

Progress towards a GGUS fail-safe system

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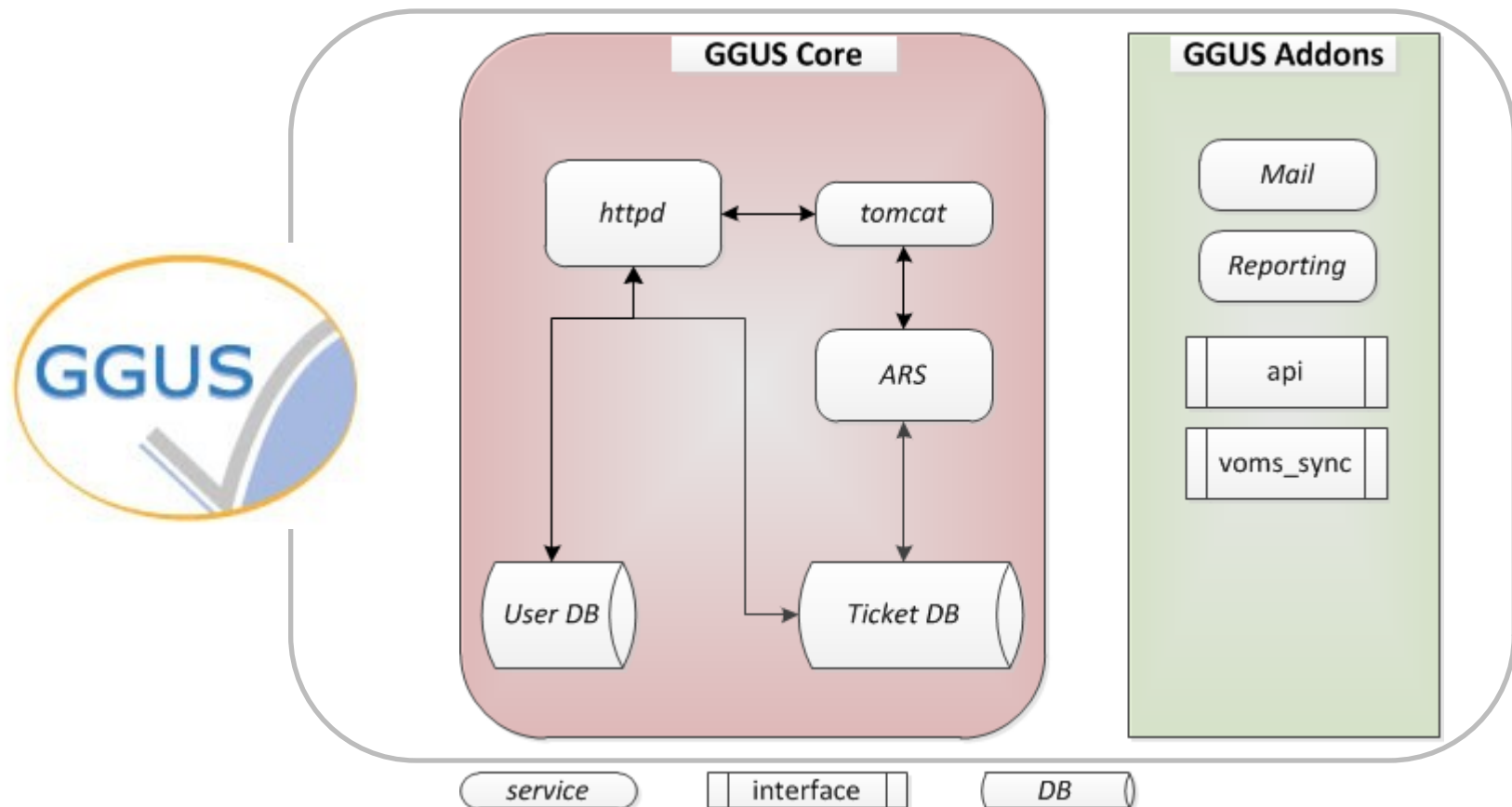
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Agenda

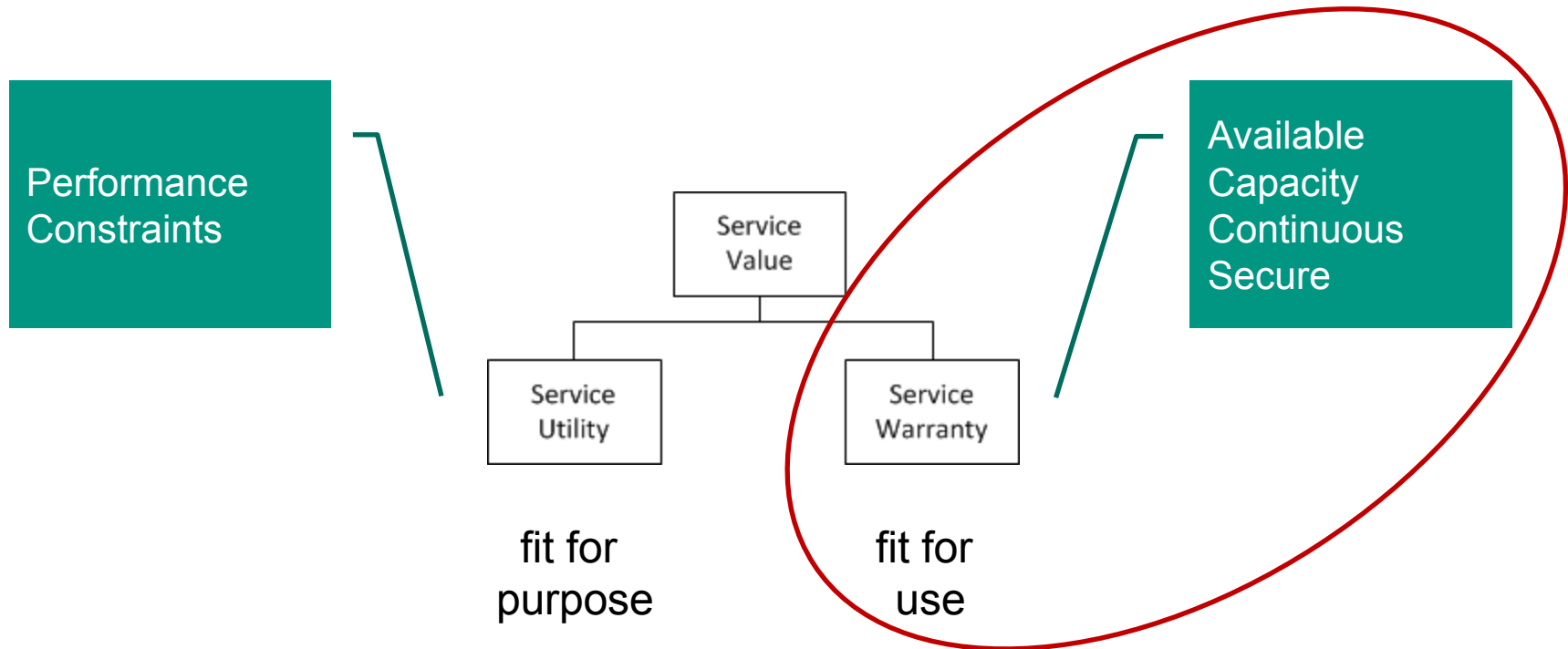
- GGUS Service structure
- Service Availability
 - Availability and Service Value
 - Availability and other ITIL processes
 - Availability and Incident lifecycle
 - Some High Availability (HA) topics
- Migration: GGUS to HA GGUS
 - Objective
 - Plan
 - Phase 0
 - Phase 1
 - Phase 2
- Conclusion

GGUS Service structure

- GGUS – Global Grid User Support Service based on the Remedy Action Request System (ARS)



Availability and Service Value



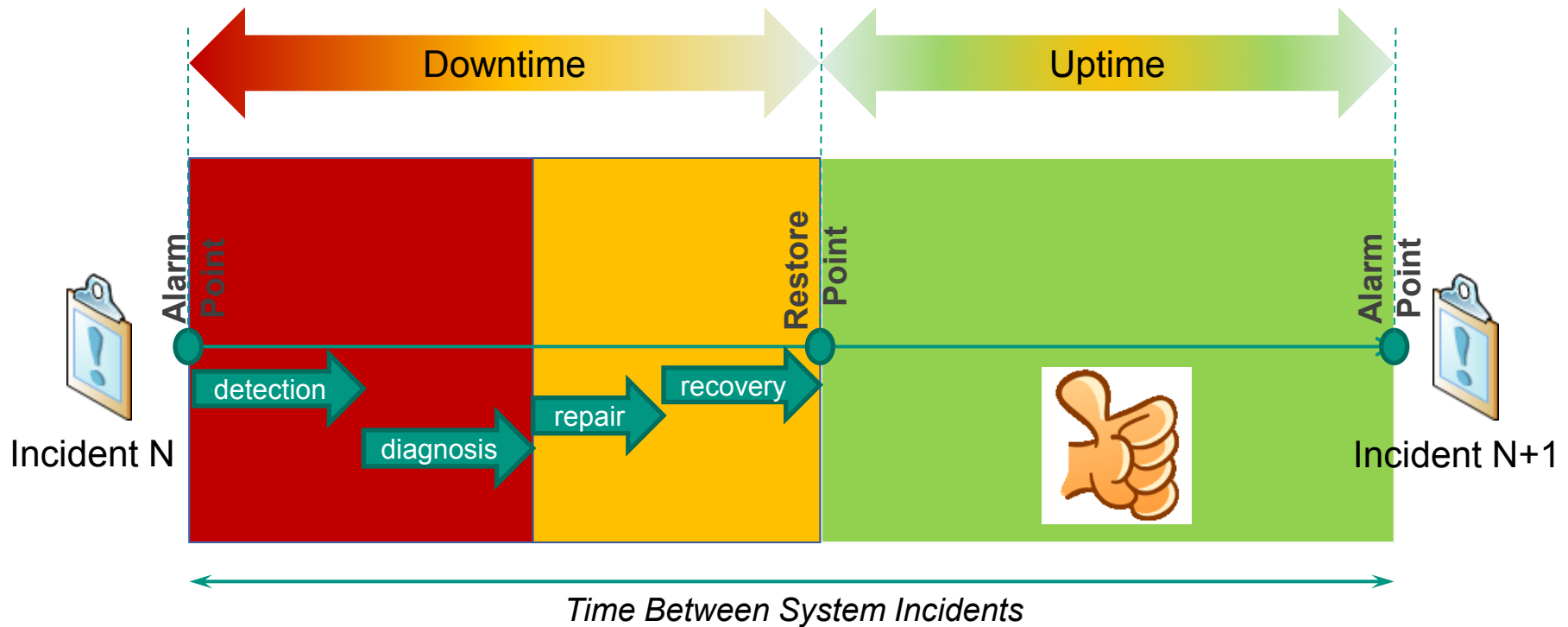
Availability is not only about IT technology, but also about an organization

Availability and other ITIL processes

- Continual improvement
 - Service measurement & reporting
 - SLM
- Strategy
 - Service Portfolio
 - Demand
 - Financial
- Design
 - Supplier
 - Information security
 - Service Catalogue
 - Service level mgmt
 - IT service continuity
 - Availability
 - Capacity
- Transition
 - Knowledge
 - Service validation & testing
 - Release & deployment
 - Service asset & configuration
 - Change mgmt
- Operation
 - Event mgmt
 - Request fulfilment
 - Access mgmt
 - Problem mgmt
 - Incident mgmt

Availability & Incident lifecycle

Purpose: Minimum Downtime (or maximum Uptime)

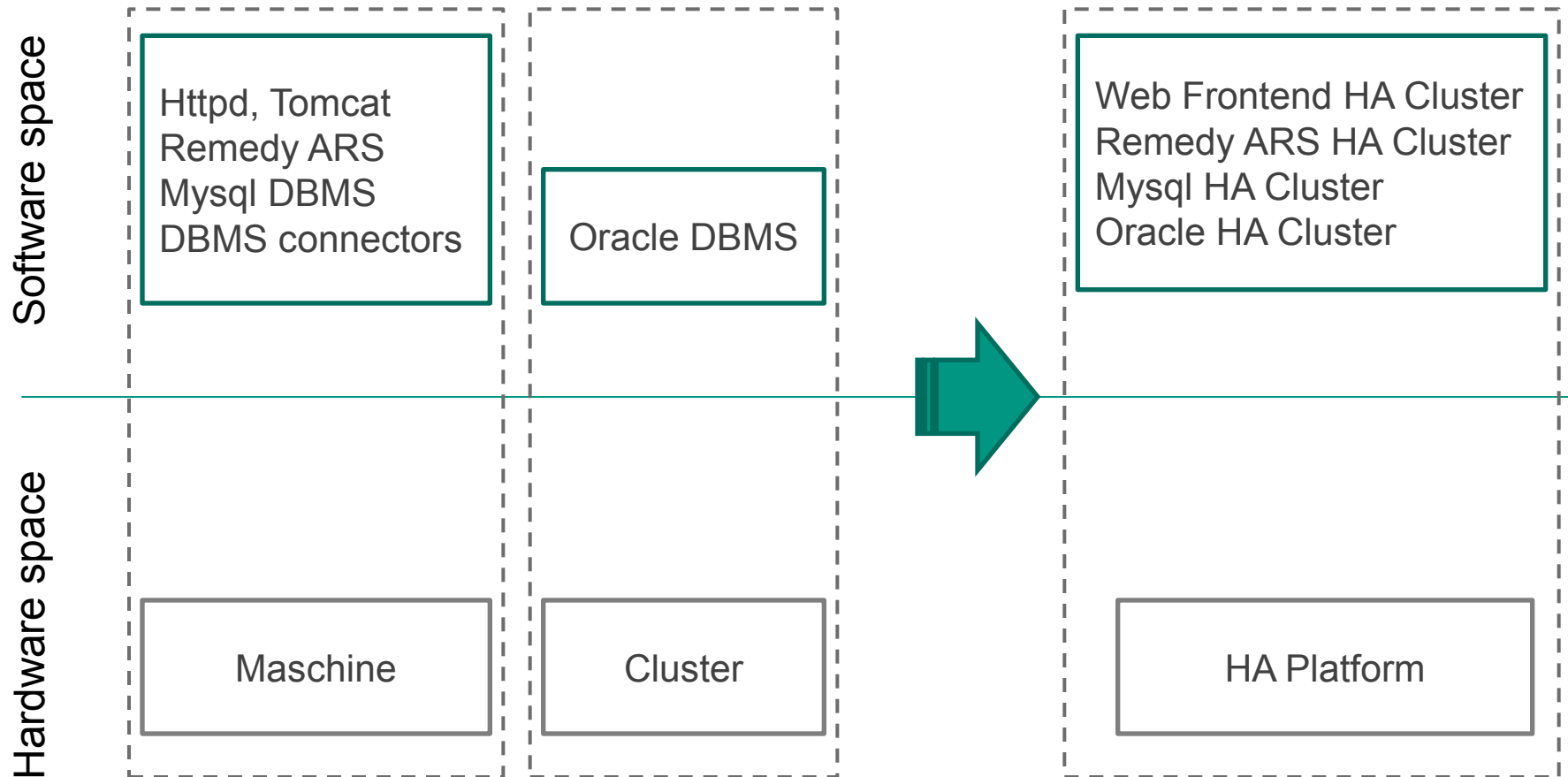


Some High Availability (HA) topics

- Single Point of Failure & Redundancy
- Automatically & Manually switching
- Cluster: „Shared“ vs „shared nothing“
- Dependability attributes
 - *Availability* - readiness for correct service
 - *Reliability* - continuity of correct service
 - *Safety* - absence of catastrophic consequences on the user(s) and the environment
 - *Integrity* - absence of improper system alteration
 - *Maintainability* - ability for a process to undergo modifications and repairs

Migration: GGUS to HA GGUS

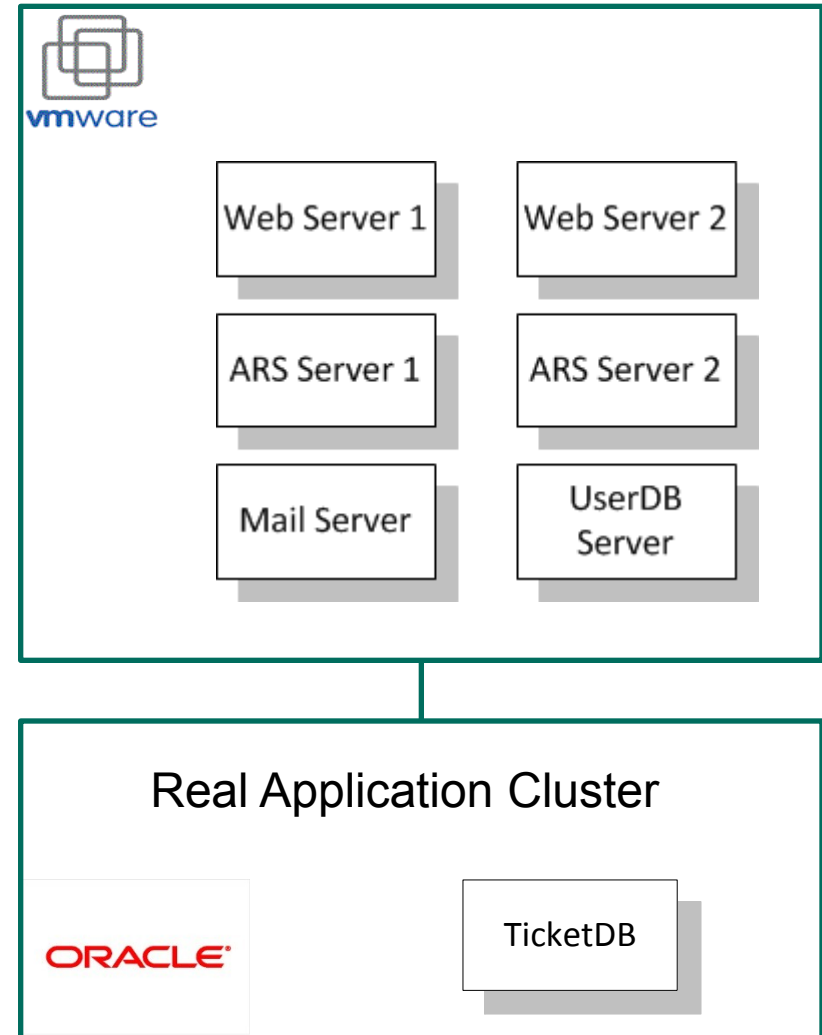
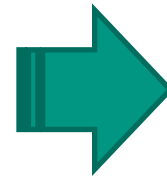
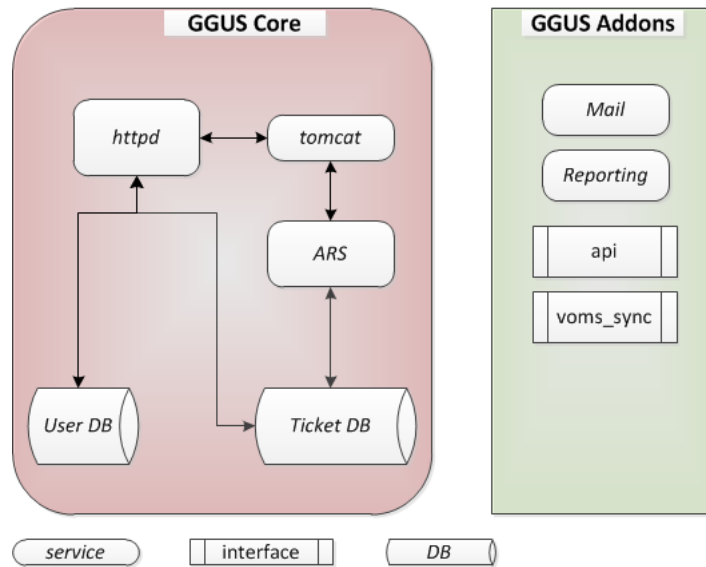
■ Purpose



Migration: GGUS to HA GGUS

- Phase 0. (Q1-Q2 2011)
 - Purpose: renew GGUS Development Environment
 - Tasks
 - Bring to the Vmware Platform with HA Support
 - Improve server install/configuration procedure
 - Improve release & deployment mgmt
 - Separate logically/physically Web frontend and ARS
- Phase 1. (Q2 2011)
 - Purpose: renew GGUS Production Environment
 - Tasks
 - Bring to the Vmware Platform with HA Support
 - Separate logically/physically Web frontend and ARS
 - Improve & configure networking redundancy
 - Integration into On Call Service

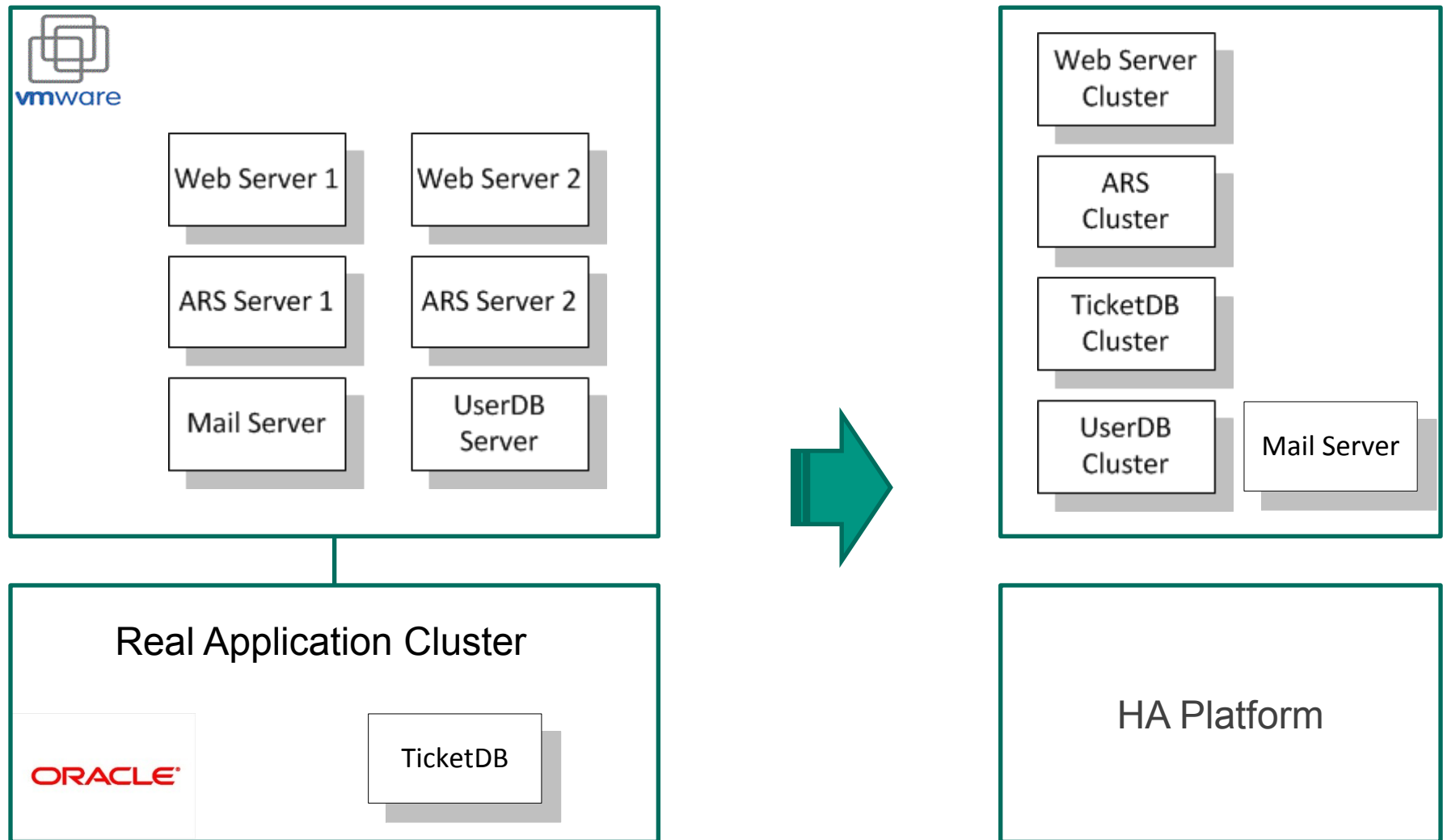
Migration: GGUS to HA GGUS Phase 0/1 (cont.)



Migration: GGUS to HA GGUS

- Phase 2. (Q3.2011 – Q2.2012)
 - Purpose: Implement auto-switching
 - Focus on Service Continuity, Disaster Recovery
 - Tasks
 - Decide (What-if analysis)
 - DBMS: Oracle as VM?
 - Platform: KVM vs Vmware?
 - Disaster Recovery Plan
 - Manage VMs?
 - ...
 - Choose, test the technology and design System
 - Open source vs Commercial
 - Adopt to the GGUS structure

Migration: GGUS to HA GGUS. Phase 2. (cont.)



Conclusion

- Availability
 - not only technology or activity withing one ITIL Process,
 - but also organizational Service improvements
- The GGUS software stack
 - is relative complex and
 - have some dependencies (mostly for commercial components)
- There are set of alternatives
 - Different software packages for switching mechanizm & clustering
 - With/without SAN connection for data
 - With/without VM
- GGUS improvements way
 - decompose Service into set of Subservices and
 - put them into HA Environment with automatix for switching

Thank you for your attention!

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