

# Model-Based Systems Engineering Symposium 2012

## **The Best of Both Worlds**

CORE®-based WSAF and  
DOORS®-based Requirements Management

Roger McCowan and Michael Waite

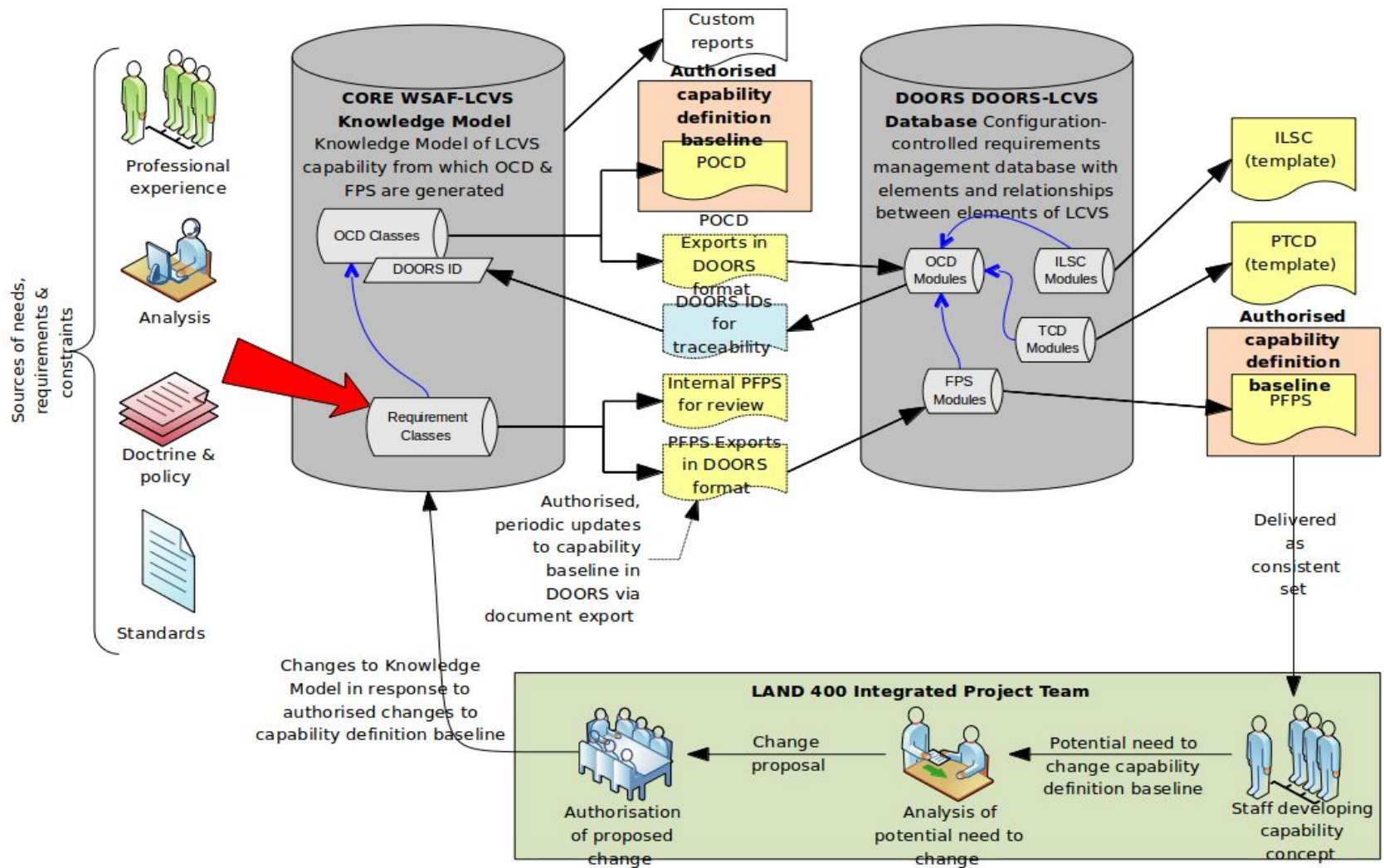
# Overview of Presentation

- Project Context
- Approach
  - Strict data management scheme
- Interface
- Challenges
- Method/Process
- Conclusion
- Q & A

# Project Context

- Land Combat Vehicle System (LAND400)
  - OCD developed during 2011 using WSAF
  - DMOSS Contract in 2012 to develop three FPSs covering nine vehicle variants
  - FPS requirements to be in DOORS® as per DMO policy
  - DMO Project Office/LEA provided SME and drafted many of the requirements using Excel

# Approach



# Interface (1)

- Single CSV file, exported from CORE®
- Fields
  - Vehicle Variant (Defined list, multi-valued)
  - DOORS Requirement ID
  - CORE Object ID
  - Requirement Text
  - Requirement Priority (Defined list)

(continued on next Slide)

# Interface (2)

- Fields (continued)
  - Verification Method (Defined list, multi-valued)
  - FPS paragraph reference (in accordance with the FPS DID)
  - Rationale
  - OCD cross-references

# Challenges

- Requirement Text copied from Excel cells contained embedded line feed codes (char(10)), as well as non-breaking spaces
- CSV exported from CORE loses diagrams and formatting information (superscript, bold, etc.)
- DOORS importation of CSV file could not handle special characters (e.g °, ±, smart-quotes, and non-breaking spaces)
- Attribute Definitions – mismatches will cause importation to fail

# Method/Process (1)

- Export requirements with all relevant attributes from CORE, into a CSV file
- Use Excel on the resulting CSV file to substitute spaces for line-feed codes
- Use Excel to create a new column which combines the Heading Number and the Heading Title
- Use Word to find and replace all special characters
- Save as CSV, then insert hard return between every record, then save as TXT



## Method/Process (2)

- Create the DOORS Requirements Module, with all attributes and attribute definitions
- Use DOORS to import the TXT file, which creates the structured requirements set
- Export just the DOORS Requirement ID attribute into a CSV file
- Merge the ReqID file with the updated CSV file
- Import the merged CSV file into DOORS to update all requirements with their attributes

## Method/Process (3)

- In DOORS, perform find/replace on special characters
- Perform manual update of text with superscripts
- Insert diagrams and figures at appropriate places and levels
- Export CSV file from DOORS to update CORE with DOORS ReqIDs

# Conclusions

- The process steps described took about one hour, on a requirement set of about 1800 requirements
- The WSAF CORE model remains the “Source of Truth” at all times, therefore changes are NOT made to the DOORS requirement objects
- Revisions are best done by replacing the DOORS requirement module, rather than updating attributes
- CORE®-based WSAF and DOORS®-based Requirements Management is simple and viable

# The Best of Both Worlds

Questions