Defense Ammunition Center
McAlester, Oklahoma

Small Project Adoption of CMMI®

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(for James Young)
Munitions History Program

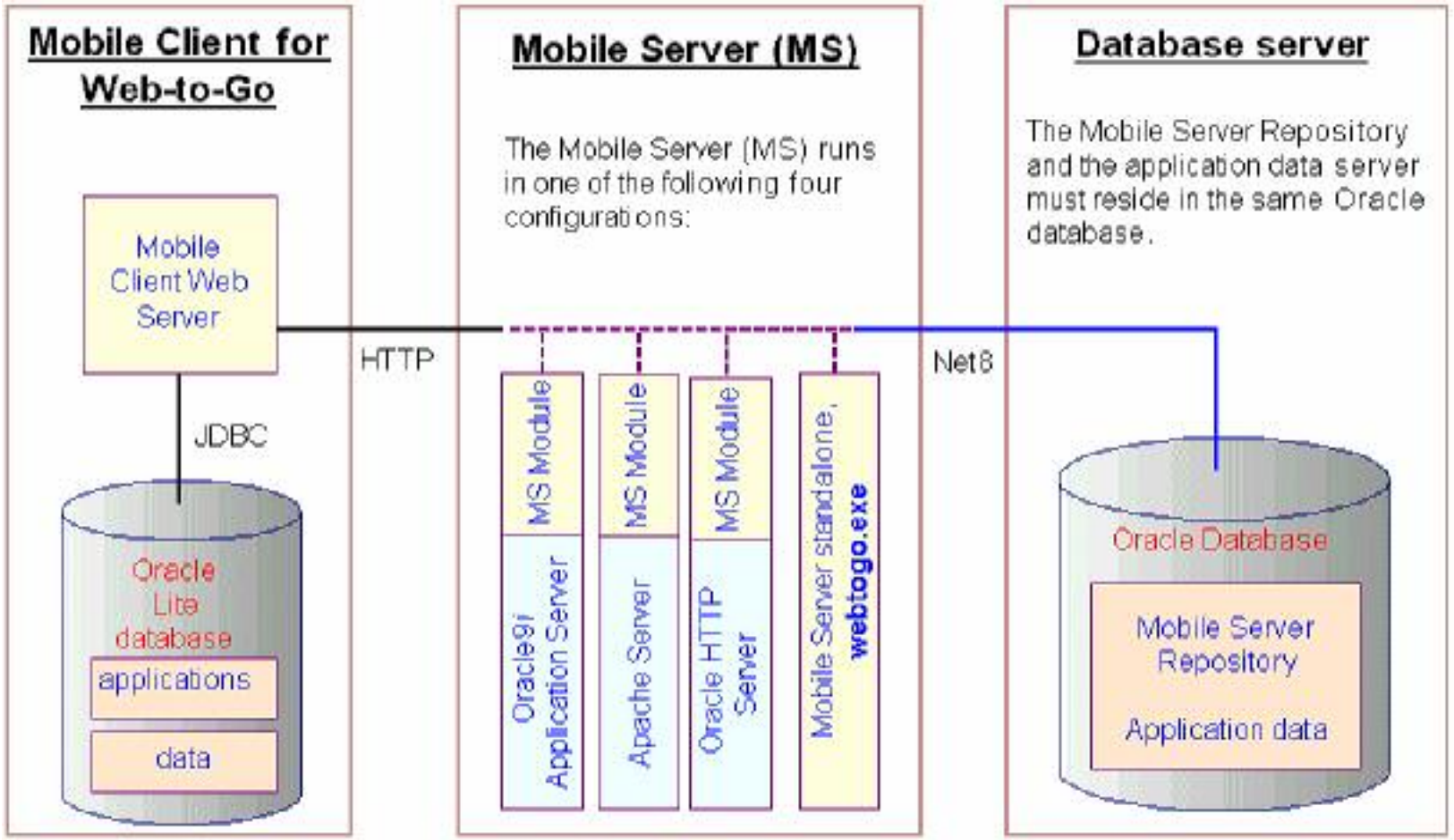
Outline

- Overview of Munitions History Program
- Management and engineering issues
- Strategy for adoption of CMMI®
- CMMI® application strategies
- The future

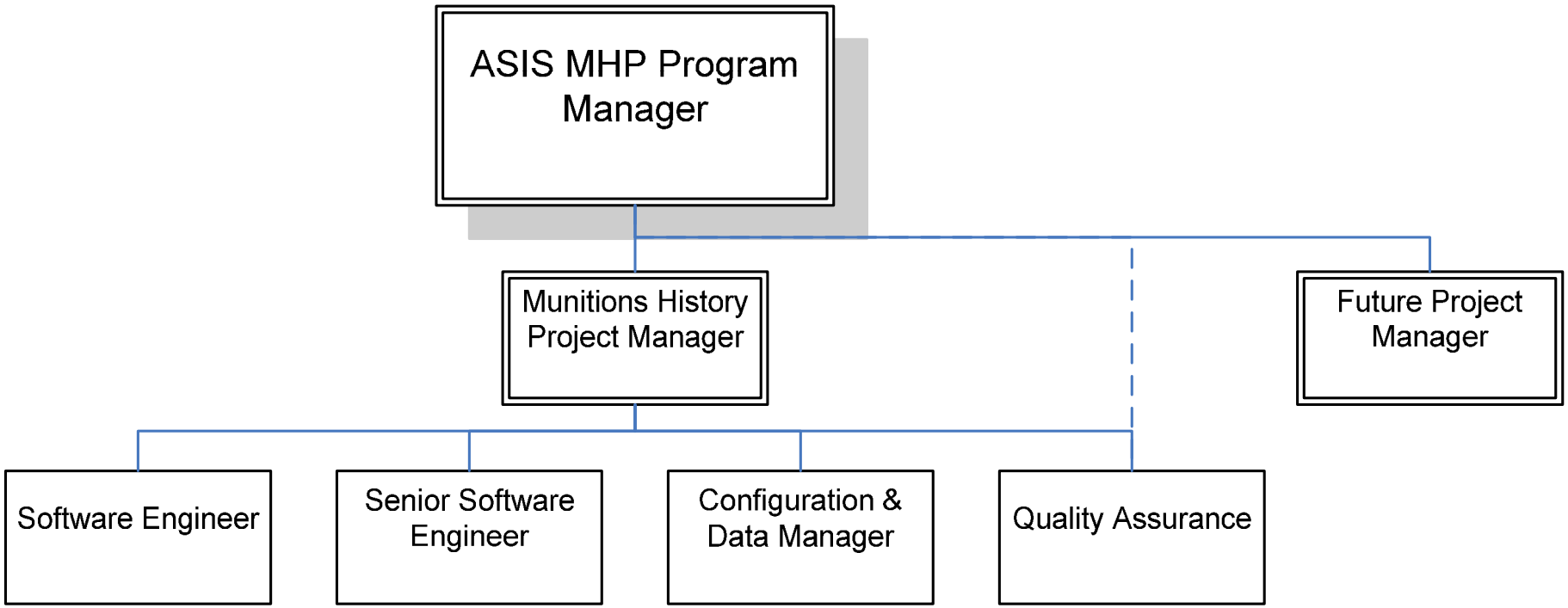
Munitions History Program (1 of 4)
(History)

- Create a universal central database that is able to store munitions lot/serial data
- Develop an Automated entry system that links field data to a central database
- Allow units to maintain individual databases
- Efficient data transfer
- Provide search and sort capability
- Allow updates of other systems electronically

Munitions History Program (2 of 4)
(System Description)



Munitions History Program (3 of 4)
(Organization)



Munitions History Program (4 of 4)

(Work Breakdown Structure)

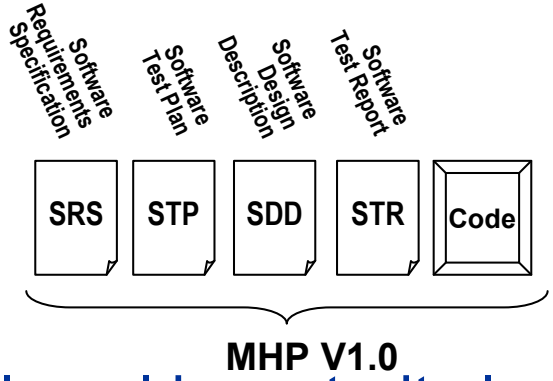
1	Project Management
1.1	Project Planning
1.1.1	Customer Needs Elicitation
1.1.2	Estimation
1.1.3	Development of SDP
1.1.4	Plans & product alignment
1.2	Project Control
1.2.1	Requirements Management
1.2.2	Status Monitoring
1.2.3	Risk Management
1.2.4	Stakeholder Management
1.2.5	Corrective Action Management
1.2.6	Measurement & Analysis
1.2.7	Supplier Management
2	Product Development
2.1	Functional Analysis
2.2	Requirements Analysis
2.3	Design
2.4	Software Construction
2.5	Integration and Test
2.6	System Test
2.7	Acceptance Test
2.8	Transition and Delivery
3	Engineering Support
3.1	Configuration & Data Management
3.2	Quality Assurance
3.3	Team Training

Management and Engineering Issues

- Requirements stability
  - Requirements introduced throughout life cycle
  - Requirements negotiation during system test
- Lack of Buy-in and commitment
  - Unstable target delivery dates
  - Unstable strategy
- Coordination of engineering effort
  - Distributed management
  - Distributed engineering staff
- Organizational imperative to adopt CMMI®M j
  - Sister organizations adopting model
  - Credibility and reputation at stake

Strategy for Adoption of CMMI® (1 of 2)

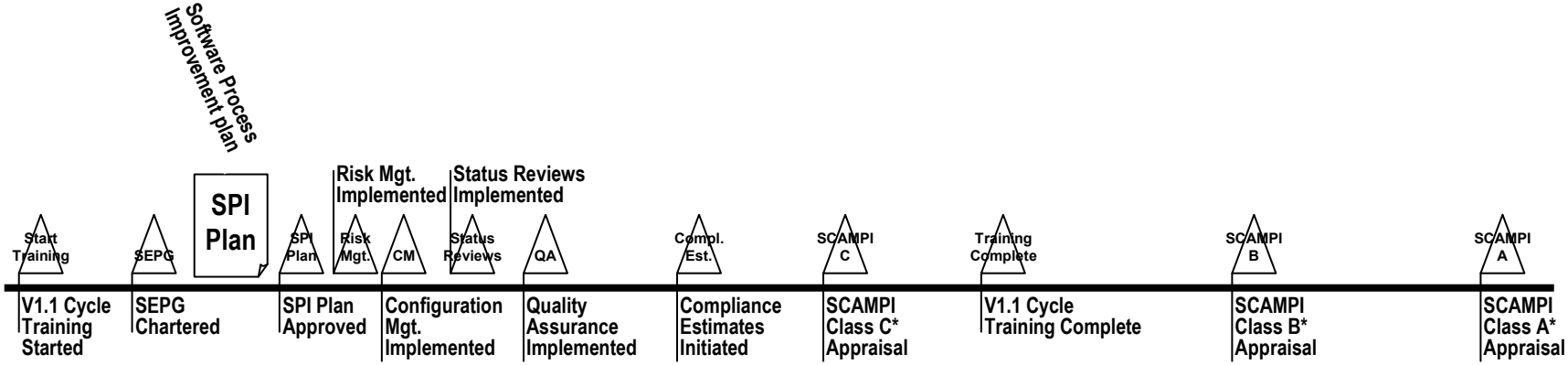
- Goal #1: Develop initial engineering documentation with MHP V1.0

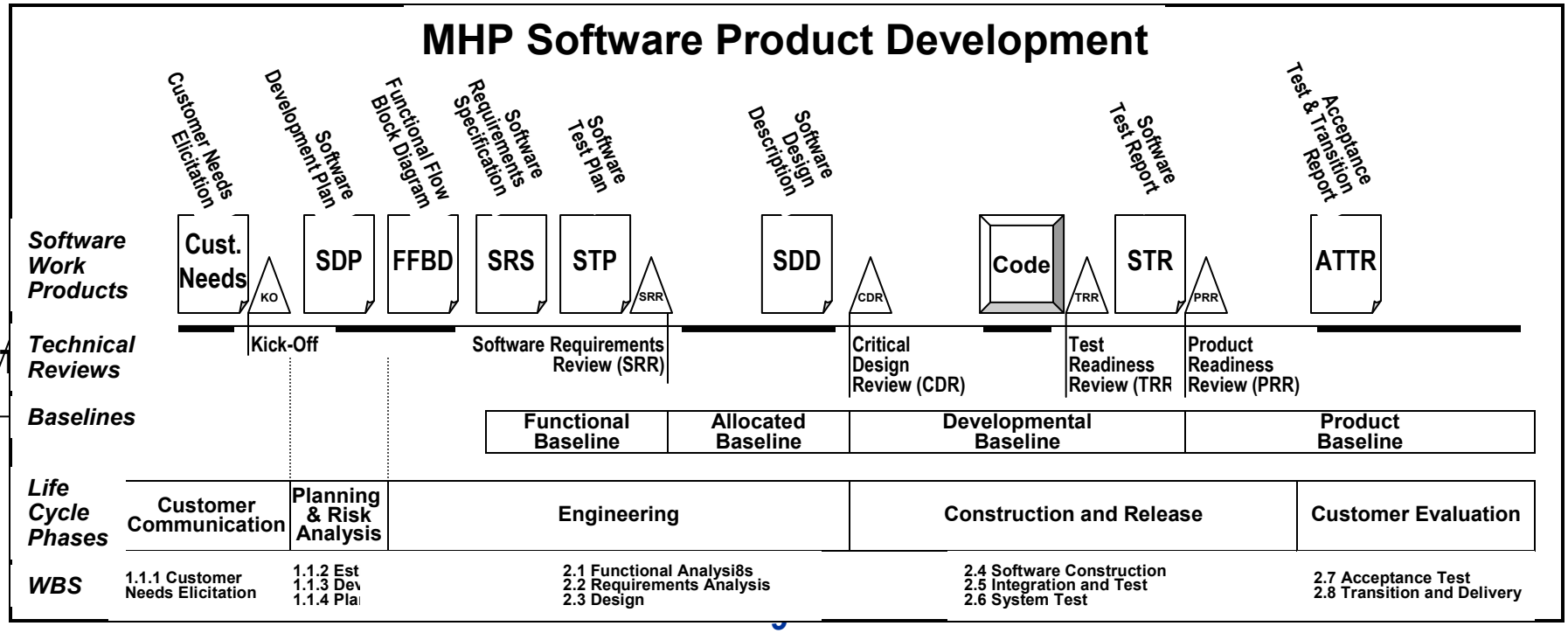


- Goal #2: Initial goal is maturity level 2
  - Develop CMMI-compliant SDP with MHP V1.1
  - Improve and institutionalize as managed process
  - Maturity level 2 appraisal after V1.1 delivery
- Goal #3: Maturity level 3
  - Develop standard process from MHP V1.1 SDP
  - Add second project
  - Add organizational processes
  - Improve and institutionalize as defined process
  - Maturity level 3 appraisal after full life cycles for both projects

Strategy for Adoption of CMMI ® (2 of 2)

(Level 2 Strategy)





CMMI® Application Strategies (1 of 2) (quality goals)

- Improve the stability of requirements through coordination with stakeholders
- Ensure the SDP is compliant at maturity Level 2 of the CMMI® for Systems and Software Engineering V1.1
- Ensure that the SDP processes are applied completely and consistently across the project and within the organization

CMMI® Application Strategies (2 of 2)

- CMMI reviewed to reduce and simplify implementation of subpractices and typical work products
- Retained and extended close relationships of team members
- Simple mechanisms used
  - Requirements traceability matrix
  - QA audits
  - Configuration management and status accounting
- CMMI improvement effort fully integrated into MHP effort

The Future

- Extension of CMMI effort to other projects
- Grow maturity at level 3
- Consider adoption of some processes at level 4
- Continue to work on simplification and streamlining of process