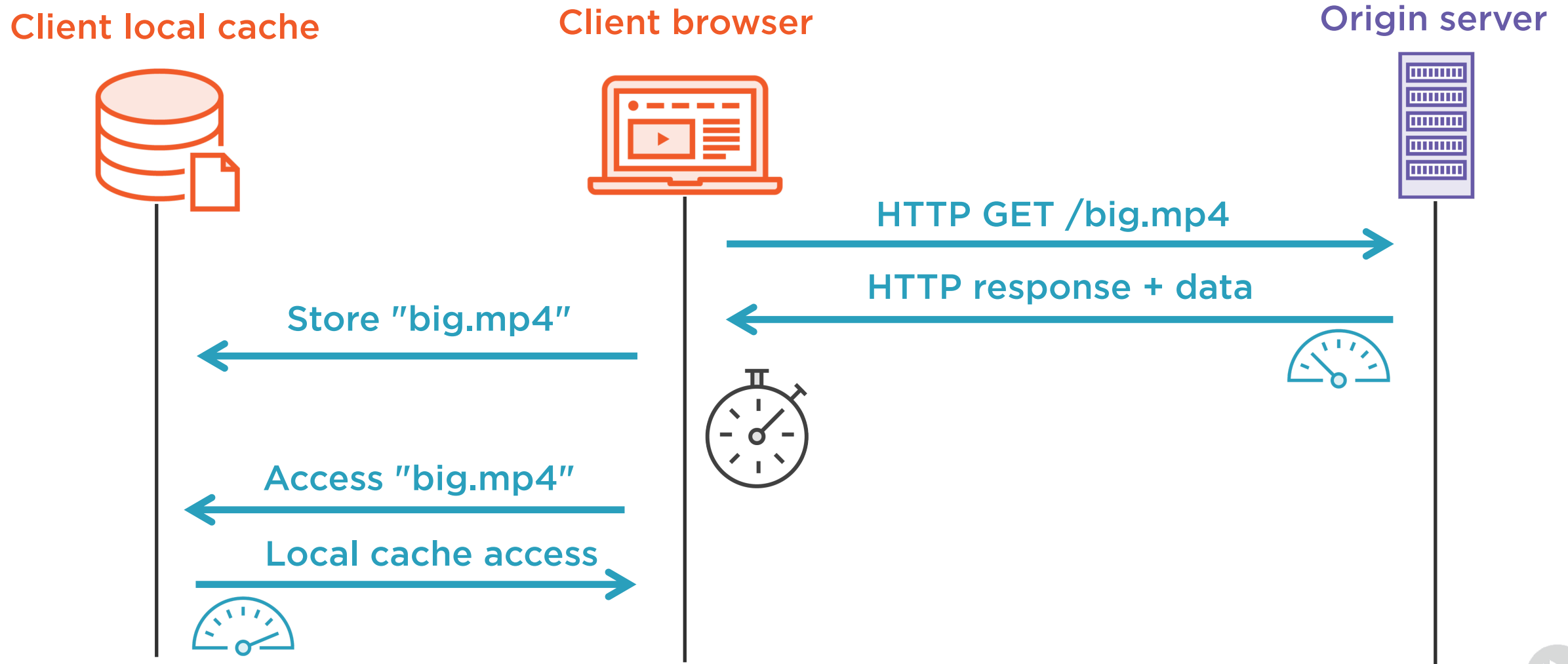
HTTP Cache-Control header
RFC 7324 – Section 5.2.1



Content Delivery Network (CDN)

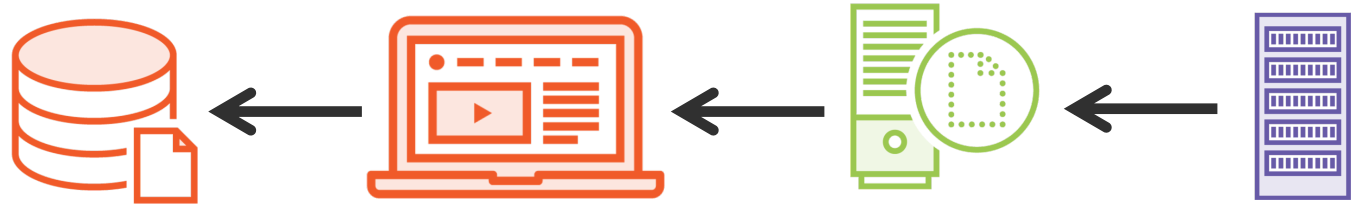


How Client HTTP Caching Works

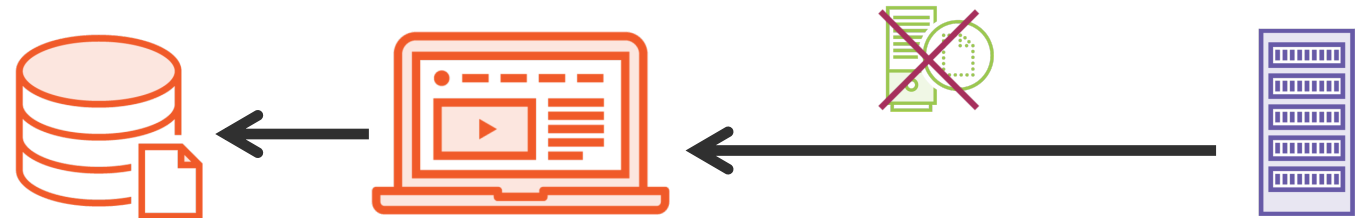


Common Cache-Control Options

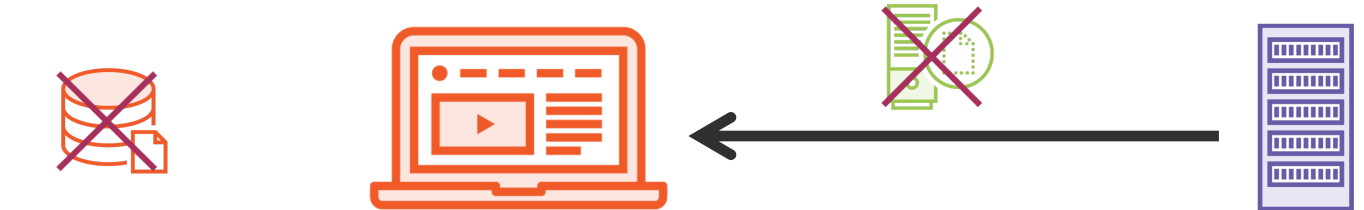
Cache-Control: public,
max-age=31556952
(or "Expires" header)



Cache-Control: private,
max-age=31556952



Cache-Control: no-store



(Cache-Control absent):
heuristic-based caching



Demo

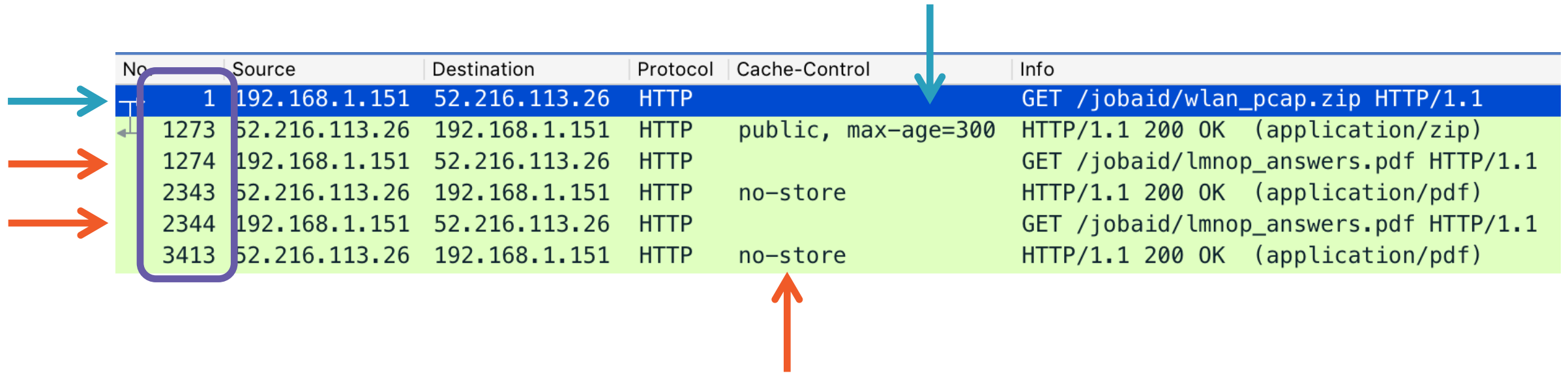


HTTP caching excursion on njrusmc.net



Proof That HTTP Caching Works

One request with caching



No.	Source	Destination	Protocol	Cache-Control	Info
1	192.168.1.151	52.216.113.26	HTTP		GET /jobaid/wlan_pcap.zip HTTP/1.1
1273	52.216.113.26	192.168.1.151	HTTP	public, max-age=300	HTTP/1.1 200 OK (application/zip)
1274	192.168.1.151	52.216.113.26	HTTP		GET /jobaid/lmnop_answers.pdf HTTP/1.1
2343	52.216.113.26	192.168.1.151	HTTP	no-store	HTTP/1.1 200 OK (application/pdf)
2344	192.168.1.151	52.216.113.26	HTTP		GET /jobaid/lmnop_answers.pdf HTTP/1.1
3413	52.216.113.26	192.168.1.151	HTTP	no-store	HTTP/1.1 200 OK (application/pdf)

Two requests without caching



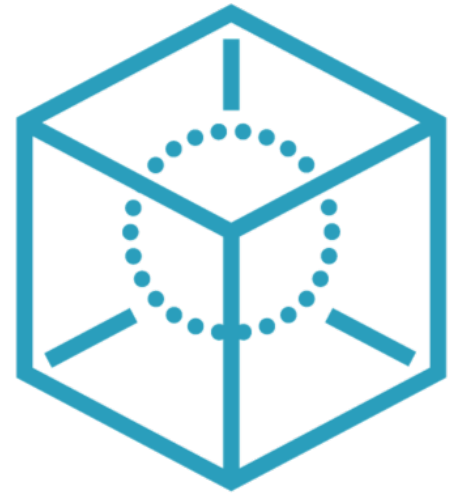
Catalyst 9300 App Hosting



Asset utilization



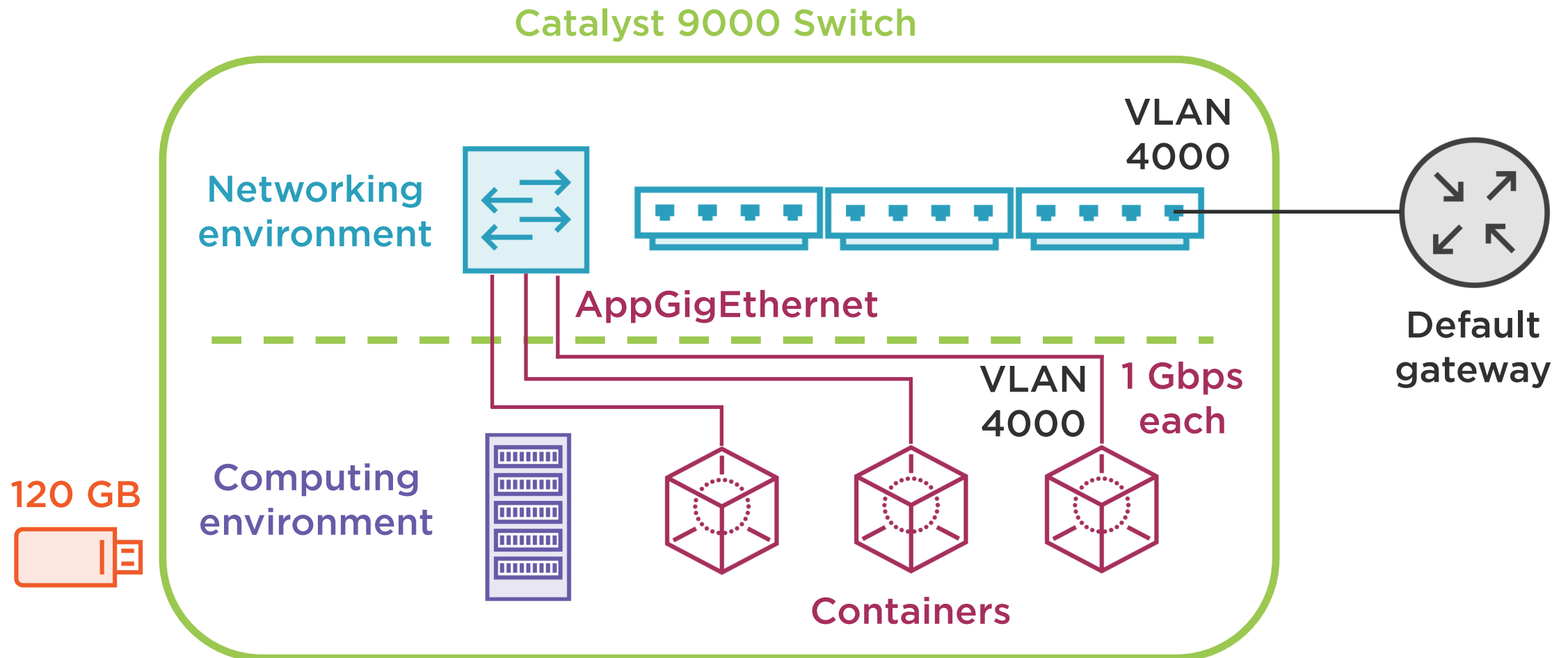
Improved
performance



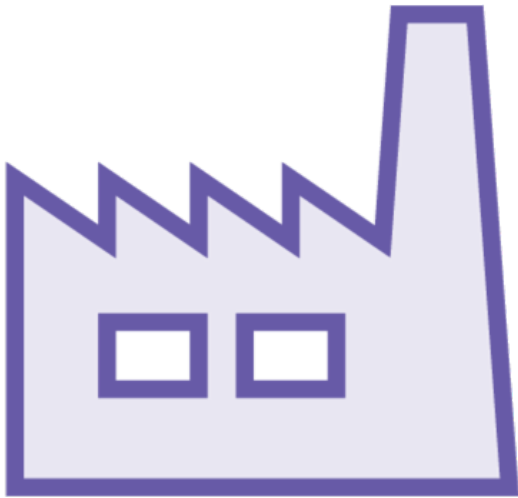
Easy portability using
Docker containers



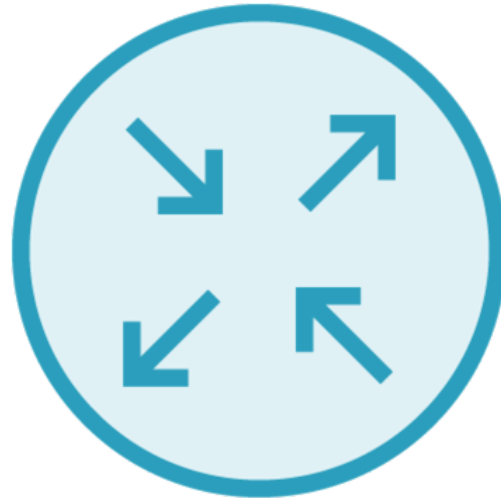
C9K App Hosting High-level Architecture



Other IOx-enabled Platforms



Industrial network
equipment



Enterprise routers
(ISR/ASR series)



Check the DevNet
sandboxes!

Demo



Building and exporting our CRM app



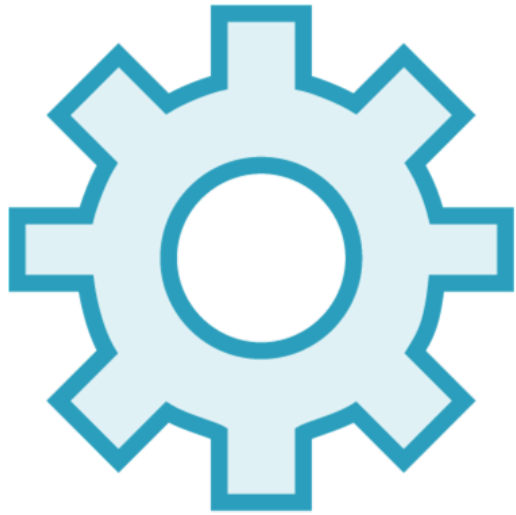
Demo



Starting and testing our CRM app



Benefits of Cisco AppDynamics



Agent-based
APM tool



Anomaly
detection

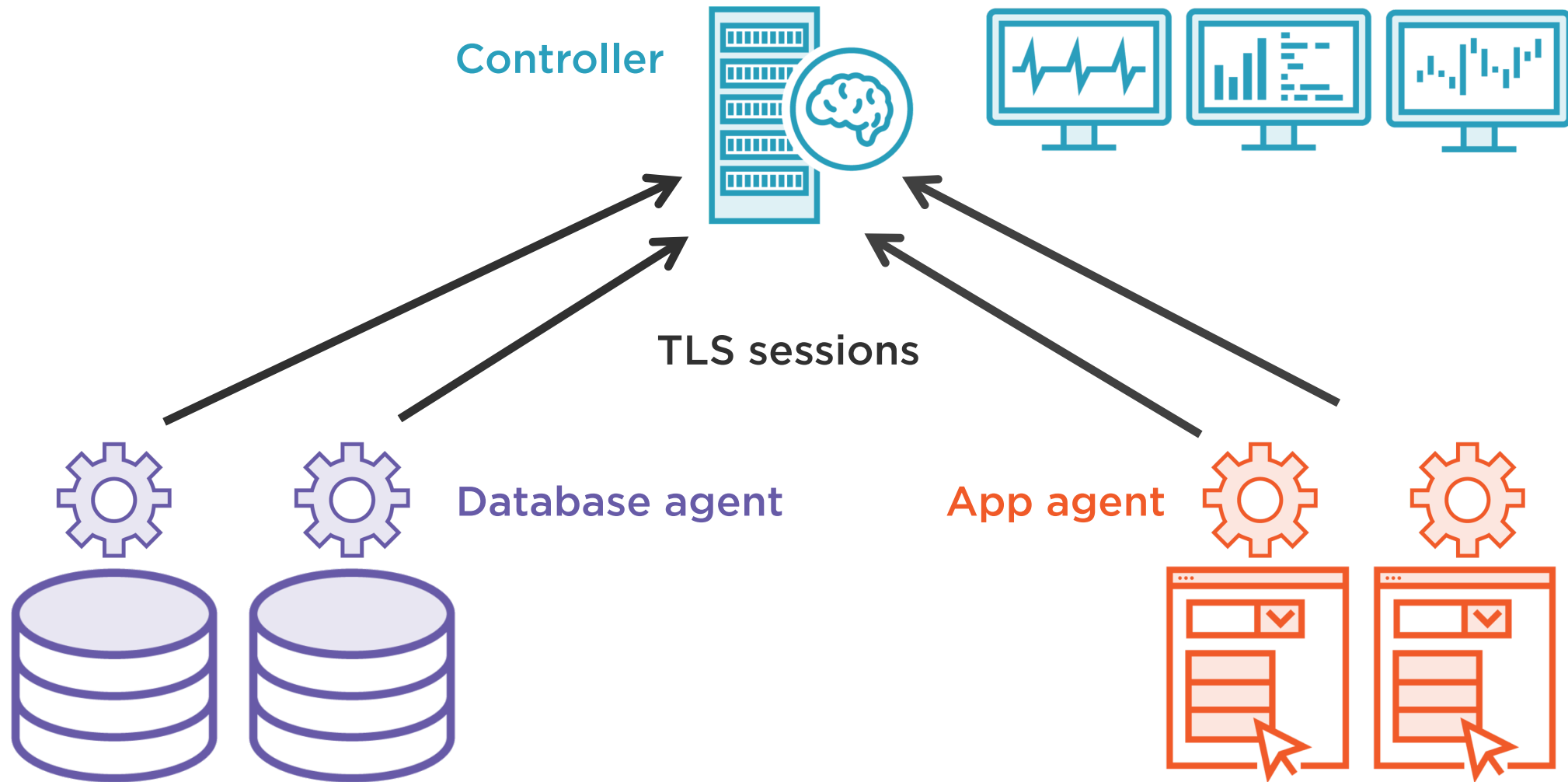


Improves
observability



Satisfies biz,
dev, and ops
people

High-level AppDynamics Architecture



Summary



Many Cisco products (so little time)

Real-life examples of API optimizations

Strengthened your coding skills

Thank you!

