



# PUBLIC CLOUD DHL EXPRESS

Migration of Critical Customs Clearance  
systems

to public multi-cloud platform

SOUG, Basel, April 17<sup>th</sup>

Djamel Djedid – Head of Application Development & Integration

DHL Express. Excellence. Simply Delivered.



## The International Specialists in Switzerland

8

Flights daily in/out  
of Switzerland

3

Gateways\*



850+

Service Points



EUR 22M

Invested in Basel Gateway  
infrastructure

550+

Vehicles

ISO

9001 & 14001  
CERTIFIED



79

Air tons moved daily  
in/out Switzerland

\* Including Malpensa (Italy)




SOUG | DHL Express Switzerland - Public Cloud Migration Project

# Unparalleled infrastructure and best-in-class operations

3 Gateways and 1 Road Hub at the core of our operations



- >96%** Transit time performance\*\*
- >97%** Pre-noon delivery/inbound\*\*
- >94%** Cleared on arrival\*\*

			
<b>Vehicles</b>	550+	220	260
<b>Gateways</b>	3	2	2
<b>Service Centers</b>	13	9	5
<b>Service Points</b>	850+	n/a	400+

## Connecting Switzerland with the world

Direct daily flights to Europe and rest of the world

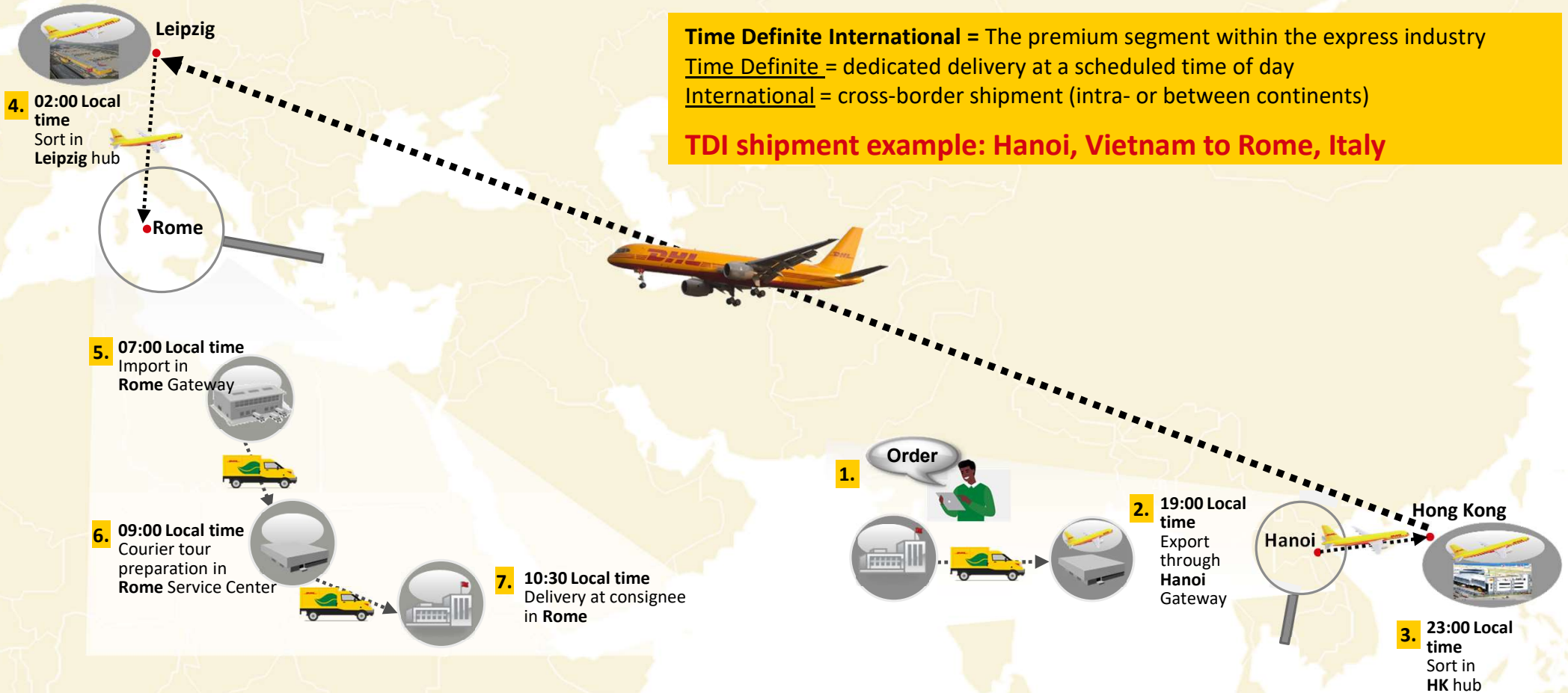
- DHL Leipzig Hub connects Switzerland to 220+ countries and territories
- 60+ flights every working day to over 45 destinations from Leipzig



# Time Definite International (TDI) is our core product

**Time Definite International** = The premium segment within the express industry  
Time Definite = dedicated delivery at a scheduled time of day  
International = cross-border shipment (intra- or between continents)

**TDI shipment example: Hanoi, Vietnam to Rome, Italy**




# The “Migration” Project

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 The Triggers & Opportunities

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 The Proof of Concept, “Yes, it works!”


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 The Big Project phases, “Slice the Elephant”

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 Finally, The WOW effects

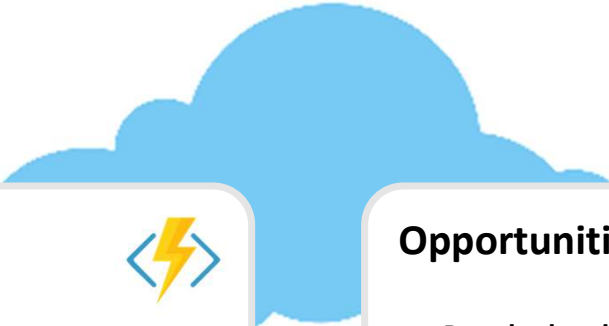
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 We want more of IT

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# The Triggers & Opportunities

How have we considered and adopted Public Cloud Services for critical services? 



## Triggers



- We needed to do a Tech Refresh of several country critical applications, Customs Clearance, Billing, Warehousing, etc.
- ITS increased maturity, communication, documentation, and cloud suppliers (Microsoft, Oracle, Amazon, Google) offering
- We had active support from Country and Global Senior Management to shape a possible Proof of Concept involving Microsoft and Oracle
- ... Finally, public cloud is a key element of our IT WOW Strategy, Technology pillar



## Opportunities




- **People development.** Grow our team members in the latest and best technologies, access to the top experts of the industry
- **Best-of-Breed** technology from each supplier and the wider range of ITS Public Cloud offering. Cherry-pick products and solutions
- Forces us to review every single bit of our applications with a “leave no stone unturned” spirit
- Extend further technology opportunities: containers, SOA, enhanced DevSecOps, wide range of Public Cloud services



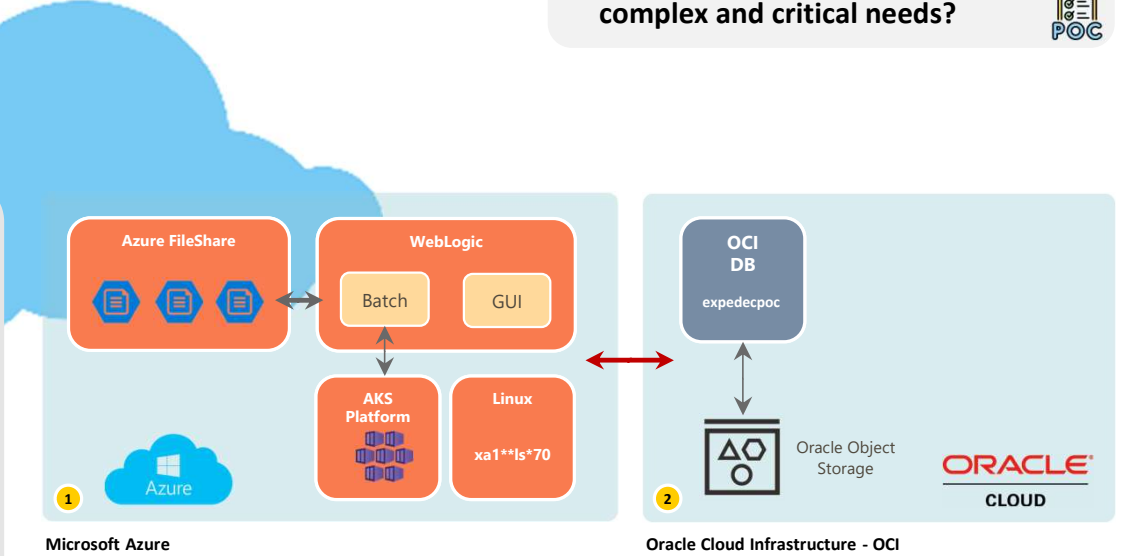
*“Did you consider Public Cloud instead of On Prem? Try it out!”*  
**Dirk Olufs**, Global CIO, DHL Express

# The PoC, “Yes, it works!”

How have we assessed, checked and **validated** Public Cloud for our complex and critical needs? 

## PoC Success Criteria

- Import Customs Clearance application ICOS+ as **the most sensitive application to migrate** (volume, performances, business criticality). If it works for this application, then it will work for the other as well
- Reproduce critical flows, ensure that **end to end performances** are **equivalent**. +/- 10% is acceptable (500 ms response time area)
- Identify the possible development or architectural changes implied
- Focus on the possible risks and option implied by a multi-public cloud architecture (performances, “dual”-exposure)



- IT Team accessing DB
- Data management
- Business users
- Usability & perf. testing





# The Big Project Phases, “How big is the Elephant?”

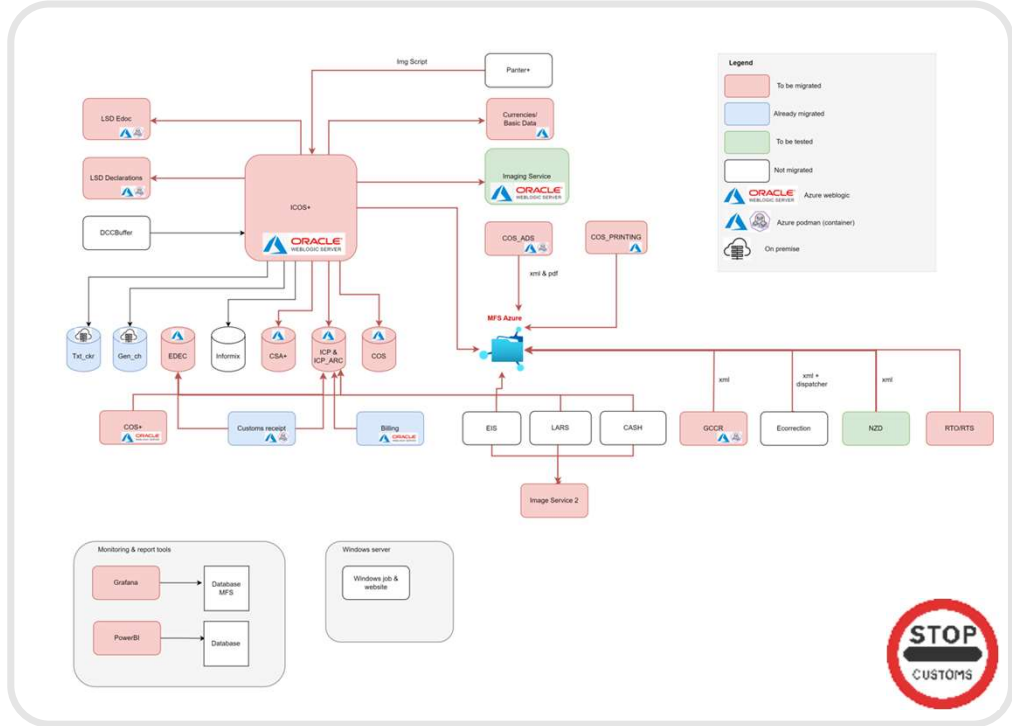
Import Clearance process is complex, time critical and high volume




## Under the cover...





- Some components remain (a) **as-is** OnPrem, some are (b) **upgraded** OnPrem, some (c) **migrated to OCI**, others to are (d) **migrated to Azure**
- Code review, clean-up, simplification and improvement “**on the fly**”
- Minimally 2 team members involved in each task to ensure **knowledge sharing** and overall confidence
- This is “just” the Import Clearance..., Export Clearance and other applications/processes also went through the **same architecture/migration work**
- Obsessed about **performances** and **simplification**

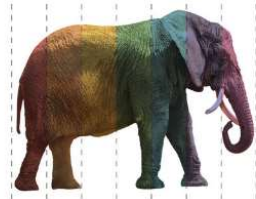


# The Big Project Phases, "Slice the Elephant"

Maximize success through sensible plans, minimize risks and increase people confidence 

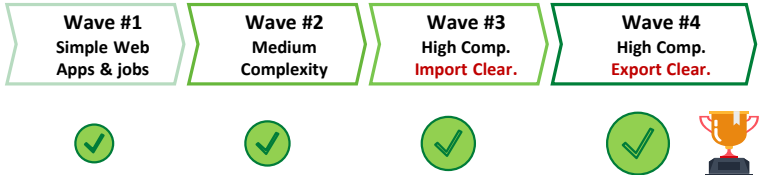
## The 7Rs of a cloud journey

-  **Retire**  
The applications you don't need any more.
-  **Retain**  
On-premises applications that are too complex or costly to migrate.
-  **Rehost**  
Applications quickly in the cloud.
-  **Replatform**  
Applications that need to run on a different operating system in the cloud.
-  **Replace**  
Applications for which better and/or cheaper SaaS solutions are available.
-  **Refactor**  
Applications that need significant code rework for the cloud, decoupling from other systems as needed.
-  **Reimagine**  
Business processes in the cloud by redefining and enhancing core value propositions.




## 7Rs in Action

- 1 Retired:** legacy scripts, DB objects, dormant code and configs
- 2 Retained:** on prem warehousing, scanning, mobile applications
- 3 Rehosted:** web applications, front-end, back-end and services
- 4 Replatformed:** containerize medium/low complexity solutions
- 5 Replaced:** (n/a) no new SaaS introduced in this project
- 6 Refactored:** improve the quality & maintainability of source code
- 7 Reimagined:** easier and faster access to customs documents



# Finally, The WOW Effects

We never forget WOW, Wow-ing our People, our Business Colleagues and our Customers 

This single Public Cloud migration project helped us to embrace **ALL pillars** of WOW Strategy

### talent

- Working as a **Team** experience (affects all)
- Train team members on the **latest technologies**
- Motivated** to work with Global Top experts
- Create new environment to **grow** into



### culture

- Cross functional** work with Suppliers and other functions
- CX** (IT & Business) at the heart of technical design
- New sense of **ownership**
- Empowered to make **courageous** decisions



### technology

- Enthusiastic** about simplification, reducing risks and building a new agile platform
- Fast** turn around times to enable new capabilities, anytime
- New options** for higher redundancy and better resilience



### innovation

- Keep **refreshing** and **growing** innovations
- What was "impossible" or "hard" before is now **possible and doable**
- Innovation & Security with **excitement!**
- "**no unturned stone**"



"Oh!" It is smoother than expected."

"Customs applications are now faster on the Cloud!"

"We have less emergencies."

"Super: we didn't restart applications during last peak season!"

"Can we sell this to our Customers?"

"This is a big value for our business"

We Want More of IT



**Level IT up!** Introducing Azure AKS, evolving DevSecOps and Stay Ahead of the Game



# PUBLIC CLOUD ALLOWS CONTINUOUS INNOVATION & FASTER TECHNOLOGY ADOPTION



- **Expand** and enhance the usage of containers technologies (AKS, Argo CD, GitOps) for more maintainability, agility and availability



- **Standardize** OS platforms and converge towards Linux OS (Replatform)



- **Motivate** IT Team members who can be trained “on the job” by exploring, assessing and deploying innovative solutions



- **Control costs** and optimize asset usage – on demand capacity and adapted costing



- **Increase** Operational and IT productivity “naturally” with all the above!

## BONUS Page: Do's and Don'ts



### Do's – as much as possible...

- Assign **roles** in your **project team** (account management, pure-infra, network, application “families”, testers/breakers)
- Have a **clear target architecture** for each phase of the project and make sure it is challenged by **every** team member
- Set a clear (and high) **priority** on this **Transformation** project, it is not a classical Tech Refresh project – lots of changes
- Do **leverage NWOW**, MS Team Channel, Planner (!), Document and knowledge management, etc.
- ...DO Celebrate every successful step or phase!



### Don'ts - never

- Try to do it **ALL at once**, rather phase the migration and design each phase with gradually **increased** complexity
- **Copy-paste** your current application and architecture to Public cloud, you'd miss a **unique** opportunity to re-assess it all
- **Force** your legacy component to work on Public cloud, level-up your platform, version or code to **adapt** to higher standards
- **Underestimate** the network (ELR's), deployment (installations) and testing (PST, TAT, UAT, BETA) efforts
- ...DON'T Be afraid to fail, you won't fail!

**THANK YOU!**

DANKE!  
THANK YOU!  
MERC I!  
GRAZIE!  
GRACIAS!  
DANK JE WEL!

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