AWS re:Invent

NET211-S

Service mesh across hybrid infrastructure

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Agenda

Challenges in hybrid infrastructure

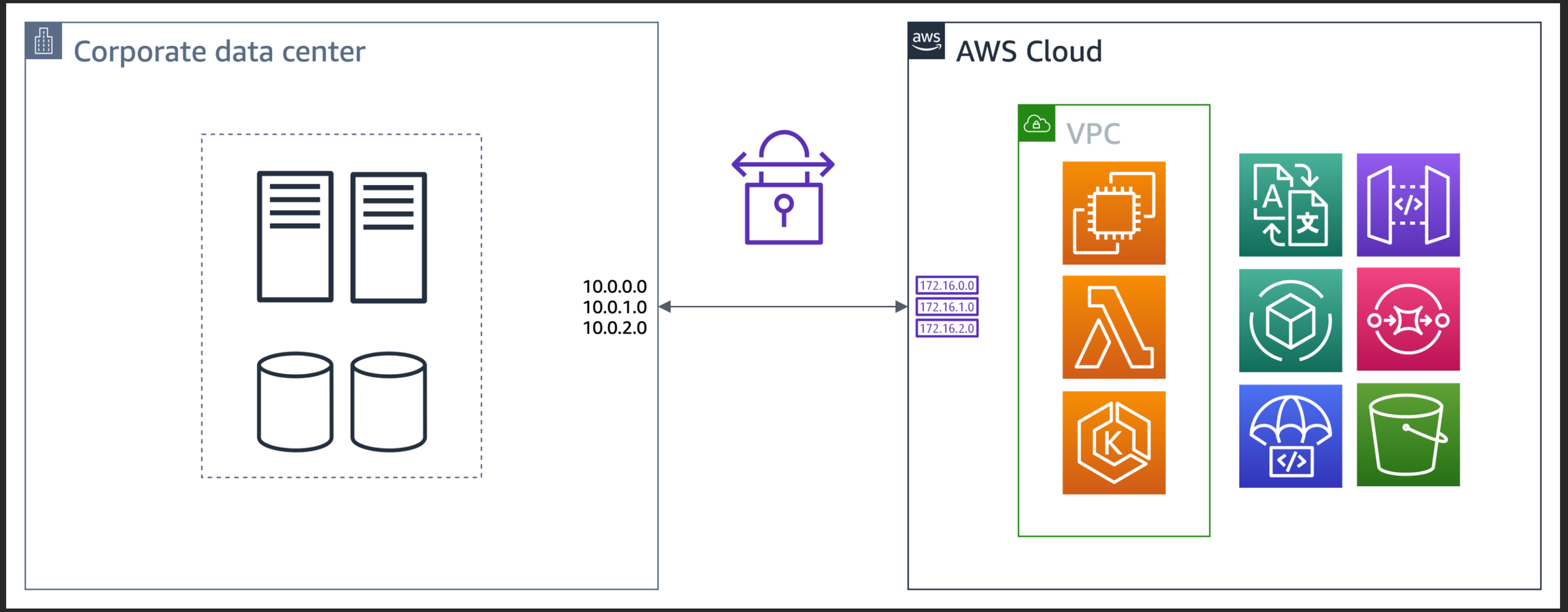
Building insight between AWS and the datacenter

Demo

Takeaways

Challenges in hybrid infrastructure

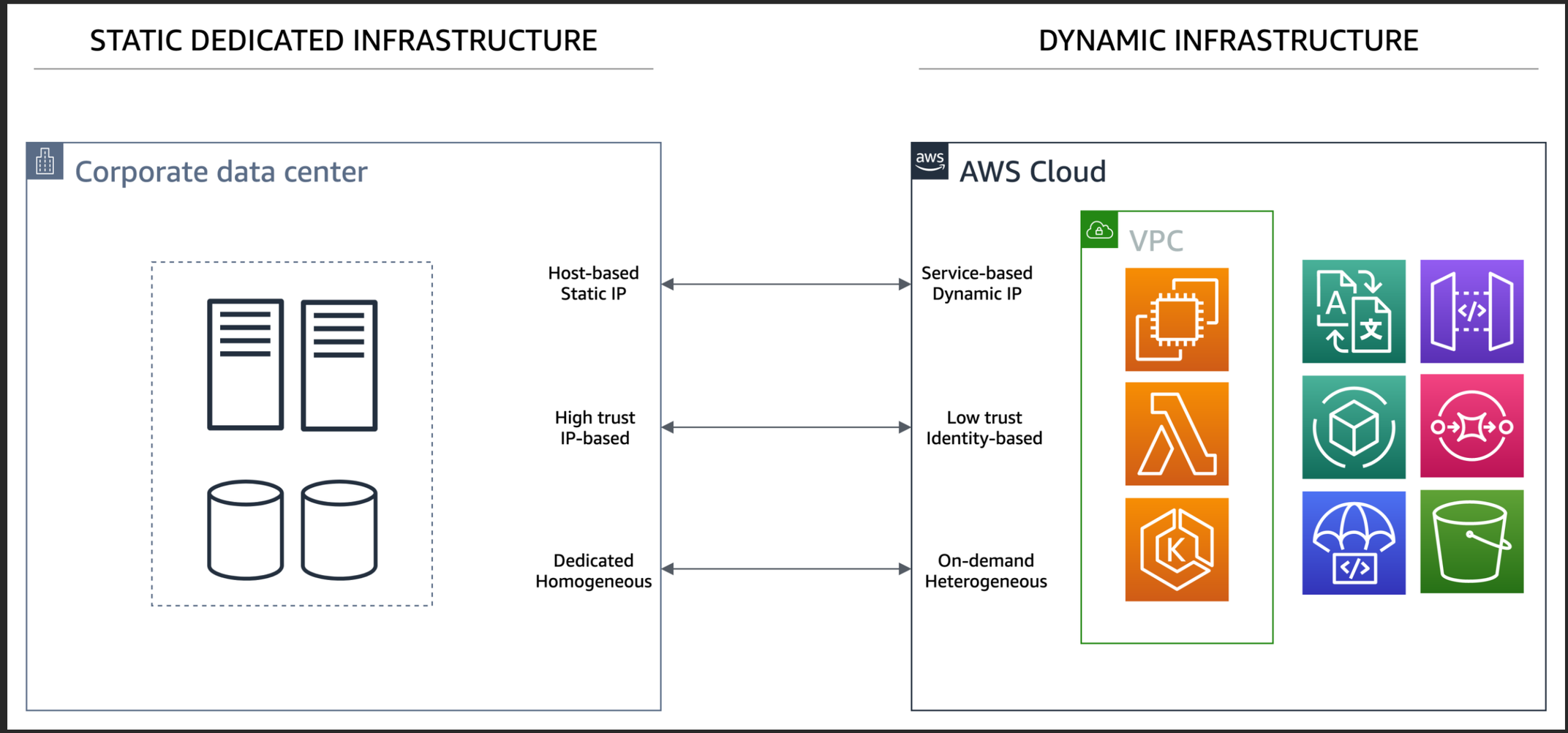
Setting up connectivity



“Why won’t X connect to Y?
It should work.”

Almost every engineer working on hybrid cloud

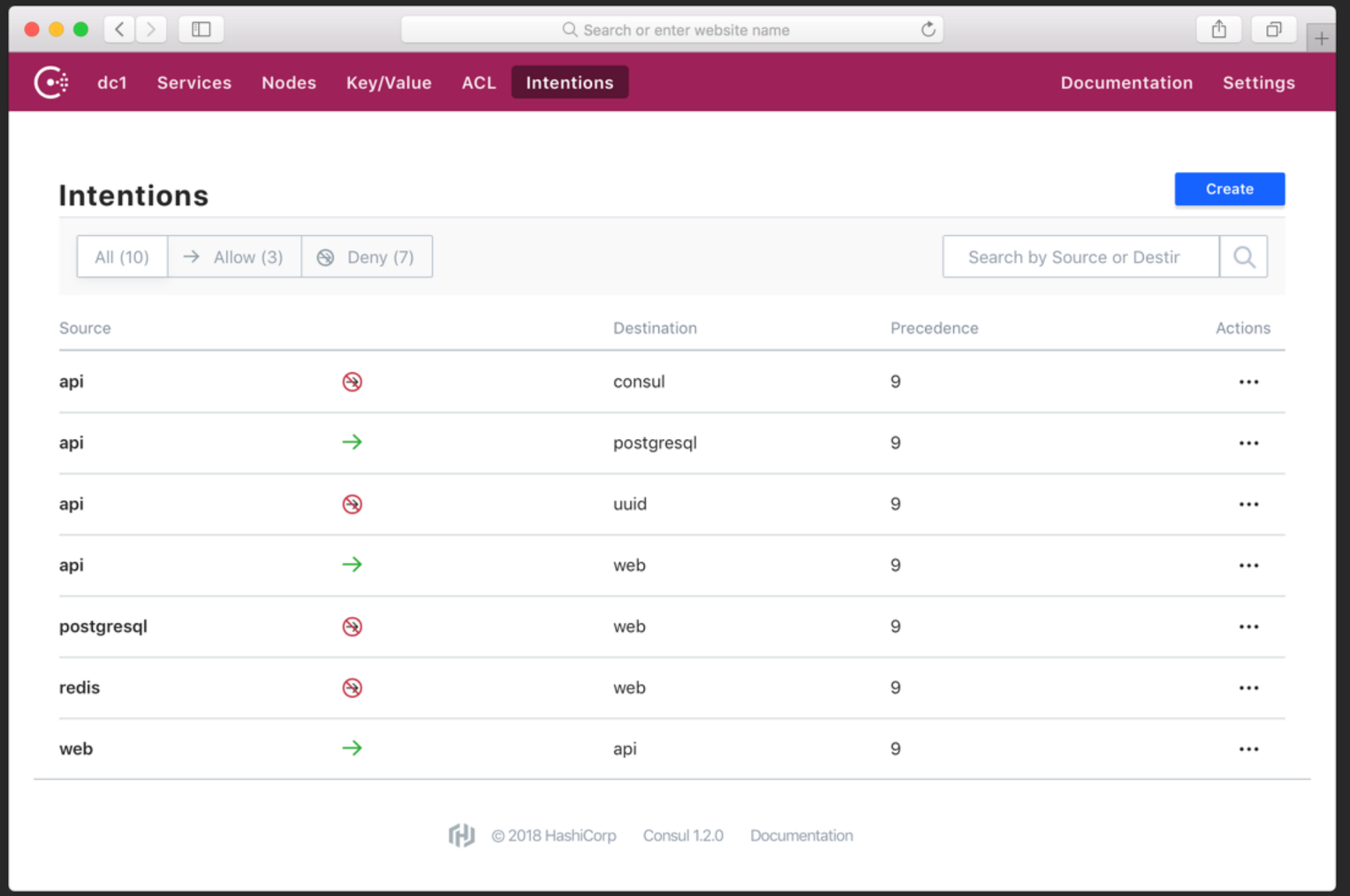
Systems of record vs. systems of engagement



Insights are difficult without context

530…	52.068045	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36600001 Ack=1 Win=48914 Len=1460
530…	52.069294	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36601461 Ack=1 Win=48914 Len=1460
530…	52.070175	131.243.127.166	128.3.15.232	NBDS	216	[Packet size limited during capture]
530…	52.070554	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36602921 Ack=1 Win=48914 Len=1460
530…	52.070570	82:95:f4:12:12:dc	Broadcast	ARP	60	Who has 131.243.127.166? Tell 131.243.127.186
530…	52.071247	128.3.15.232	131.243.127.166	NBDS	234	[Packet size limited during capture]
531…	52.071794	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36604381 Ack=1 Win=48914 Len=1460
531…	52.073042	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36605841 Ack=1 Win=48914 Len=1460
531…	52.074291	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36607301 Ack=1 Win=48914 Len=1460
531…	52.075665	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36608761 Ack=1 Win=48914 Len=1460
531…	52.077039	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36610221 Ack=1 Win=48914 Len=1460
531…	52.078293	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36611681 Ack=1 Win=48914 Len=1460
531…	52.078795	131.243.125.108	131.243.86.253	TCP	702	497 → 4137 [PSH, ACK] Seq=36613141 Ack=1 Win=48914 Len=648
531…	52.080289	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [PSH, ACK] Seq=36613789 Ack=1 Win=48914 Len=1460
531…	52.081537	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36615249 Ack=1 Win=48914 Len=1460
531…	52.082786	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36616709 Ack=1 Win=48914 Len=1460
531…	52.084042	131.243.125.108	131.243.86.253	TCP	1514	497 → 4137 [ACK] Seq=36618169 Ack=1 Win=48914 Len=1460

Apply systems of engagement approaches



Required functionality

- Discover AWS resources and services
- Discover datacenter resources and services
- Manage requests between AWS and the datacenter

Building insight between AWS and the datacenter

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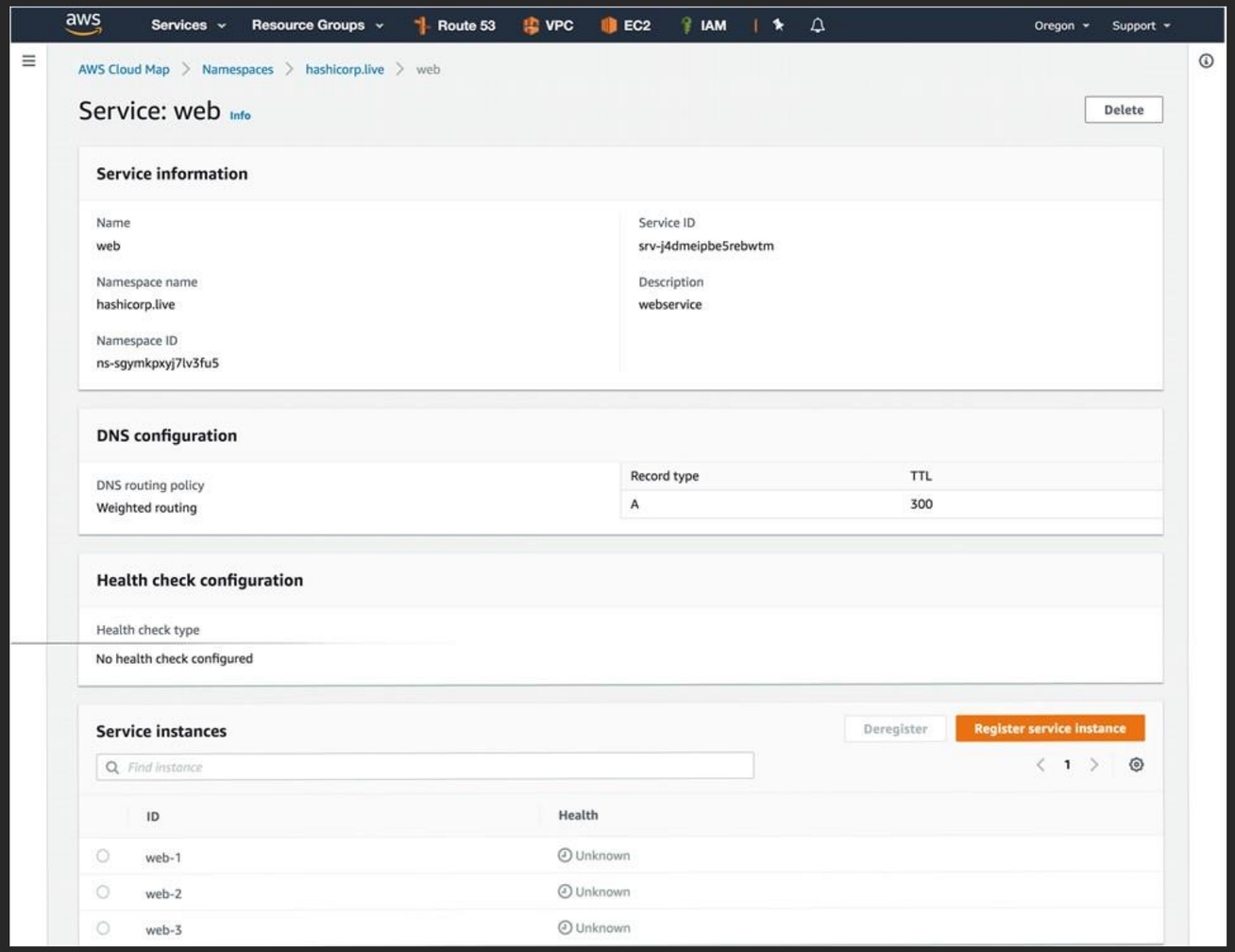
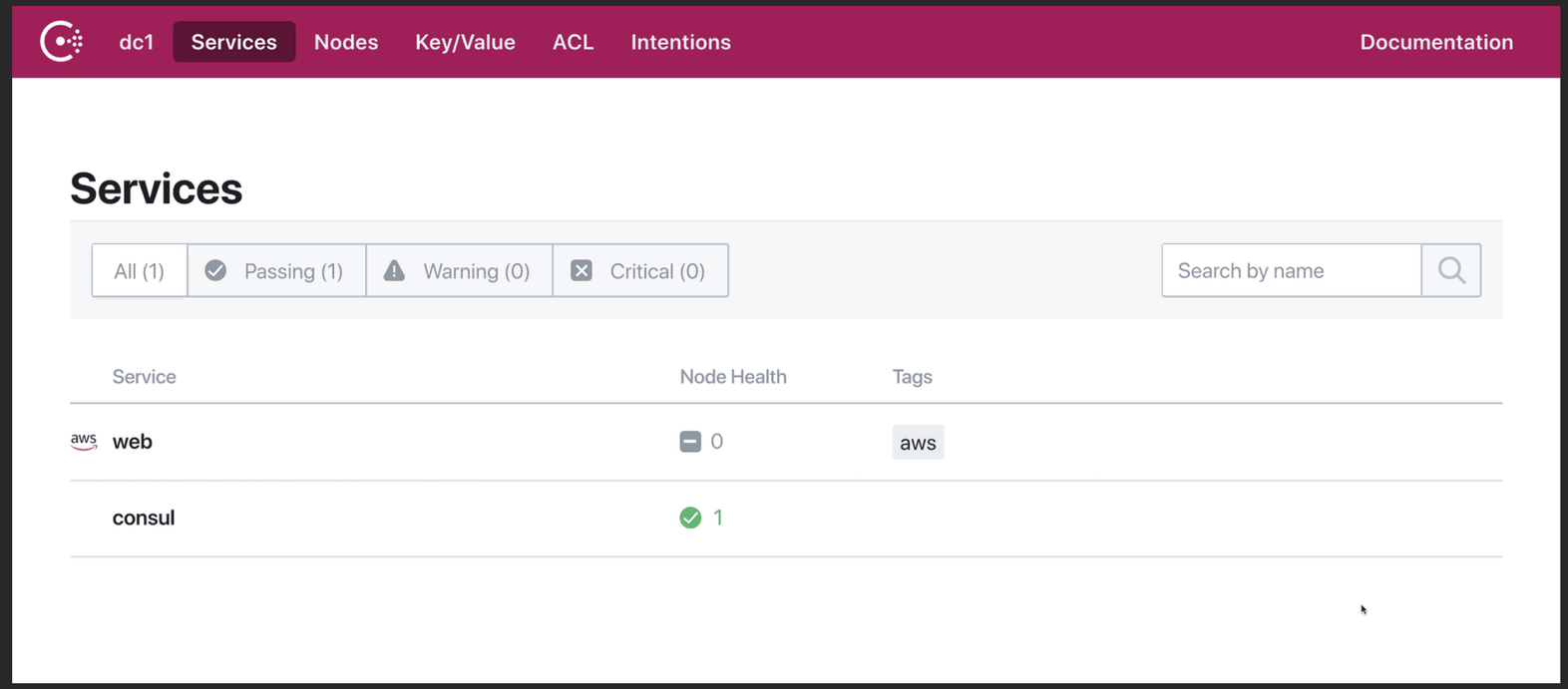
AWS Cloud Map

Service discovery for cloud resources

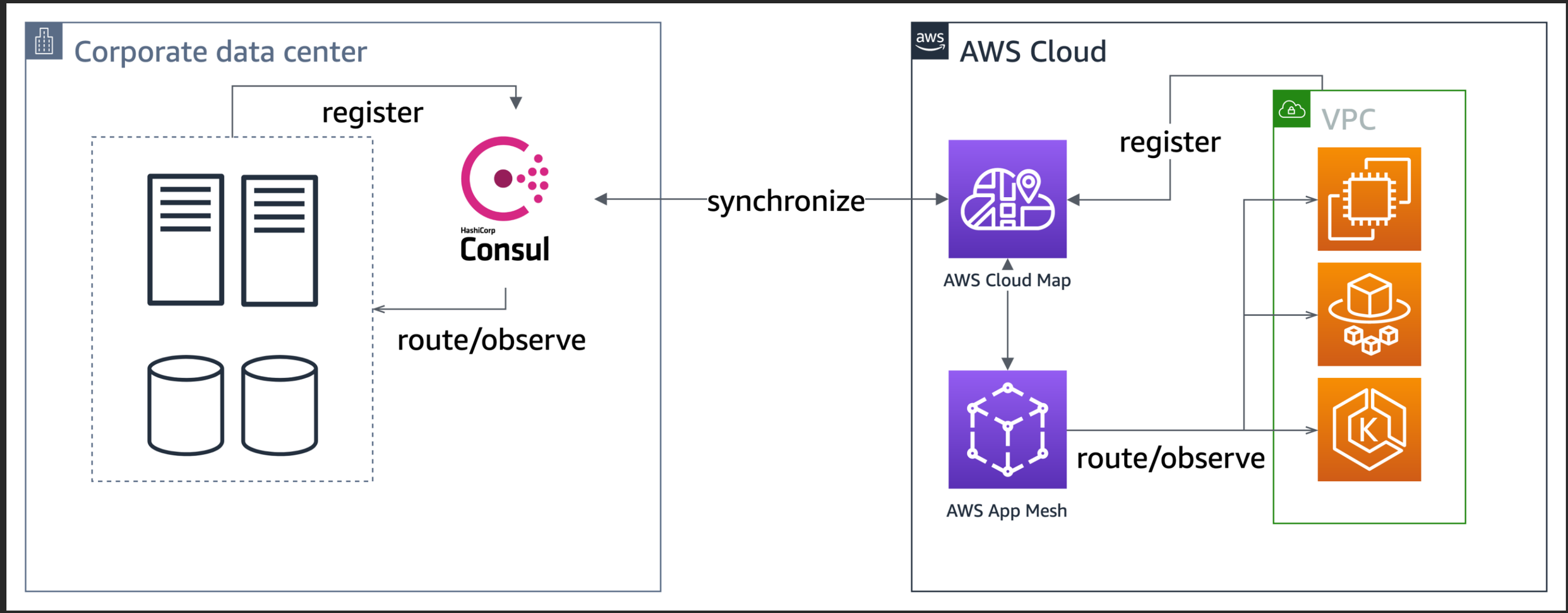


HashiCorp Consul

Service discovery and service mesh for datacenter



Bridging the datacenter and AWS



Demo

Demo

- Configure AWS Cloud Map and HashiCorp Consul
- Register resources and services in AWS and the datacenter
- Manage requests between resources

Takeaways

Takeaways

- Visibility in AWS and the datacenter can ease operational complexity
- AWS Cloud Map, AWS App Mesh, and HashiCorp Consul can help manage and provide insight
- Integrate a system of record into a single system of engagement

Resources

- hashicorp.com/cloud-operating-model
- aws.amazon.com/cloud-map/
- aws.amazon.com/app-mesh/
- learn.hashicorp.com/consul/getting-started/connect
- hashicorp.com/blog/enabling-service-discovery-consul-cloud-map

Thank you!

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