



## Introduction to the Joint Integrated Analysis Tool (JIAT)

**2009 ACEIT User Conference**

# Presenters

➤ **Daniel Schwartz**

- Senior Operations Research Analyst, ODASA-CE
- JIAT Project Manager
- [daniel.schwartz@hqda.army.mil](mailto:daniel.schwartz@hqda.army.mil)

➤ **Craig Sturgeon**

- Technical Manager, SP/SG, Tecolote Research, Inc.
- JIAT Software Development Manager
- [csturgeon@tecolote.com](mailto:csturgeon@tecolote.com)

➤ **Jeff McDowell**

- Chief Scientist, Huntsville Group, Tecolote Research, Inc.
- JIAT Standards Development and Requirements Definition
- [jmcdowell@tecolote.com](mailto:jmcdowell@tecolote.com)

# *Summary*

- **JIAT Overview (Daniel Schwartz)**
- **JIAT Architecture (Craig Sturgeon)**
- **JIAT Application Walkthrough (Jeff McDowell)**
- **JIAT Standards (Jeff McDowell)**
- **Questions**



# JIAT Overview

## ***The JIAT System***

### ➤ **What is the problem the Army is addressing?**

The Army lacks an ability to provide integrated analysis bringing together cost estimating, engineering design, and capability/performance data that are appropriate for current or emerging technologies.

### ➤ **The JIAT System Concept**

ODASA-CE is developing a cost estimating system that will facilitate seamless linkages between cost estimating tools, engineering design models, modeling and simulation, capability/performance data and operations and support databases.

## *The JIAT System*

**JIAT is a system that allows end-users (cost/requirements analysts, engineers, etc.) to run a wide variety of models from their desktop. Models are made available to end-users through a distributed system of JIAT Model Providers, hosted as web services across the Internet. Each provider has a collection of available models. The user can search for models across all providers. Once the desired model is found, the user can run that model to produce results to include in a cost estimate.**

## ***JIAT Providers***

- **ACE (Tecalote Research, Inc.)**
- **TruePlanning Suite (PRICE Systems)**
- **SEER-SEM (Galorath, Inc.)**
- **ForeCostXXI (Technomics, Inc.)**
- **ODASA-CE Databases**
  - **Capability-based Costing**
  - **Automated Cost Data Base (ACDB)**
  - **Army Military-Civilian Cost System (AMCOS)**
  - **Operating and Support Management Information System (OSMIS)**
  - **Force and Organizational Cost Estimating System (FORCES)**
- **Cost Estimating Relationships (CER) Libraries**

## ***JIAT Benefits and Vision***

- **Benefits:**
  - Web services technology provides a platform to bring multiple tools together in one workplace
  - Establishes a standard Service-Oriented Architecture (SOA) framework to encourage the integration of other Services' cost estimating tools and databases
  - Analyses for all phases of the program – development through sustainment
  - Comprehensive analysis will reduce program risk by addressing hardware, software and programmatic requirements early in the program's lifecycle
- **Vision:**
  - Functionality for the cost, acquisition, requirements and modeling and simulation communities





# JIAT Architecture

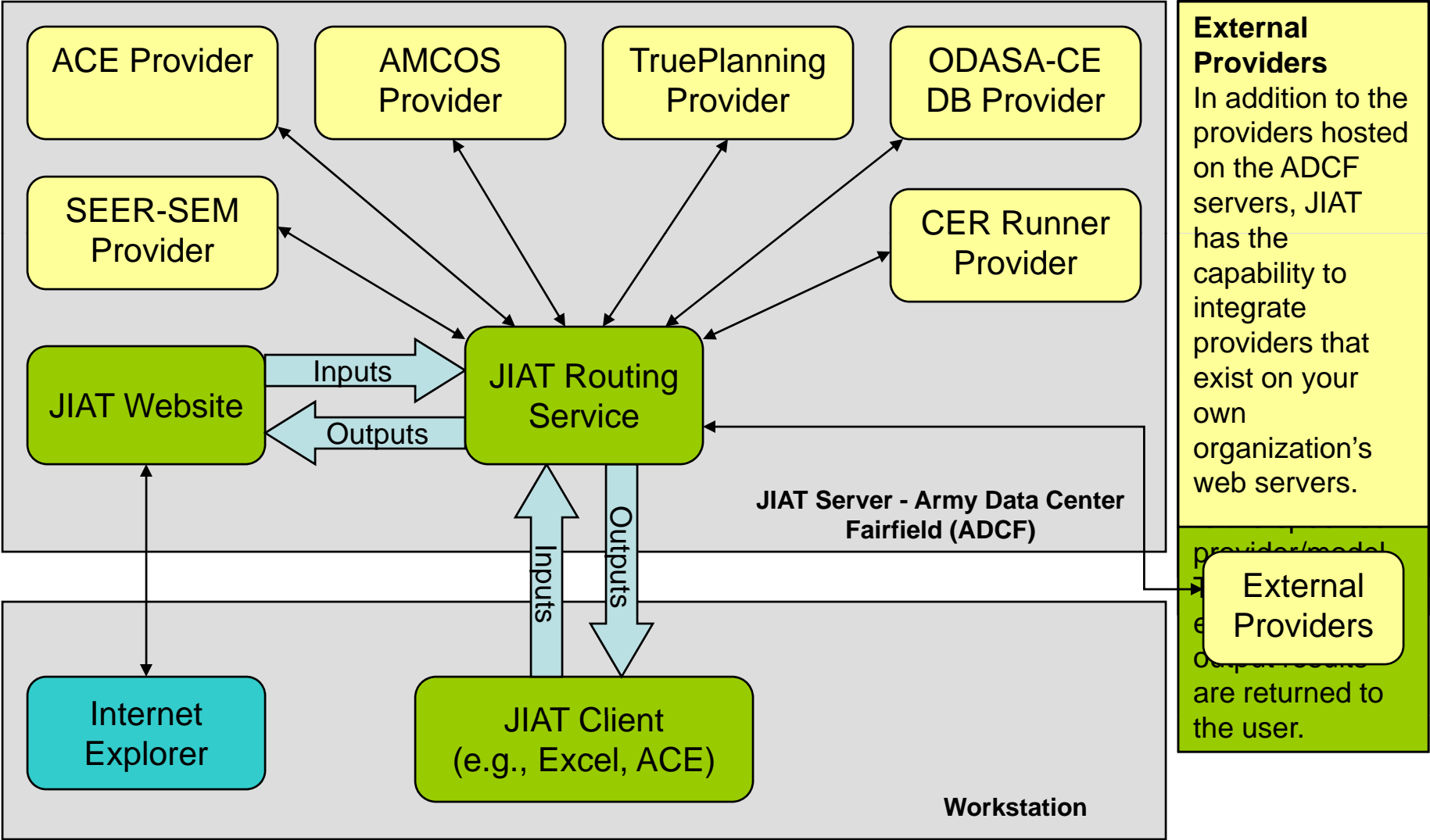
## ***Architecture Summary***

- **JIAT Architecture “Big Picture”**
- **JIAT Model Population (i.e., Creating Providers)**
- **JIAT Security**
- **JIAT Required Software**
- **JIAT Versions**

# *Architecture Terms and Definitions*

- **JIAT Client** - An application that allows the end-user to run models using the JIAT architecture. The three clients currently available are the JIAT Excel Add-In, ACE Model Runner Plugin and the JIAT website.
- **JIAT Provider** – Software (i.e., a web service) that hosts one or more models made available to JIAT Client applications. These providers typically “wrap” the functionality of an existing application (e.g., ACEIT, SEER, PRICE, etc.) to process model run requests by the end-user.
- **JIAT Model** - A named element available from a JIAT Provider that accepts a set of input values and produces a set of output values.
- **JIAT Server** - The central switchboard for communicating between a JIAT client application and the JIAT Providers. All model run requests are routed here first and then passed on to the appropriate Provider for execution. Once registered with the JIAT server, a Provider and its models become available to the JIAT client applications
- **JIAT Standard Interface (JSI)** - The standard set of programmatic rules that all JIAT Clients and Providers use to communicate.

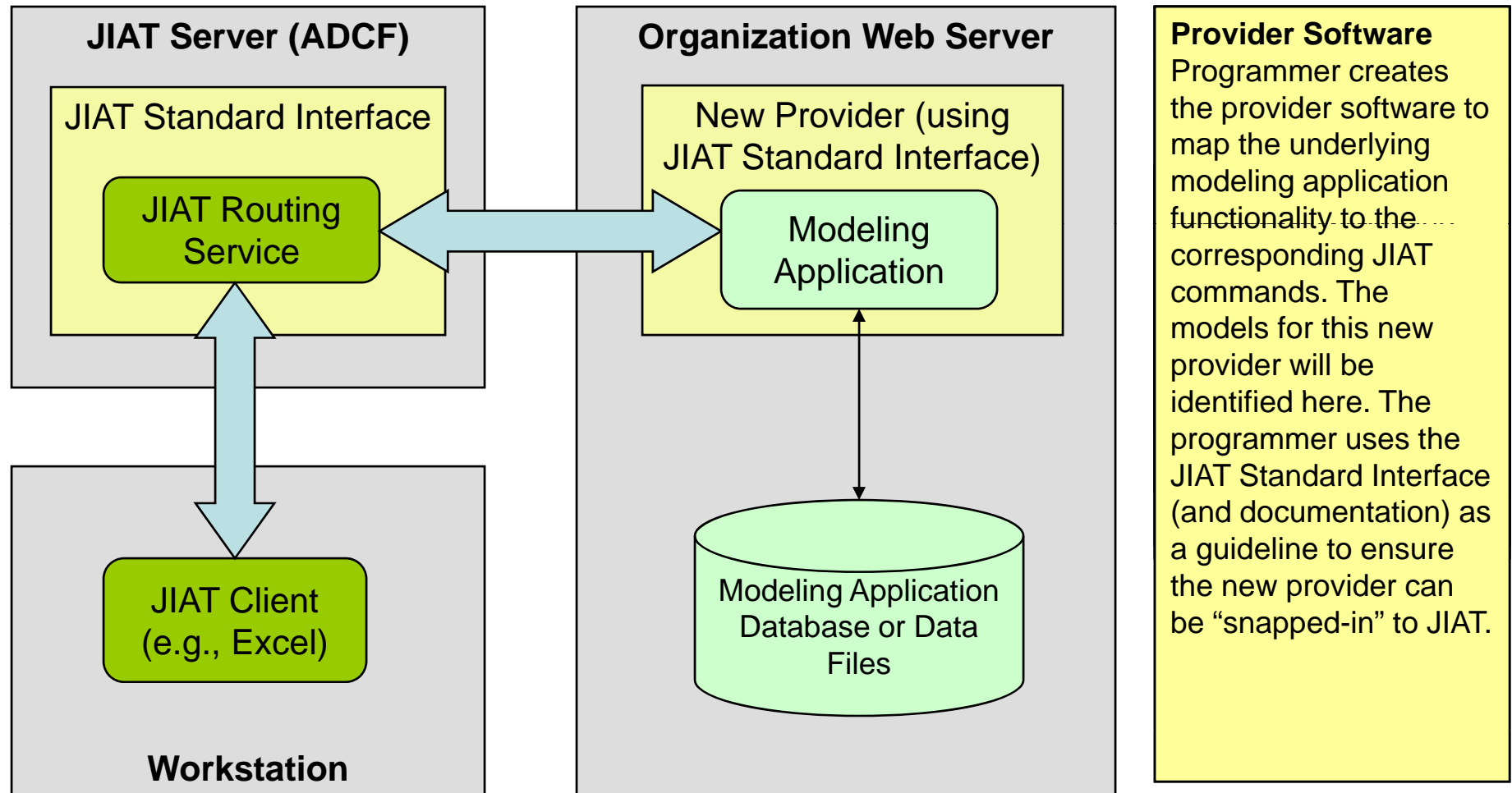
# JIAT Architecture "Big Picture": Running a JIAT Model



# *Creating a JIAT Provider*

- **Developing a Provider (programming)**
  - With guidance from JIAT documentation, a programmer creates Provider software (i.e., a web service) that maps the modeling application native functionality to a standard JIAT commands (e.g., Run a Model)
  - Programmer guide, sample code, boilerplate Visual Studio template
  - Modeling application must have a programmatic interface and ability to run on web server
- **Hosting a Provider – 2 options**
  - Host provider at Army Data Center Fairfield (ADCF), California.
  - Host provider on your own organization's web server external to JIAT (see next slide). Requires establishment of a System Interface Agreement (SIA) between your organization and ADCF (e.g., what info transferred, how it is secured, etc.).
- **Provider Registration**
  - JIAT website allows a new provider to be registered making it available to JIAT Clients

# Creating/Hosting a Provider



# ***JIAT Security***

- **JIAT Desktop Client (e.g., Excel, ACE) to JIAT Server**
  - SSL (Secure Sockets Layer)
  - End-user must provide CAC card and PIN
  - End-user must also have an already approved JIAT website account associated with their CAC
- **JIAT Server to Provider – 2 Options**
  - **Provider hosted on the ADCF JIAT server** – No security necessary since providers are not outward facing and communicate directly with JIAT within same server.
  - **Provider hosted on external (other organization) web server** – The desired combination of SSL, username/password and digital certificate security is agreed upon between ADCF and external organization hosting the provider via System Interface Agreement (SIA). JIAT can support any of these security scenarios.
- **JIAT Website**
  - Hosted within .mil ADCF portal. Uses SSL, CAC card, PIN, etc. for login.

# ***JIAT Required Software***

## ➤ **JIAT Workstation (for JIAT end-users)**

- Microsoft Windows XP/Vista
- Microsoft Internet Explorer 6.0/7.0
- Optional: Microsoft Excel 2003/2007 (to run JIAT Excel Add-In)
- Optional: ACEIT 7.1a (to run JIAT ACE Plugin)
- Optional: Microsoft .NET Framework 3.5 (to run ACE Plugin or Excel Add-In)

## ➤ **External Server Hosting a Provider**

- Microsoft Windows Server 2003
- Microsoft .NET Framework 3.5
- Microsoft Internet Information Server (IIS) 6.0 (web server software)

## ➤ **JIAT Development Machine (for creating a Provider)**

- Microsoft Windows XP/Vista
- Microsoft .NET Framework 3.5
- Microsoft Visual Studio 2008 using VB.NET, C# or other .NET language
- JIAT Software Development Kit (SDK). Includes required JIAT Standard Interface component.



# ***JIAT Versions***

## ➤ **Version 1.0**

- Functional Pilot Test Prototype completed October 2008
- Hosted on test servers at Army Data Center Fairfield (ADCF), California
- JIAT website and web service hosted under .mil domain
- Enabled basic JIAT model running capability (single inputs/outputs) through the entire architecture

## ➤ **Version 2.0**

- Initial production version under development with planned Fall 2009 release
- Hosted on production servers at Army Data Center, Fairfield, California
- JIAT website and web service hosted under .mil domain
- Expanding architecture to support more complex models (time-phased, data queries, etc.)
- Excel-like JIAT model running directly from JIAT website
- Model Sequencing – Outputs from one model become inputs to next model in sequence
- Expanded multi-user functionality (user groups, license management, model publishing, etc.)



# JIAT Walkthrough

# ***JIAT 1.0 Walkthrough***

## ➤ **Excel Add-In**

- Excel 2003/2007 Add-In allows creation of workbooks that run JIAT Models

## ➤ **ACE Plugin**

- ACE Plugin allows JIAT models to be run directly from an ACE session
- Uses the ACE Plug-in architecture
- Currently provides Model Runner and CER Library functions

## ➤ **JIAT Website**

- JIAT Web Client allows models to be executed in a multiple run fashion
- JIAT Version 2.0 will support more extensive JIAT model running from the JIAT website (e.g., time-phased, data queries, etc.)



# JIAT Plug-In for Excel

# Excel / JIAT Interface

- The Excel 2003/2007 Add-In allows creation of workbooks that interact with JIAT Models

The screenshot displays the Microsoft Excel 2003 interface with the JIAT add-in menu open. The menu options include Calculate, Create New, Cages, Edit, Choices..., Options..., JIAT Web Application, About..., and Close. The JIAT Model Selection dialog box is overlaid on the spreadsheet, showing a table of models. A blue arrow points to the 'OSMIS Summary Cost Metric' row in the table.

Model Name	Description	Provider
AMCOS Pay Rates	Obtain Pay Rates by Grade	ODASA-CE Databases Provider
AMCOS Training Cost	Obtain Training Costs	ODASA-CE Databases Provider
OSMIS OPTEMPO	Obtain Activity Rates	ODASA-CE Databases Provider
OSMIS Summary Cost	Obtain Consumables and Repairables by M	ODASA-CE Databases Provider
OSMIS Summary Cost Metric	Consumables and Repairables by Optemp	ODASA-CE Databases Provider
OSMIS Summary Cost Metric (Three year	Consumables and Repairables by Optemp	ODASA-CE Databases Provider
Capabilities Knowledge Base	Obtain Programs Bases on Capabilities	ODASA-CE Databases Provider
CKB RDTE Cost by PNO	Obtain Phases Cost and Quantity by Progr	ODASA-CE Databases Provider
CostFactors Handbook Flying Hour Cost	Obtain Total Costs of Flying Categories	ODASA-CE Databases Provider
Cost Factors Handbook Fuel Cost	Obtain Total Costs of Fuel by Type	ODASA-CE Databases Provider
Cost Factors Handbook Equipment Cost	Obtain Total Cost of Equipment by LIN	ODASA-CE Databases Provider
Cost Factors Handbook Replenishment Co	Obtain Average Support Costs by LIN	ODASA-CE Databases Provider

# Excel / JIAT Interface

- The Excel 2003/2007 Add-In allows creation of workbooks that interact with JIAT Models
  - Interface design similar to ACE Executive and POST sheets
  - On-sheet controls to manage cases, calculate, etc.
  - For database provider, a “model” is a “query”
  - Powerful Query Interface To ODASA Databases

	A	B	C	D	E	F	G
1	<b>JIAT</b> Model Sheet					Case:	Add Del
2	Calculate..						
3	Model: OSMIS Summary Cost Metric						
4	Description: Consumables and Repairables by Optempo and Denisty						
5	Provider: ODASA-CE Databases Provider						
6	Variable Name	Variable ID	Type	Required	Fiscal Year	Units	Case 1
7	Consumables per System	CONS/Dens	OUTPUT			\$	
8	Repairables per System	REPS/Dens	OUTPUT			\$	
9	Consumables per Unit Activity	CONS/Activ	OUTPUT			\$	
10	Repairables per Unit Activity	REPS/Activ	OUTPUT			\$	
11							
12							
13	MDS	MDS	INPUT	Y			
14	FY	FY	INPUT	Y			
15							

Excel notes identify choices.

AMEV - BRADLEY, ASV, ATGM - STRYKER, AVLB - AVLB, AVLB2 - AVLB2, BEV, BFAASV - BFAASV, C2V, CS - STRYKER, ECV - STRYKER, ESV - STRYKER, FSV - STRYKER, GMV - STRYKER, GRIZZLY, ICS - STRYKER, ICV - STRYKER, IFS - STRYKER, IME - STRYKER, LAV-AG - LIGHT ARMORED VEHICLE, LAV-AM - LIGHT ARMORED VEHICLE, LAV-C2 - LIGHT



# Excel / JIAT Interface

- Multiple “queries” can be included for a single database as JIAT Cases
- Different worksheets can link to different JIAT Models

Variable Name	Variable ID	Type	Required	Fiscal Year	Units	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
Consumables per System	CONS/Density	OUTPUT		2006	\$	\$154,692.00	\$91,478.00	\$98,685.00	\$76,368.00	\$39,475.00	\$31,614.00	\$100,712.00
Repairables per System	REPS/Density	OUTPUT		2006	\$	\$100,198.00	\$69,873.00	\$53,329.00	\$20,181.00	\$11,242.00	\$5,896.00	\$25,608.00
Consumables per Unit Activity	CONS/Activity	OUTPUT		2006	\$	\$26.65	\$31.91	\$18.23	\$25.18	\$9.97	\$8.66	\$88.38
Repairables per Unit Activity	REPS/Activity	OUTPUT		2006	\$	\$7,005.20	\$7,208.91	\$2,544.84	\$685.95	\$79.47	\$22.89	\$13,705.29
MDS	MDS	INPUT	Y			M551A1 - SH	M551A1 - S	M551A1 - S	M551A1 - S	M551A1 - S	M551A1 - S	M551A1 - SH
FY	FY	INPUT	Y			1993	1994	1995	1996	1997	1998	1999

# Excel / JIAT Interface

- JIAT & CO\$TAT Can Work Together

Microsoft Excel - Demo 1 conference.xls

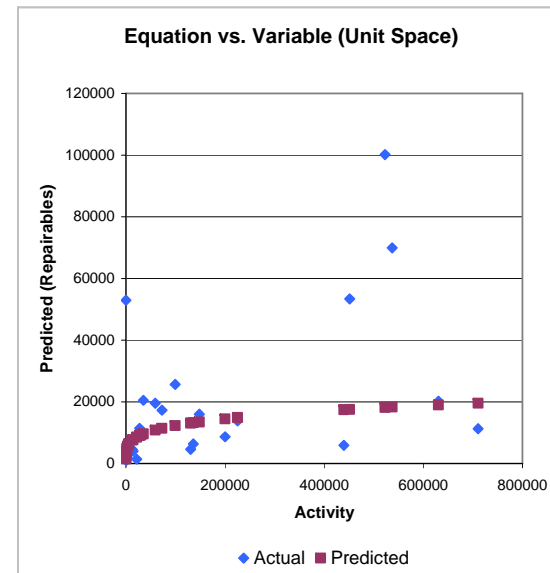
File Edit View Insert Format Tools JIAT CO\$TAT Data Window Help Adobe PDF

M42

Observations	Variable 1	Variable 2	Variable 3	Variable 4	Variable 5
Variable ID	Consumables	Repairables	ConsumablesPer	RepairablesPer	MDS
Case 1	154692	100198	26.65	7005.2	M551A1 - SHERIDA
Case 2	91478	69873	31.91	7208.91	M551A1 - SHERIDA
Case 3	98685	53329	18.23	2544.84	M551A1 - SHERIDA
Case 4	76368	20181	25.18	685.95	M551A1 - SHERIDA
Case 5	39475	11242	9.97	79.47	M551A1 - SHERIDA
Case 6	31614	5896	8.66	22.89	M551A1 - SHERIDA
Case 7	100712	25608	88.38	13705.29	M551A1 - SHERIDA
Case 8	108257	17273	61.51	15606.32	M551A1 - SHERIDA
Case 9	66086	19560	76.45	21298.31	M551A1 - SHERIDA
Case 10	187686	20484	114.49	27700.82	M551A1 - SHERIDA
Case 11	46574	11406	68.19	29968.82	M551A1 - SHERIDA
Case 12	38653	52925	78.6	24289.12	M551A1 - SHERIDA
Case 13	11490	1945	167.92	9099.08	M551A1 - SHERIDA
Case 14	29	2115	107.42	9433.69	M551A1 - SHERIDA
Case 15	93682	13779	35.11	1694.22	M578 - LR
Case 16	66546	15987	42.16	5475.18	M578 - LR
Case 17	35103	6290	23.18	378.19	M578 - LR
Case 18	29056	8672	16.28	191.42	M578 - LR
Case 19	31757	4576	24.52	238.72	M578 - LR
Case 20	10653	10624	29.27	28420.28	M578 - LR
Case 21	17609	4010	87.56	20635.39	M578 - LR
Case 22	7247	1376	21.35	239.12	M578 - LR
Case 23	15806	4506	45.94	6651.35	M578 - LR
Case 24	10148	4881	83.52	21071.77	M578 - LR
Case 25	4673	3157	38.15	38433.26	M578 - LR
Case 26	5135	1992	83.77	37012.54	M578 - LR
Case 27	6335	1953	85.21	76613.25	M578 - LR
Case 28	4998	917	108.7	33437.03	M578 - LR

### I. Model Form and Equation Table

<b>Model Form:</b>	Unweighted Log-Linear model
<b>Number of Observations Used:</b>	28
<b>Equation in Unit Space:</b>	Repairables = 803 * Activity ^ 0.2368



Sample data





# JIAT Plug-In for ACE

# ACE / JIAT Model Runner

- Highlight the row of interest in ACE Session
- Select JIAT Model Runner from menu

The screenshot displays the ACE 7.1a interface. The 'Tools' menu is open, showing 'JIAT Model Runner' as the selected option. The background shows a table with columns for 'BASELINE', 'Phasing Method', 'cst\_fac (+) Cost Factor', 'Equation / Throughput', 'Fiscal Year', and 'Units'. The 'JIAT Model Runner Plugin' dialog is open, showing a list of providers to be searched, including 'SEER-SEM Provider'. A callout box points to the dialog with the text: 'Run any JIAT models (e.g. SEER, Price, etc) from ACE.'

# ACE / JIAT Model Runner

- Select Model, specify inputs, calculate results, paste into ACE.

The screenshot displays the JIAT Model Runner Plugin interface, which is divided into several sections:

- Model Selection:** A table listing available models. The selected model is "JIAT Single Line SEER Use Case".
- Model Inputs:** A table where users can specify input values for different CSCI categories. The "Value" column is circled in red.
- Model Outputs:** A table showing the calculated results for the selected model. The "Value" column is circled in red.
- Buttons:** "Calculate" and "Paste" buttons are highlighted with red arrows at the bottom of the interface.

Model Name	Description	Provider
General Purpose JIAT Software Project	An Example Two CSCI Model	SEER-SEM Provider
JIAT Single Line SEER Use Case	Rudimentary Single Line Development Cos	SEER-SEM Provider
General Purpose Command and Control S	General Purpose Model of Four CSCIs	SEER-SEM Provider

Input Name	Value	Required	Fiscal Year	Units
Single CSCI-New Lines of Code(Least)	20000	Y		Source Lines of Code (SLOC)
Single CSCI-New Lines of Code(Likely)	30000	Y		Source Lines of Code (SLOC)
Single CSCI-New Lines of Code(Most)	40000	Y		Source Lines of Code (SLOC)

Output Name	Value	Fiscal Year	Units
Single CSCI-Development Effort Months	255.83		months
Single CSCI-Development Schedule Months	21.33		months

# ACE / JIAT Model Runner

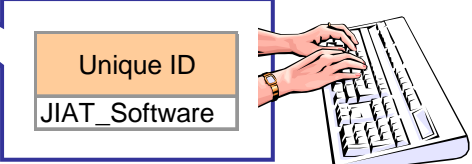
- JIAT Model results inserted at bottom of ACE session
  - Results added as new rows
  - Use variables and equations to link into estimating methods

Vehicle Model for JIAT Demo before.aceit : 2 - Methodology (BY2002SM)

	WBS/CES Description	jiat (*) jeff	Approp	Unique ID	BASELINE	Phasing Method	cst_fac (+) Cost Factor	Equation / Throughput	Fiscal Year	Units
13	DEVELOPMENT ENGINEERING		RDTEA	DES	\$ 62.5 *					
14	HARDWARE		RDTEA		\$ 62.5 *	BE		6.87 * .65 * (AF_T1 + ENG_T1 + AVION_T1) *		\$K
15	SOFTWARE	SEER-SEM CSCI	RDTEA		\$ 0.0 *	BE		<b>JIAT_Software * SW LaborRate</b>		
16	PROD ENG AND PLAN (PEP)		RDTEA		\$ 12.8 *	BE	0.1333	cst_fac* (DES + PMS)		
17	DEVELOPMENT TOOLING		RDTEA		\$ 10.1 *	BE	0.1054	cst_fac* (DES + PMS)		
18	PROTOTYPE MANUFACTURING		RDTEA	PMS	\$ 33.7 *	BE		6.87 * .35 * (AF_T1 + ENG_T1 + AVION_T1) *		\$K
19	SYSTEMS ENGINEERING/MGMT		RDTEA		\$ 83.9 *	BE	0.8720	cst_fac* (DES + PMS)		
20	SYSTEMS TEST AND EVAL		RDTEA		\$ 69.0 *	BE	0.7171	cst_fac* (DES + PMS)		
21	TRAINING		RDTEA		\$ 6.5 *	BE	0.0673	cst_fac* (DES + PMS)		
22	DATA		RDTEA	DEV_DATA\$	\$ 2.0 *	F	0.0176 / 5	if ((DES+PMS)>0 , cst_fac* ( FYTOT(@DES) +		
23	SUPPORT EQUIPMENT		RDTEA		\$ 0.0 *	BE	0.0002	cst_fac* (DES + PMS)		

Vehicle Model for JIAT Demo before.aceit - Methodology (BY2002SM)

	WBS/CES Description	jiat (*) jeff	Approp	Unique ID	BASELINE	Phasing Method	cst_fac (+) Cost Factor	Equation / Throughput	Fiscal Year	Units
148	Units Decomissioned			Decom	1116.4 *	F		OpDecomUnits(@Qty, @UPD, @mthsbtwndel, @lag,		
149	Stored Units				0.0 *	F		OpStoreUnits(@Qty, @UPD, @mthsbtwndel, @lag,		
150										
151	Single CSCI-Development Effort Months							[JIAT Model - JIAT Single Line SEER Use Case] 272.98		
152	Single CSCI-Development Schedule Months							[JIAT Model - JIAT Single Line SEER Use Case] 21.79		
153										



# ACE / JIAT CER Library

- Highlight the row of interest in ACE session
- Select JIAT CER Library Plugin from menu

The screenshot shows the ACE 7.1a software interface. The title bar reads "ACE 7.1a - [Vehicle Model for JIAT Demo.aceit - Methodology (BY2002SM)]". The menu bar includes File, Edit, View, Documentation, Calc, Cases, Reports, Tools, Window, and Help. The Tools menu is open, showing options like CER Library..., POST/Exec Wizard..., WBS Numbering Wizard..., Phasing Wizard..., System By Site Wizard..., Equation Cleanup Wizard..., RI\$K Grouping and Correlation..., RI\$K Custom CDEs..., Session Analyzer..., ACE-to-ACE Plug-in..., Excel-to-ACE Plug-in..., ACEIT Admin, JIAT CER Library Plugin.tlb, JIAT Model Runner Plugin.tlb, Customize Tools..., and User Options... The "JIAT CER Library Plugin.tlb" option is highlighted. In the background, a table is visible with the following data:

	WBS/CES Description	Approp	Phasing Method	cst_fac (+) Cost Factor	Equation / Throughput	Fiscal Year	Units
24	DEVELOPMENT FACILITIES	RDTEA					
25	OTHER RDT&E	RDTEA					
26							
27	PROCUREMENT FUNDED ELEMENTS	WTCV					
28	NON-RECURRING PROD	WTCV					
29	RECURRING PRODUCTION	WTCV					
30	Vehicle	WTCV					
31	VEHICLE HARDWARE	WTCV					
32	HULL/FRAME	WTCV	*	R		2000	\$K
33	SUSPENSION	WTCV	*	R		2000	\$K
34	POWER PACKAGE/DRIVE TRAIN	WTCV	*	R		2000	\$K
35	AUXILIARY AUTOMOTIVE	WTCV	*	R		2000	\$K
36	TURRET, FC, ARM	WTCV	*	R		2000	\$K

# ACE / JIAT CER Library

- Select Library
- Select CER

The screenshot shows the ACE 7.1a software interface with the JIAT CER Library Plugin. The main window has a menu bar (File, Edit, View, Documentation, Calc, Cases, Reports, Tools, Window, Help) and a toolbar. The JIAT CER Library Plugin window is open, showing a search interface with the following components:

- Libraries to Search:** A list of libraries with checkboxes. The 'Sample CER Library' is checked.
- Search By:** A section with checkboxes for 'Phase' and 'Sub'.
- Search:** A search button.

A secondary window titled 'JIAT CER Library Plugin' is open, displaying a table of retrieved CERs:

Title	Equation
SUPPORT EQUIPMENT	[Rotocraft Model] .0002* (DE\$ + PM\$)
PROTOTYPE MANUFACTURING	[Rotocraft Model] 6.87 * .35 * (AF_T1 + ENG_T1 + AVION_T1)
SYSTEMS ENGINEERING/MGMT	[Rotocraft Model] .8720* (DE\$ + PM\$)
TRAINING	[Rotocraft Model] .0091 * REC_PROD\$
TRAINING	[Rotocraft Model] .0673* (DE\$ + PM\$)
SYSTEMS TEST AND EVAL	[Rotocraft Model] .7171* (DE\$ + PM\$)
PROD ENG AND PLAN (PEP)	[Rotocraft Model] .5* (DE\$ + PM\$)
DEVELOPMENT TOOLING	[Rotocraft Model] .1054* (DE\$ + PM\$)
DEVELOPMENT ENGINEERING	[Rotocraft Model] 6.87 * .65 * (AF_T1 + ENG_T1 + AVION_T1)
DATA	[F Phase] if( (DE\$+PM\$)>0 , (.0176/5) * ( FYTOT(@DE\$) + F
ENGINEERING CHANGES	[Rotocraft Model] .0139 * REC_PROD\$
NON-RECURRING PROD	[Rotocraft Model] .0031 * REC_PROD\$
MODIFICATIONS	[Rotocraft Model] IF(FYR>(FYCFIRSTYR(@PRODQ)+1), .0082
Integration Assembly & Checkout	[Rotocraft Model] .1589 * REC_AV\$

Buttons at the bottom of the secondary window include 'Definition', 'Paste', and 'Close'.

# ACE / JIAT CER Library

- Selection is pasted into the current row.

	WBS/CES Description	Approp	Unique ID	BASELINE	Phasing Method	cst_fac (+) Cost Factor	Equation / Throughput	Fiscal Year	Units
24	DEVELOPMENT FACILITIES	RDTEA		\$ 0.0 *	BE		[dummy value to capture cost overrides] .001	2000	\$
25	OTHER RDT&E	RDTEA		\$ 0.0 *	BE		[dummy value to capture cost overrides] .001	2000	\$
26									
27	PROCUREMENT FUNDED ELEMENTS	WTCV		\$ 0.0 *					
28	NON-RECURRING PROD	WTCV		\$ 0.0 *	F		<b>[Rotocraft Model] .0031 * REC_PROD\$</b>		
29	RECURRING PRODUCTION	WTCV	REC_PROD\$	\$ 0.0 *					
30	Vehicle	WTCV	REC_AV\$	\$ 0.0 *					
31	VEHICLE HARDWARE	WTCV		\$ 0.0 *					



# JIAT Web Client Interface

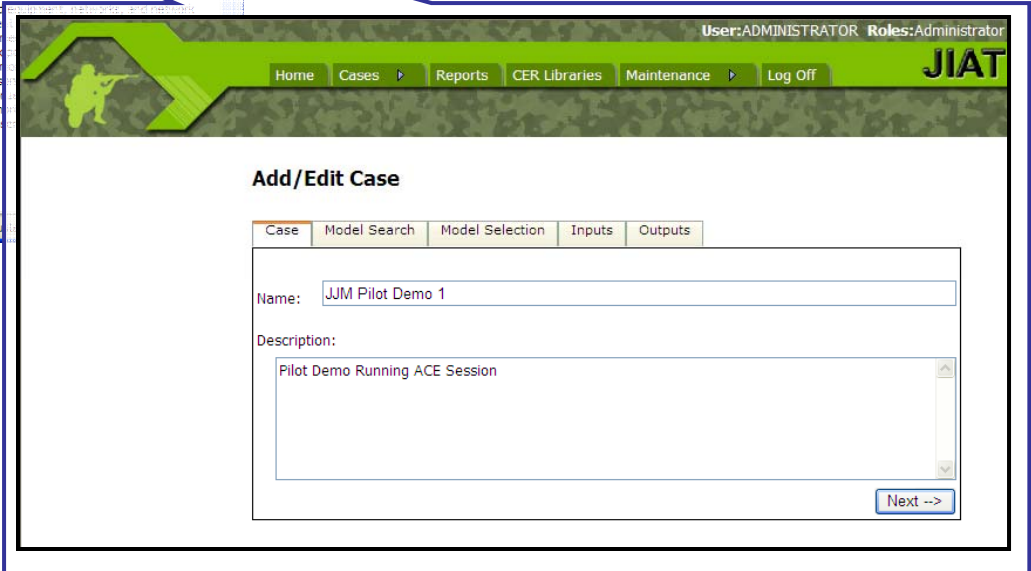
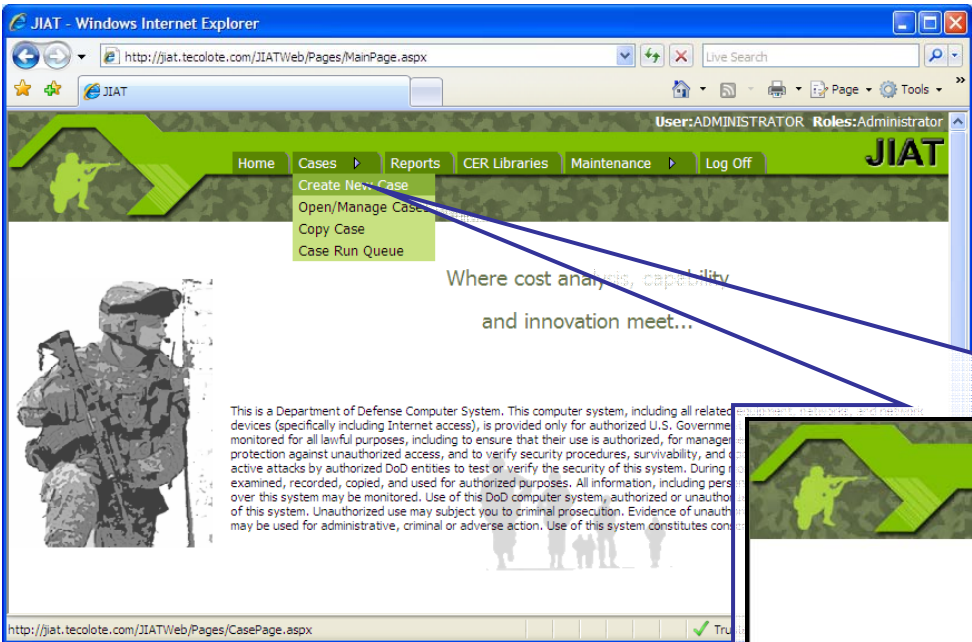


## ***JIAT Web Client Analysis Interface***

- Select and run existing models from any provider
  - Define cases
  - Identify fixed and list variables (design of experiments)
  - Batch execution / run
- Generate plots and reports



# JIAT Web Client Analysis Interface



# JIAT Web Client Analysis Interface

- Select Provider / Model
- Select Case

User:ADMINISTRATOR Roles:Administrator

Home Cases Reports CER Libraries Maintenance Log Off

### Add/Edit Case

Case Model Search Model Selection Inputs Outputs

Providers to be searched:

- ACE Session Provider
- CER Runner Provider
- ODASA-CE Databases Provider
- PRICE True Planning Provider
- SEER-SEM Provider

Search By

Model Name:

Description:

Phase: All

Subject: All

Commodity: All

Domain Type: All

Search

User:ADMINISTRATOR Roles:Administrator

Home Cases Reports CER Libraries Maintenance Log Off

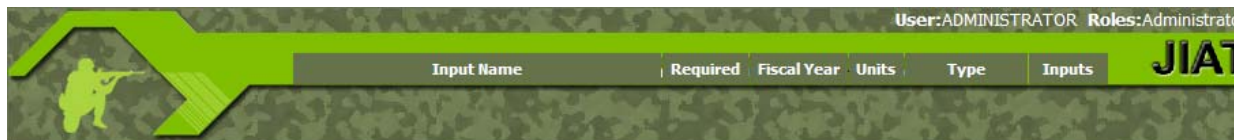
### Add/Edit Case

Case Model Search Model Selection Inputs Outputs

Model Name	Description	Provider
Select Electronics	ODASA-CE's CPER Model for Electronics	ACE Session Provider
Select Aircraft	ODASA-CE's CPER Model for Aircraft	ACE Session Provider
Select kh lcc 1	life cycle cost	ACE Session Provider
Select cr-23089	5	ACE Session Provider
Select IPCM Vehicles	IPCM Vehicles ACE Session - UC 100 for JIAT Demo.ec	ACE Session Provider
Select Ordnance	ODASA-CE's CPER Model for Ordnance	ACE Session Provider
Select JIAT Dec Test	Testing	ACE Session Provider
Select Session Three	This is session three..Here is some more text	ACE Session Provider
Select DEC Basic ACE	Used for testing the units DEC.	ACE Session Provider
Select ACE Test Model		ACE Session Provider
Select DEC EAPS Missile Test	Units Testing	ACE Session Provider
Select Prototype Aircraft Model	Prototype Aircraft Model (JJM)	ACE Session Provider
Select EAPS Tailored Missile Model	ODASA-CE's CPER Model for Missiles as Adapted to E	ACE Session Provider
Select Session Two	This is session two	ACE Session Provider
Select Vehicles	ODASA-CE's CPER Model for Vehicles	ACE Session Provider
Select Session One	this is session one	ACE Session Provider
Select Demo Model	Sample Data	ACE Session Provider
Select Session Five	This is session five	ACE Session Provider

# JIAT Web Client Analysis Interface

- Set model inputs
- Define list values for two input variables

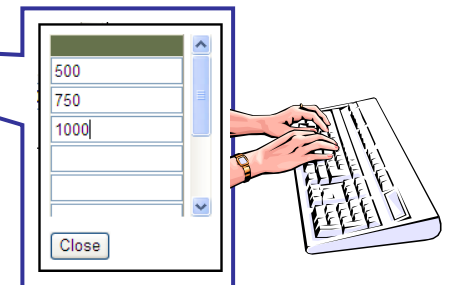
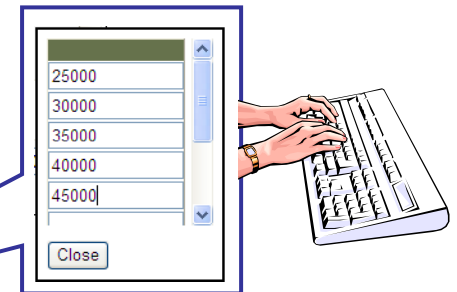


## Add/Edit Case

Save Run

Case	Model Search	Model Selection	Inputs	Outputs
Only two inputs per model can have an input value list.				
			Fixed	0
Prior Quantity (or credit for Development Units)		False	Fixed	0
Production Quantity		False	Fixed	1215
Shaft Horsepower (lbs)		False	Fixed	1730
Takeoff Weight (lbs)		False	List	...
Combat Range (nmi)		False	List	...
Shaft Horsepower to Weight Ratio		False	Fixed	0.0752

Next -->



# Web Client Analysis Interface

- Web Client Results and Charts

User:ADMINISTRATOR Roles:Administrator

Home Cases Reports CER Libraries Maintenance Log Off **JIAT**

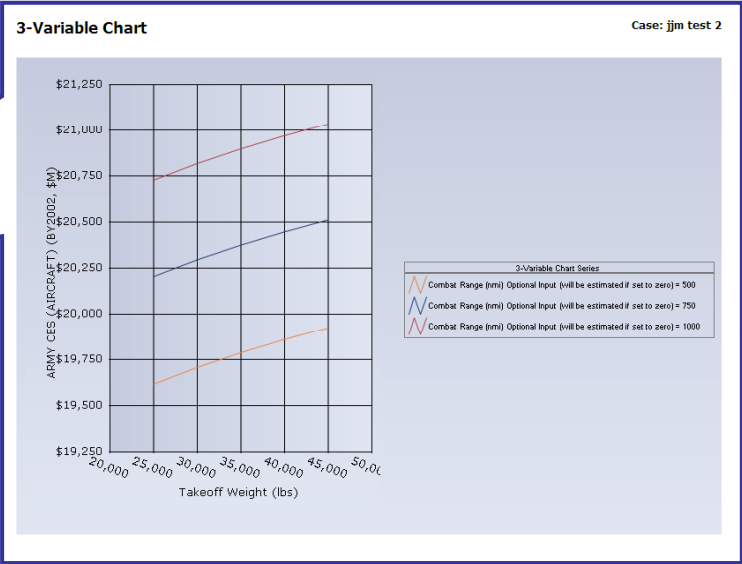
**Create Report**

Report:

Case:

X-Axis Variable:

Y-Axis Variable:



**Results Tabular Report**

Run #	Production Budget	Development Start Date	Number of Develop Years	Prior Quantity (or credit for Development Units)	Production Quantity	Shaft Horsepower (lbs)	Takeoff Weight (lbs)	Combat Range (nmi) Optional Input (will be estimated if set to zero)	ARMY CES (AIRCRAFT)	RDT&E FUNDED ELEMENTS	DEVELOPMENT ENGINEERING
1	0	36495	5	0	1215	1730	25000	500	19613.1205575394	257.297357493397	57.34540373793
2	0	36495	5	0	1215	1730	25000	750	20201.4242326303	291.107432046436	64.8808576367086
3	0	36495	5	0	1215	1730	25000	1000	20723.9036376155	321.134556443119	71.5731827674662
4	0	36495	5	0	1215	1730	30000	500	19704.1451861415	262.528583490284	58.5113184203066



# JIAT Standards

# Standards and SOA

- JIAT Establishes a standard Service-Oriented Architecture (SOA) framework to encourage the integration of cost estimating tools and databases. SOA promises enterprises endless advantages: increased code reuse, reduced integration expense, better security, and -- the big payoff -- greater business agility.
  - Standards are integral to web services, and web services are key to a service oriented architecture.
  - In most organizations, it makes sense to begin policy-making efforts with standards.
  - The Global Information Grid (GIG) is the collective of all of DoD's personnel who are on-line at any given time, DOD communications and other enterprise infrastructure, and all warrior, intelligence, and business applications.
  - Communities of Interest (COI) are collaboration groups of users, who must exchange information in pursuit of their shared goals, interests, missions, or business processes, and who, therefore must have shared vocabulary for the information they exchange.
  - The Department of Defense Net-Centric Data Strategy requires that all Information Technology systems operating within the GIG be “advertised” to enable their discovery and subsequent use by the widest possible audience.
  - As expressed in the DOD Net-Centric Data Strategy, “advertising” means tagging information resources with metadata that illuminates their identity, nature, and content; key persons and organizations responsible for them; a variety of associated dates and product formats; and other information. It also means posting or publishing these advertisements in globally accessible registries, directories and catalogs.
- Use of Data Standards is a Best Commercial Practice

Sources:

- *Service Oriented Architecture Reference Guide*; U.S. Army Enterprise Solutions Competency Center; PEO-EIS; Jan07
- *InfoWorld: Governing SOA*; By Phillip J. Windley; January 19, 2006
- *DoD Data Asset Visibility*; Defense Information Systems Agency by Net-Centric Enterprise Services Program Management Office; January 26, 2005
- *Department of Defense Net-Centric Data Strategy memorandum*; DoD CIO; October 23, 2003

## ***Data Standards - Model Sequencing Enablers***

- The Cost Analysis Data Standards will be used to **tag** each JIAT model variable with a standardized WBS Element.
- The JIAT Universal ID (JUID) will be used to **tag** all JIAT components (models, providers, data items, etc.). The JIAT model sequence calculation engine will utilize the JUID in sequencing the calculations.
- JIAT provider/model applications will make maximum use of **tagging** via the Common Lookup Lists (qualifiers) to facilitate seamless model linking.
- Common Lookup lists (e.g., Phases, Commodities, Subjects, etc.), WBS Element identification and other standard elements will be used and maintained from one common XML schema/data store. Each list within the store will be identified with a short text name to serve as a qualifier. The one common XML schema/data store will allow four fields:
  - nameIndex – an integer to facilitate coding applications
  - nameCode – a code or abbreviation for human readability, consistency with native provider application, or legacy purposes
  - nameLabel – a short text containing a popular description of the data item
  - nameDescription – a longer unbounded text fully annotating the data item. The nameDescription could evolve into any data type so that graphics, URLs, etc. can be accommodated.



# Common Lookup List Examples

Physical-Missile	Code	Label	Description
	1	TotalAirVehicleWeight	The launch weight of the missile.
	2	BurnOutWeight	Weight at Burnout in pounds or Launch Weight minus Propellant Weight
	3	AirVehicleDiameter	The diameter of the missile.
...			

Configuration-Missile	Code	Label	Description
	1	ShoulderLaunched	Indicates whether or not the missile system is launched from a
	2	FixedWingLaunched	Indicates whether or no the missile is launched from Fixed Wing Aircraft (yes=1; no =0)
	3	MissionType	Indicates the missile's type of mission. e.g. Loitering, missile Defense, etc.
...			

WBS Surface Vehicle	Code	Label	Description
	01.	Primary Vehicle	The mobile element of the system embodying means for performing
	01.01	Hull/Frame	The vehicle's primary load bearing component which provides the structural integrity to withstand the operational loading stresses generated while traversing various terrain profiles.
	01.02	Suspension/Steering	The means for generating tractive efforts, thrust, lift, and steering
...			

Army Cost Analysis Manual	Code	Label	Description
	1.0	Research Development Test and Evaluation (RDTE) Funded Elements	All RDTE-funded costs associated with the research and development (RD) of the materiel system, including development costs for system armament, training devices...
	1.01	Development Engineering	This element includes the costs of study, analysis, design development, evaluation, testing, and redesign for the system component(s) during ...
	1.02	Producibility Engineering and Planning (PEP)	This element includes the costs of ensuring the producibility of the developmental materiel system, item, or component. PEP involves ...
...			



# Cost Analysis Namespace

Namespace Dashboard - Windows Internet Explorer

https://metadata.dod.mil/mdr/nsDashboard.htm

DoD METADATA REGISTRY v7.0  
AND CLEARINGHOUSE

the authoritative source for structural metadata

Logout

UNCLASSIFIED

You are logged in as Jeff McDowell.

Search All Data for Advanced Search

Namespace Dashboard

Namespace: COST - CostAnalysis

Namespace Details		Namespace Roles	
Name:	Cost Analysis	Administrator:	Mr. Jeff McDowell (jmcowell@tecolote.com)
Description:	This namespace will contain standards-based objects for use by the cost analysis community.	Manager:	Mr. Daniel Schwartz (daniel.schwartz@hqda.army.mil)
Abbreviation:	COST	<b>Recent Submissions</b>	
Parent Namespace:	DODENT	Days	Packages Taxonomies
Webpage:		last 30 days	1 0
Network:	NIPRNET	31 - 90	0 0
Status:	Developmental	91 - 180	0 0
URL Identifier:	http://www.asafm.army.mil/ceac/ceac.asp	more than 180 days	3 0
Reserved URL Identifier:	No	Totals	4 0
URLs Enabled:	Yes	<b>Information Resources</b>	
Manager:	Daniel Schwartz (daniel.schwartz@hqda.army.mil)	Resource Type	Operational Developmental Deprecated Retired Total
Manager Notified for Sub-Namespace:	Yes	XML Schema Document	0 24 0 0 24
Point of Contact:		Submission Package	0 4 0 0 4
		XML Amplifying Document	0 5 0 0 5
		ComplexType	0 5 0 0 5
		Totals	0 38 0 0 38
		<b>Actions in Progress</b>	
		Action	Name Date Requested Status Administrator

Done

start

2:28 PM



# Cost Analysis COI

COI Dashboard - Windows Internet Explorer

MDR <https://metadata.dod.mil/mdr/coiAdminDashboard.htm>

DoD METADATA REGISTRY v7.0  
AND CLEARINGHOUSE

the authoritative source for structural metadata

UNCLASSIFIED

You are logged in as Jeff McDowell.

Search All Data for  GO Advanced Search

Logout

Home  
About  
View  
Add  
My Pages  
Reports  
COI Directory  
Documents  
Help  
NS Admin  
COI Admin

**MDR**

**COI Dashboard**

COI: Cost Analysis Community Standards Working Group (CSWG) COI

COI Details	Roles
Name: Cost Analysis Community Standards Working Group (CSWG) COI	Point of Contact Name: Sean Vessey
Status: Proposed	Point of Contact Organization: Office of the Deputy Assistant Sec of the Army for Cost and Economics
Mission: Provide the Joint cost community a collaborative environment for exchanging information, interests, missions or business processes pertaining to cost estimation, requirements analysis, capabilities and performance analysis, and database development.	Point of Contact Phone Number: (703) 601-4163
Collaborative Space: <a href="http://www.asafm.army.mil/ceac/ceac.asp">http://www.asafm.army.mil/ceac/ceac.asp</a>	Point of Contact Email: sean.vessey@hqda.army.mil
Domain Sponsor(s): Financial Management (BMA)	Chair: Mr. Daniel Schwartz (daniel.schwartz@hqda.army.mil)
"Other" Sponsoring Organization:	Co-Chair: Mr. Jeff McDowell (jmcowell@tecolote.com)
	Lead: Mr. Daniel Schwartz (daniel.schwartz@hqda.army.mil)
	2nd Point of Contact Name: Craig Sturgeon
	2nd Point of Contact Organization: Tecolote Research, Inc.
	2nd Point of Contact Phone Number: (805) 964-6963 X 122
	2nd Point of Contact Email: csturgeon@tecolote.com

MDR Namespaces

There are no MDR namespaces associated with this COI.

Questions or Suggestions? [Click here to send feedback and comments.](#)  
[Metadata Registry Privacy Notice](#)  
[Metadata Registry Foreign Access Notice](#)

start | In... | E... | Al... | M... | C... | JI... | Pr... | JI... | M... | A... | D... | 2:24 PM

Questions?