



AWS

Una rapida introduzione al “Cloud”

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Che cos'è il “cloud” ?

Il Cloud Computing è un modello che permette da qualsiasi luogo e in maniera comoda l'accesso su richiesta tramite rete, ad un insieme di risorse di elaborazione condivise e configurabili (es. reti, server, storage, applicazioni e servizi) che vengono rapidamente fornite e rilasciate con il minimo sforzo di gestione o di interazione da parte del fornitore del servizio.

(NIST – National Institute of Standards and Technology)

Il Cloud computing è un modello composto da:

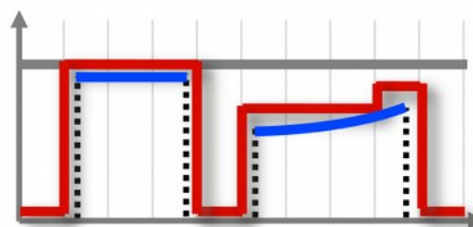
Caratteristiche essenziali

- On-demand & self-service
- Accesso tramite rete
- Elasticità

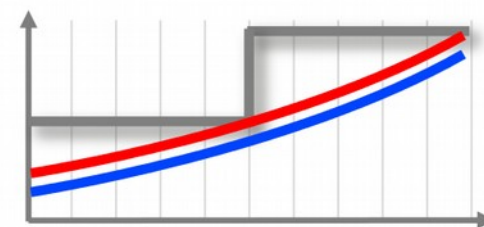
Modelli di servizio:

- Software-as-a-service –
- Platform-as-a-service –
- Infrastructure-as-a-serv

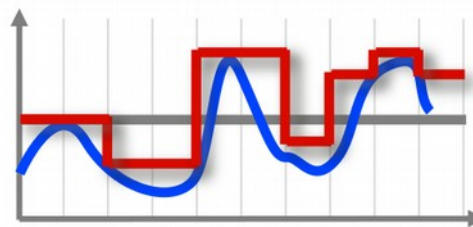
Elastic capacity



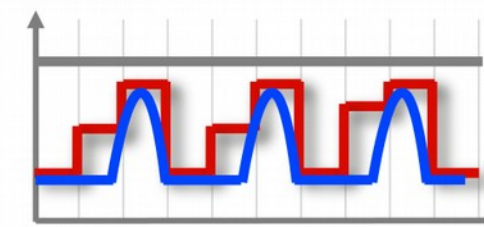
On and Off



Fast Growth



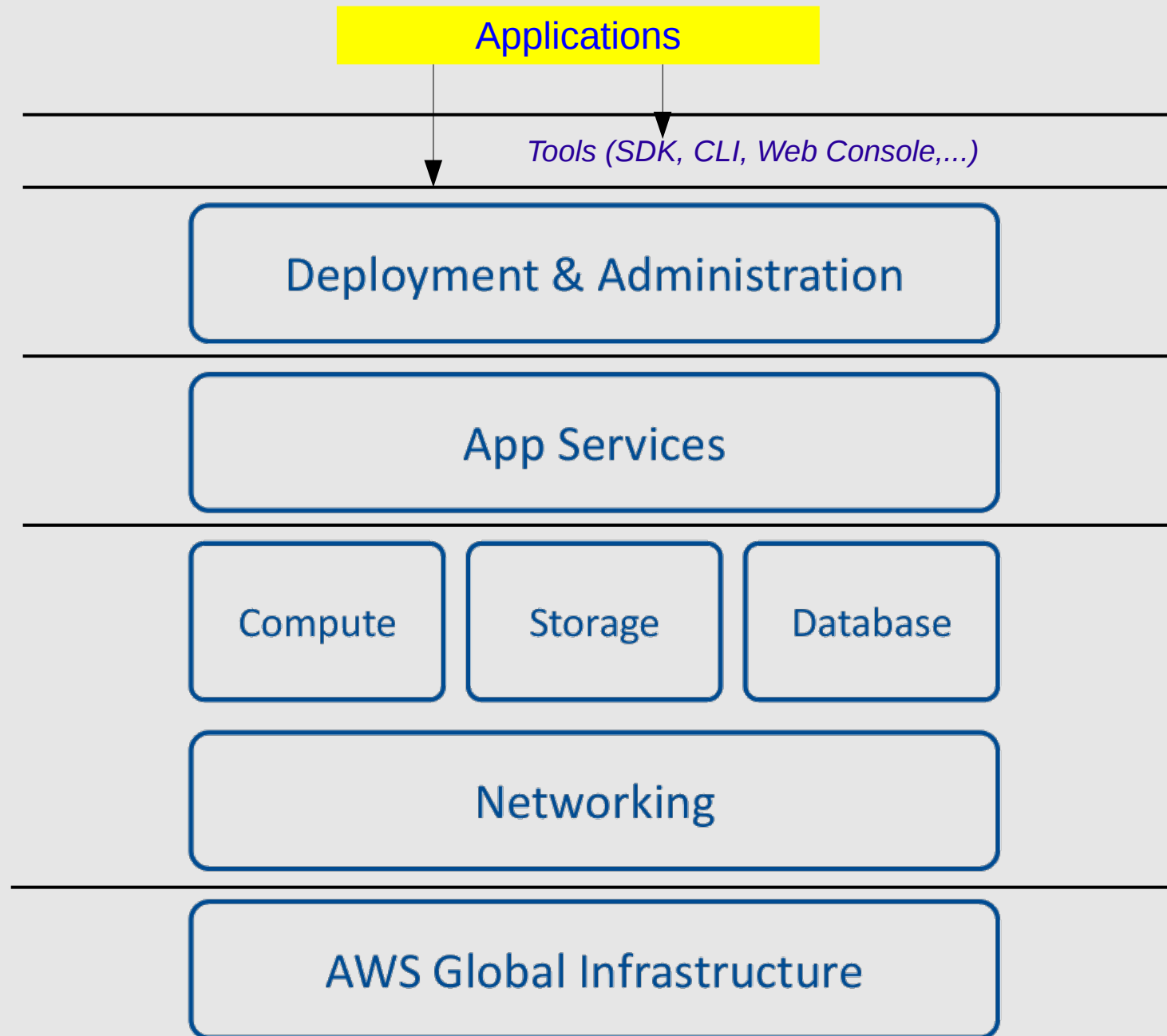
Variable peaks

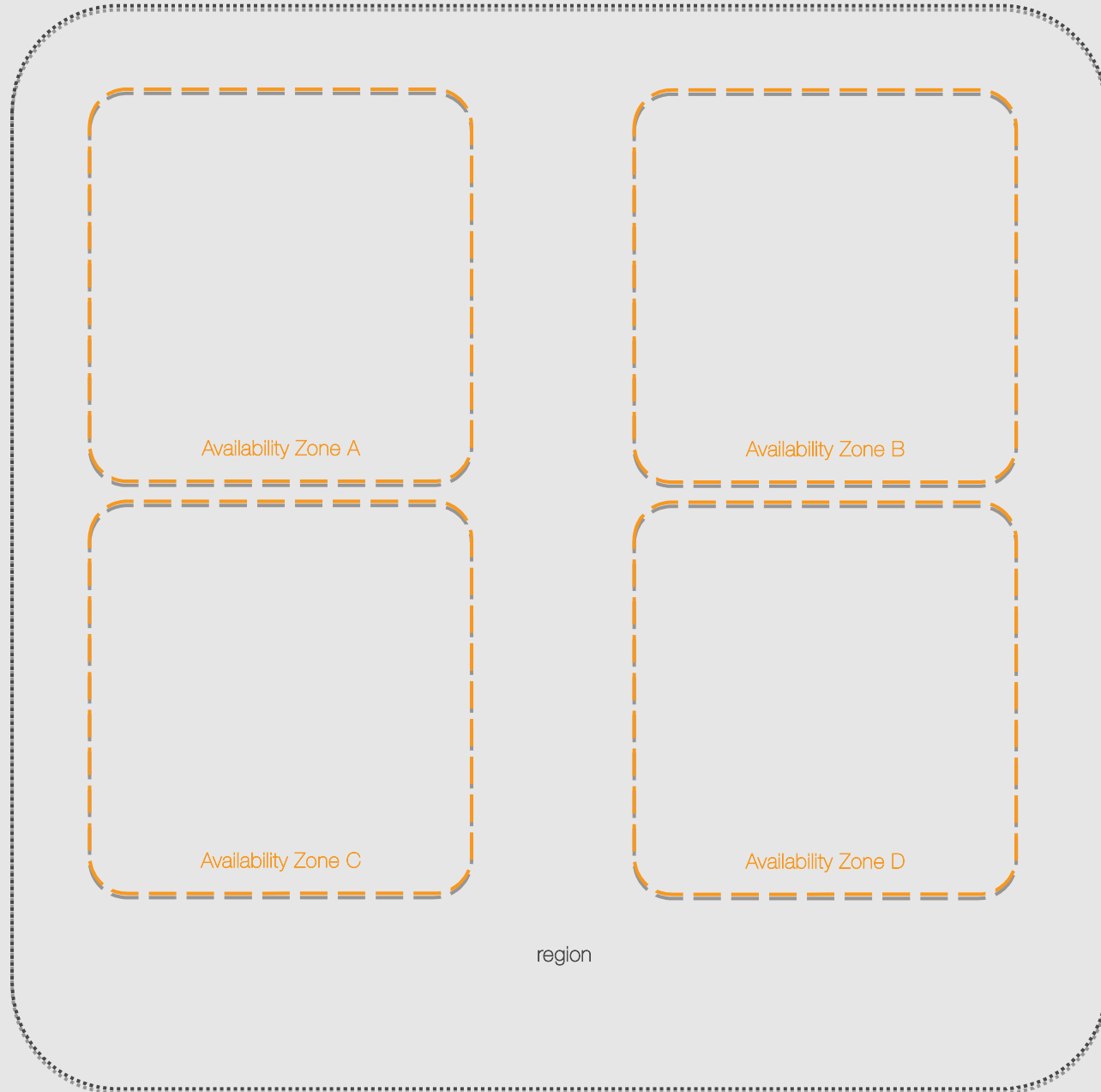


Predictable peaks









North America



US East (Northern Virginia) Region

EC2 Availability Zones: 5*

Launched 2006

US West (Oregon) Region

EC2 Availability Zones: 3

Launched 2011

US West (Northern California) Region

EC2 Availability Zones: 3*

Launched 2009

AWS GovCloud (US) Region

EC2 Availability Zones: 2

Launched 2011

AWS Edge Locations: Ashburn, VA (3), Atlanta, GA, Dallas/Fort Worth, TX (2), Hayward, CA, Jacksonville, FL, Los Angeles, CA (2), Miami, FL, New York, NY (3), Newark, NJ, Palo Alto, CA, San Jose, CA, Seattle, WA, South Bend, IN, St. Louis, MO

South America



São Paulo Region

EC2 Availability Zones: 3

Launched 2011

AWS Edge Locations: Rio de Janeiro, Brazil, São Paulo, Brazil

[See detailed list of offerings at all AWS locations](#)

Europe / Middle East / Africa



EU (Ireland) Region

EC2 Availability Zones: 3

Launched 2007

EU (Frankfurt) Region

EC2 Availability Zones: 2

Launched 2014

AWS Edge Locations: Amsterdam, The Netherlands (2), Dublin, Ireland, Frankfurt, Germany (3), London, England (3), Madrid, Spain, Marseille, France, Milan, Italy, Paris, France (2), Stockholm, Sweden, and Warsaw, Poland

[See detailed list of offerings at all AWS locations](#)

Asia Pacific



Asia Pacific (Singapore) Region

EC2 Availability Zones: 2

Launched 2010

Asia Pacific (Tokyo) Region

EC2 Availability Zones: 3

Launched 2011

Asia Pacific (Sydney) Region

EC2 Availability Zones: 2

Launched 2012

China (Beijing) Region

EC2 Availability Zones: 2

[Learn more at www.amazonaws.cn](http://www.amazonaws.cn)

AWS Edge Locations: Chennai, India, Hong Kong, China (2), Manila, the Philippines, Melbourne, Australia, Mumbai, India, Osaka, Japan, Seoul, Korea (2), Singapore (2), Sydney, Australia, Taipei, Taiwan, Tokyo, Japan (2)

[See detailed list of offerings at all AWS locations](#)

AWS Official Blog

In the Works – AWS Region in India

by Jeff Barr | on 30 JUN 2015 | in [Announcements](#) | [Permalink](#) | [Comments](#)

AWS Official Blog

In the Works – AWS Region in South Korea!

by Jeff Barr | on 04 NOV 2015 | in [Announcements](#) | [Permalink](#) | [Comments](#)

All Things Distributed

Werner Vogels' weblog on building scalable and robust distributed systems.

London Calling! An AWS Region is coming to the UK!

By Werner Vogels on 06 November 2015 12:00 PM | [Permalink](#) | [Comments \(21\)](#)

Compute

EC2 Lambda EC2 Container Service Elastic Beanstalk Elastic Load Balancing



Developer Tools

CodeCommit CodeDeploy CodePipeline



Management Tools

CloudWatch CloudFormation CloudTrail Config OpsWorks Service Catalog



Storage & Content Delivery

S3 CloudFront EFS Glacier Storage Gateway Snowball



Mobile Services

Cognito Device Farm Mobile Analytics SNS



Database

RDS DynamoDB ElastiCache RedShift Simple DB Database Migration Service



Networking

VPC Direct Connect Route 53



Analytics

EMR Data Pipeline Kinesis Machine Learning QuickSight Elasticsearch Service



Security & Identity

Identity & Access Management Directory Service Trusted Advisor Cloud HSM Key Management Service Web App Firewall



Application Services

API Gateway AppStream CloudSearch Elastic Transcoder SES SQS SWF



Hubs

Mobile Hub



IOT

IoT



Enterprise Applications

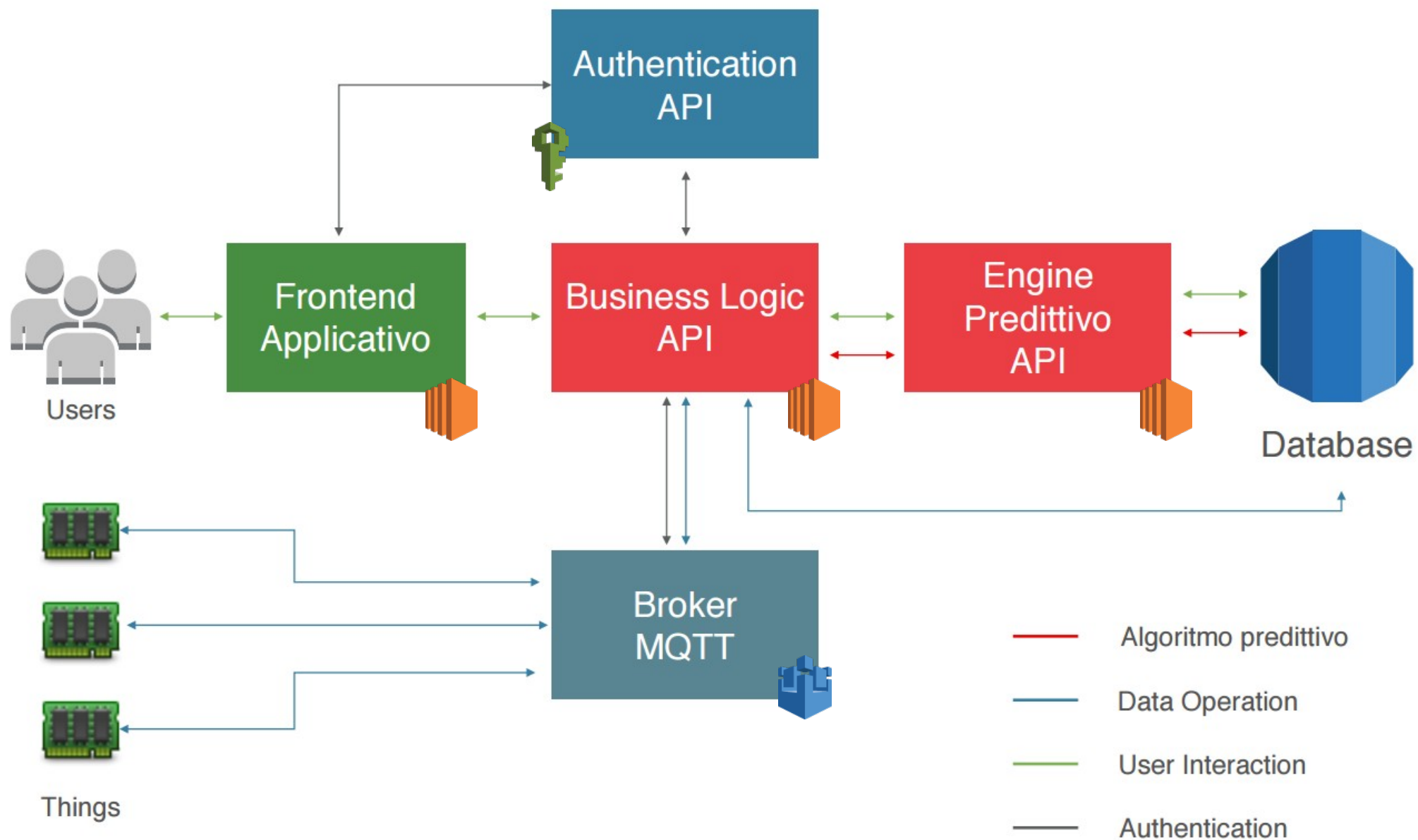
WorkSpaces WorkDocs WorkMail

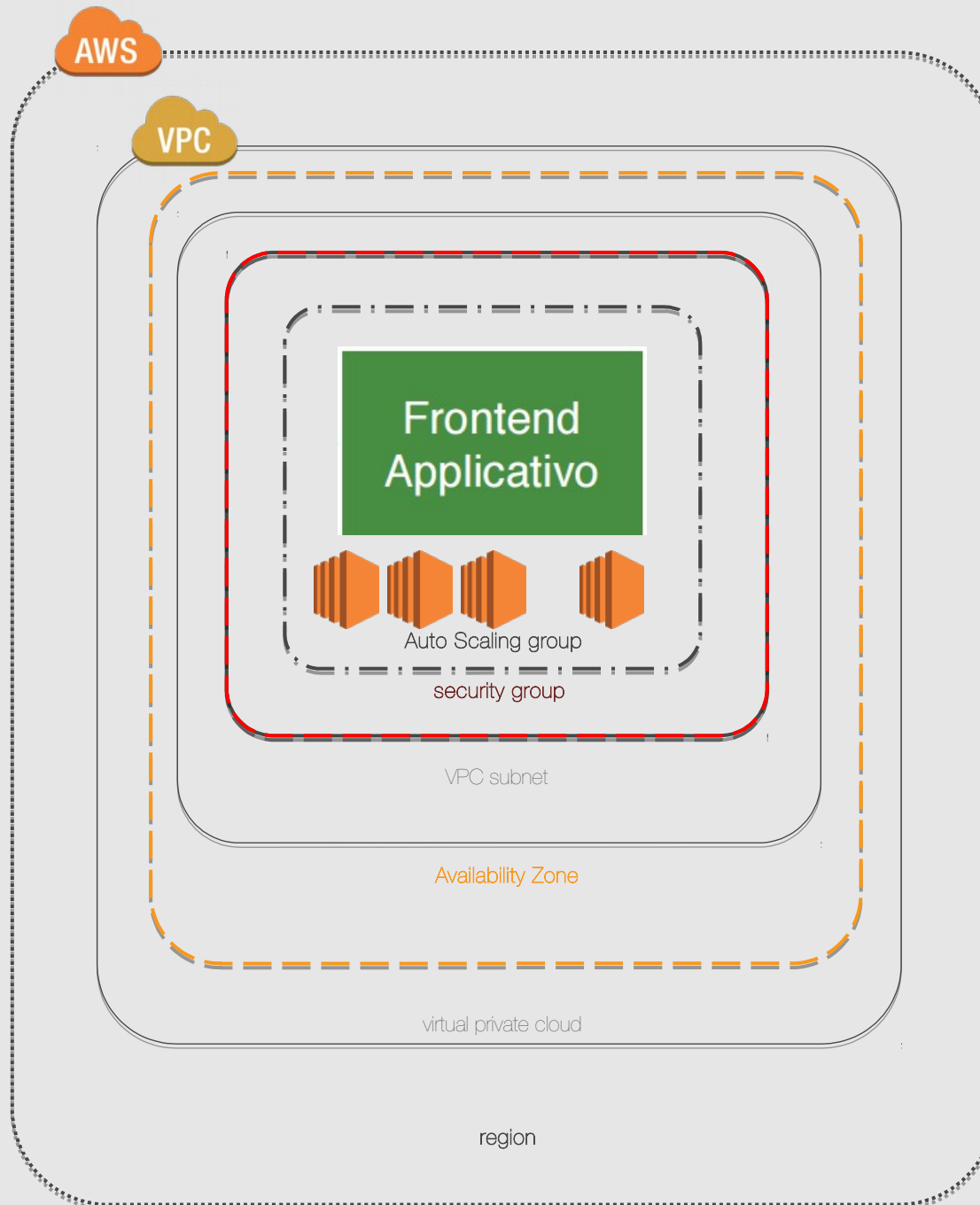


Tabella delle regioni

Americhe	Europa/Medio Oriente/Africa	Asia Pacifico
Servizi offerti	Irlanda	Francoforte
Amazon API Gateway	✓	
Amazon AppStream		
Amazon CloudSearch	✓	✓
Amazon CloudWatch	✓	✓
Amazon Cognito	✓	
Amazon DynamoDB	✓	✓
Amazon EC2 Container Service (ECS)	✓	
Amazon ElastiCache	✓	✓
Amazon Elastic Block Store (EBS)	✓	✓
Amazon Elastic Compute Cloud (EC2)	✓	✓
Amazon Elastic MapReduce (EMR)	✓	✓
Amazon Elasticsearch Service	✓	✓
Amazon Elastic Transcoder	✓	
Amazon Glacier	✓	✓

<https://aws.amazon.com/it/about-aws/global-infrastructure/regional-product-services/>







Amazon Web Services

Compute

- EC2**
Virtual Servers in the Cloud
- EC2 Container Service**
Run and Manage Docker Containers
- Elastic Beanstalk**
Run and Manage Web Apps
- Lambda**
Run Code in Response to Events

Storage & Content Delivery

- S3**
Scalable Storage in the Cloud
- CloudFront**
Global Content Delivery Network
- Elastic File System** PREVIEW
Fully Managed File System for EC2
- Glacier**
Archive Storage in the Cloud
- Import/Export Snowball**
Large Scale Data Transport
- Storage Gateway**
Integrates On-Premises IT Environments with Cloud Storage

Database

- RDS**
Managed Relational Database Service
- DynamoDB**
Predictable and Scalable NoSQL Data Store
- ElastiCache**
In-Memory Cache
- Redshift**
Managed Petabyte-Scale Data Warehouse Service

Networking

- VPC**
Isolated Cloud Resources
- Direct Connect**
Dedicated Network Connection to AWS
- Route 53**
Scalable DNS and Domain Name Registration

Developer Tools

- CodeCommit**
Store Code in Private Git Repositories
- CodeDeploy**
Automate Code Deployments
- CodePipeline**
Release Software using Continuous Delivery

Management Tools

- CloudWatch**
Monitor Resources and Applications
- CloudFormation**
Create and Manage Resources with Templates
- CloudTrail**
Track User Activity and API Usage
- Config**
Track Resource Inventory and Changes
- OpsWorks**
Automate Operations with Chef
- Service Catalog**
Create and Use Standardized Products
- Trusted Advisor**
Optimize Performance and Security

Security & Identity

- Identity & Access Management**
Manage User Access and Encryption Keys
- Directory Service**
Host and Manage Active Directory
- Inspector** PREVIEW
Analyze Application Security
- WAF**
Filter Malicious Web Traffic

Analytics

- EMR**
Managed Hadoop Framework
- Data Pipeline**
Orchestration for Data-Driven Workflows
- Elasticsearch Service**
Run and Scale Elasticsearch Clusters
- Kinesis**
Work with Real-time Streaming data
- Machine Learning**
Build Smart Applications Quickly and Easily

Internet of Things

- AWS IoT** BETA
Connect Devices to the cloud

Mobile Services

- Mobile Hub** BETA
Build, Test, and Monitor Mobile apps
- Cognito**
User Identity and App Data Synchronization
- Device Farm**
Test Android, Fire OS, and iOS apps on real devices in the Cloud
- Mobile Analytics**
Collect, View and Export App Analytics
- SNS**
Push Notification Service

Application Services

- API Gateway**
Build, Deploy and Manage APIs
- AppStream**
Low Latency Application Streaming
- CloudSearch**
Managed Search Service
- Elastic Transcoder**
Easy-to-use Scalable Media Transcoding
- SES**
Email Sending Service
- SQS**
Message Queue Service
- SWF**
Workflow Service for Coordinating Application Components

Enterprise Applications

- WorkSpaces**
Desktops in the Cloud
- WorkDocs**
Secure Enterprise Storage and Sharing Service
- WorkMail** PREVIEW
Secure Email and Calendaring Service

Resource Groups

[Learn more](#)

A resource group is a collection of resources that share one or more tags. Create a group for each project, application, or environment in your account.

[Create a Group](#)[Tag Editor](#)

Additional Resources

[Getting Started](#)

Read our [documentation](#) or view our [training](#) to learn more about AWS.

[AWS Console Mobile App](#)

View your resources on the go with our AWS Console mobile app, available from [Amazon Appstore](#), [Google Play](#), or [iTunes](#).

[AWS Marketplace](#)

Find and buy software, launch with 1-Click and pay by the hour.

[AWS re:Invent Announcements](#)

Explore the next generation of AWS cloud capabilities. See [what's new](#)

Service Health

All services operating normally.

Updated: Nov 26 2015 07:51:01 GMT+0100

[Service Health Dashboard](#)



AWS ▾

Services ▾

Edit ▾

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Spot Requests

Reserved Instances

Commands

Dedicated Hosts

IMAGES

AMIs

Bundle Tasks

Launch Configurations
Auto Scaling Groups

Resources

You are using the following Amazon EC2 resources in the EU West (Ireland) region:

2 Running Instances

0 Dedicated Hosts

16 Volumes

10 Key Pairs

0 Placement Groups

2 Elastic IPs

38 Snapshots

0 Load Balancers

46 Security Groups

Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the EU West (Ireland) region

Provided by TIBCO Software, Inc.

Rating ★★★★★

Pay by the hour for Tibco software and AWS usage

[View all Business Intelligence](#)

[Find more software on AWS Marketplace](#)

Feedback English

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[Privacy Policy](#)

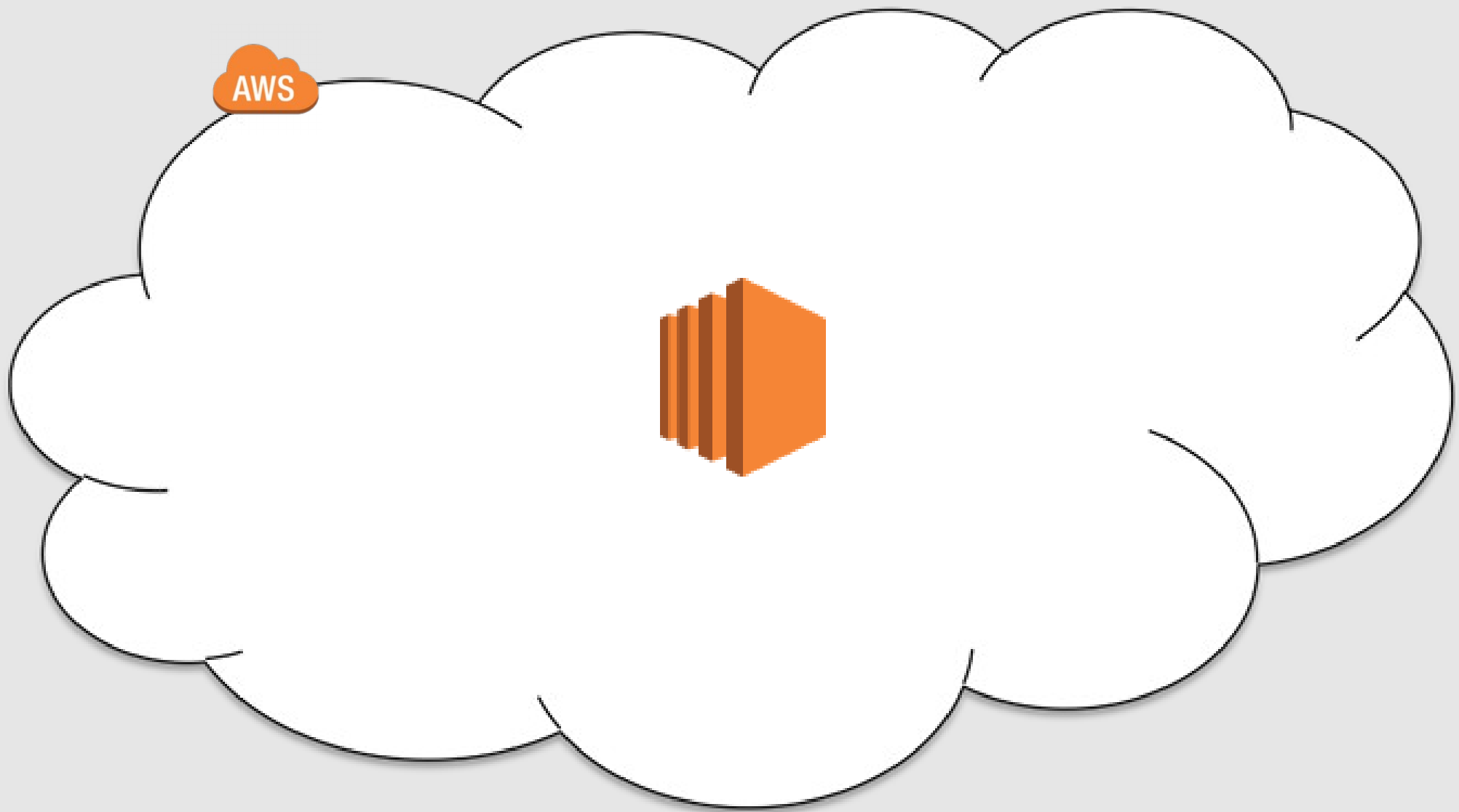
[Terms of Use](#)

EC2

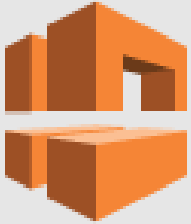


Servizio IaaS:

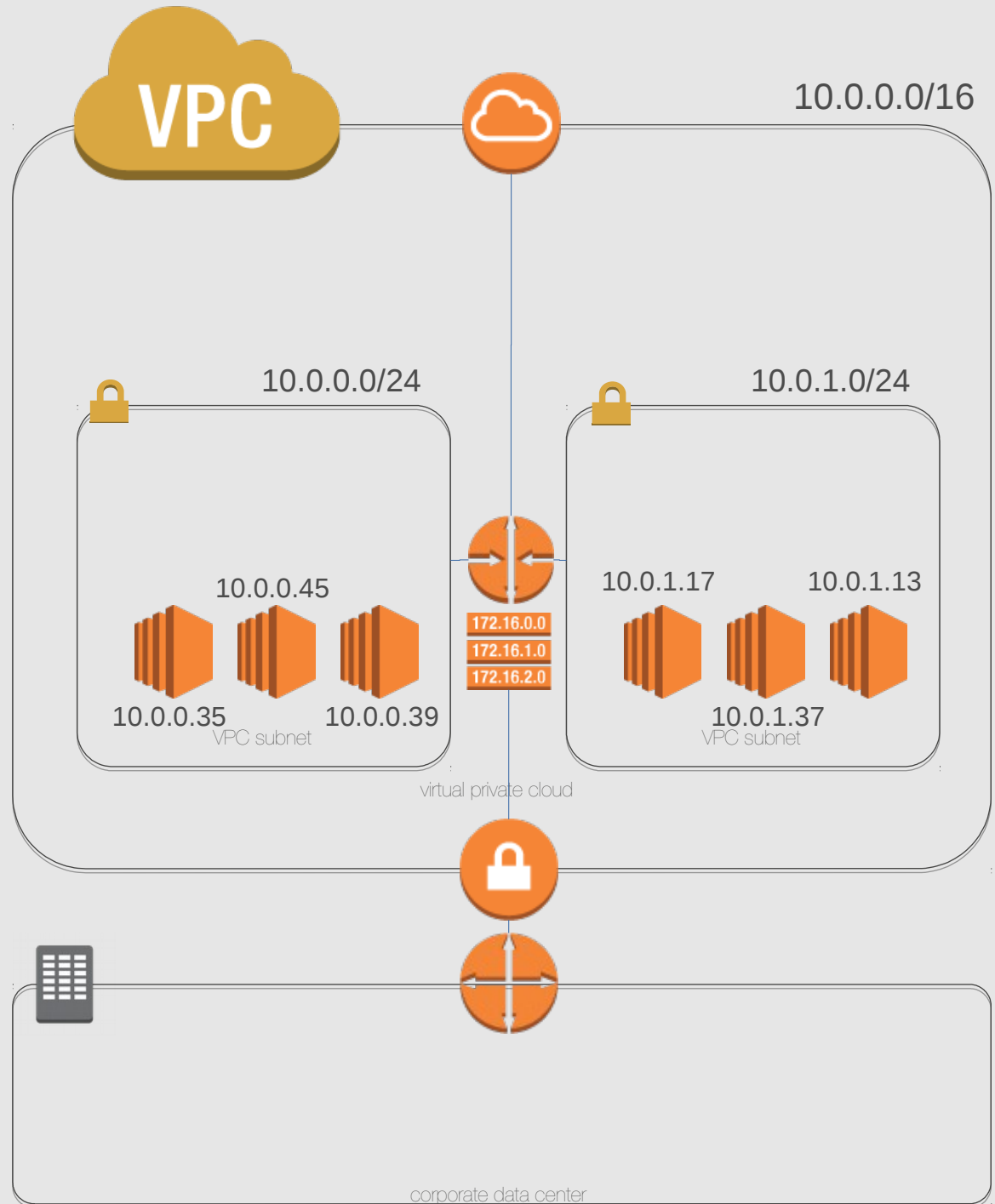
- Disponibilità HW per classi/famiglie e taglie
 - T2, M4, C4, R3, G2, I2,...
 - micro, small, medium, large, xlarge, 2xlarge,...
- Parziale conoscenza dell'HW (cpu-model)
- Diversi tecnologie e modelli di storage
 - “effimero”, magnetico, SSD
 - General purpose, provisioned IOPS, low cost,...
- Diverse opzioni di acquisto (on-demand, reserved, spot)
- Monitorabile (cloudwatch)
- Scalabile orizzontalmente e verticalmente
 - Autoscaling (scaling orizzontale)
 - ELB
- “sicura”
 - Chiavi RSA
 - Security group (“firewall AWS”)



VPC



- Rete isolata
- Sottoreti
- ACL
- Router & route table
- Internet Gateway
- Tunnel VPN



CloudMQTT



Apollo

IBM MessageSight



Mosquitto

Broker
MQTT



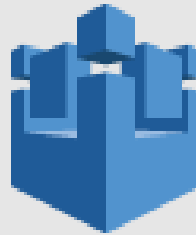
MQ Telemetry Transport (MQTT) è un protocollo di messaggistica leggero posizionato in cima a TCP/IP. È stato disegnato per le situazioni in cui è richiesto un basso impatto e dove la banda è limitata. Il pattern publish-subscribe richiede un message broker. Il broker è responsabile della distribuzione dei messaggi ai client destinatari. Il protocollo è stato inventato da Andy Stanford-Clark di IBM, e Arlen Nipper di Cirrus Link Solutions.

(Wikipedia)

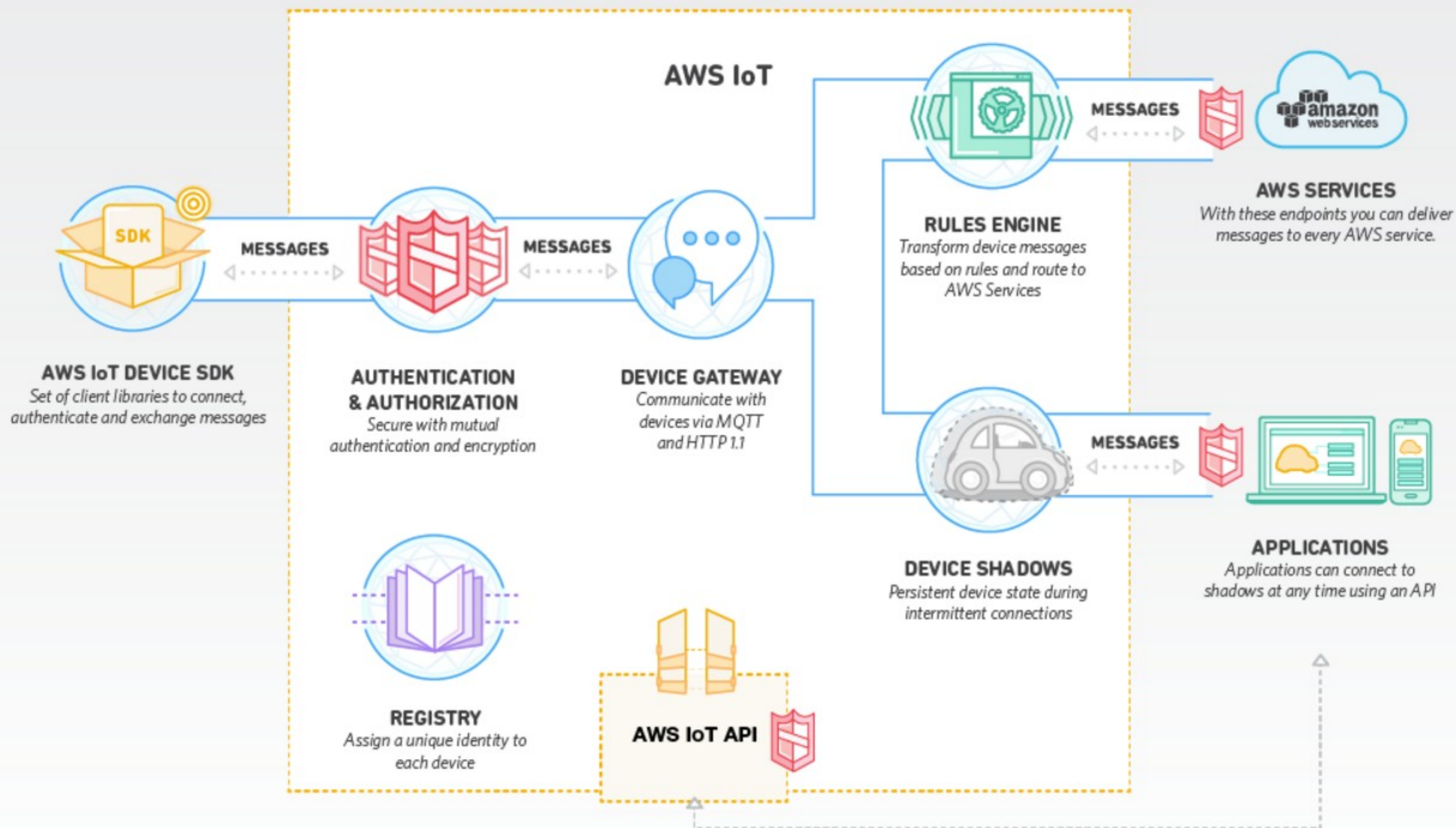
EU – Ireland

US East – N. Virginia
US West – Oregon

Asia – Tokyo



AWS IoT





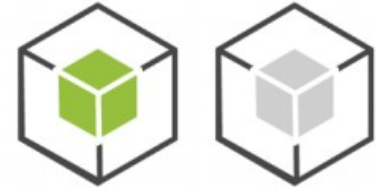
C-SDK
(Ideal for embedded
OS)



JS-SDK
(Ideal for Embedded
Linux Platforms)

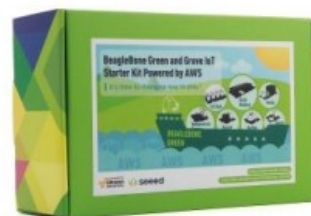


Arduino Library
(Arduino Yun)



Mobile SDK
(Android and iOS)

Official IoT Starter Kits, Powered by AWS







Grazie per l'attenzione!

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