



We Make It Fly

Airbus Information Management
Automation, our way to the future

AIRBUS

Laurent Peres Infrastructure Project Manager

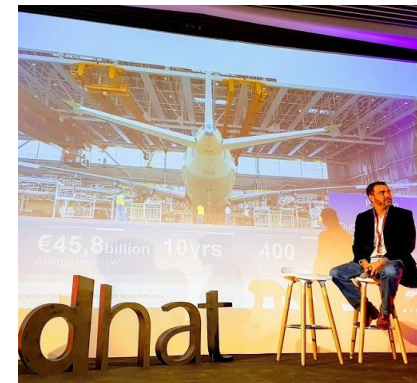


Aeronautical, and Space
enthusiast



Likes traveling

Asia
US
South America
Western Europe



Toulouse
Like in “ Nothing To Lose”

AIRBUS



55.000

Employees

€50.96billion

Annual revenue*

10yrs

Backlog

400

Operators

Passion

Our global workforce is united by a passion for aviation and restless desire to create better ways to fly

Our aircrafts are a familiar sight around the world.

An Airbus takes off or lands every 1.4 seconds.

18.234

Aircraft sold

60

Produced monthly

25.000+

Daily flights

10.991

Delivered

Data to end
February 2018

AIRBUS

The most global aerospace player – close to our customers worldwide.



Information & Communication Technology



1500 Information System professionals located around the world wherever Airbus operates.

Airbus IT Infrastructure

SUPPLIERS



106 000 users



21 000 PCs



33 000 mailboxes

AIRBUS Commercial Aircraft



96 000 users



61 000 PCs



77 000 mailboxes



6 600 printers



75 000 fixed phones



32 400 mobile phones

AIRBUS other divisions



94 000 users



5 000 PCs



34 000 mailboxes



600 mobile phones

CUSTOMERS



72 000 users

TOTAL



368 000



87 000



144 000



6 600



75 000



33 000



433 000 network ports



5 000 WiFi access points



27 000 Servers



19 billion transactions per year on SAP



4 200 MIPS on Mainframe



17 petabytes on storage



1.2 petaFLOPS on High performance computing

Digital Accelerator

Key enabler for digitalisation

Set-up and support digital platforms for :

- Public Cloud
- Big Data
- Internet of Things
- API Mgt
- Monitoring & Security
- IT Service Management
- DevOps pipeline
- Open Source solutions

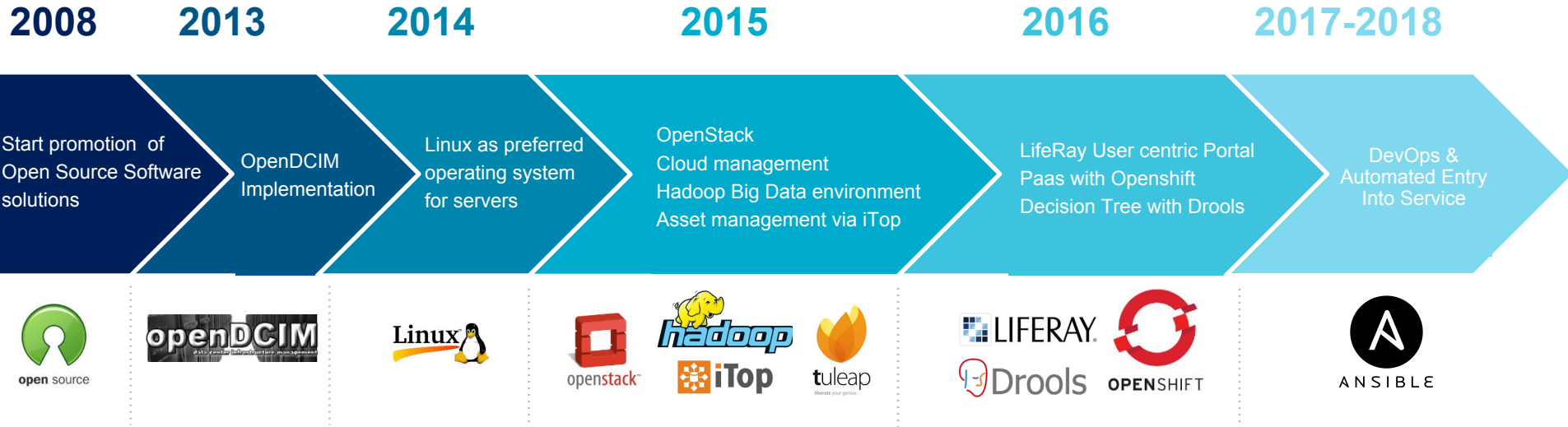
Using the latest technologies, build and operate enterprise digital platforms that operate at huge scale and speed

Making digital platforms & services available to the business via **self service**

Enables Airbus to bring value to market **faster**, reducing **costs** whilst improving **quality**

Enabled through **Open Source solutions, Automation, Big Data, IoT, API, Self Service** and **Cloud technologies**

Open source at Airbus



Automation - Context

Scope:

- Deployment and operation of applications
- Configuration, check, remediation

Drivers:

- Large & Multi-Technology environments
- Frequent applications update
- Business critical applications

Methodology & Technologies:

DevOps chain including:



JFrog Artifactory



Jenkins

sonarqube



Automic™



From the PoC to the Project

Proof of Concept:

- Identify potential solutions with Gartner
- Extensive evaluation of the solutions
- Test deployments with automation solutions

Results:

- Ansible Tower: Simplicity, efficiency, cost
- Orchestrator: Successfully deployed selected applications

KEY FIGURES

PoC on 100 Hosts

8 market tools identified

6 kept for deeper analysis

2 selected

Automation

Enables

- Application deployment
- Middleware deployment
- Patch deployment
- Configuration check
- Configuration modification
- Remediation
- Maintenance

Features

- External access for Airbus suppliers
- Collaborative platform on Automation
- Center of Expertise
- Pricing model & catalogue available
- Training capabilities

KEY FIGURES

Built for 20 000 nodes

3 Tower Clusters

4.5 FTE team

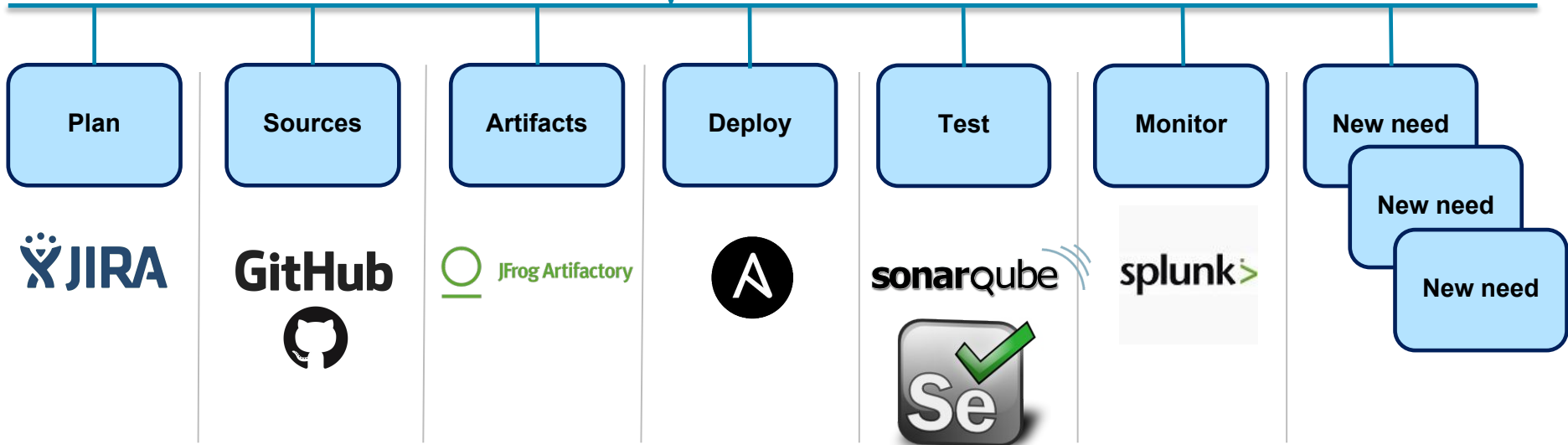
99.7% SLA (Theory)

99.95% SLA (Observed)

Automation - Orchestration

Orchestrator - **Automic**

APIs - Plugins



Automation – Key figures & Use Cases

- More than 100 projects on going
- Over 400 users registered
- Between 50 000 and 60 000 jobs launched per month

File Conversion Service project

Applicative & Middleware deployment + Setup

1 FTE

5 days of scripting

21 Servers – 6 Databases – 11 Storage CIs

Before:

1 year projectt

10 days / loop

After:

3 months

20 min / loop

Reduced team – 1FTE

Days needed to script

Reduced lead time

Frequent updates

Business autonomy and
flexibility

Average criticality
application

Automation – Use Cases

SPLUNK

Used for: Deployment / Installation / Standardization / Compliance
Targets: INT / VAL / PROD – LAN / DMZ / AWS
Servers: 90 core servers
Roles: 20 roles for transversal and specific needs
Survey: Multiple variables managed with surveys

Timeline: 15 minutes Vs 5 days for a manual deployment

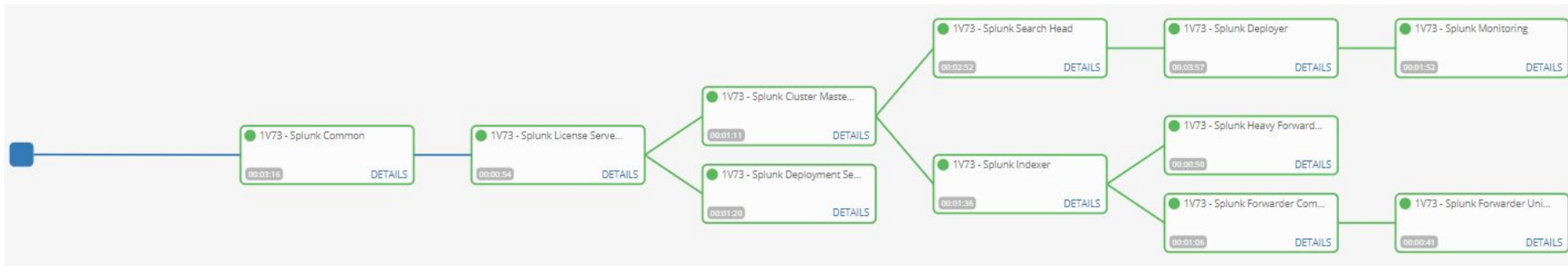
Workflow: Extensive usage of workflow manager

Reduced team – 1FTE

Reduced lead time

Server consistency

No human mistake





redhat

PARIS



Yacine Kheddache

Strategic Account Solution Architect



@YadaYac

AIRBUS

Automation - Network

- 4 years Ansible experience
- Built in-house plugin for networking devices support
- Switched back to native modules when available
- Expanding Ansible usage (Load balancers, Infoblox, IPAM...)



Dynamic inventory

Statistics

Fact checking

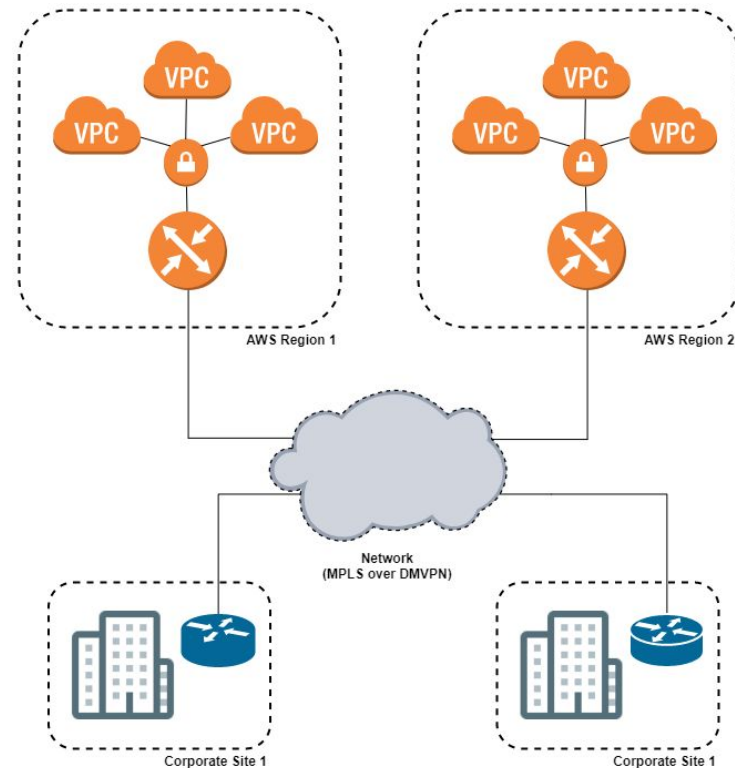
Building VRF at
European scale

Large scale upgrade

Renewal of switch
credentials

Automation - Network

- Airbus sites & AWS connections managed through Ansible
- Two-step Ansible transition:
 - ✓ Generate configuration
 - ✓ Apply configuration
- Efficiency: All needs in less than 10 roles
- Integration into CI/CD deployment processes ongoing



Automation - Next steps forecast

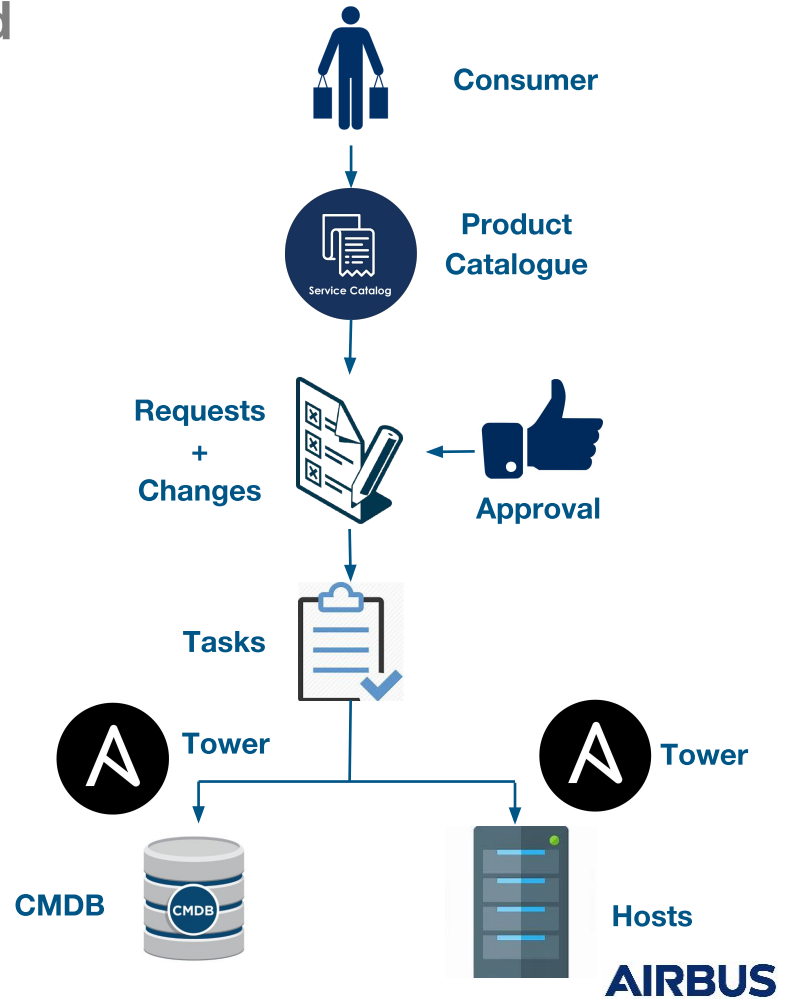


Work / Study in progress:

- Network devices integration with Ansible Tower
- Windows 2016 servers deployment, configuration and patching with Ansible Tower
- Linux servers management including configuration and patching
- Integration with ITSM tool
- Integration with Atomic orchestrator
- Integration in the full DevOps pipeline

Next steps - Automation from End to End

- Full automation from request to delivery
- Be user and self service centric
- Offer a single catalogue to aggregate all products
- Fully integrated with ITSM tool
- In line with ITIL best practices



Automation - Challenges

Risks



- Developments are required
- Governance to be adapted
- Multiple technologies to cover
- Partial coverage
- Will to promote and invest in Automation
- Find the right resources

Opportunities



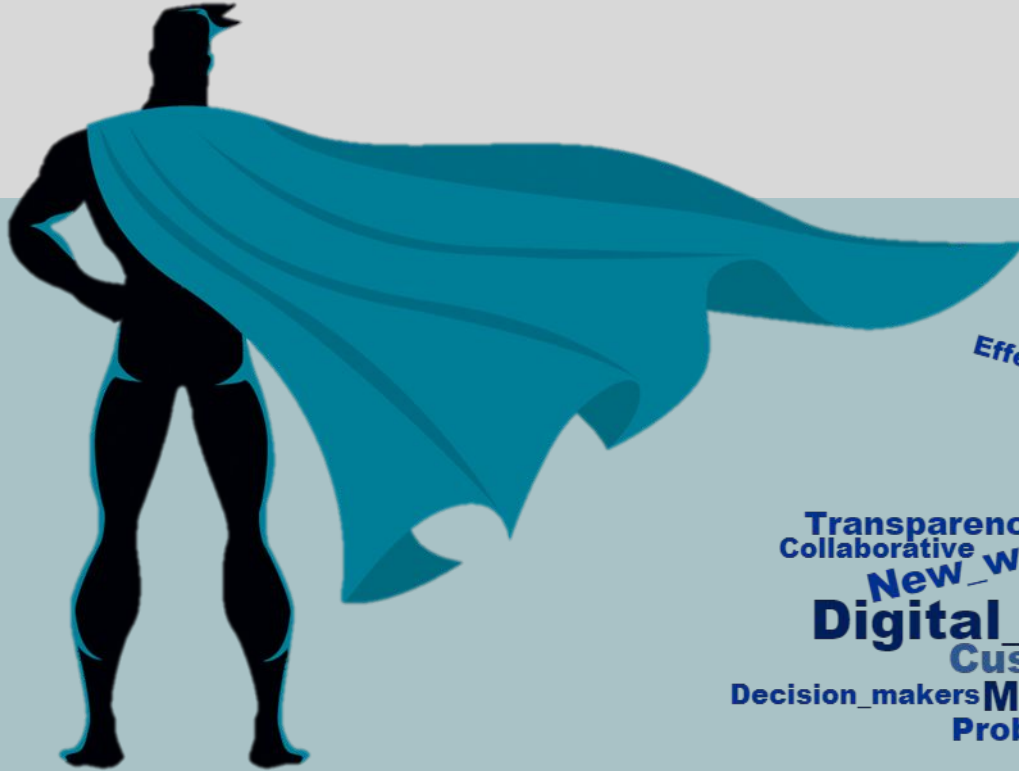
- Alignment with market best practices
- Federate existing Automation initiatives
- Adapt Operational processes
- Mass Reuse
- New way of working
- Create centers of competence

Earnings



- Focus on support and expertise
- Reduce lead time
- Cost savings
- Focus on added value activities
- Compliant with customer needs
- Enforced consistency
- Team work and knowledge sharing

Airbus IT skills



Effective_communicators
Adaptable
Autonomous
Transparency
Collaborative
New_ways_of_working
Mindset
Speed
Digital_Accelerator
Customer_focus
Decision_makers
Motivation
Problem_solvers
Creativity
Constant_learners

- Cloud Architect
- Data Governance
- Software Developer
- Technology Platform Owner
- Technology Engineer
- Scrum Master
- Test automation
- Tribe Manager
- Guild Manager
- UX UI Specialist
- DevOps Engineer

Thank you

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