October 22–25, 2018

SAN FRANCISCO, CA

#OOW18

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HOL6379
Edge Services on Oracle Cloud Infrastructure

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OCI DNS Traffic Management

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Summary:

OCI DNS has advanced traffic management capabilities to steer DNS traffic across multiple public OCI instances and other private and 3rd party assets/endpoints. Traffic management supports comprehensive policies to provide intelligent responses to ensure high performance, scalability, and availability.

Optimize the performance and responsiveness of web-based applications and sites by steering user traffic based on administratively defined policies.

Ensure high availability of critical applications through detection of endpoint health and move your traffic accordingly.

Balance and distribute traffic for large applications.

Policies allow you to set predictable business expectations for service differentiation, geographic market targeting, and disaster recovery scenarios.

Use Cases:

Active Failover
- Provide automated failover to backup asset/instance if primary fails

Ratio and Load Balancing
- Balance traffic across multiple assets/instances
- Support migration from data center to the cloud

Geolocation/ASN/IP Prefix Steering
- Steer traffic across geo dispersed assets/instances based on user location
- Geofencing

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When should I use DNS Traffic Management?

- **Basic Failover -** Customers can leverage Traffic Management to provide automated failover between primary and secondary servers.

- **Cloud Migration -** Weighted load balancing supports controlled migration from a customer's data center to OCI. Customers can steer a small amount of traffic (i.e. 1%) to their new resources in the cloud to verify everything is working as expected. They can then increase the ratios until they are comfortable to fully migrate all DNS traffic to the cloud.

- **Load Balancing across multiple servers for scale -** Customer can configure load balancing pools of multiple servers. Traffic Management can automatically distribute DNS traffic across the set of servers. Health Checks may also be used and traffic will be automatically redirected to healthy servers, if a server is determined to be unhealthy.

- **Hybrid Environments -** Since Traffic Management is an agnostic service, it may be used to not only steer traffic to OCI resources, but can also be used to steer traffic to any publicly exposed (Internet resolvable) resources, including other Cloud providers and enterprise data centers.
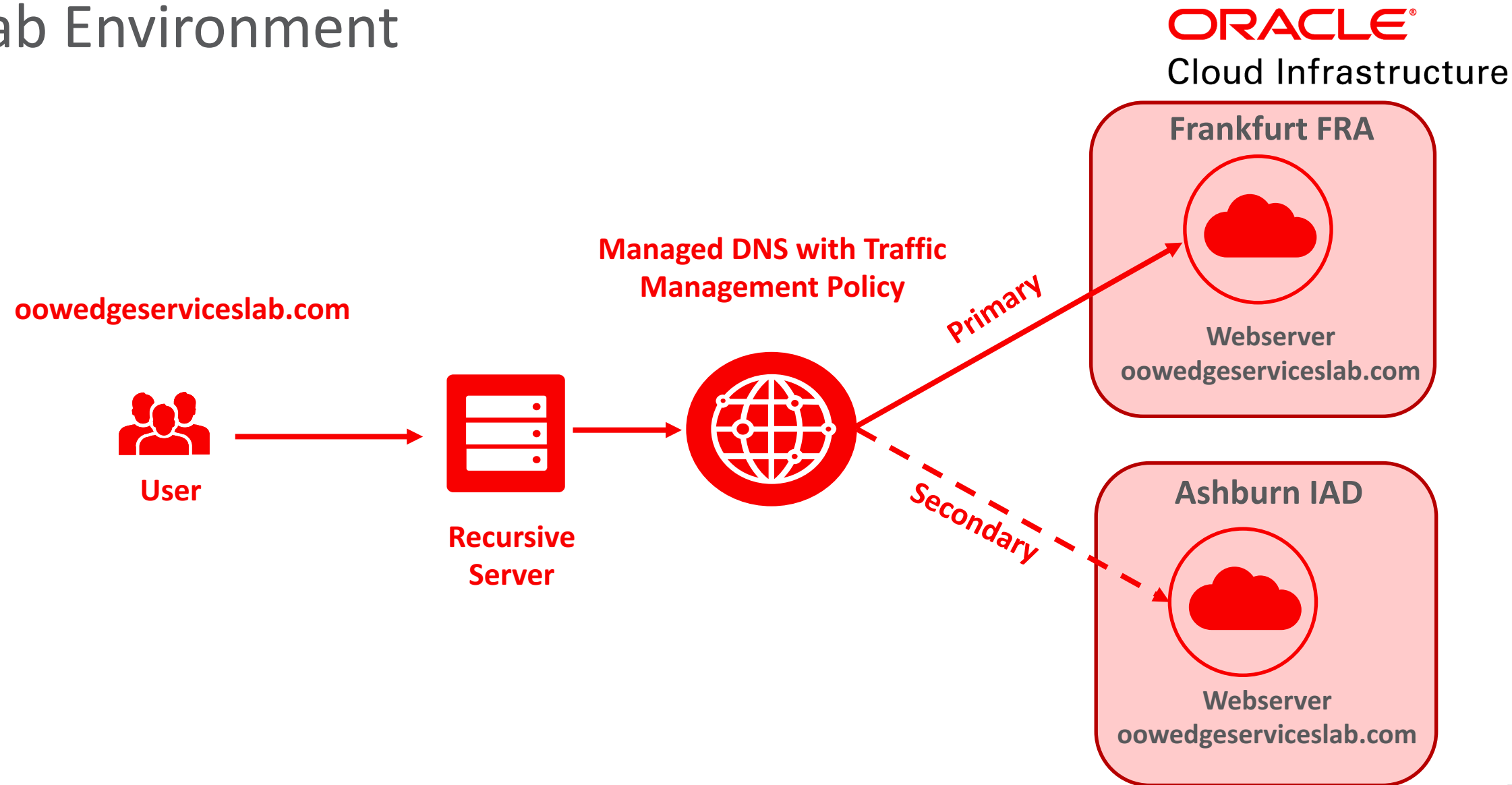
When should I use DNS Traffic Management (cont.)

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- **Worldwide Geolocation treatment -** Customers can carve up their global users into geographically defined regions (state/province level in NA, country level for rest of world) and steer customers to specified resources based on their location. This helps to ensure global, high performing internet resolution, as well as supports functions such as ring fencing (i.e. keep traffic from China in China and don't allow traffic outside of China into China).

- **Split Horizon -** Leveraging IP Prefix steering, customers can configure policies to serve different responses for their internal users versus external users.

- **Zero-Rating Services -** ASN conditional steering based on the originating enterprise, mobile operator or other communications provider in support of various commercial agreements that may be in place. Essentially, preferred ASNs can be directed to free resources, while all other traffic can be directed to paid resources.

What capabilities are supported with OCI DNS Traffic Management?

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- The initial release of Traffic Management will be focused on public endpoints (internet resolvable), including OCI, other Cloud provider and customer data center endpoints.

- OCI DNS Traffic Management will support steering type templates to provide a simple presentation of the policy based on the customer's goal for creating the policy.

- Policy Types supported:
  - Failover
  - Load Balanced
  - Geolocation-based
  - ASN-based
  - IP Prefix-based
  - Custom

- DNS Traffic Management is accessible through REST APIs, SDKs, and OCI Console.

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Lab Environment

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oowedgeserviceslab.com

Managed DNS with Traffic Management Policy

User

Recursive Server

Primary

Secondary

Frankfurt FRA

Webserver
oowedgeserviceslab.com

Ashburn IAD

Webserver
oowedgeserviceslab.com

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HOL6379: Edge Services on Oracle Cloud Infrastructure

- Lab guide: https://oracle.github.io/learning-library/oci-library/OOW-2018/EdgeLab/Edgelab.html

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