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Rapid Technology Insertion -Training Transformation and Architectures

Integrated-EA 2012

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Training Transformation

Issue – Historically

- Significant investment in stove-piped, bespoke, inflexible solutions
- MOD spend on Training including simulation systems estimated at £7bn plus
- MOD and Industry reluctance to modernise and move away from high cost simulation projects
- Costly and inflexible

SDSR - Step change in exploitation of modern simulation training systems, enterprise focus

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MOD Vision

A modern and affordable 21st century training capability exploiting legacy and emerging technology to deliver individual, team and collective training in a joint and coalition environment for current and contingent operations.

- The capability will:
  - operate within an MOD Common Simulation Framework
  - be based on open architectures
  - use targeted fidelity to ensure cost effective capability
  - insert COTS and GOTS products and technology
  - maximise the technology re-use including legacy capability
  - incorporate C4ISTAR, land, air and maritime elements
  - exploit previous research and development

With a Defence Simulation Centre (DSC) that supports effective delivery of training through a modern and agile approach to simulation capabilities.

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CCD Architecture Based Activities

- **Training Transformation Core** – Architecture and standards
- **Aviation** – Apache Attack Helicopter
- **Ground Based Tactical Trainer** – Combined Arms Tactical Trainer
- **Fast Air** – Typhoon
- **Defence Training Systems & Infrastructure Support**

TT CCD Reference Architecture

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1. Library Layer

Reference library of training and simulation artefacts. These views provide information about the generic building blocks within the architecture. This layer and these views are applicable across the defence training and simulation enterprise.

- Reference Interoperability Levels
- Reference Training Requirements
- Training Service Taxonomy
- Reference Simulation Components
- Reference Training Resources
- Reference T&S Standards

2. Integration Layer

Views which shows how the requirement to integrate affects the standard library elements. This layer provides constraints and patterns for each building block based upon the LOSI.

- Integration of Requirements
- Integration of Services
- Integration of Components
- Integration of Resources

3. Implementation Layer

This layer shows the way that each CCD project has implemented the library layer architecture. These Implementation architectures show how the generic architecture has been turned into a specific architecture.

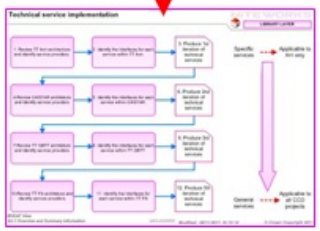
- TT Aviation CCD Implementation Architecture
- TT GBTT CCD Implementation Architecture
- TT Fast Air CCD Implementation Architecture
- TT CCD Demo Architecture

Reference Technical Services

SERVICES

Technical Services Catalogue

This view shows how the reference service taxonomy has been generated



Technical service implementation

Description

This view shows a reference set of technical services used by the TT CCD projects. At this layer of the architecture, the services are generic and provide a template that can be applied to all simulation projects to produce a set of specific yet standardised technical services. Each service within each CCD project must map back to one of these standard services.

Purpose

Traditionally, simulation systems have been delivered using hardware and software components that are 'hard-wired', or tightly coupled. This has resulted in inflexible and non-modular systems which have proved difficult to upgrade or modify. Moving towards a service oriented architecture should result in a system that is de-coupled from the underpinning products and components. This should result in greater flexibility and adaptability.

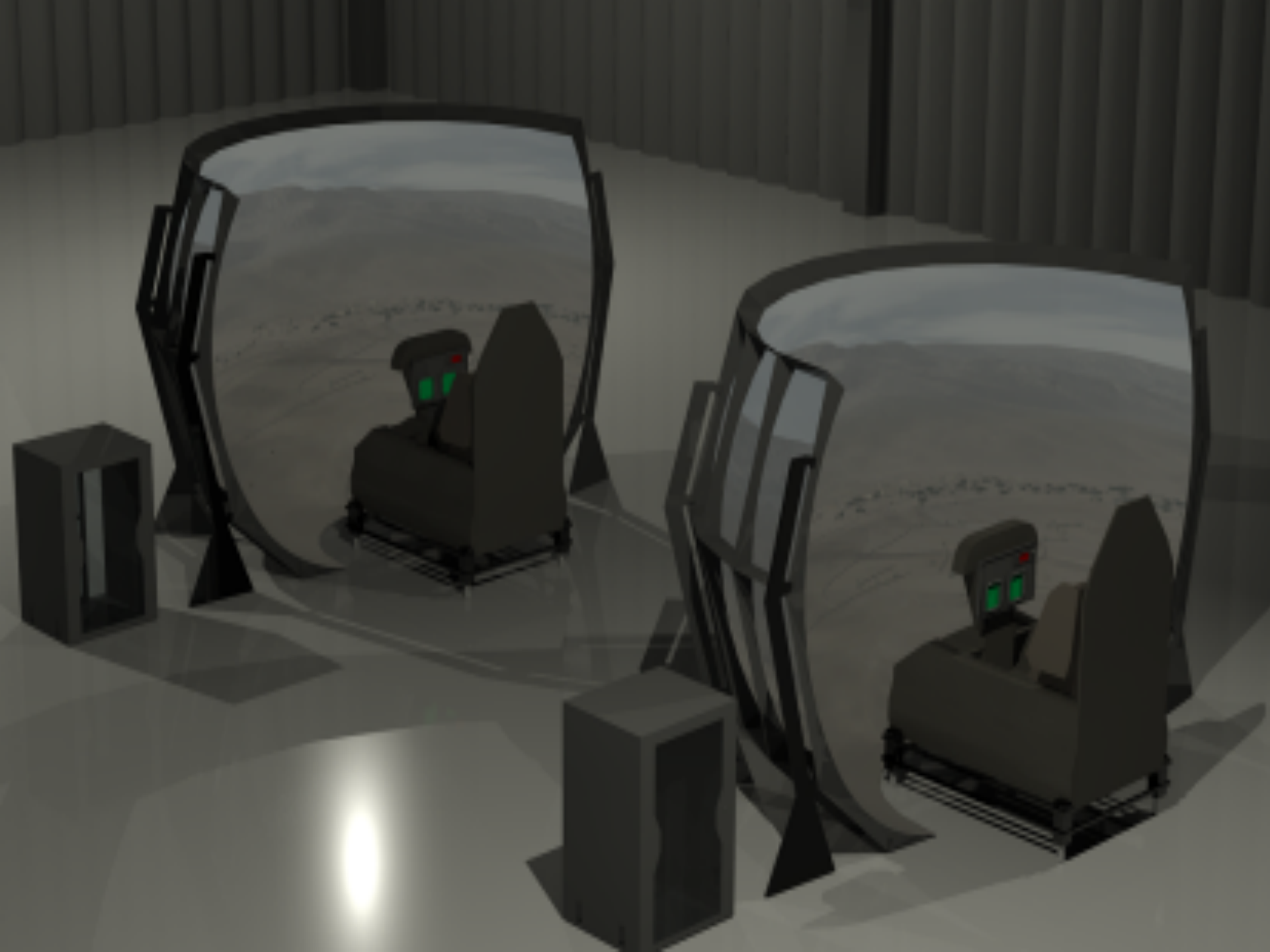
Definition

The technical services shown on this view contain an interface description, the QOS (expressed by reliability and latency) and any service attributes. The service attributes should be standard across domains, projects and environments. Each CCD project takes the standard services and populates the attributes with actual values. The actual values used by each project will be unique to the project.

Technical Services Catalogue

Technical Services provide the underpinning infrastructure required to realise the enabling services. They are not directly requested by the military user and may be provided by systems and technologies.

This view shows a reference set of technical services used by the TT CCD projects. At this layer of the architecture, the services are generic and provide a template that can be applied to all simulation projects to produce a set of specific yet standardised technical services. Each service within each CCD project must map back to one of these standard services.



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First-off AH Chassis

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Questions?