Azure Migration - Lessons Learned

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AGENDA

- Why moving to the cloud?
- Moving, Migrating, Building?
- Where to start and what to consider?
- Cloud Readiness – Bottom Up Approach
- Cloud Roles – Top Down Approach
- Azure Migration - Technical
- Planning for the future…
- What‘s next?!

Why moving to the cloud?

“Here we are, trapped in the amber of the moment. There is no why.”

Kurt Vonnegut Jr.

Mainstream

Standards

Be More Agile

Continuos Development

Build Cloud-Born Apps

Automation

DevOps At ITs Best

Windows NT No Longer Supported

New Opportunities

Cost Savings

Innovation Leader

Require Less Employees

Individualize Everything

Host Off-Site

Large Scale

Moving, Migrating, Building?

“The destination is one thing. Getting there is everything.“

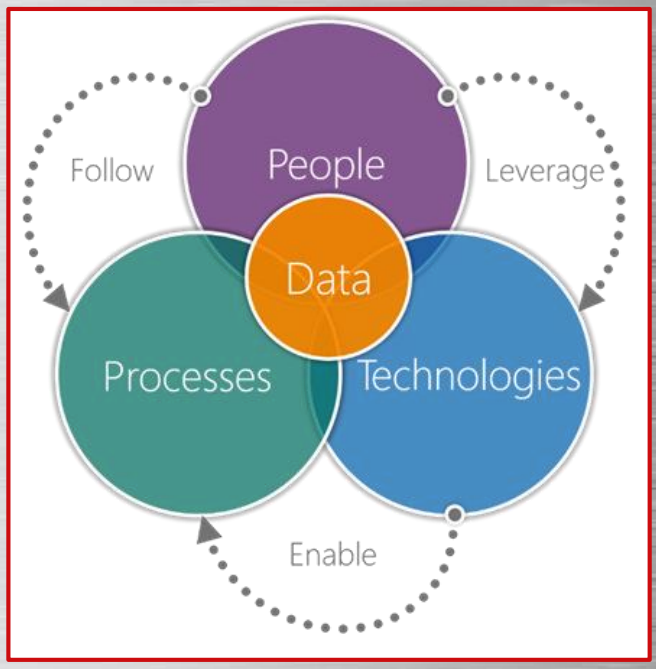
Unknown

Lift and Shift

- Easy going and what you already know
- Common scenario in IaaS situations
- Workload migration on SaaS scenarios
- Higher cost
- More individuality

Migrate and Change

- Breaking with old standards
- e.g. use SQL as a Service instead of IaaS VM
- Application Layer decision
- Cost saving
- Transformation to a future model
- More complex



Cloud Born

- Start over and rethink everything
- Continous development
- DevOps at ITs best
- Leverage PaaS from start
- Avoid IaaS
- Stop developing existing things

Where to start and what to consider?

“Stop doing what is easy. Start doing what is right.”

Roy T. Bennett, The Light in the Heart

Scenario 1 – Office 365 ProPlus

Enable O365 for user for **O365 ProPlus**

IT deploys AAD and ProPlus

Everything seems fine

Users need more flexibilty

IT has own plans

Users start using…

HR O365 Tenant

Yammer

OneDrive

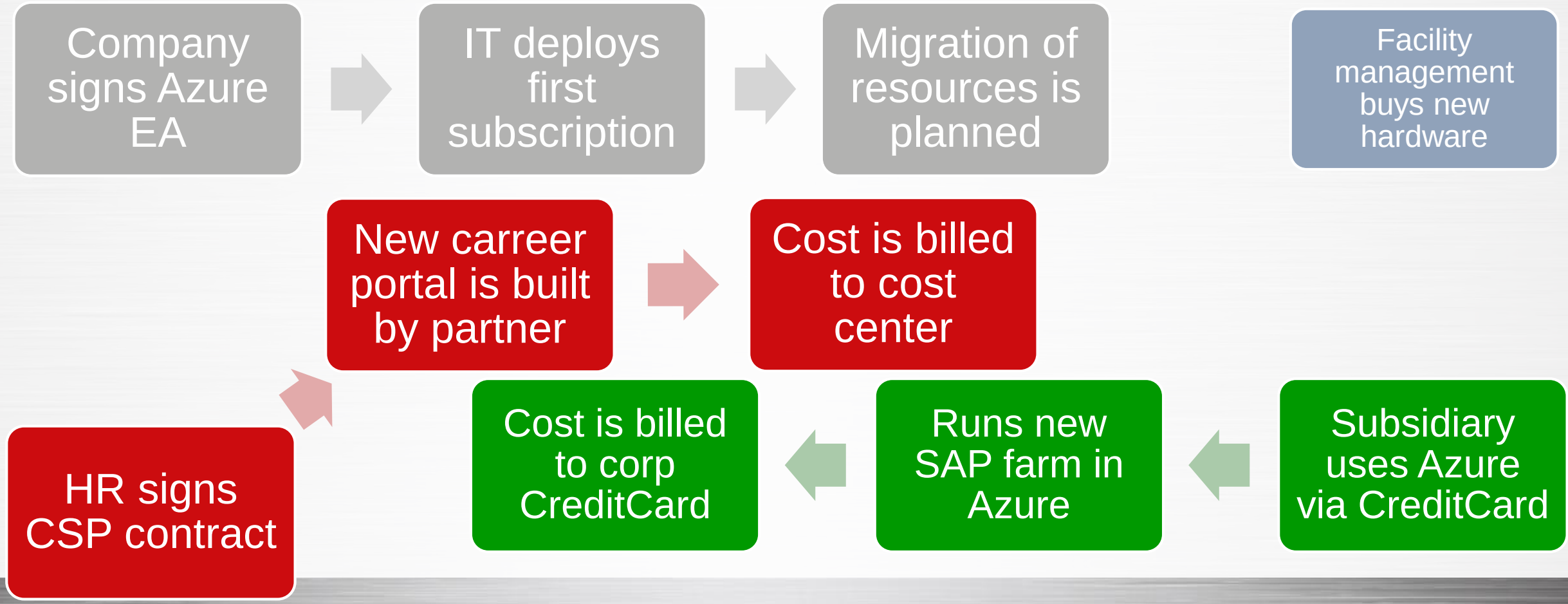
DropBox

ShareFile

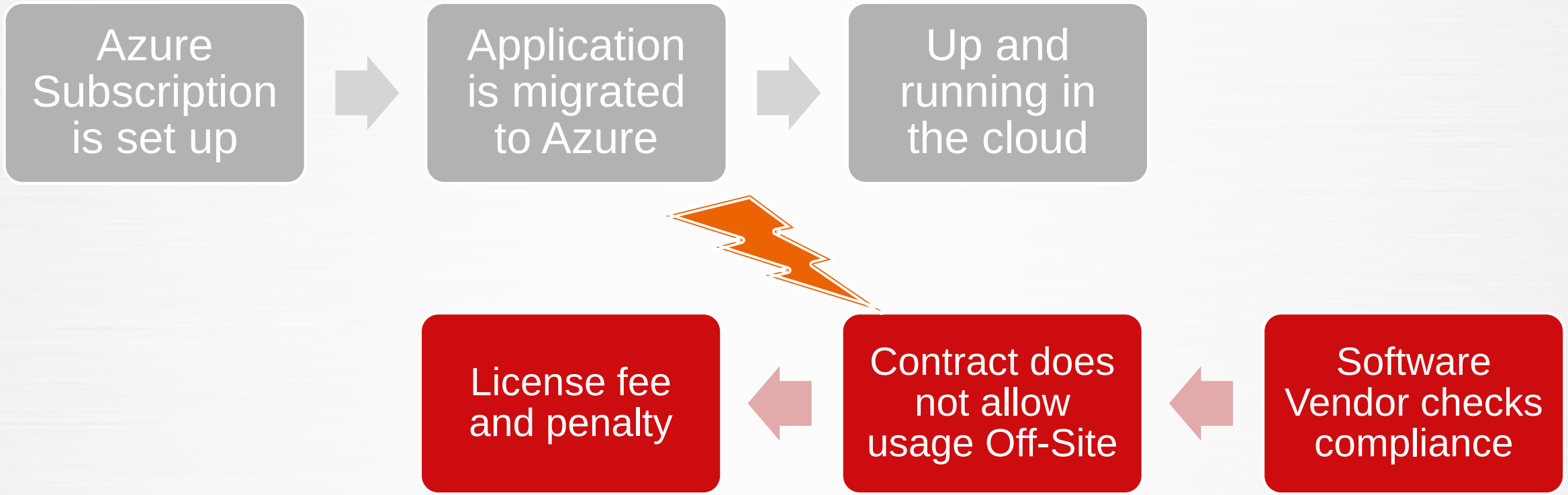
Teams

Google Docs

Scenario 2 – Azure Migration



Scenario 3 – Application Move



Where to start?

- Check your inventory
- Check your contracts
- Check your needs
- Check your benefit
- Check the solution

Information is the base of success

→ Azure Governance Concept

Have a goal

stay up-to-date

Documentation wins

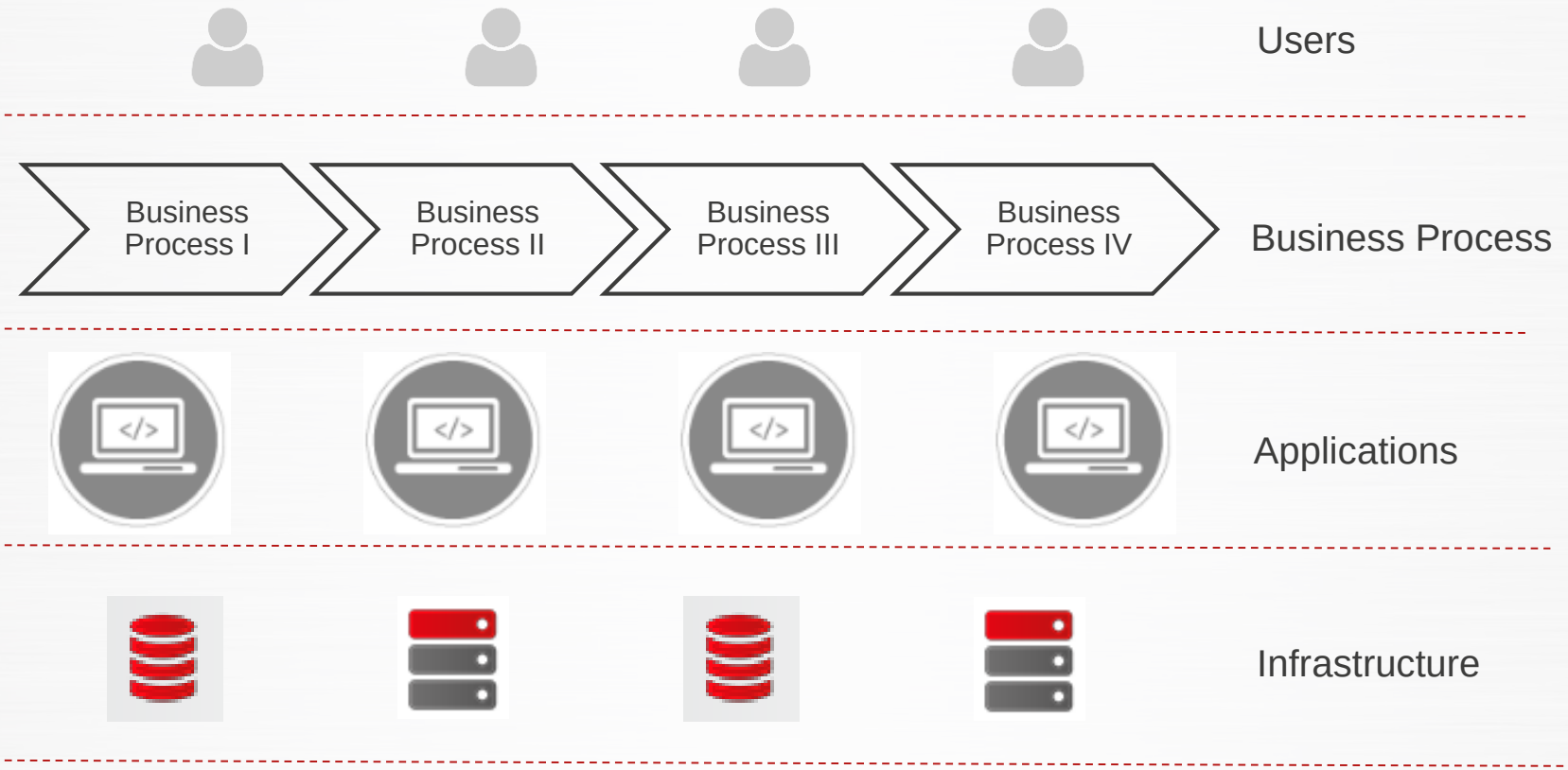
What to consider?

- Azure is too simple → Everybody can use it
- Define the rules and check it twice
- Azure consumption is billed → there is no limit
- Solution must fit your needs
- Users are the key to success
- Identity is the new perimeter
- Moving to the cloud is a transformational process
- Roles and Rules are key

“In Azure nobody cries for you!”

Eric Berg

What to consider?

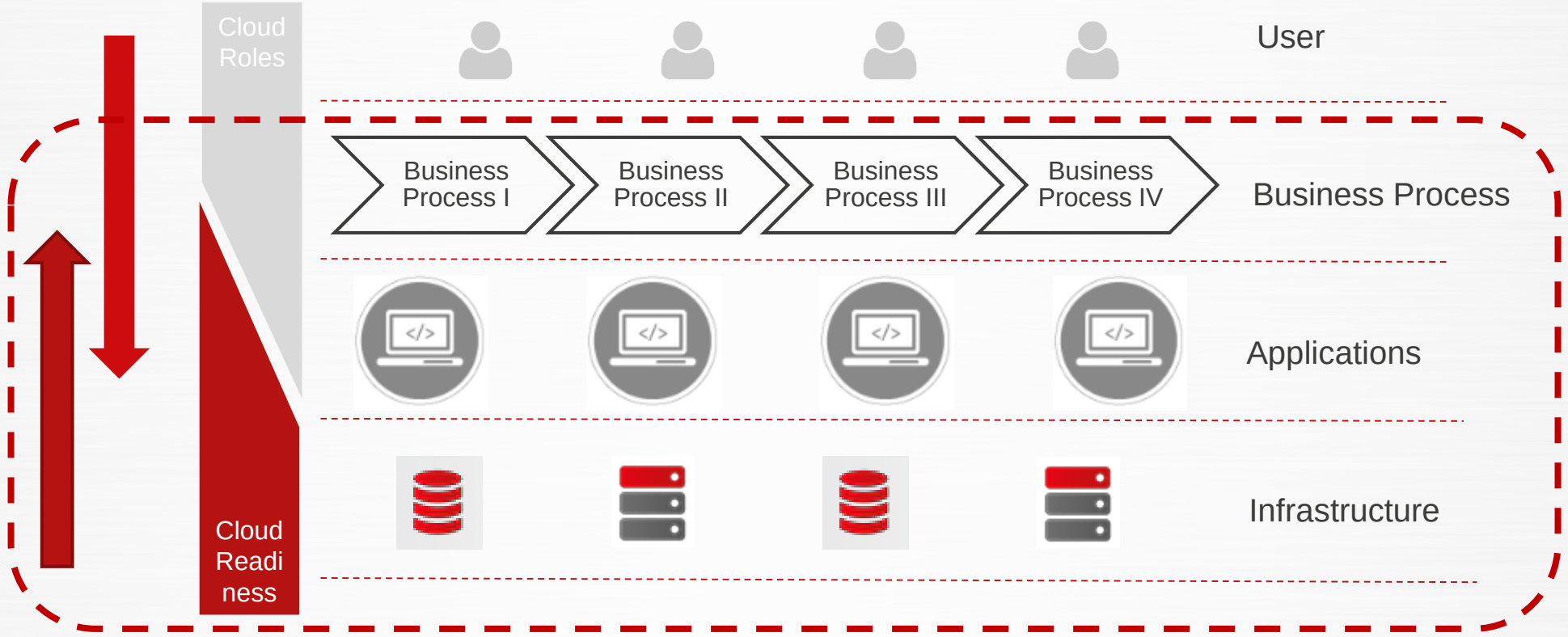


Cloud Readiness – Bottom Up Approach

“Success is how high you bounce when you hit the bottom.”

George S. Patton

Cloud Readiness



Cloud Readiness

Inventory		Analysis			Result
Scope Definition	Scan	Architecture	CMO Cost	FMO Cost	Presentation
					
Define „Cloud“ „Know“ the customer Base Inventory	Assessment and Scan Define Current Mode of Operation (CMO) Define useful scenarios	Build Architecture Blueprint Define Governance Rules Analyse Scan Results	Map Cost to CMO Figure out pain points	Define future scenario Estimate cost Compare CMO to FMO cost	Define cloud potentials Explain FMO Develop and communicate roadmap

Transformation

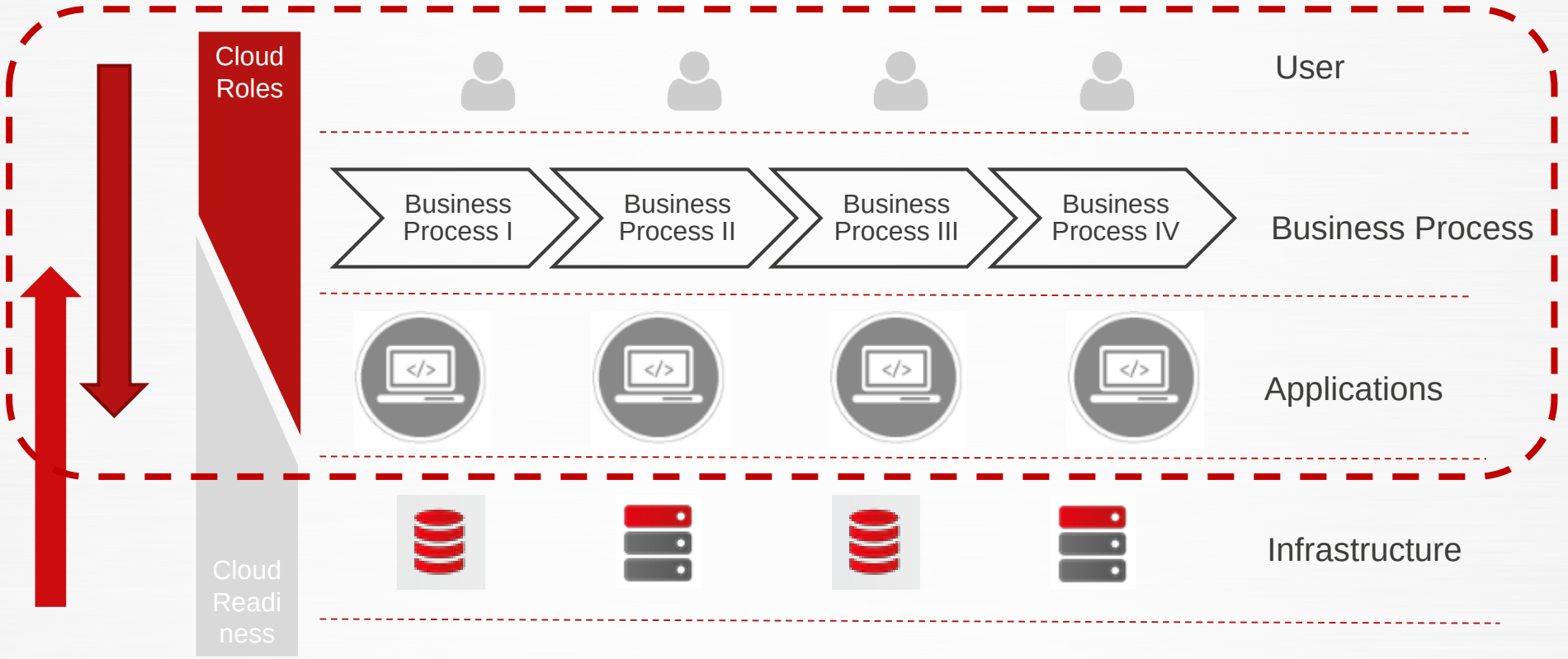
- Build logical blocks → do not move ERP without DB
- Technical and licensing show-stoppers
- Define your infrastructure requirements
- Check your application compatibility
- Think about processes
  - Development / Deployment
  - Update / Upgrade
  - Help-Desk
  - SLAs

Cloud Roles – Top Down Approach

“It is good people who make good places.”

Anna Sewell, Black Beauty

Cloud Roles


Cloud Roles
User
Business Process I
Business Process II
Business Process III
Business Process IV
Business Process
Applications
Infrastructure
Cloud Readi ness

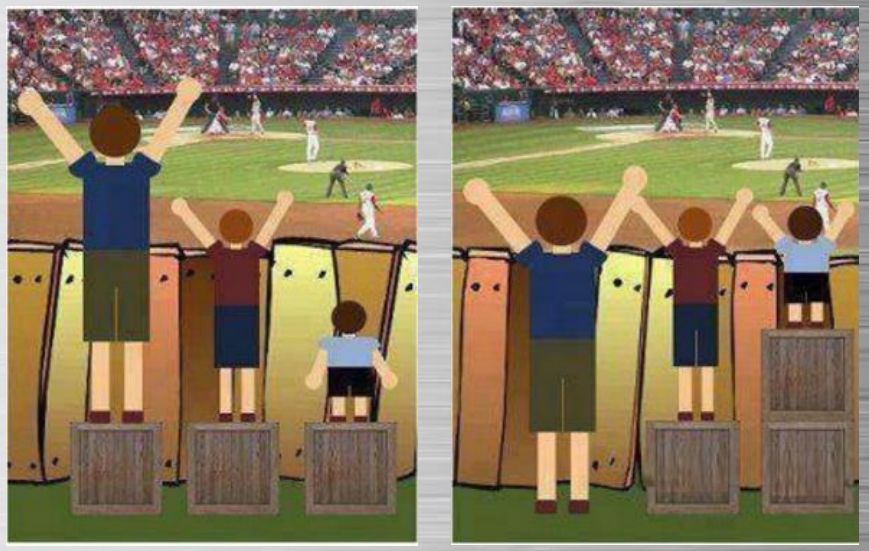
Cloud Roles

Users

- Mobile Workers
- Office Workers
- Security Workers

Admins

- Infrastructure Admins
- User Admins
- Developers



Transformation of Users

- Consider users needs
- Involve users in project
- Use Key-User Framework
- Implement required solutions
- Explain and communicate blockers
- Focus on benefits
- Scope on applications

No IT without users

Users expect more

Business is the goal

Transformation of Admins

- Check todays roles
- Provide future perspective
- Explain and evangelize
- Train and educate
- Check processes and consider change
- Move on to DevOps
- Managed Service helps focussing

Growth mindset

Cloud Custodian

Focus on Business not IT

Azure Migration Technical

“Transformation literally means going beyond your form”

Wayne Dyer

Azure Migration Technical

- Networking
  - VPN / Express Route
  - DNS and Routing
  - Latency and Bandwith
- Sizing
  - Right Sizing
  - Long Term Assessment
- Azure Site Recovery
  - Infrastructure requirements
  - Attention: Busy workloads
- 3rd Party
  - Veeam Restore to Azure
  - …

Premium Disks Type	P4	P6	P10	P15	P20	P30
Disk size	32 GB	64 GB	128 GB	256 GB	512 GB	1024 GB (1 TB)
IOPS per disk	120	240	500	1100	2300	5000
Throughput per disk	25 MB per second	50 MB per second	100 MB per second	125 MB per second	150 MB per second	200 MB per second

ASR Replication Storage Target	Source Disk I/O Size	Source Disk write churn that than can be handled by ASR Service per disk
Standard storage	8K	2 MB/sec per disk
Premium P10 disk	8K	2 MB/sec per disk
Premium P10 disk	16K	4 MB/sec per disk
Premium P10 disk	32K	8 MB/sec per disk
Premium P20/P30 disk	8k	5 MB/sec per disk
Premium P20/P30 disk	16K	10 MB/sec per disk
Premium P20/P30 disk	32K	20MB/sec per disk

Azure Migration Technical

- Copy VHDs of VMs
  - Easy and less infrastructure requirement
  - High downtime
- Use Application Methods
  - SQL Replication
  - AD Replication
- Automation
  - Use Azure Automation
  - Functions for switch
- Migration
  - yes / no?
  - Better build from scratch?!

Version	Edition	Deployment	On-prem to Azure
SQL Server 2014 or 2012	Enterprise	Failover cluster instance	Always On availability groups
	Enterprise	Always On availability groups for high availability	Always On availability groups
	Standard	Failover cluster instance (FCI)	Site Recovery replication with local mirror
	Enterprise or Standard	Standalone	Site Recovery replication
SQL Server 2008 R2 or 2008	Enterprise or Standard	Failover cluster instance (FCI)	Site Recovery replication with local mirror
	Enterprise or Standard	Standalone	Site Recovery replication
SQL Server (Any version)	Enterprise or Standard	Failover cluster instance - DTC application	Not Supported

Planning for the future…

“The future depends on what you do today.”

Mahatma Gandhi

Planning for the future

- End to end planning
- save money and forecast cost
- keep an eye on resources
- better adoption of services
- Happy users

Serverless

Continous learning

IaaS to PaaS

What‘s next?!

“On and on it goes, where it stops nobody knows.”

The Kangaroo, Marc-Uwe Kling

What‘s next?!

- Azure Governance in Place
- Use free Tools like Advisor, Security Center, Monitor, …
- Consider PaaS Services
- Watch out for Azure News and optimize
- Migrate → Optimize → Develop
- …

Questions?! Feedback?!

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