

Moving Amadeus Shopping to the Cloud



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amadeus

1 — Amadeus in a few words

Amadeus in a few words

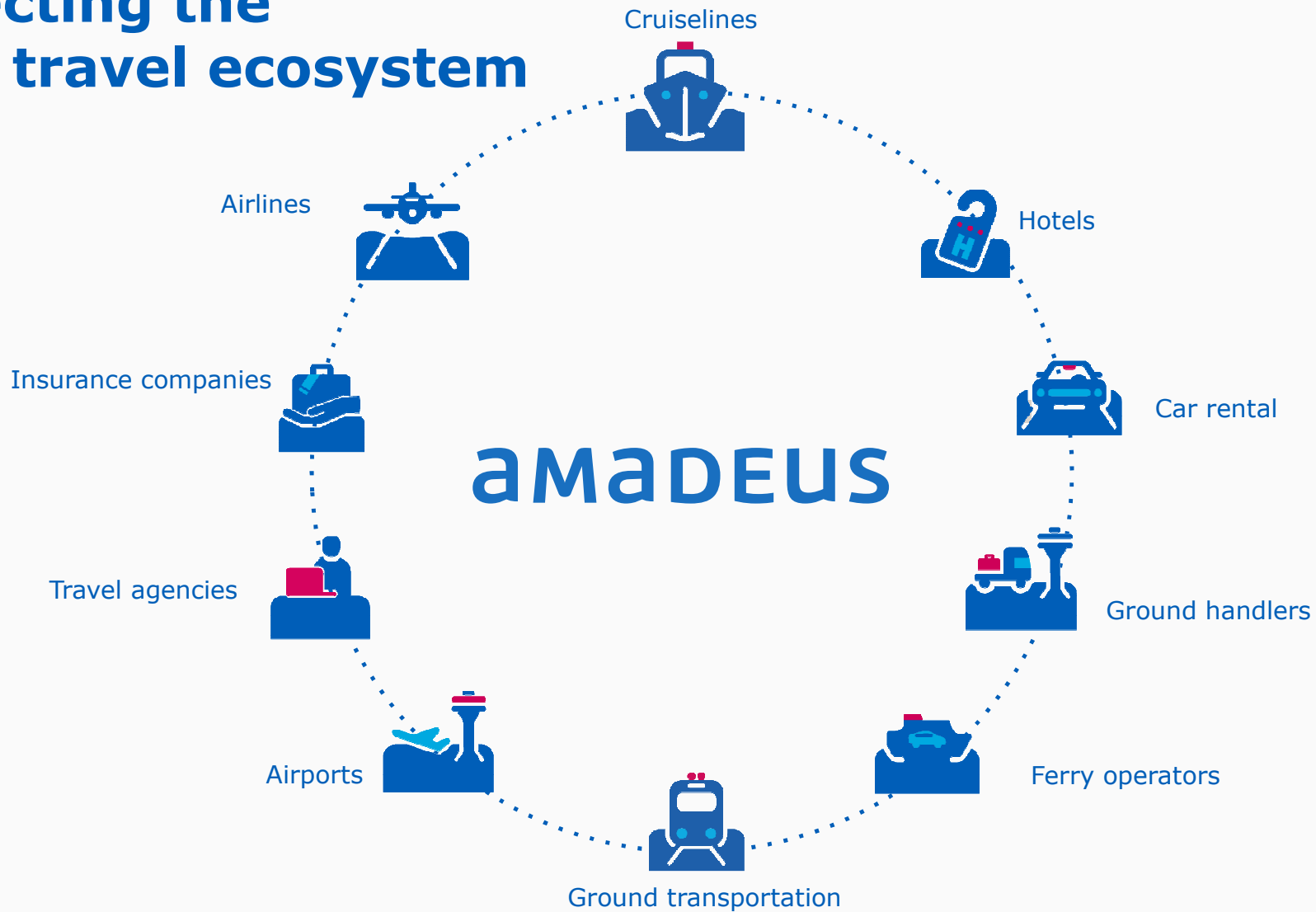
Amadeus is a technology company dedicated to the **global travel industry**.

We are present in **195 countries**
with a worldwide team of more than 13,000 people.

Our solutions help improve the
business performance
of travel agencies, corporations, airlines,
airports, hotels, railways and more.



Connecting the entire travel ecosystem



Supporting the entire traveller life cycle



Robust global operations

1.6+

billion
data requests
processed per day

566+

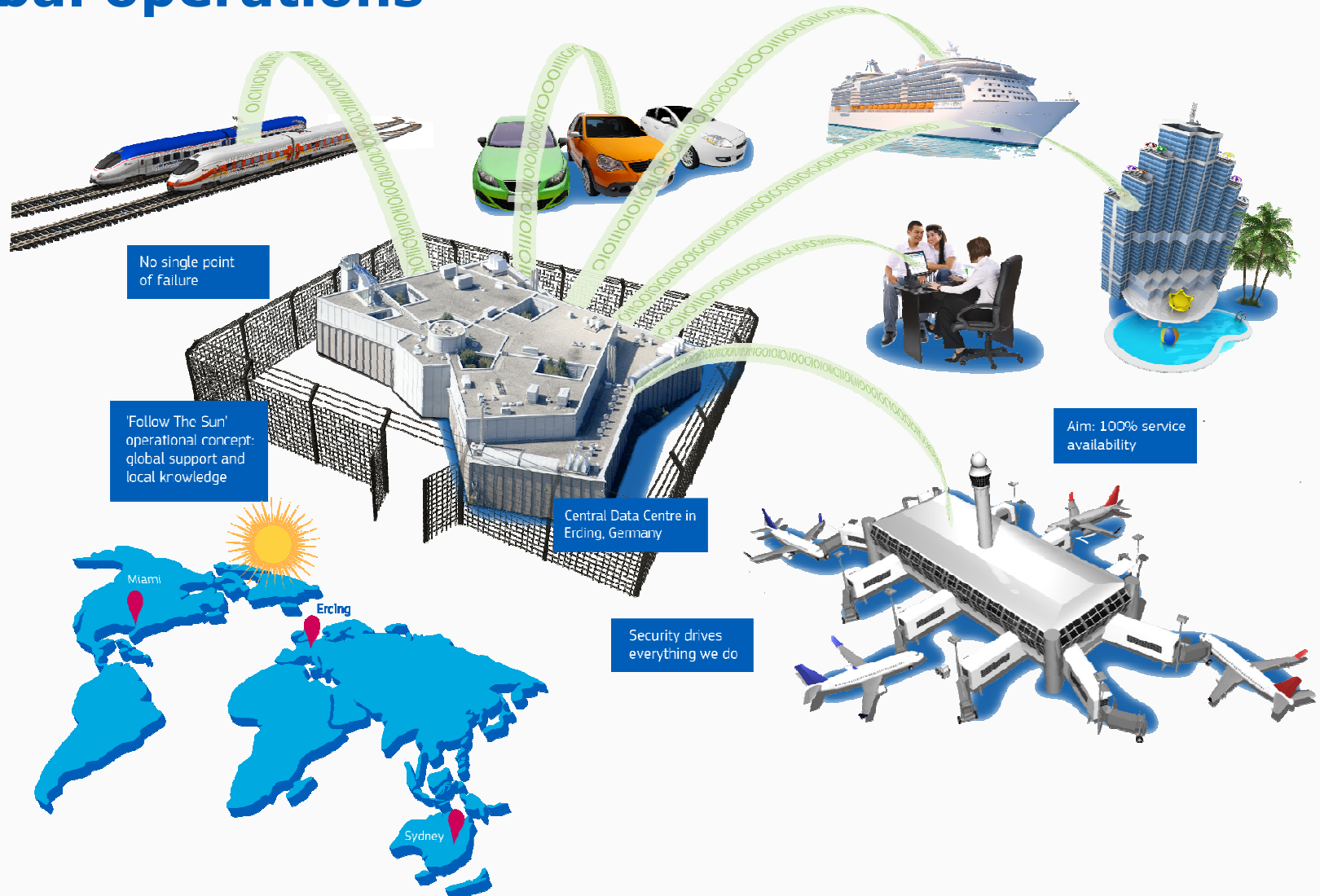
million
travel agency
bookings
processed in 2015

747+

million
Passengers
Boarded (PBs)
in 2015

95%

of the world's
scheduled
network airline
seats



Amadeus Search, Shopping and Pricing solutions



2 — Moving to the cloud?

Why moving to Cloud Shopping?



Network latency



Protected markets



Expected long

Why moving to Cloud Shopping?



Traffic growth



Operational simplification



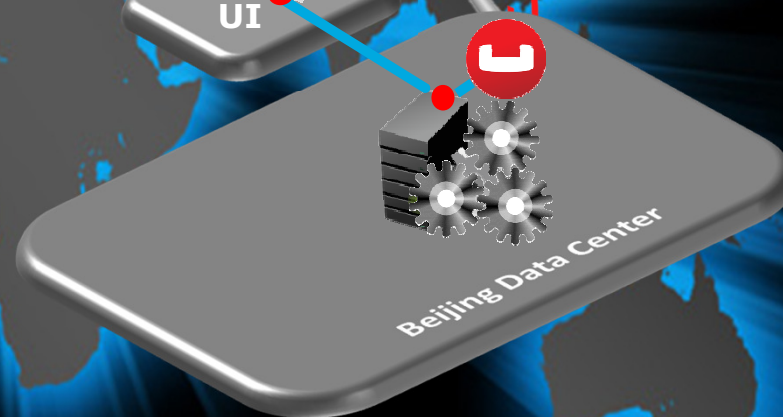
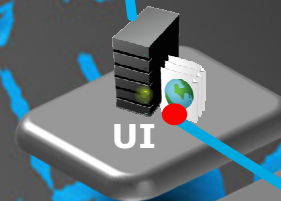
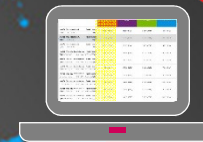
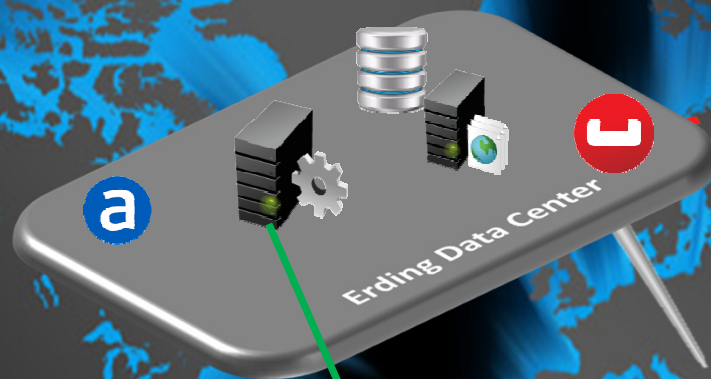
DevOps





Processing

- On remote Data Center side

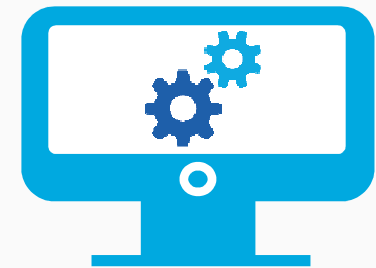
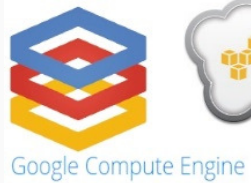


Updates

- On Erding Data Center
- Cross Data Center replication
- Available on remote Data Center

3 — Underlying technologies

Amadeus Cloud Services Overview – Cloud Computing



— Infrastructure As A Service (IaaS)

- VM provisioning
- Disk storage
- Networking

— Platform As A Service (PaaS)

- Data Store
- Application Deployment

— Software As A Service (SaaS)

- Application

Amadeus Cloud Services Overview – Infrastructure

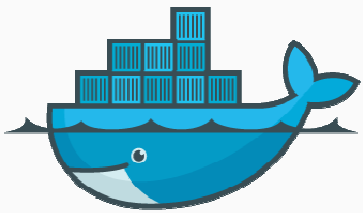


- Infrastructure creation and changes
- Model-driven
- Versioned



- Automated software deployment
- Configuration management
- Model-driven and role-based
- Versioned

Amadeus Cloud Services Overview - PaaS



- Process isolation inside Linux container
- Ship and run codes on any linux platform
- Docker images embed code from OS to application



kubernetes
by Google

- Orchestration of Docker containers
- Cluster manager
- Self-healing: auto placement & auto-restart



Couchbase

- Distributed Key Value Store
 - Cross Data Center replication



OPENSIFT

- Orchestrate a Data Center
 - Build upon Kubernetes
 - Handle continuous delivery and continuous deployment (not use in Amadeus)



- Amadeus Cloud Services
 - Amadeus specialization of Openshift (ESB, Monitoring, Silos...)
 - Software deployment

4 — DevOps

What is DevOps ?

Definition

DevOps

From Wikipedia, the free encyclopedia

DevOps (a **clipped compound** of "development" and "operations") is a culture, movement or practice that emphasizes the **collaboration and communication** of both **software developers** and other **information-technology** (IT) professionals while **automating the process** of software delivery and infrastructure changes.^{[1][2]} It aims at establishing a culture and environment where building, **testing**, and releasing software, can happen rapidly, frequently, and more reliably.^{[3][4][5]}

"Typically, we hire about a 50-50 mix of people who have more of a software background and people who have more of a systems engineering background. It seems to be a really good mix."

--Ben Treynor, Google VP Engineering

"We care very deeply about keeping SRE an engineering function, so our rule of thumb is that an SRE team must spend at least 50% of its time actually doing development."

--Ben Treynor, Google VP Engineering

"So anything that scales headcount linearly with the size of the service will fail."

--Ben Treynor, Google VP Engineering

<http://www.site-reliability-engineering.info/2014/04/what-is-site-reliability-engineering.html>

DevOps @ Amadeus

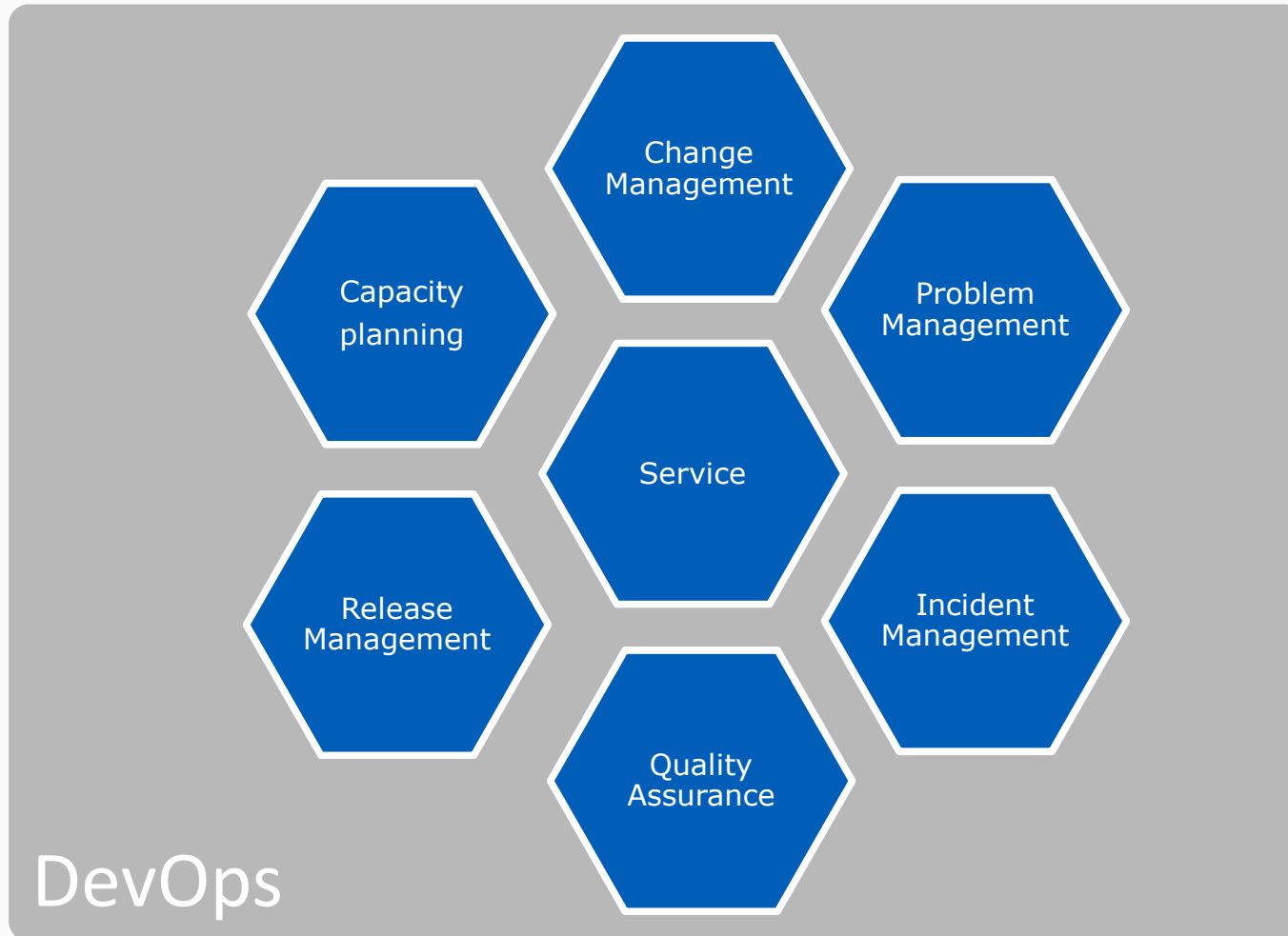
Spirit



- 'Act as an owner' (i.e. act as if you were the CEO of your startup)
- As an owner, you need to:
 - Have multiple skills:
 - You don't let something go just because it's not your job !
 - You need to develop the skill to get things done
 - Be demanding:
 - You can't accept to 'let something go' if you feel it could compromise your service
 - Constantly improve your service, your skills, your way of working:
 - You don't want to keep doing the same thing over and over again
 - You want to improve your efficiency on the recurring task to have more time to enrich your offer

DevOps @ Amadeus

Responsibilities



ACS : The right tools

Infrastructure changes



```
resource "google_compute_instance" "couchbase_node" {  
  name = "couchbase-node-${count.index}"  
  zone = "europe-west1-b"  
  disk {  
    image = "centos-7"  
  }  
  machine_type = "n1-standard-4"  
  count = "5"  
}
```

ACS : The right tools

Deployment changes



OPENSHIFT



```
{
  "kind": "DeploymentConfig",
  "apiVersion": "v1",
  "metadata": {
    "name": "myapp-controller",
  },
  "spec": {
    "replicas": 5,
    "strategy": {
      "type": "Rolling"
    },
    "template": {
      "spec": {
        "containers": [{
          "name": "mag",
          "image": "shopping/myapp:1.2",

```

DevOps @ Amadeus : Benefits

The value

- Value for our customers
 - Responsiveness to changes
 - Continuous delivery and shorter release cycles
 - Better efficiency

- Value for our employees
 - Constant learning and improvements
 - Better engagement and involvement
 - Greater satisfaction, we're all part of something bigger than us !

_____ Thank you

You can follow us on:
AmadeusITGroup



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