



U.S. Army Research, Development and Engineering Command

U.S. Army Training and Doctrine Command (TRADOC) Virtual World Project

Advanced Distributed Learning Co-Laboratory
ImplementationFest 2010
12 August 2010



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

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Report Documentation Page				Form Approved OMB No. 0704-0188	
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1. REPORT DATE 12 AUG 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE U.S. Army Training and Doctrine Command (TRADOC) Virtual World Project				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Research, Development and Engineering Command, Army Simulation & Training Technology Center (STTC), 12423 Research Parkway, Orlando, FL, 32826-3276				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Implementation Fest 2010, 10-12 Aug 2010					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 22	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

- **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.

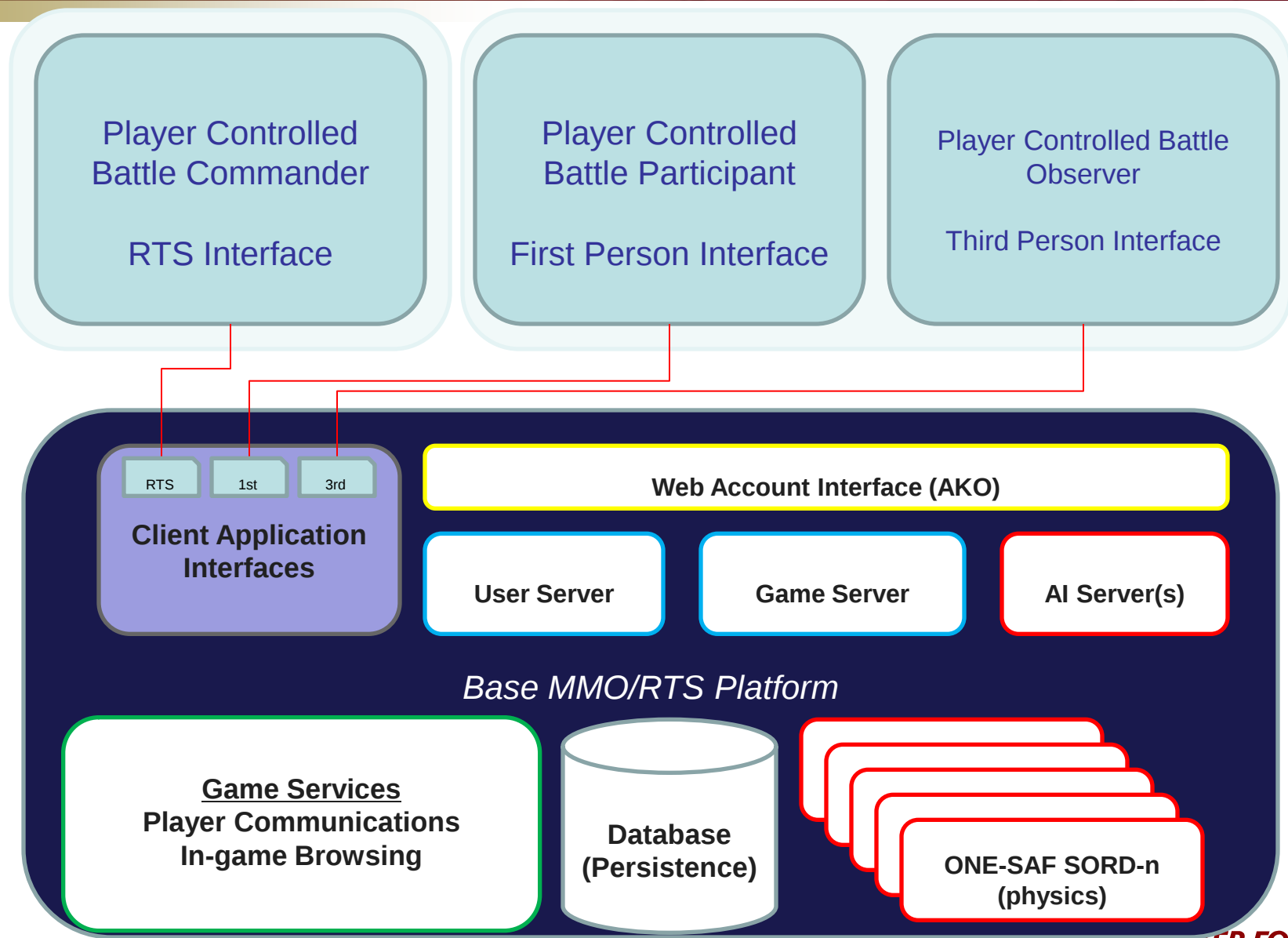


- Accurate (physics, geometry, terrain, behaviors, visual presentation)
- Open Standards / Open API / Modular / Product Line Architecture
- Scalable (grow into large avatar numbers / terrain areas / AI / SAF)
- User refined interactions (scenario generation capabilities)



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





- **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



- 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



- Traditional Game Engine
- Maya Compatible / Standard Height-map Terrain
- MMO/RTS Functionality would require development.
- Browser Based Applications





- Traditional Game Engine
- Maya Compatible / Standard Height-map Terrain
- MMO/RTS Functionality would require development.

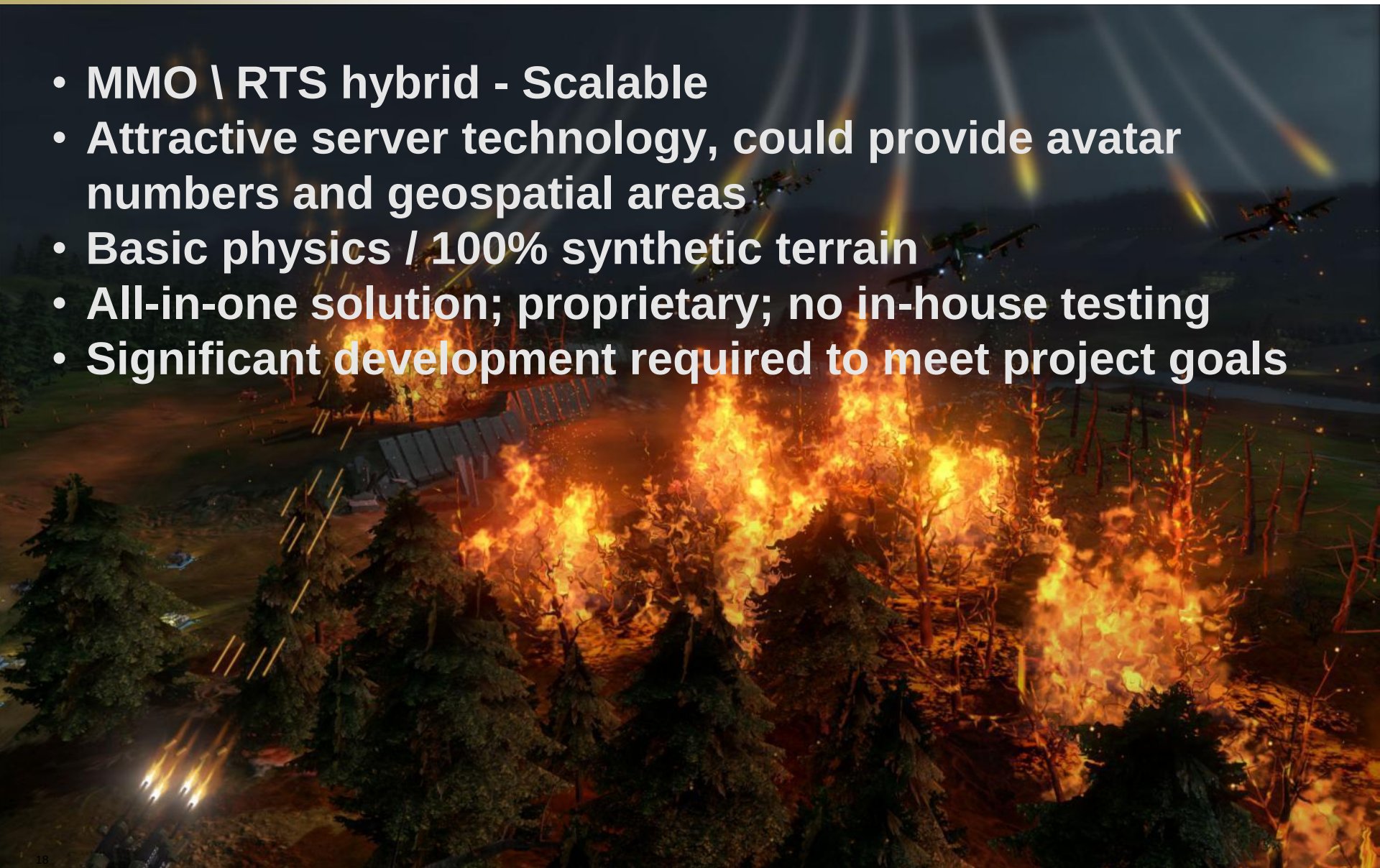




- True Virtual World
- Basic Physics / External Data Feeds
- Proprietary Content / Avatar Limitations
- Useful for Proof of Concept Work
- Advanced in-World Multimedia Capabilities
- Social Networking



- 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 – 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





- **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.**