

Amazon Linux: Operating System of the Cloud

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How did Amazon get into Cloud Computing?

- We'd been working on it for over a decade
- Development of a platform to enable sellers on the Amazon global infrastructure
- Internal need for centralized, scalable deployment environment for applications
- Early forays into web services proved developers were hungry for more

8 Years Young

Amazon S3 launched: March 14th 2006

The screenshot shows the Amazon.com website interface. At the top, the Amazon logo is on the left, and navigation links for 'Sign in', 'Start here', 'Your Amazon.com', 'Today's Deals', 'Gifts & Wish Lists', and 'Gift Cards' are in the center. On the right, there are links for 'Your Account' and 'Help'. Below this is a search bar with 'All Departments' selected, a 'GO' button, and buttons for 'Shop All Departments', 'Cart', and 'Wish List'. The main content area features a 'Press Releases' section with a sub-header 'Amazon Web Services Launches "Amazon S3," a Simple Storage Service for Software Developers'. The text below the sub-header reads: 'S3 Provides Application Programming Interface for Highly Scalable Reliable, Low-Latency Storage at Very Low Costs'. The main body of the press release starts with 'SEATTLE--(BUSINESS WIRE)--March 14, 2006-- Amazon Web Services today announced "Amazon S3(TM)," a simple storage service that offers software developers a highly scalable, reliable, and low-latency data storage infrastructure at very low costs. Amazon S3 is available today at http://aws.amazon.com/s3.' The text continues: 'Amazon S3 is storage for the Internet. It's designed to make web-scale computing easier for developers. Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites. The service aims'. On the left side, there is a navigation menu with categories like 'Amazon Press Info', 'Home', 'Press Releases', 'Images & Videos', 'Press Rooms', 'Amazon Web Services', 'Kindle', 'About Amazon.com', 'Overview', 'Company Facts', and 'History & Timeline'. On the right side, there is a 'Contact Amazon PR' section with contact information for Amazon.com PR, Amazon Web Services PR, and Kindle PR, including email addresses and a phone number (206) 266-7180. There are also links for 'Amazon Customer Service' and 'Kindle Brand Use Guidelines'.

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Amazon Web Services Launches "Amazon S3," a Simple Storage Service for Software Developers

S3 Provides Application Programming Interface for Highly Scalable Reliable, Low-Latency Storage at Very Low Costs

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Amazon S3 is storage for the Internet. It's designed to make web-scale computing easier for developers. Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites. The service aims

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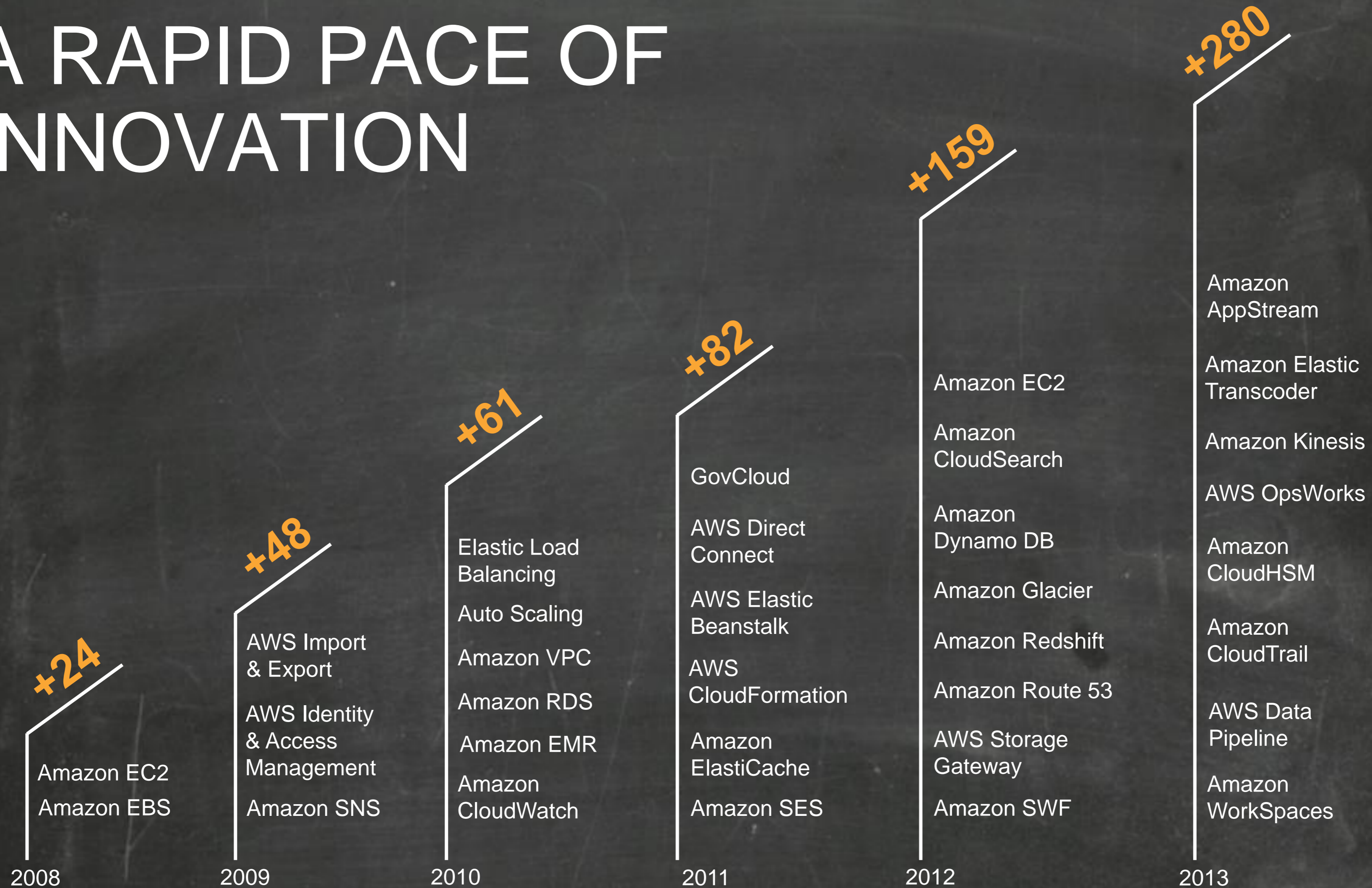
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A RAPID PACE OF INNOVATION



Foundation
Services



Storage



Security
& Access

Infrastructure



Regions



Availability Zones



Edge POPs

Foundation
Services



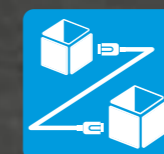
Compute



Storage



Security
& Access



Networking &
Content Delivery

Infrastructure



Regions



Availability Zones



Edge POPs

Platform Services

Databases



Relational



NoSQL



Columnar



Caching

Foundation Services



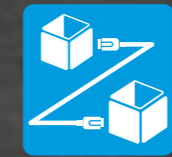
Compute



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Regions



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Caching

Analytics



Hadoop



Real time



Data warehouse

Foundation Services



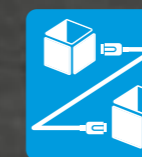
Compute



Storage



Security & Access



Networking & Content Delivery

Infrastructure



Regions

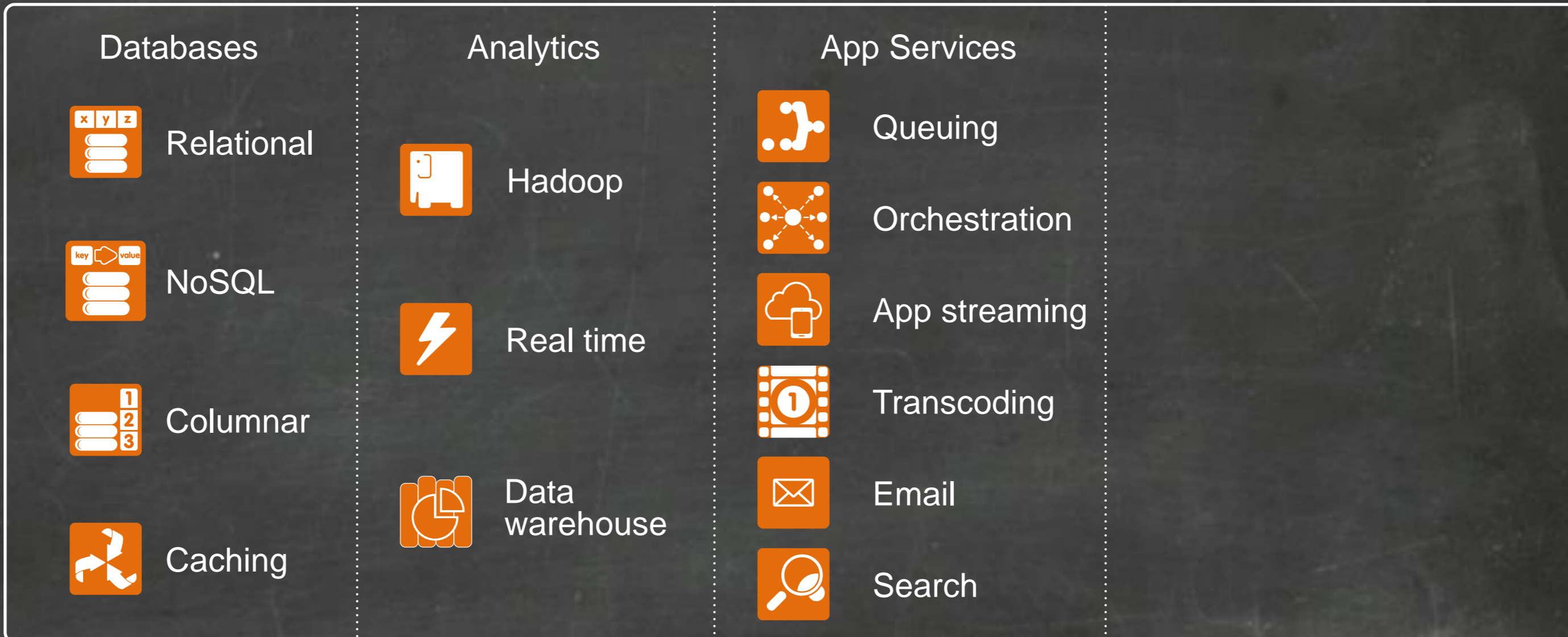


Availability Zones



Edge POPs

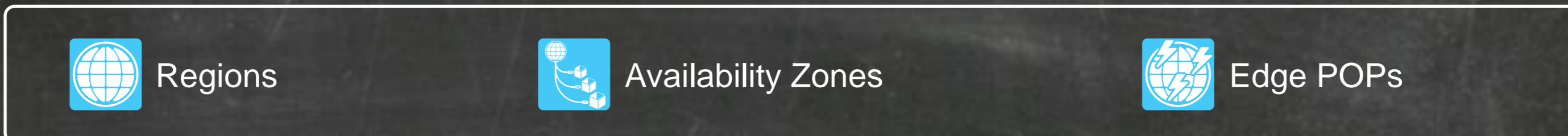
Platform Services



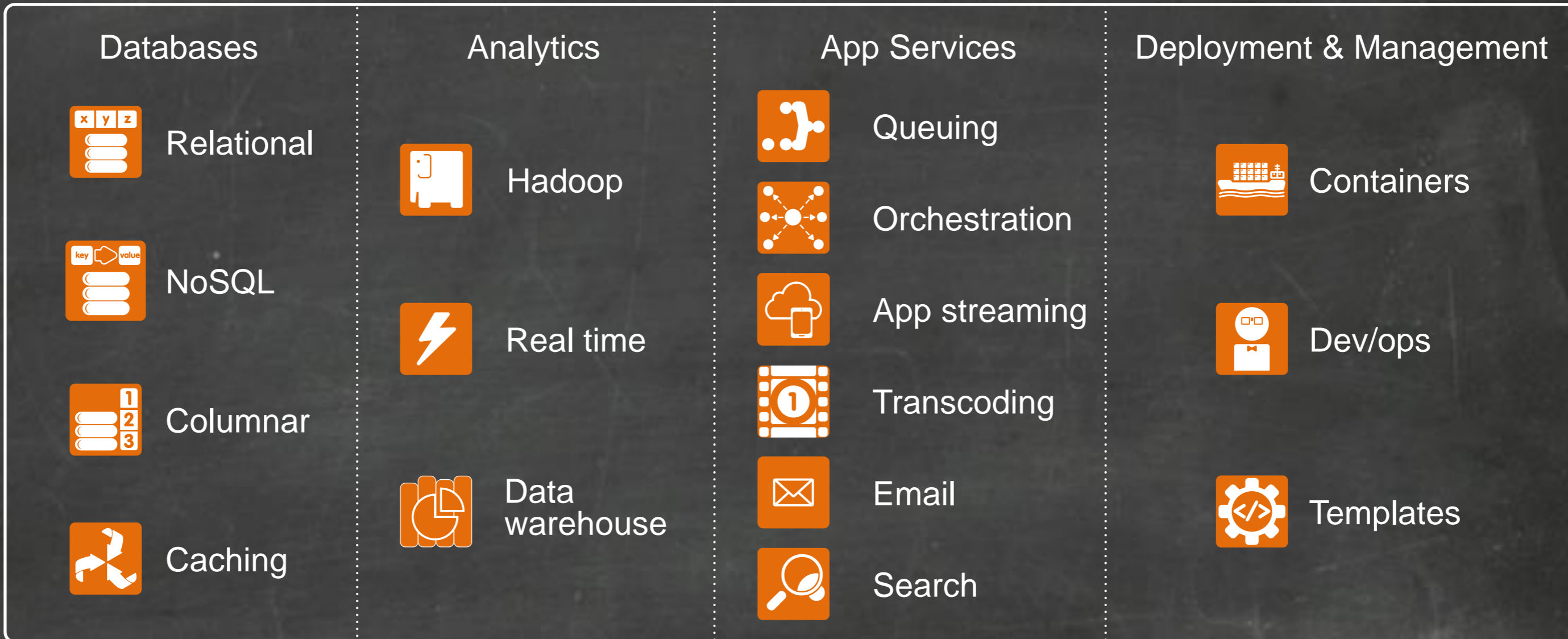
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Infrastructure



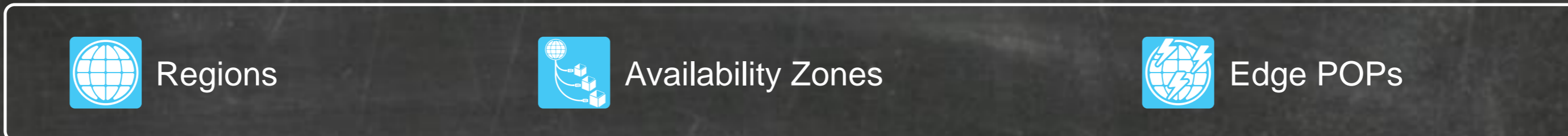
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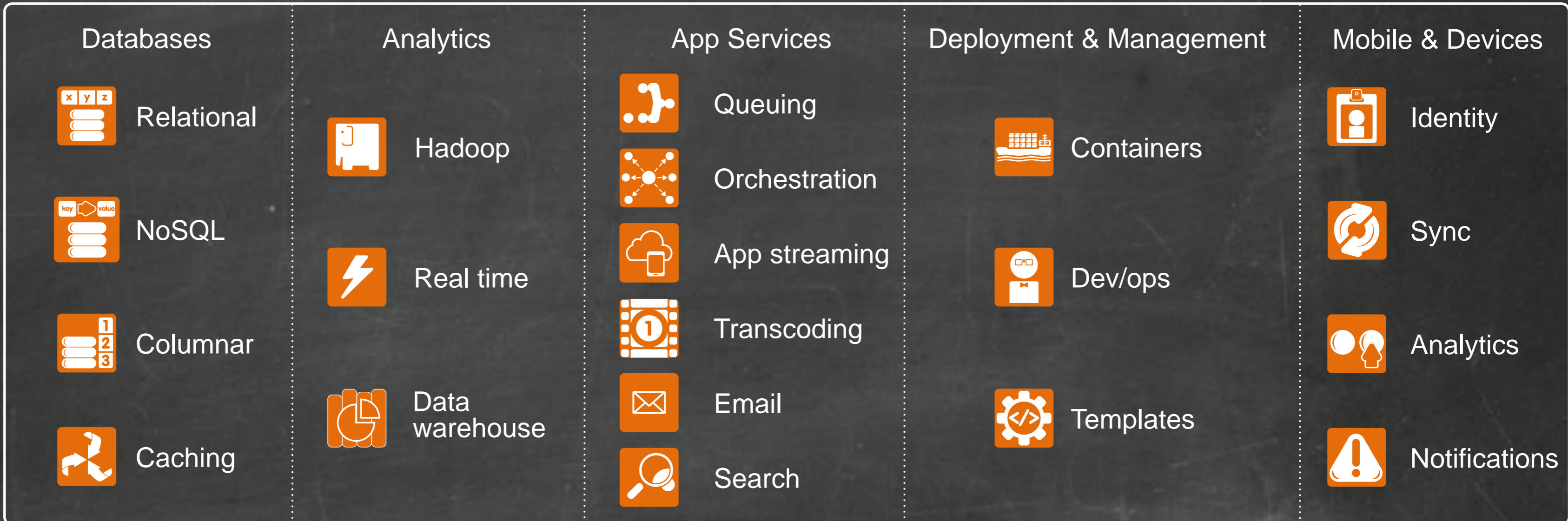
Foundation Services



Infrastructure



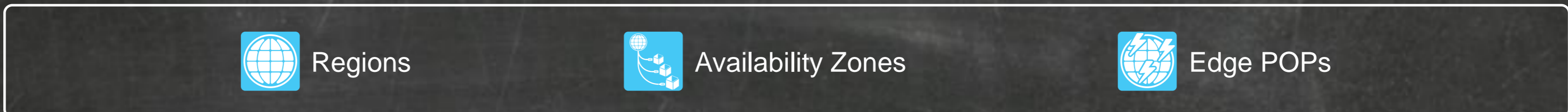
Platform Services



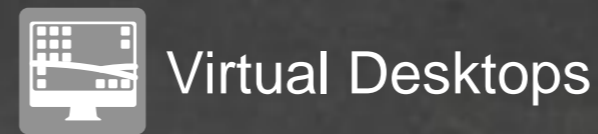
Foundation Services



Infrastructure

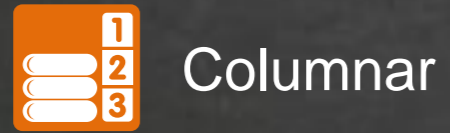


Applications

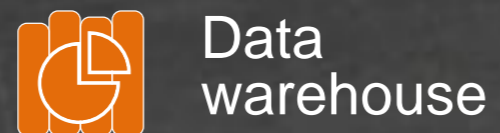
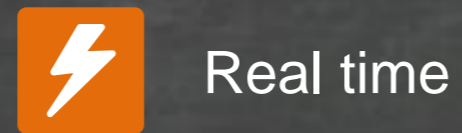


Platform Services

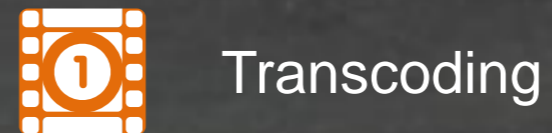
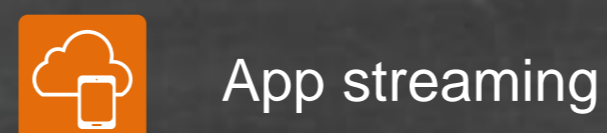
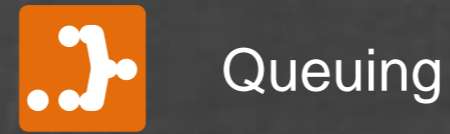
Databases



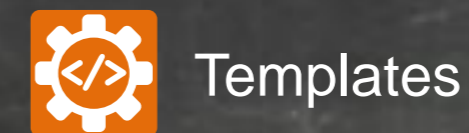
Analytics



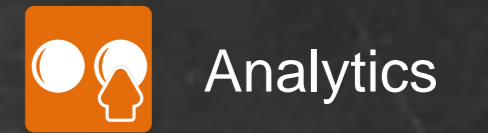
App Services



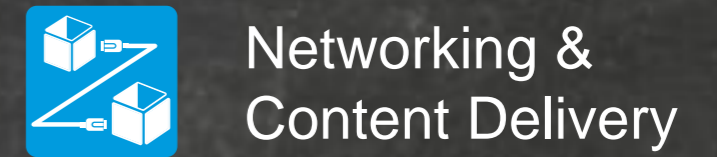
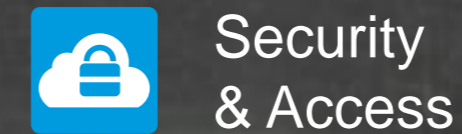
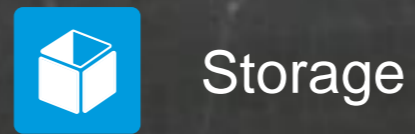
Deployment & Management



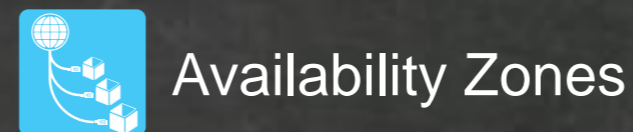
Mobile & Devices



Foundation Services



Infrastructure



AWS Global Infrastructure

10 regions

26 availability zones

52 edge locations



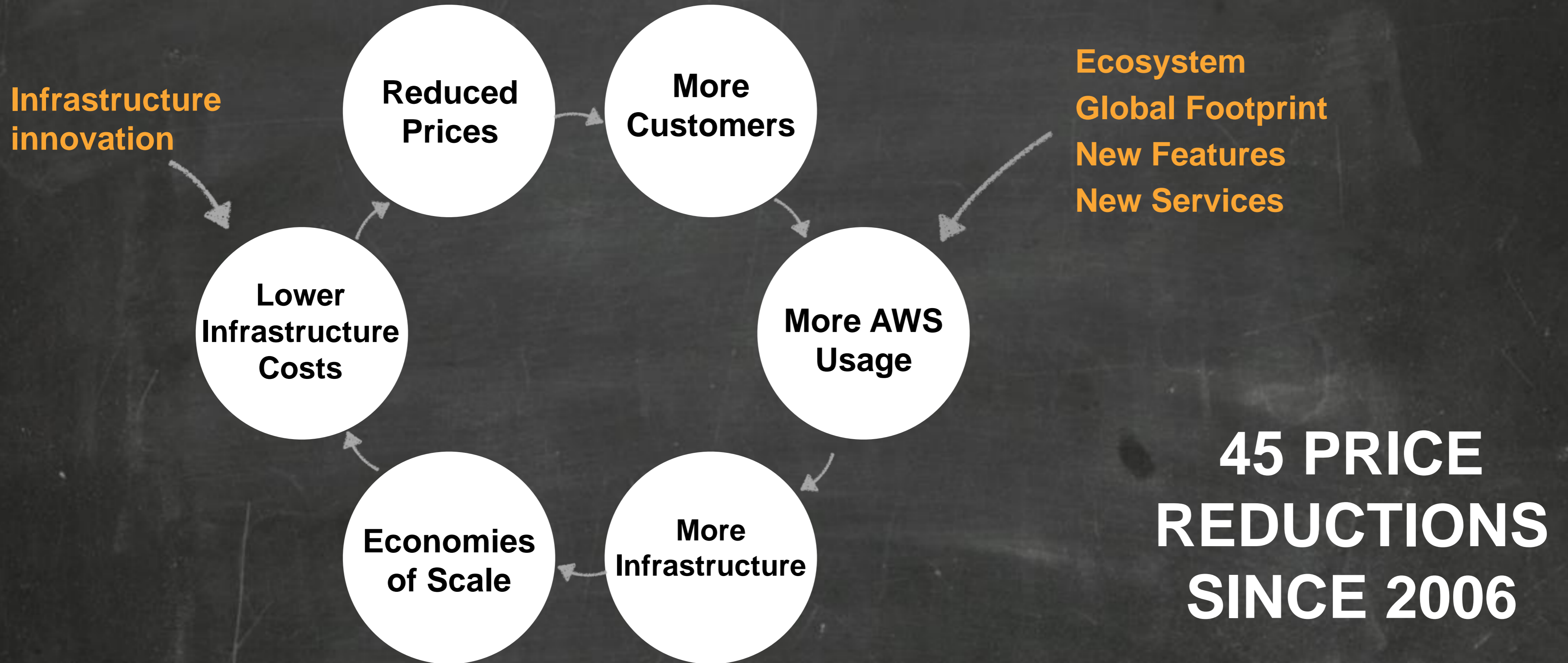
The Glue: Amazon Linux

- The OS that drives AWS
- It's RPM based
- Enterprise class Linux
- Rolling upgrades
- Binary compatible with RHEL
- The foundation for most AWS services
- A Linux operating system for AWS customers

An Operating System Optimized for the Cloud

- Initial offering due to customer requests.
- RHEL compatible
- No additional cost.
- Comes from a trusted supplier
- We fully control the speed of security updates
- Well integrated with all AWS services
- Optimized for AWS instance types
- Easy starting point for custom AMIs.

The AWS Price Reduction Philosophy

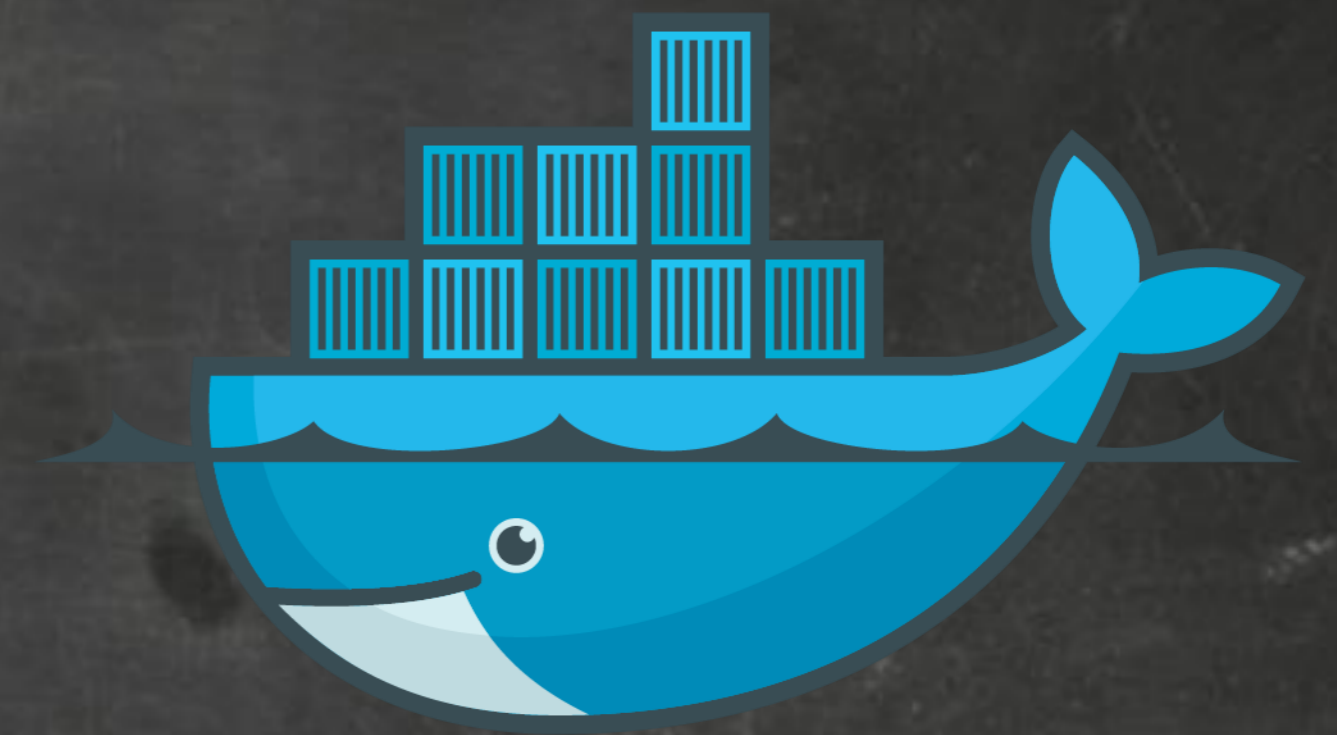


Amazon Linux AMI – Security

- Minimal and secure out of the box.
- No root login allowed by default.
- Security center with RSS feed for updates.
- Automatic updates of Critical / Important packages on first launch.
- Critical CVE fixes pushed within 24 hours.
- Regular cadence for repository updates.
- New AMIs at least twice per year.

More than a Building Block: Docker

- Added in 2014.04
- Docker 1.2 in 2014.09
- New versions of Docker can be pulled from the Amazon Linux AMI repository



docker

Docker at AWS

- Using Amazon EC2
 - Amazon Linux AMI
 - CoreOS
- Using AWS Elastic Beanstalk
- Using AWS OpsWorks

Stack

Layers

Instances

- Time-based
- Load-based

Apps

Deployments

Monitoring

Resources **NEW**

Permissions

Layer Docker

General Settings **Recipes** Network EBS Volumes Security

Custom Chef Recipes ⓘ

| | | |
|----------------|---|---|
| Repository URL | https://github.com/bflad/chef-docker.git (change) | |
| Setup | <input type="text" value="docker::default"/> | + Add recipes to the Setup lifecycle event. |
| Configure | <input type="text" value="mycompany::docker-configure"/> | + |
| Deploy | <input type="text" value="mycompany::docker-deploy"/> | + |
| Undeploy | <input type="text" value="mycompany::docker-undeploy"/> | + |
| Shutdown | <input type="text" value="myrecipe::default, myrecipe"/> | + |

Amazon Development Center Germany

- Founded in March 2013
- Offices in Berlin and Dresden
- Amazon global competency center for
 - Kernel and Operating Systems
 - Machine Learning
- It is still growing quickly!

Thank You!

