



ENHANCING ACEIT CAPABILITIES WITH THE JOINT INTEGRATED ANALYSIS TOOL (JIAT)



TH ANNUAL ACEIT USER WORKSHOP FEBRUARY 1-2, 2011

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Introduction to ACEIT and JIAT

ACEIT provides a full suite of tools to assist cost analysts with the mechanics of analyzing data, building documented cost models and exploring what-ifs.

- When using ACEIT the major challenges for the cost analyst are:
 - Identifying relevant source data (analogous systems)
 - Collecting cost, technical, and schedule data
 - Developing or finding relevant CERs and factors
 - Finding and using appropriate cost/engineering models
 - Identifying inputs to uncertainty analysis

JIAT provides assistance with these challenges

JIAT and ACEIT Together

Use JIAT and ACEIT Together as a Powerful Tool-box



- Controls access to:
 - Databases
 - CER Libraries
 - Models
 - Estimating data
 - Model Sequences

JIAT is for DoD Analysts Only



- Analyze data sets with CO\$TAT
- Develop estimates, models, AOAs, and CBAs with ACE
- Run what-if drills in ACE or POST
- Report on estimate results with ACE or POST





Working with the JIAT Desktop

Use the JIAT Excel Add-in to access JIAT and CO\$TAT at the same time

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Working with the JIAT Desktop

Use the JIAT ACE Plug-in to bring JIAT content directly into ACE

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Using JIAT and ACEIT Together

Main features in this presentation

- \checkmark Using JIAT to identify relevant analogies
- Retrieving program data to use in a model or CER development
- ✓ Developing CERs or factors with CO\$TAT
- Searching for CERs from JIAT libraries and importing them directly into the ACE session
- Analyzing data obtained through JIAT to develop uncertainty distributions

Other features discussed

- ✓ Using ACEIT Inflation Utility to normalize data sets
- Creating private CER and factor libraries for your organization
- Setting up ACE sessions to host on JIAT
- Running ACE models in the JIAT Excel Client
- ✓ Importing model results from JIAT-hosted models into your ACE session
- ✓ Creating Model Sequences

Current JIAT Database Providers

JIAT provides access to Army databases

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JIAT

Identify Analogous Systems

- Capabilities
- Programmatic data
- Technical data
- Schedule data
- SAR data



Collect Standard Rates

- Enlisted
- Officer
- Civilian
- National Guard
- Reserve
- 17 tables provided



Gather O&S Data

- Vehicle operational data
- Support systems data
- Aircraft flight data
- Software maintenance data



Obtain Force and Organizational Data

- Flying costs
- Cost per mile
- Facilities costs
- Equip data and costs
- Replenishment costs
- Mileage
- 50 tables provided

Search and Retrieve Data

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Quickly find Analogous Systems Using JIAT

Use the CKB Provider to identify analogous systems and gather cost, technical, and schedule data for pre-Milestone A analysis

An analogous system provides a starting point for all other data gathering activities

IIAT

- Perform program searches by capability
- Retrieve analogous program's cost, technical, and schedule data
- CKB reports SAR data



< Previous Next >

CKB Provider (as of 6/11/2009)

CKB Provider (as of 6/11/2009)

CKB Provider (as of 6/11/2009)

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Capabilities by PNO

O&S Cost by PNO

Cost by PNO

Quickly find Analogous Systems Using JIAT

Use the CKB Provider to search for analogies by capabilities

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Use JIAT to Retrieve Program Data

- The CKB Provider allows you to retrieve cost, schedule, and technical data for systems by PNO
- Cost data is available for RDT&E, PROC, MILCON and O&M
- Technical data is available from sources like Military Fact files, and Global Security
- Schedule data shows Milestone dates and durations (not pictured)

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Use ACEIT Inflation Utility to Normalize JIAT- Provided Data Sets

Cost data often requires normalization before it can be analyzed

IEI

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ACEIT Inflation Utility allows you to use the ACE inflation tables in Excel worksheets

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Move the Normalized JIAT Data to a CO\$TAT Data Sheet

CKB Provider's normalized data is passed into a CO\$TAT data sheet where it is analyzed and CERs and factors are developed

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PRT- 66 December 21, 2010

Regress the JIAT Provided Data to Create a CER

Run a pair-wise analysis to see

Pairwise Variable Analysis For Dataset New Dataset Sunday, 28 November 2010, 2:00 pm

JIAT

which variables have strong I. Correlation Matrix relationships and are potential CruiseSpd AI AUC\$ Tot**\$** Year Type Qty Crew ¥gt Hgt Lgnth Tot**\$** 0.4715 .0 114.4 0.9002 cost drivers AUC\$ 0.6732 0.3382 -0.7302 0.4200 0.9678 0.5844 0.4808 0.6435 0.3382 0.1406 Year 0.2004 -0.461 0.2564 -0.2515 -0.039 Type -0.1758 -0.7302 -0.4611 0.1559 Qty 0.4123 -0.5021 0.2949 Crew 0.4715 0.4200 0.0897 0.6803 0.9678 -0.6278 0.2949 0.8396 0.7367 -0.465 ¥qt 0.2564 Hgt 0.9002 0.5844 -0.2515 0.1559 8 17 0 (2 0) 〒 Lgnth 0.8822 0.4808 -0.0391 0.0936 CruiseSpd -0.1144 0.6435 0.1406 -0.6539Add-Ins COSTAT - = X Insert Page Layout Formulas Data Review View Develope Alt 0.1812 -0.4750 -0.50600.5891 + About Criteria Learning Examples * Speed 0.1800 0.1939 0.4118 -0.3640 Λ Range 0.5955 0.0991 0.2321 0.0711 // Prediction Intervals Linear Model New Properties Pairwise Cases Climb -0.0122 -0.0152 0 8668 0.0235 Report Styles Analysis RotorDi 0.4898 0.5468 -0.3122 -0.3952 Specifications Results Datase Troor Ving: Variables Case Name update of links has been disabled Perform Linear, Log-Linear or Engin Not Used Independ Dum Name Case 6 E3 ¥ *f*∗ Year Tot\$ õ Non-Linear regression to develop Year D В С Dependent Variable Туре 6 6 Qty CERs or factors BY 2010 **BY 2010** AUC\$ -C Name: 6 Crew Observations Total Year Wgt C œ Average TVI (n \odot Transform: -Hat Cost Unit Cost Ō Lgnth Linear Analysis for Dataset New Dataset, Case 6 CruiseSpd \odot C Weighting Variable \odot Wednesday, 01 December 2010, 8:47 am Δŀ Year Type Speed \odot -6 Range I. Model Form and Equation Table 5745 1971 Rota Ō Climb 5946 2006 Rota \odot RotorDia Model Form Unweighted Linear model Options 0095 2006 Rota \odot TroopCap Number of Observations Used 1051 Ridge Parameter: Wingspan \odot 1996 Fixed Equation in Unit Space: AUC\$ = (-5.26) + 0.002491* Vgt + (-0.005473)* Engine Ċ ē Engine 9333 2006 Rota Maximum Iterations: ÷ 7444 2005 Hybr II. Fit Measures (in Fit Space) 1614 1996 Fixed • Method: 9814 1994 Fixed Coefficient Statistics Summary MUPE Intercept (Non Origin) 2906 2005 Rota Std Dev of **T-Statistic** Prob Not 19803 1998 Rota Report Precision Variable Coefficient Coef Beta ¥alue (Coef/SD) P-¥alue Zero 1976 2008 Fixed -1.0250 0.3633 0.6367 -5.26045.1321 Digits Intercep Precision: 0.0008 2.2669 0.0303 0.969 Vat 0.0025 3.2878 -0.0055 0.0029 -1.3105 -1.9007 0.1300 0.8700 Engine View regression results and Cancel Help Goodness-of-Fit Statistics decide if the CER or factor is **B-Squared** Pearson's 100% (-) **(+)** suitable for use within estimates Std Error (SE) **R-Souared** (Adj) Corr Coef 5,6727 96.68% 95.01% 0.9832 Approved for Fublic Release 15 PRT- 66 December 21, 2010

JIRT

Using JIAT's CER Library in ACE

JIAT currently hosts over 150 documented CERs and factors available for Army users

CER and factor sources

- ✓ Missile Blue Book
- ✓ Ground Vehicles Blue Book
- Manned and Unmanned Aircraft (library created by ODASA-CE analyst from several documented studies)
- Permissions are set by user group and individual user to allow access to various libraries
- Private libraries can be created for other organizations or groups
 - Example: CECOM has its own factors library available only to CECOM analysts

Search across all libraries by phase, keyword, and text from a single login and simple-to-navigate user interface

Search JIAT Libraries from ACE

JIAT expands your CER Library!

Search through JIAT hosted libraries and pull CERs and factors directly into ACE



Import JIAT CERs into ACE

Examine CERs that meet the search criteria and review their parameters and documentation

IAT

- Paste selected CER or factor into the session (see previous slide)
- Link imported equation IDs into the structure of the session
- Documentation is automatically imported into the session and stored on the estimate row

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Create your Own JIAT CER Libraries

Use the JIAT website to post CERs and create libraries

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Study Datasets for Uncertainty Specifications

- Study dataset to understand its range and distribution shape
- Range and shape information can be used to define uncertainty distributions for ACE RI\$K calculations
- Use CO\$TAT Univariate Analysis
- Use data from any JIAT database Provider
 ✓ The following example uses OSMIS data



Study JIAT Datasets with CO\$TAT

 Use OSMIS Provider to get "Consumables per System" cost for last ten years of operation of Aircraft 1 across its 10 major operating command areas
 77 data points extracted (sample data below depicts data for aircraft in one command)

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Approved for Public Release

Incorporate Distribution Information into your 林林林林 JIAT **Uncertainty Analysis** Enter estimate and RI\$K distribution ACE 7.2 - [O6c - Advanced Risk for JIAT AUW Presentation (Saved Mon Dec 4.2.44 54 49 2010) Const. DICK AU Columno /DV 2010 CV 📴 Input All Form File Edit View Documentation Calc Cases Reports Tools Window Selected Row Move Item Consumables per System Title: Phasing Method: 307 1 💌 📴 🛅 🍺 📲 🦓 🗸 🖅 🏭 🧭 🗾 🕴 Arial RI\$K All Columns Unique ID: ConsperSys\$ Replace Unique ID 🗿 Phasing Wizard . 4 🏂 📸 🚁 [Univariate Risk Bounds] [ConsperYr\$] 112131 Goto Equation/Throughput: 307 [Univariate Risk Bounds] [ConsperYr\$] 112131 V 06c - Advanced ...mns (BY2010\$K) 🐐 06c - Advanced Ri...Viewer (BY2010\$K) ٢ ٢ 🕍 Eq Builder.. V Include Children 諡 CER Lib.. WBS/CES Description Point Estimate Unique ID 💤 🇞 원, 원, 👗 🗈 🖉 🐼 297 Organizational Maintenance Repair Rate OMRR 0.020 (50%) * WBS/CES 8 298 Summary Adjustments FY Inputs Learning Spread Total RI\$K DEC De 8 Configuration Functions IMFH 35 (20%) * RI\$K Distribution Specification 299 Number of flying hours between each Inter 8 **Budget Information** Number of Intermediate Maintenances need **IMQty** 2011 (83%) * Distribution: LogNorma P.E.Position: Median Risk Adjusted Estimate 8 300 Procurement Cost Metrics 8 Available Parameters: RI\$K Specification: Summary Secton Using the CDF Dist 8 Hours to perform each Intermediate Mainter **IMHrs** 5 (20%) * Parameter \mathbf{A} Parameter Value 🔏 Val Edit 🔼 301 8 Estimate 281.55 ۲ \bigcirc M. Low High S INPUT VARIABLES 302 Low Percentile High Percentile 97.5000 N/A N/A 🎇 8 Prorating Steady State Costs - UDF Number of flying hours between each Depo DMFH 80 * Spread 303 Prorating Steady State Costs - UI Adi Std. Error Number of Depot Maintenances needed ead DMQtv 880 (74%) * << $\mathbf{u}_{\mathbf{x}}$ UDF to prorate year falling between 304 CV $\mathbf{u}_{\mathbf{x}}$ UDF to prorate the rest of the ve Std. Deviation $\mathbf{u}_{\mathbf{x}}$ UDF to prorate the year up to the < > 305 Hours to perform each Depot Maintenance DMHrs 10 (20%) * • 306 \$ 112.131 (50%) Status: Complete Estimate: * 0&M Inputs \$112.131 (50%) * 307 Consumables per System onsperSys\$ Operational Life Cumulative Distribution Functions Group 308 Lag time between Procurement a View Custom CDFs 9 (50%) * ID: Grp ID... Hardware Mod Percentage 309 5 (50%) * Fielding Schedule 310 Software Mod Percentage Schedule/Technology Penalty Strength: 🗄 - Σ Total Fielding Years of HW Maint HVModYrs 10 * 311 . Years of SW Maint SVModYrs 5* 312 CO\$TAT Results used to specify RI\$K Mission Schedule Inputs (see year) 🖮 - Σ Mission Hours/Year •Export and Paste CO\$TAT results into ACE \RI\$K All Columns / Methodology / WBS/CES / Ready Uncertainty results for consumable row WBS/CES Description Point Estimate Mean Std Dev CV 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75% 307 Consumables per System 112.131 (50%) 128.939 \$73.274 0.5683 \$47.058 \$56.991 \$64.867 \$71.892 \$78.529 \$84.995 \$91.467 \$98.077 \$104.923 \$112.121 \$119.827 \$128.206 \$137.413 \$147.904 \$160.133 PRT- 66 December 21, 2010 Approved for Public Release 23

Taking it one step further with ACEIT Distribution Finder (DF)

- Where the Univariate analysis provides data range analysis it only helps you develop an approximation on which uncertainty distribution to utilize
- Tools like ACEIT Distribution Finder and CO\$TAT 7.3 provide features that make recommendations on distribution shapes
- ACEIT Distribution Finder Utility Prototype developed in July 2010
 - Prototype explored methods to fit distributions to data and how to report results
- CO\$TAT 7.3 will include Distribution Finder
 - ✓ Simplified user interface and generic, CO\$TAT-type report
- This brief shows a version of the Distribution Finder Utility Prototype
 - \checkmark The prototype is not a supported application
- JIAT users can use any commercial tool that can draw data from Excel or ACEIT to perform this function

IE



Additiona	A Areas where JIAT and ACEIT Come Together
ACE 7.2 - [01 - Basic ACE.aceit (Read-Only) - Methodology (BY20105K)] Image: Second	Set up ACE sessions to load and run in JIAT
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✓ Also runs in web browser PRT- 66 December 21, 2010 Approv	Ready Notional data ved for Public Release 26

Additional Areas where JIAT and ACEIT Come Together Import model results from JIAT-

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16 Total \$109,238.661* 17 Manufacturing PMP\$ \$79,324.391*															
17 Manufacturing PMP5 \$79,324.391 * 18 Air Vehicle 3010 AV\$ \$68,977.731 * F AV_UC\$*BuyOty															
19	Integration	3010		\$10,346.660 *	F			0.15 * A\	\$						
20	SEPM	3010		\$ 29,350.025 *	F			0.37 * PMF	\$						
21	Other	3080		\$ 564.245 *	TY			[Cost Throughpu	t]	\$K					
22															
23	'INPUT VARIABLES		'III_VAR												
24	Air Vehicle Unit Cost	3010	AV_UC\$	\$ 9,853.962 *	C			(959 * T/V ^ .243 + 189 * RANGE ^ .652)	2 2000	\$K					
25	Air Vehicle Buy Quantity		BuyQty	7*	IS			(Input Throughpu	t]						
26															
27	'Technical/Performance Characteristics														
28	Air Vehicle Takeoff Weight (lbs)		TVV	12000.00 *	C			1200	.0						
29	Air Vehicle Range (nmi)		RANGE	250.00 *	С			25	.0						
30															
31	*** JIAT Session: GPS Hardware ***														
32	Next Generation GPS Receiver: Total Development C	RDTEA			С	3975.26403857843			1993	\$					
33	Next Generation GPS Receiver: Total Production Cos	OPA			C	31206.7177594489			1993	\$					
34	Next Generation GPS Receiver: Total Cost	OPA			C	35181.9817980273			1003	\$					
35	Next Generation GPS Receiver:Pattern Antenna:Cov				C		0.25	C htt		.awps.a					
36	Next Generation GPS Receiver:Pattern Antenna:Activ				С		1								
37	Next Generation GPS Receiver I/O Module w/ Atomic				r		1	Home	Sessio	n 🕨					
<															
Metho	dology / WBS/CES / JIAT Plug-in /							Mode	Seque	nce Des					

Import model results from JIAThosted models into your ACE session

- Run a model in the JIAT web browser and save it to your account
- ✓ Models include Excel, PRICE-H, SEER
 SEM and ACE
- ✓ From within ACE access your JIAT models and import them into your ACE session

>	Create model sequences with
	ACE sessions in the series

- Model sequences chain models together to pass inputs/results across multiple models
- Example shows a SEEM SEM model passing software effort months to an ACE cost estimate
- ✓ Resulting sequence is run like one model

Mode	Sequence				Varia	able Mapping			
		~	Inputs	Visible	Mapped Variable	Mapped Model	Outputs	Visible	1
Model	Provider		Air Vehicle Unit Cost				Total		
<u>SEM Plug in</u> ple	SEER-SEM Provider		Air Vehicle Buy Quantity				Manufacturing		
Sequence ACE	ACE Model Provider		Air Vehicle Takeoff				Air Vehide		
pie	For Training		Air Vehicle Range (nmi)				Integration		
			Seffuere Development		1141	CEED CEM Diversion	integration		
			Schedule Months		Software:Development	Example	SEPM	~	
			Software Labor Rate		Scredule Horrans		Other	v	
							Software	V	
							X		
									-

Coming in JIAT 2.2

Enhancements and studies for the next version of JIAT (due September 2011)

- ACDB model providers for all the ACDB Army databases
- AIM Provider to provide Army DAMIR and AV/SOA data
- ✓ DCARC CSDR-SR Provider
- ✓ Web Link libraries
- ✓ Military Composite Rates Provider
- Data query export to CO\$TAT
- Study FEDLOG to gather requirements for a potential FEDLOG Provider

Overview of JIAT Benefits

- Web services technology provides a platform to bring multiple tools together in one workplace
- Established a Service-Oriented Architecture (SOA) framework to encourage the integration of other Services' cost estimating tools and databases
- JIAT can easily segment user groups by Service and command
- Analyses for all phases of the program including pre-Milestone A
- Comprehensive analysis can reduce program risk by addressing hardware, software, and programmatic requirements early in the program's life cycle

Conclusion

- JIAT allows you to obtain controlled access to a wide variety of data from a single interface and login
- Access to data is controlled by user group and individual permission levels

You can use JIAT data

- ✓ To support building your ACE models
- ✓ In your CO\$TAT analysis to build CERs and factors
- ✓ To identify uncertainty distributions to enter into ACE RI\$K

> You can use JIAT CER Libraries

- To expand your available CERs and factors
- To organize your CERs and factors so they can be used across your organization and easily inserted into your ACE sessions
- Additionally, JIAT provides access to other model sources that can be imported into your estimates

JIAT provides the data to drive your ACE models

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Back Up

Identifying DF Results to Enter into ACE

DF recommends distributions and provides relevant statistics

Example

DF recommends Log Normal distribution
Normal and Triangular also good
All three distributions are statistically significant

BY2010\$	Sample	Lognormal	Normal	Triangular	Beta
Mean	98,715.08	99,330.77	98,873.40	98,721.96	98,086.81
StdDev	44,148.07	42,894.04	42,501.55	43,058.98	43,011.60
CV	0.447	0.432	0.430	0.436	0.439
Min	17,840.80			15,023.65	17,840.80
Mode		76,858.98	98,873.40	63,952.58	80,929.79
Max	210,580.14			217,189.65	210,580.14
Aipha					1.615
Beta					2.264
Data Count	77	% of Curve <= 0:	1.0%	None	None
Standard	Error of Estimate	8,663.92	10,900.11	8,812.33	10,533.11
	SEE / Fit Mean	9%	11%	9%	11%
Chin2 Fit	test 11 Bins, Sig 0.05	Good (86%)	Good (46%)	Good (19%)	Poor (4%)

These tables contain fit paramaters ans statistics that have been normalized by either the Mean, Median or Mode. Use these as percent multipiers of your point estimate.
Recommended Fit
Condensed Recommendation

Lognormal (Mean = 99330.77, Std Dev = 42894.04)

Lognormal (99330.77, 42894.04)

	Consumables	per Year,(Al	l) Unitized by	Mean			Consumables	_	Consumables per Year, (All) Unitized by Mode							
	Sample	LN	Normal	Tri	Beta		Sample	LN	Normal	Tri	Beta		Sample	LN	Normal	Tri
Mean	1.0000	1.0000	1.0000	1.0000	1.0000	Mean	1.0729	1.0893	1.0000	1.0646	1.0317	Mean		1.2924	1.0000	1.5437
Std Dev	0.4472	0.4318	0.4299	0.4362	0.4385	Std Dev	0.4798	0.4704	0.4299	0.4643	0.4524	Std Dev		0.5581	0.4299	0.6733
CV	0.4472	0.4318	0.4299	0.4362	0.4385	CV	0.4472	0.4318	0.4299	0.4362	0.4385	CV		0.4318	0.4299	0.4362
Min	0.1807			0.1522	0.1819	Min	0.1939			0.1620	0.1877	Min				0.2349
Mode		0.7738	1.0000	0.6478	0.8251	Mode		0.8428	1.0000	0.6896	0.8513	Mode		1.0000	1.0000	1.0000
Max	2.1332			2.2000	2.1469	Max	2.2887			2.3421	2.2150	Max				3.3961
Sample Mean/Dist Mean		0.9938	0.9984	0.9999	1.0064	ample Median/Dist Median		1.0090	0 9306	0.9922	0.9678	Sample Mode/Dist Mode				
Dist Median/Dist Mean	0.9321	0.9181	1.0000	0.9393	0.9692	Dist Median/Dist Median	1.0000	1.0000	1.000	1.0000	1.0000	Dist Median/Dist Mode		1.1865	1.0000	1.4500
SDev Log Space		0.4135				SDev Log Space		0.4135				SDev Log Space		0.4135		
SEE/Dist Mean		0.0872	0.1102	0.0893	0.1074	SEE/Dist Median		0.0950	0.1102	0.0950	0.1108	SEE/Dist Mode		0.1127	0.1102	0.1378
						Actual Median	92008.15	9119		hoot	nro	otion in to	dofi	~~		

1																								
	R	6	e c	0	m	m	е	r	n d	e	d		F	i	t	R		e	с	0	m	m	e	n
Long Form	Lognormal (M	ean =	= 1.0	000	, Std	Dev	=0	0.4318	3)					Γ					Lo	gno	rmal	(Me	an =
Short Form	Lognormal (1.	0000	, 0.4	318	3)														Lo	gno	rmal	(1.0)893,
Fitted Mean	1.0000															Fitt	ec	ым	ean		1.	0893	3	
Fitted Std Dev	0.4318															Fitte	d S	itd	Dev		0.	4704	ŧ.	
Fitted CV	0.4318																Fit	teo	1 CV		0.	4318	3	
Low]																	Low					
Mode	0.7738														Γ			М	ode		0.	8428	3	
High																		H	ligh					
Sample Mean/Dist Mean	0.9938															Sample Mean/D	ist	tМ	ean		1.	0090)	
Dist Median/Dist Mean	0.9181	1													Г	Dist Median/D	ist	t M	ean		1.	0000)	
SDev Log Space	0.4135															SDev L	.08	; Sp	ace		0.	4135	5	
SEE/Dist Mean	0.0872															SEE/D	ist	t M	ean		0.	0950)	
		-	_	_	-	_	_	-	_	_	-	_	-	-									-	

•RI\$K best practice is to define parameters as a percent of the PE
•DF provides unitized results based on PE interpretation
•For Log-Normal, generally select
"Unitized by Median"
•DE always reports the mean and atdap

•DF always reports the mean and stdev for lognormal

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Approved for Public Release

Incorporate Distribution Information into your Uncertainty Analysis

Enter estimate and RI\$K distribution from DF results

ACE	🛿 ACE 7.2 - [06c - Advanced Risk for JIAT AUW Presentation (Saved Mon Dec 13 11.54.48 2010).ac 😰 Input All Form																	
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297	Organizational Maintenance Repair Rate	OMRR	0.020 (50%) *		.02	§ WE	S/CES		~	Limmaru	Adjustmen	te EV Inni	its Learning	Spread To	val BI\$K		< >	
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299	Number of flying hours between each inter		35 (20%) *	D10	35	S Buo	dget Informat Is Adjusted E	ion stimato		Distrit	nution: Log	Normal	~	P.F. Position	Undefined	~		
300	Number of intermediate Maintenances need	i imuty	2011 (83%) ^	Mod(FYCCu FY	/n(() otmsnSched + im(@TotMsnSched, YR-1),IMFH))/IMFH)	§ Pro	icurement Co mmaru Secto	sumate ost Metrics n Using the f	CDF Dist	Availa	able Parame	ters:	RI\$K Specifi	ication.	ondenned		_	
301	Hours to perform each Intermediate Mainter	IMHrs	5 (20%) *		5	§ Est	imate PUT VARIAB	LES	501 0130	P Mod	arameter e		Patam Stat Deviat	eter V ion 47	alue %	Val Edit 🛆		
302						§ Pro	rating Stead	y State Costs	- UDF	Med	ian		Mean	108	89 💿			
303	Number of flying hours between each Depo	No	tional data ^{or}		80	😵	Prorating St	eady State C	Costs - UI	LOW	Procentile							
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306						🖗	Status: Complete Estimate: \$112.131 (
307	Consumables per System	ConsperSys\$	\$ 112.131 (50%) *	(Univ	ariate Risk Bounds]		Uperational	Life tween Procu	rement :	Groupi	ing			- Cumulative I	Distribution F	unctions		
308							Lag time be	weenniocu	iomoric c		D:		Grp ID	_ ∖	/iew Custom	CDFs		
309	Hardware Mod Percentage	HV/Mod%	0.09 (50%) *		.09	😨	Fielding Sch	nedule						Schedule/T	echnology P	enaltu	\leq	
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307	Consumables per System 112.131 (50%); 122.1;	24 \$52.780 0.4322	\$ 56.829 \$ 6	6.017 \$73.055	\$ 79.177	\$ 84.841	\$ 90.261	\$ 95.595	\$100.960	\$ 106.434	\$ 112.107	\$ 118.092	2 \$ 124.507	\$ 131.451	\$139.240	\$148.171	
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