



Cloud-based Simulation Developments in Europe

As-a-service approach

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Agenda

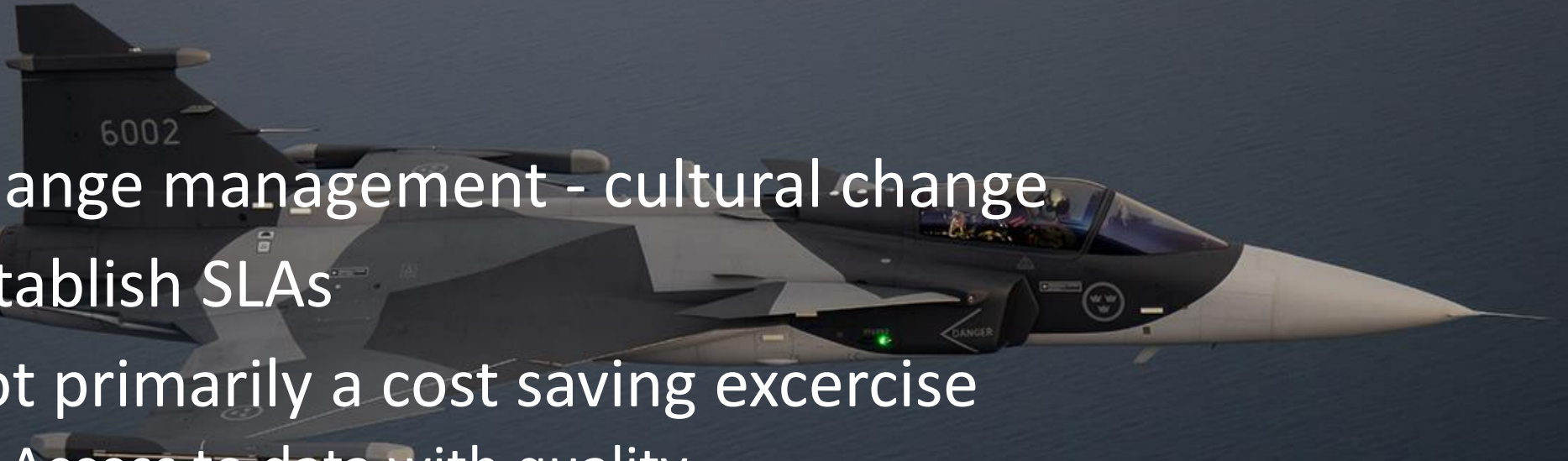
- Implications of cloud
- Implementation
- Status
- Experimentation of MSaaS concepts in Viking 22
- Challenges
- Potential

Implications of the cloud

- Managing security, privacy, accountability, risk and trust becomes more complex
- Gives you the ability to focus on your core business
- "As a Service"/cloud

Implementation

- Change management - cultural change
- Establish SLAs
- Not primarily a cost saving exercise
 - Access to data with quality
 - Visualization and reports
- Data driven organisation
 - Information is a strategic resource



Status

- Present

- No cloud

- Legacy
- Complexity
- Security aspects

- MSaaS experimentation

- Future

- Possibly cloud

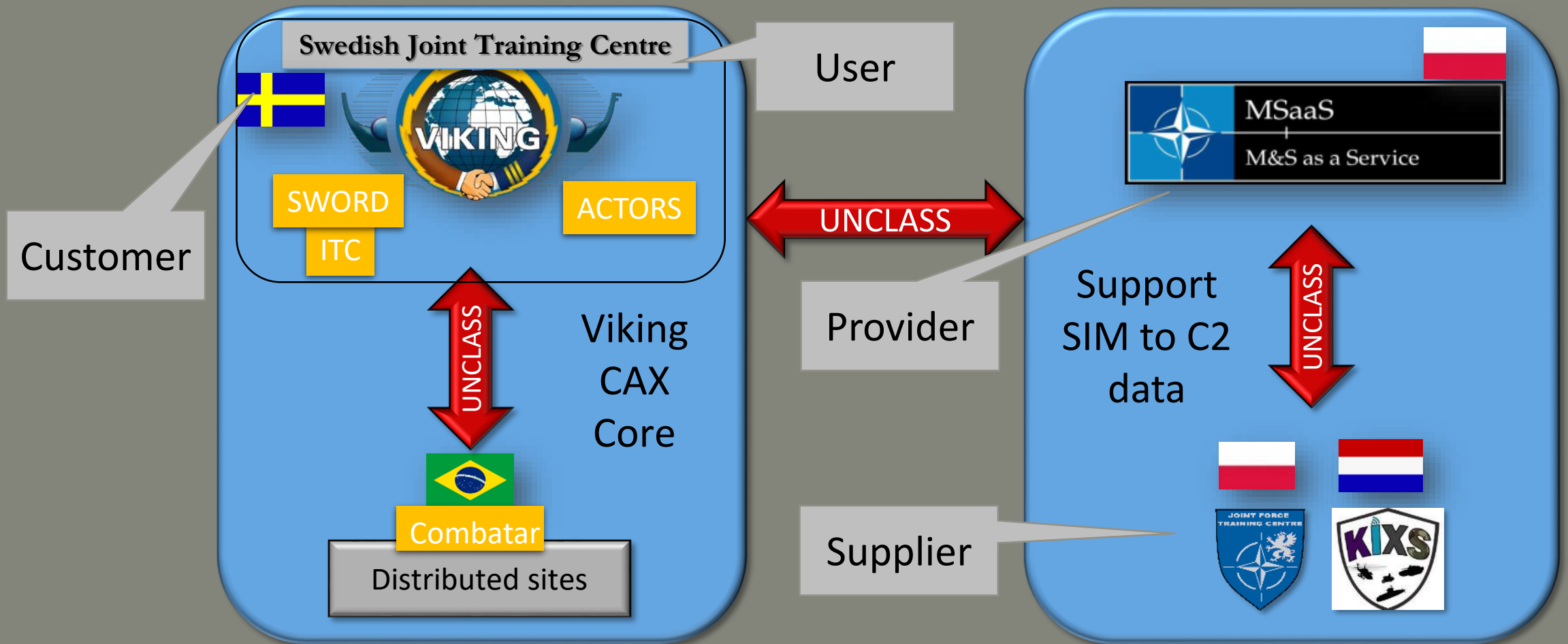
- Private cloud
- Security aspects of public cloud
- MSaaS implementation?

Experimentation of MSaaS concepts in Viking 22

Exercise Background

- Comprehensive and unique collective training opportunity for military, civilian and police focusing on co-operation between all relevant actors in Peace Operations and International Crisis Management
- Conducted in 1999, 2001, 2003, 2005, 2008, 2011, 2014, 2018, 2022

Viking CAX environment



MSaaS
on site



Challenges - service composition

- Make different services work together
 - Common config requirements/automation
- Automation of composition verification
 - Test and Integration support
- Import and export of data to and from the environment
 - Hard to get updated service components into the system

Challenges – service execution

- Fault Detection and problem solving
 - Quality Assurance (MSaaS certification)
 - Common tools for supervision and fault management
- Provide all systems with common data
 - Reflection of dynamic changes
- Common monitoring requirements of services is needed (SMC)
 - Detailed Status (Running, Connected, Transmitting, etc.), Errors, Logs
- Each service requires staff on-site from providers (industry)
 - Remote technical staff collaboration tools required

Challenges - procurement

- Government to government agreements
 - Complexity
 - Lead time
- Accreditation
- Procurement of services, not products/licenses
 - Maturity of sourcing organization
 - Maturity of industry
- Dependency on remote infrastructure and services
 - May reduce benefits if local fall-back options are still maintained

Potential of MSaaS

- Improved quality and elasticity, on-demand scalability
- Increase efficiency by reduced manpower requirements
- Reduced reliance on SMEs
- Increased reuse opportunities, reduced duplication of effort
- Reduced cost of ownership, reduced local overheads
- Greater access of M&S services from remote locations
- Leverage benefits of cloud computing

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