DAY- 12
AWS ROUTE 53

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AWS Architecture and Design

1. Day 1 Overview of Cloud Computing
2. Day 2 Overview of AWS
3. Day 3 Amazon EC2*
4. Day 4 Amazon EBS *
5. Day 5 Amazon CloudWatch *
6. Day 6 Amazon S3*
7. Day 7 Amazon Elastic Load Balancer *
8. Day 8 Amazon Auto Scaling *
9. Day 9 Amazon VPC *
10. Day 10 Amazon IAM *
11. Day 11 Amazon RDS
12. **Day 12 Amazon Route 53 ***
13. Day 13 Amazon DynamoDB* & Glacier
14. Day 14 Amazon Cloudfront* & Import Export & Amazon SES *
15. Day 15 Amazon ElasticBeanStalk & Amazon Cloudformation & Amazon OpsWorks
16. Day 16 AWS Economics & AWS Account Overview *
17. Day 17 AWS Architecture
18. Day 18 AWS Certification Preparation

[With Hands on Demo]

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AWS Route 53

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AWS Route 53

- What is Route 53?
- Route 53 Features
- Demo

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Domain Resolution Process

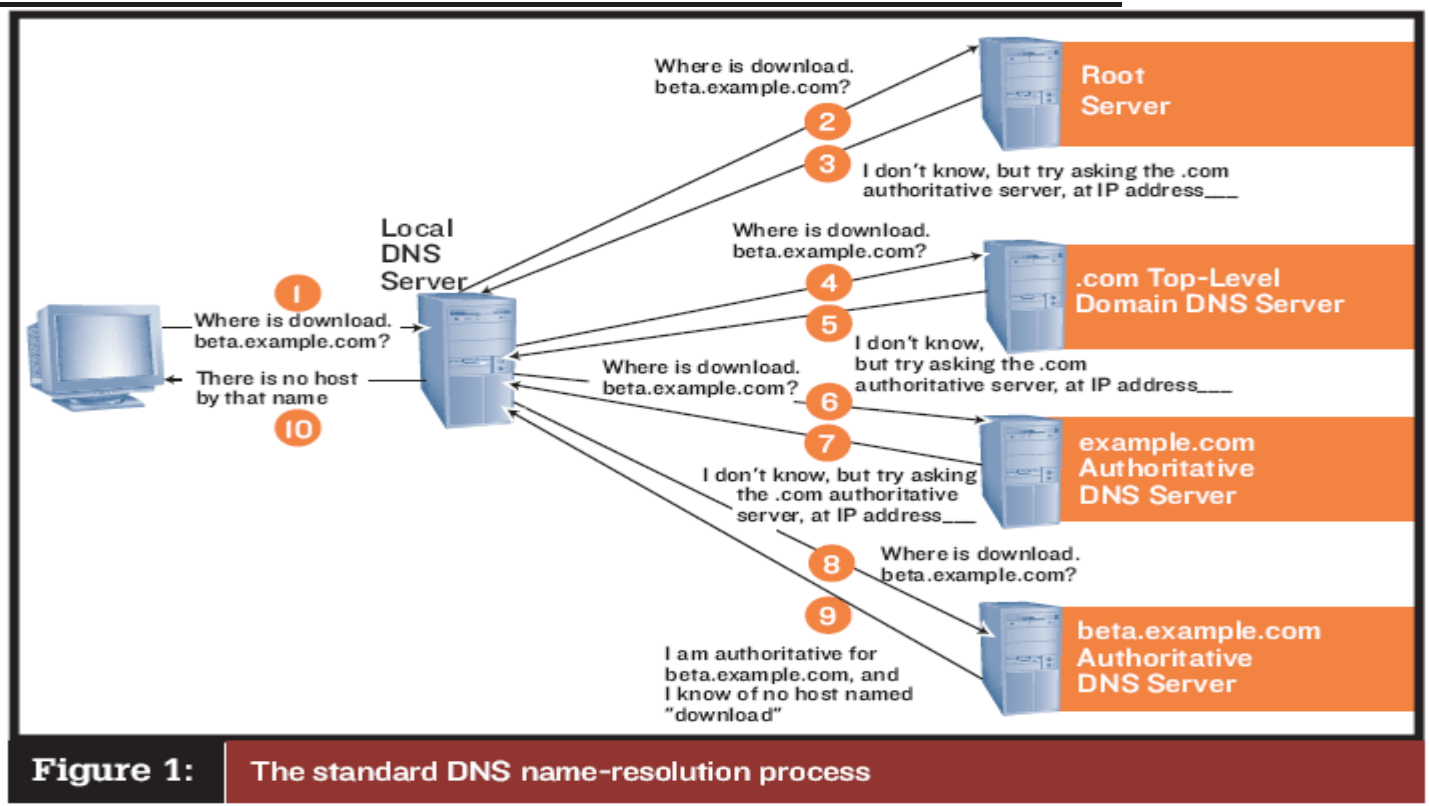

Figure 1: The standard DNS name-resolution process

Ref : http://windowsitpro.com/networking/deconstructing-dns

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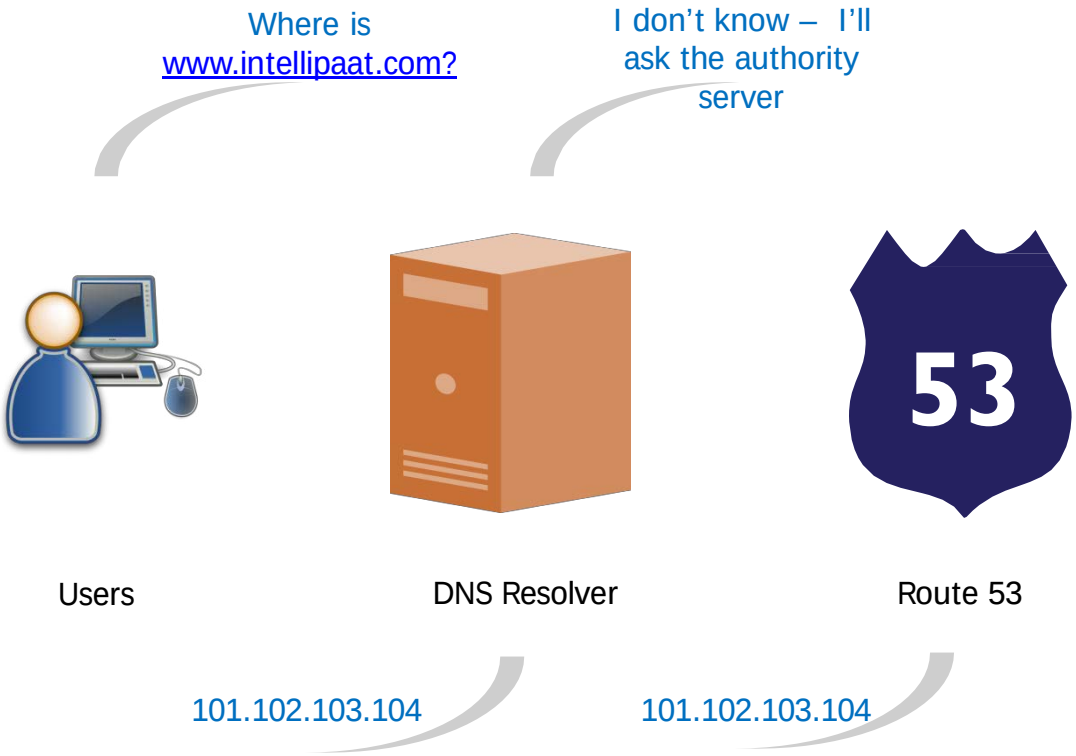
How Route 53 Works?



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Route 53 Key Features

Amazon Route 53 is a highly available and scalable cloud Domain Name System (DNS) web service.

Amazon Route 53 effectively connects user requests to infrastructure running in AWS – such as Amazon EC2 instances, Elastic Load Balancing load balancers, or Amazon S3 buckets – and can also be used to route users to infrastructure outside of AWS.

Fast, easy to use, and cost-effective.

Answers DNS queries with low latency by using a global network of DNS servers (More than 50).

If you need a domain name, you can find an available name and register it using Amazon Route 53.

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Route 53 Key Features

Reliable	• 54 Edge Locations • Supported by AWS SLA
Fast	• Worldwide anycast network • Fast propagation of changes across edge networks
Integrated with AWS	• ELB-Alias Queries. Map the root or apex of your hosted zone to your Elastic Load Balancer.
Easy to Use	• SDK, CLI, Programmatic API • Management Console
Cost Effective	• Cheaper • Pay as you go model
Flexible	• Supports Weighted Round Robin, Specify the frequency with which different responses are served. • Run applications in multiple AWS regions and route users to the one that provides the lowest latency with Latency based routing.

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Pay-as-you-go Pricing

- **Hosted Zones**
  - $0.50 per hosted zone / month for the first 25 hosted zones
  - $0.10 per hosted zone / month for additional hosted zones
- **Standard Queries**
  - $0.500 per million queries – first 1 Billion queries / month
  - $0.250 per million queries – over 1 Billion queries / month
- **Latency Based Routing Queries**
  - $0.750 per million queries – first 1 Billion queries / month
    $0.375 per million queries – over 1 Billion queries / month
- **Alias queries for ELBs free of charge**

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Latency Based Routing (LBR)

- You can host your application in different EC2 regions around the World.
- Create LBR records using the Route 53 API or Console
  - Tag each destination end-point to the EC2 region
  - End-points can either be EC2 instances, Elastic IPs or ELBs
- Route 53 will route end users to the end-point that provides the lowest latency.

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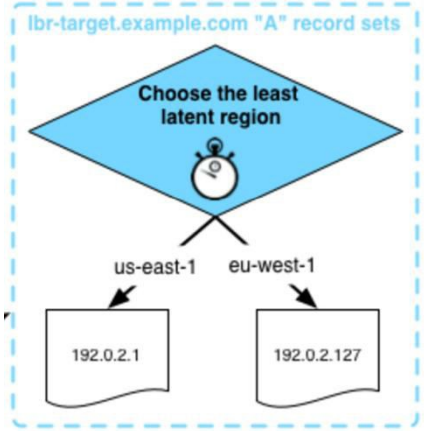
LBR Benefits

- Improved performance & reliability than single region
- Easy to Manage and Implement
- Cheaper



https://aws.amazon.com/blogs/aws/latency-based-multi-region-routing-now-available-for-aws/

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Weighted Round Robin

Weighted Round Robin allows you to assign weights to resource record sets in order to specify the frequency with which different responses are served

Weighted Round Robin: Resolve to different values for the same record with different, user-controlled probabilities

You may want to use this capability to do A/B testing, sending a small portion of traffic to a server on which you've made a software change.

For instance, suppose you have two record sets associated with one DNS name—one with weight 3 and one with weight 1. In this case, 75% of the time Route 53 will return the record set with weight 3 and 25% of the time Route 53 will return the record set with weight 1. Weights can be any number between 0 and 255.

Name	Type	Value	Weight
intellipaat.com	A	101.102.103.104	4
Intellipaat.com	A	101.102.103.105	1

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DNS Fail-over

DNS Fail-over feature gives you the power to monitor your website and automatically route your visitors to a backup site if it goes down.

Health Checks

Configure a health check to make requests such as requesting a web page from a specific URL.

view the current and recent status of health checks.

Receive Notifications

Failover

Supports Active-Active & Active-Passive failover

Add health checks to all of the resource record sets in a group of weighted resource record sets with all resource as nonzero weights. This is an active-active fail-over configuration.

Add health checks to all of the resource record sets in a group of weighted resource record sets with **some** resource as nonzero weights. This is an active-passive failover configuration

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Customers using Route 53

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Demo

In the next video we will do hands on with AWS Route 53

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Thank You

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