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• Project Definition
• Project Criteria
• Risks
• EDGE-P Proposed Architecture
• Candidate Technologies
• Conclusion
Create a unified virtual training environment with aggressive technical requirements. Blends traits from MMO, gaming and virtual world technology with the goal of replicating the operational environment as accurately as possible.
EDGE-P Project Criteria

- Accurate (physics, geometry, terrain, behaviors, visual presentation)
- Open Standards / Open API / Modular / Product Line Architecture
- Scalable (grow into large avatar numbers / terrain areas / AI / SAF)
- User refined interactions (scenario generation capabilities)
EDGE-P Risks

- Information Assurance – DIACAP capable
- Acceptable End-User Performance
- Load Balance
  - high avatar count vice network service
  - high avatar count vice accurate physics
EDGE-P System Concept Diagram

Player Controlled Battle Commander
RTS Interface

Player Controlled Battle Participant
First Person Interface

Player Controlled Battle Observer
Third Person Interface

Client Application Interfaces

Web Account Interface (AKO)
User Server
Game Server
AI Server(s)

Base MMO/RTS Platform

Game Services
Player Communications
In-game Browsing

Database (Persistence)

ONE-SAF SORD-n (physics)
Candidate Technologies

• 4 “Game” Engines
• 1 “Virtual World Technology”
• 2 “Massively Multiplayer Online” Backends

• At least one week development time devoted to each candidate.
• Same source models and terrain used where possible.
• Candidate technologies compared against project requirements.
• Traditional Game Engine
• Maya Compatible / Standard Height-map Terrain
• MMO/RTS Functionality would require development.
Game Engine #1
Game Engine #2

- Traditional Game Engine / Superior Graphics Quality / Best Satisfied Visual Realism Requirement
- Maya and 3DS Max Compatible / Standard Height-map Terrain
- MMO/RTS Functionality would require development.
- Low Avatar Numbers
Game Engine #3

- Traditional Game Engine
- Maya Compatible / Standard Height-map Terrain
- MMO/RTS Functionality would require development.
- Browser Based Applications
Game Engine #3
• Traditional Game Engine
• Maya Compatible / Standard Height-map Terrain
• MMO/RTS Functionality would require development.
Game Engine #4
Virtual World Technology

• True Virtual World
• Basic Physics / External Data Feeds
• Proprietary Content / Avatar Limitations
• Useful for Proof of Concept Work
• Advanced in-World Multimedia Capabilities
• Social Networking
• MMO \ RTS hybrid - Scalable
• Attractive server technology, could provide avatar numbers and geospatial areas
• Basic physics / 100% synthetic terrain
• All-in-one solution; proprietary; no in-house testing
• Significant development required to meet project goals
MMO #2

• MMO – Dynamically Scalable
• Attractive server technology, could provide avatar numbers and geospatial areas
• Basic physics / 100% synthetic terrain
• Modular solution; Open Source and Royalty Free pricing options; immediate in-house testing
• GUI development required to meet project goals
Conclusion

• TRADOC seeks to create a large MMO/RTS/VWT to support future training needs.
• EDGE-P must be designed with IA, scalability, and accessibility issues addressed up front.
• Rapidly evolving gaming technology makes aggressive EDGE-P requirements achievable.