

Military & Aerospace Electronics Forum

June 3-4, 2010



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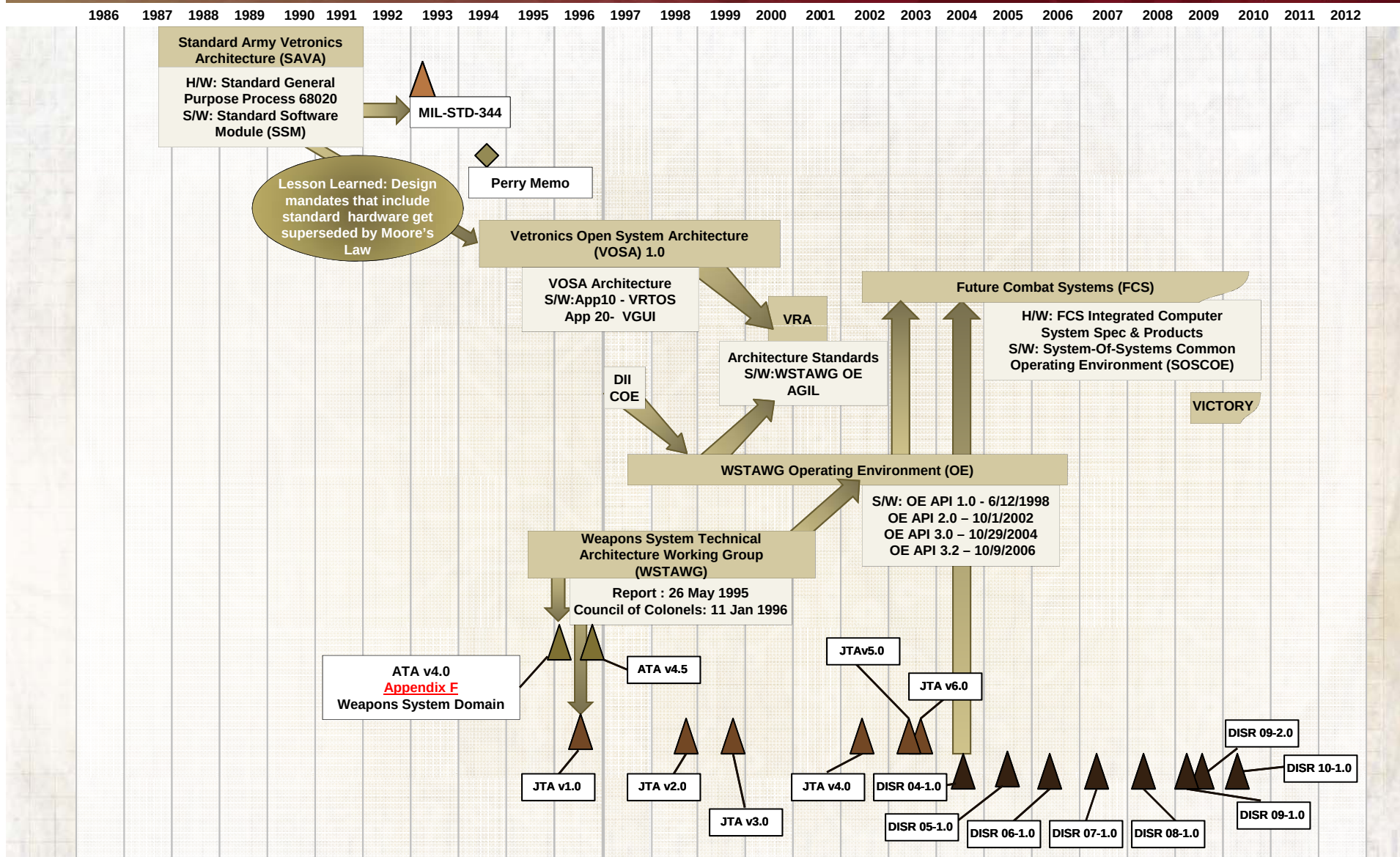


UNCLASSIFIED: Distribution A. Approved for Public Release
TACOM Case #20837 Release Date: 17 May 2010

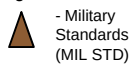
Report Documentation Page				Form Approved OMB No. 0704-0188	
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1. REPORT DATE 03 JUN 2010		2. REPORT TYPE N/A		3. DATES COVERED -	
4. TITLE AND SUBTITLE Military & Aerospace Electronics Forum June 3-4, 2010				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Christopher Ostrowski				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000, USA				8. PERFORMING ORGANIZATION REPORT NUMBER 20837RC	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000, USA				10. SPONSOR/MONITOR'S ACRONYM(S) TACOM/TARDEC	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S) 20837RC	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES The original document contains color images.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 9	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



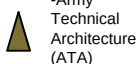
History of Past Architecture Efforts



Legend:



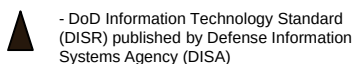
- Military Standards (MIL STD)



- Army Technical Architecture (ATA)



- Joint Technical Architecture (JTA)



- DoD Information Technology Standard (DISR) published by Defense Information Systems Agency (DISA)

Defense Information Infrastructure Common Operating Environment (DII COE)

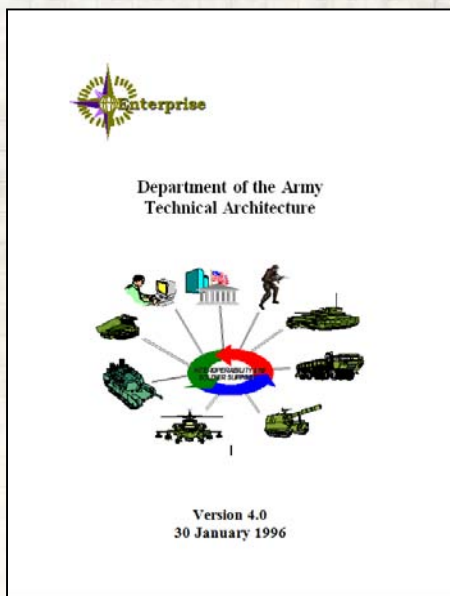
Vetronics Reference Architecture (VRA)

Hardware (HW) Software (SW)

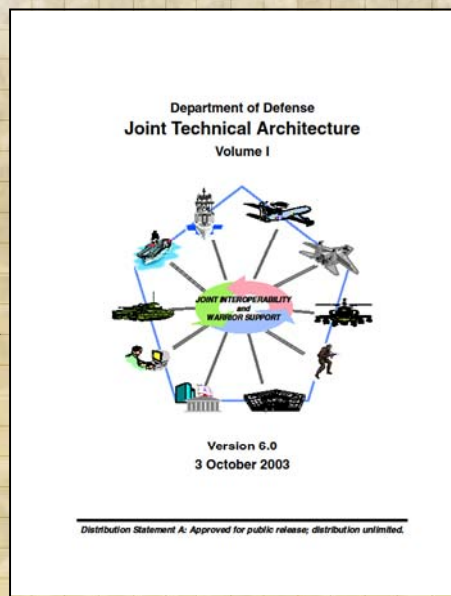
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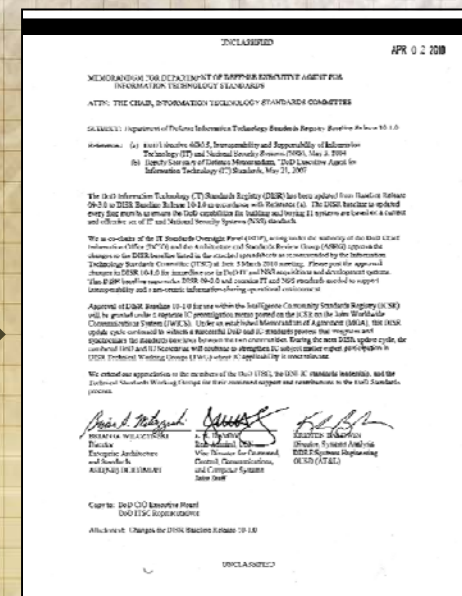
Technical Architecture Standards



Army Technical Architecture (ATA)



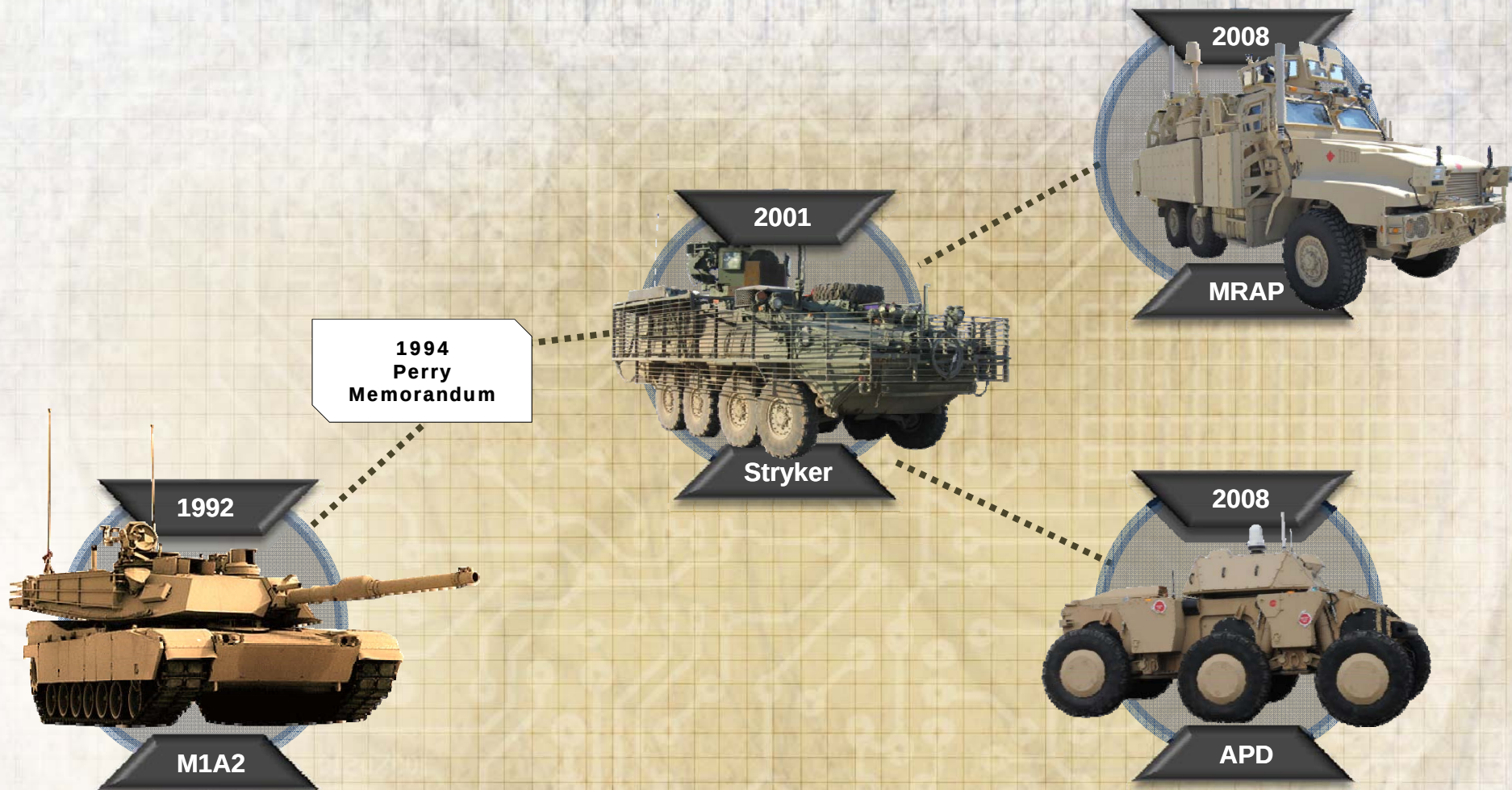
Joint Technical Architecture (JTA)



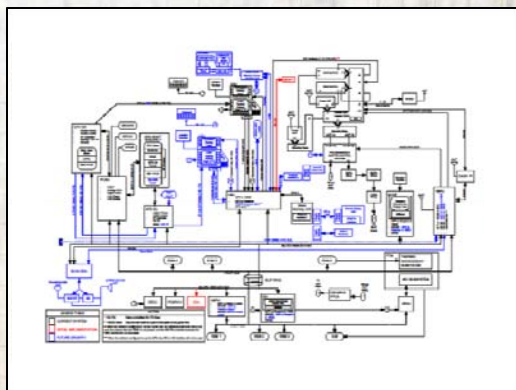
DoD Information Technology Standard (DISR)

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**The need for increasing Command & Control functionality
has driven the need for more COTS.**



- **MIL STD 1553-based Architecture**
- **SINGARS Radios**
- **Digital Command, Control and Communications Capability**
- **Max Speed** - 42 mph (Governed)
- **Power / Weight Ratio** - 21.6 hp/ton
- **Vertical Obstacle** - 42 in
- **Ground Clearance** - 19 in
- **Gross Vehicle Weight** - 69.54 ton
- **Overall Length (Gun Forward)** - 387 in
- **Overall Width** - 144 in

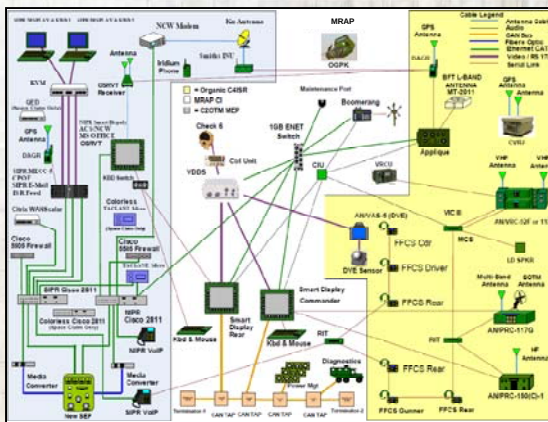


1553 tightly coupled bus schedule



-
- A large, green, multi-wheeled military vehicle, possibly an armored personnel carrier or transport truck, equipped with a heavy metal cage and various equipment. The vehicle is shown from a side profile, parked on a light-colored surface. It has a prominent metal cage structure over the cargo area and a smaller cage over the engine compartment. The vehicle is heavily armed with various weapons and equipment, including what appears to be a mounted machine gun or anti-aircraft gun on the roof. The background is a plain, light-colored wall.

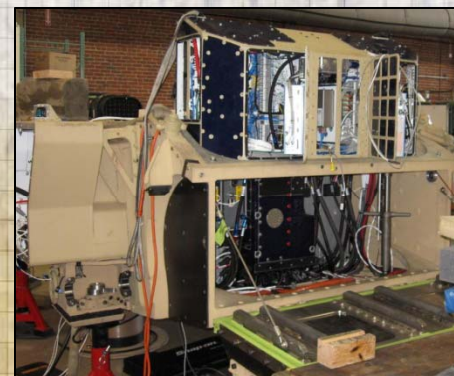
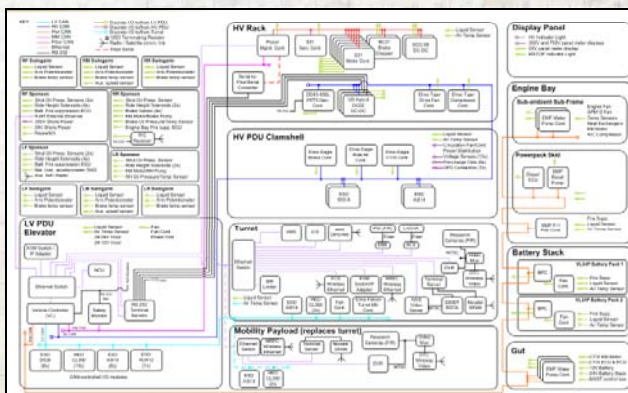
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- **Ethernet Backbone**
- **Data Radios and Satellite Communications**
- **19" COTS Smart Displays**
- **Max Speed - 65 mph (Governed)**
- **Gross Vehicle Weight - 23 ton**
- **Overall Length - 257 in**
- **Overall Width - 102 in**



Extensive use of Ethernet & COTS equipment



- **Multiple CAN Busses & Gigabit Ethernet (GbE)**
- **COTS Data Radios – 802.11 Based**
- **Extensive COTS Components**
- **Max Speed - 50 mph**
- **Generator Output - 197 hp**
- **Battery Energy - 21.8 kW-hr**
- **Battery Max Power - 282 hp**
- **Power / Weight Ratio - 112 hp/ton**
- **Peak Torque - 41,368 ft-lb**
- **Vertical Obstacle - 39 in**
- **Trench - 39 in**
- **Fording - 20 in**
- **Gross Vehicle Weight - 9.3 ton**
- **Overall Length - 182 in**
- **Overall Width - 98 in**



Multiple CAN busses & Gigabit Ethernet as vehicle backbone

