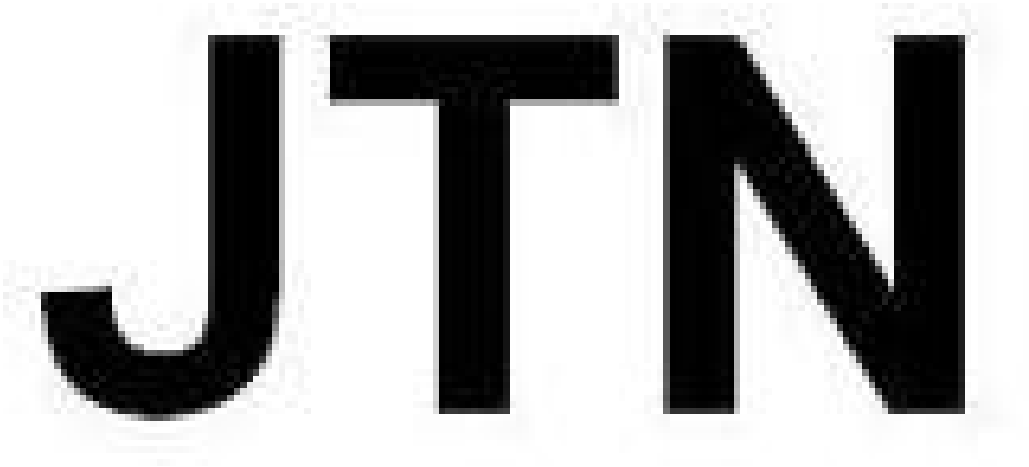
Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-284



Joint Tactical Networks (JTN)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President’s Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

Joint Tactical Networks (JTN)

DoD Component

Army

Joint Participants

Army; Navy; Air Force

Responsible Office

CAPT Kevin Peterson
Program Manager
JTNC Joint Tactical Networks (JTN)
33000 Nixie Way, Building 50, Suite 330
San Diego, CA 92147

kevin.r.peterson1@navy.mil

Phone: 619-524-5799
Fax: 619-524-5857
DSN Phone:
DSN Fax:
Date Assigned: September 15, 2011

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 24, 2002

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 21, 2009

Mission and Description

Joint Tactical Networks (JTN) develops and sustains portable, interoperable, and mobile ad hoc networking software-defined waveforms for Joint operations, as well as the associated network manager for these waveforms. Networking software-defined waveforms include: the Soldier Radio Waveform (SRW), the Wideband Networking Waveform (WNW), the Mobile User Objective System (MUOS) waveform, and the Link-16 waveform. The Joint Enterprise Network Manager supports network management functions (planning, provisioning, monitoring, and controlling) of the SRW, WNW, and MUOS waveforms. These waveforms, as well as 14 other legacy waveforms, are coded as software-defined waveforms and capable of operating in a variety of hardware radio platforms for both Programs of Record and commercial, Non-Developmental Items. This model of common Government controlled waveforms and network manager capable of being instantiated upon multiple various hardware radios systems enables Joint interoperability for tactical networks across the military services and fosters a competitive marketplace for multiple vendors to provide competitively priced interoperable products. Project Manager JTN employs a competitive contracting strategy for software sustainment of the waveforms and the network manager to ensure warfighter access to the best technology and innovative capabilities while addressing emerging threats and future requirements via an affordable, operationally effective, and timely framework.

Executive Summary

In a July 2012 ADM, the USD(AT&L), as MDA, approved the transition of the Joint Program Executive Office for Joint Tactical Radio System (JTRS) to the Joint Tactical Networking Center (JTNC). With this transition, the program management and execution responsibility of the JTNC was assigned to the Army, the JTRS hardware programs were transitioned to the respective Military Department-managed programs, and JTRS Network Enterprise Domain was renamed the Joint Tactical Networks (JTN) program with the Army designated as lead Service. In October 2012, the Army assigned the JTNC and the JTN program as PM JTN to the PEO for Command, Control and Communications – Tactical. On January 20, 2014, the MDA signed a follow-on ADM outlining the responsibilities for the JTN and JTNC. The ADM delegated responsibility to the JTNC to manage a jointly funded common Waveform Information Repository (IR); to sustain and evolve the Software Communications Architecture, Application Program Interfaces, and wireless communications standards; and to conduct technical assessments. The ADM delegated responsibility to JTN for the development and sustainment of the Joint Enterprise Network Manager (JENM) as well as the identification and reporting of waveform interoperability issues. Additionally, the ADM established a JTNC Board of Directors which will meet at least annually to address waveform issues within the DoD. PM JTN is on-track to transition JTN waveforms to the individual Military Departments for sponsorship by 4th Quarter FY 2015. Specifically, Soldier Radio Waveform (SRW), Single Channel Ground Air Radio System (SINCGARS), and Wideband Networking Waveform (WNW) will transition to the Army for maintenance, sustainment and upgrades while Mobile User Objective System (MUOS) and Link-16 will transition to the Navy for maintenance, sustainment and upgrades. The other JTRS developed, JTN managed, software-defined versions of legacy waveforms will be sponsored by the individual Services.

Currently, PM JTN actively manages and is funded only to develop, update and sustain SRW, WNW, MUOS, Link-16, and JENM through FY 2015. FY 2016 funding and beyond supports efforts for JENM, SRW, and WNW that relate to on-going software code changes and upgrades that support the fielding of Software Defined Radios which connect to the operational network. Networked radios allow for secure communications without the use of vulnerable commercial cellphones. PM JTN has the capability to enhance, update, and sustain the following waveforms via a reimbursable basis: the High Frequency waveform, the HAVE QUICK II waveform, the JTRS Bowman Waveform, the SINCGARS waveform, the Ultra High Frequency (UHF) Satellite Communications waveforms, and the Very High Frequency (VHF)/UHF Line of Sight waveforms. A description of product development and sustainment activities conducted in FY 2014 follows for products programmed and funded by PM JTN as well as products supported via reimbursable funds received in FY 2014.

Soldier Radio Waveform (SRW):

SRW successfully completed Formal Qualification Test (FQT) in January 2009, and was: 1) a key component of both the Handheld, Manpack and Small Form Fit (HMS) Rifleman Radio Initial Operational Test & Evaluation (IOT&E) conducted at Network Integration Evaluation (NIE) 12.1 in November 2011 and the HMS Manpack (MP) Multi-Service Operational Test & Evaluation (MOT&E) conducted at NIE 12.2 in May 2012; and 2) has been subsequently fielded on 19,327 HMS Rifleman Radios and 5,179 HMS MPs. Recent SRW enhancements include: 1) Release of SRW 1.2.1 in October 2014, which provides a Combat Net Radio voice pre-emption capability and additional enhancements such as Voice-only Mode, Receive -only Mode, Neighbor Visualization Table update, and dynamic gateway improvements; and 2) the addition of an Over-The-Air Management (OTAM) capability, which will provide/include Over-The-Air Key Transfer, Over-The-Air Zeroize, and Over-The-Air Reconfiguration. An OTAM Critical Design Review was completed in July 2014, and a final software delivery will be provided in February 2015 to support Mid-Tier Networking Vehicular Radio (MNVR) Limited User Test (LUT).

Wideband Networking Waveform (WNW):

WNW successfully completed FQT in December 2009 and is scheduled for MNVR IOT&E during NIE 16.2, with fielding to the Brigade Combat Teams beginning in January 2017. WNW v4.1 was released in December 2014. It reduces network overhead and fixes defects that cause duplicate multicast packets to be transmitted. WNW 4.2 will be released in June 2015 and will incorporate critical Information Assurance (IA) fixes, eliminate 30 mode throughput test router failures, improve Protocol-Independent Multicast-Dense Mode pruning, and incorporate Enterprise OTAM capability.

Mobile User Objective System (MUOS) waveform:

MUOS Waveform v3.1 successfully completed FQT in November 2012. Baseline maintenance is on-going to address open Program Change Requests (PCRs) and correct deficiencies found by the National Security Agency (NSA) during IA assessments. JTN continues to work closely with Space and Naval Warfare Systems Command (SPAWAR) and PEO Space Systems' PMW-146 supporting end-to-end testing in preparation for MUOS technical evaluation (TECHEVAL) and MOT&E, currently scheduled for October 2015. MUOS Waveform version 3.1.2 posted to the IR in February 2014, and since then two interim engineering releases have been posted that resolve PCRs found during MUOS end-to-end integration. The final MUOS waveform version, v3.1.3, which will be the same waveform tested in the TECHEVAL and MOT&E, will be posted to the JTNC IR in May 2015. MUOS is scheduled to transition to PMW-146 in June 2015, pursuant to the January 2014 JTN ADM.

Link-16 software-defined waveform:

Link-16 successfully completed FQT in April 2009 and has been fielded with the Multifunctional Information Distribution System (MIDS) JTRS radio in support of F/A-18E/F aircraft beginning in December 2009. The NSA adjudicated all architecture and software design IA findings on Link-16 v1.06.0.2 in August 2013 and considers the waveform to be an acceptable baseline. The formal NSA acceptance letter was received in November 2013. A MIDS on-ship upgrade, which will provide Navy surface ships with a cryptographic modernized Link-16 waveform capable of running on a MIDS-JTRS terminal, is being developed in parallel with the MIDS Block Cycle 2 upgrade, and was delivered in September 2014 via the BAE Software In-Service Support (SwISS) contract with JTN. A separate baseline waveform maintenance task order was issued to BAE to correct 34 baseline defects and was delivered in August 2014. A subsequent follow-on effort is planned to merge these two baseline branches by June 2015.

Joint Enterprise Network Manager (JENM):

JENM successfully completed FQT in December 2012, and is scheduled for MNVR IOT&E in May 2016. The JENM v1.2 software baseline, as integrated into the Army's Joint Tactical Networking Environment NetOps Toolkit (J-TNT) platform, was fielded on the J-TNT hardened laptop to Army Capability Set-15 units starting in the first quarter of FY 2015. JENM v3.0.x, providing a plug-in architecture for WNW and SRW planning and provisioning, was provided as a series of successful engineering drops to MNVR, demonstrating initial capabilities of planning, loading, and management of WNW and SRW on the AN/VRC-118 radio during the MNVR Government Integration Test risk reduction test activities. JENM v3.1 is planned as the threshold baseline software supporting MUOS Provisioning, and will support MUOS TECHEVAL and MOT&E. The JENM v3.1 software baseline will be utilized at the Army's NIE 15.2 in the Spring of 2015 to support the MNVR program LUT. A training package for this software is under development to support the test event. JENM v3.X will likely be first fielded to Army units beginning in FY 2017. The Naval Special Warfare Command Mobile Communications Team 1 used JENM 3.1E3 to plan and configure HMS Manpacks for the MUOS Scenario-Based Event #4 in San Diego citing its ease of use. The JENM Target Interface Control Document (ICD), 1st Working Draft, was released in August 2014 for review by stakeholders and industry. Comments were addressed in the 2nd Working Draft, released in January 2015. The Target ICD found future design changes would be needed to accommodate new managed radios to enhance usability with a single load approach. A JENM v3.1 ICD is planned for release in February 2015 to establish configuration control for JENM -radio interfaces which are part of the JENM v3.1 including MNVR and HMS. The JENM Target Interfaces will be included in the JENM v3.1 ICD for information. The Target Interfaces will fall under configuration control as they are implemented in the JENM 3.2 - 3.4 software versions. A JENM ICD will be released corresponding to each future version of JENM software, and establish configuration control for the JENM-radio interfaces included in that version.

Single Channel Ground and Airborne Radio System (SINCGARS) software defined waveform:

As a reimbursable funded effort in support of Airborne, Maritime, and Fixed (AMF) Radio Program, PM JTN matured the Government owned SINCGARS v1.4.12 by incorporating Packet Mode (software release v1.6, December 2013) and further engineering Enhanced Operating Mode/Frequency Hopping 2 (FH2) feature (software release 2.0, September 2014). Both Packet Mode and FH2 features were engineered at government laboratory located at SPAWAR Systems Center, Atlantic (SSC LANT). Along with packet mode and FH2 features, the waveform requirements documents were updated to include specifications for Radio Based Situational Awareness, Universal Network Situational Awareness and Radio Based Combat Identification modes by Exelis Corporation under the SwISS contract. To enhance software code quality, PM JTN leveraged

findings from Design Objective 178C compliance (a parallel) effort between PM AMF and SSC LANT. The code quality enhancements are incorporated in release of SINCGARS v2.0.

JTRS Bowman Waveform (JBW) for U.S. - United Kingdom Coalition Operations:

NSA conducted Delta IA assessment testing of the JBW baseline waveform (v2.2.6) architecture and software design and determined the waveform to be an acceptable baseline. The JTN received the formal NSA acceptance letter in April 2013. The updated waveform was successfully demonstrated during field testing at Fort Dix, New Jersey in April 2013. There are currently no active taskorders on the JBW SwISS contract with Exelis.

Merged VHF, UHF Line of Sight and HAVE QUICK II waveforms (VULOS/HQII):

This is a reimbursable funded effort in support of the U.S. Air Force. A final engineering delivery was provided by SSC LANT that merged the combined VULOS and HAVE QUICK II baseline waveforms into a common baseline which also included VHF Air Traffic Control Capabilities in September 2013. This was an efficient merge of the VULOS (73 thousand source lines of code (ksloc)) and HAVE QUICK II (71 ksloc) resulting in a single waveform product VULOS/HQII with only 85 ksloc.

There are no significant software-related issues with this program at this time.

Pursuant to section 2432 of title 10, United States Code, this is the final SAR submission for JTN, because the program is 90% or more expended.

Threshold Breaches

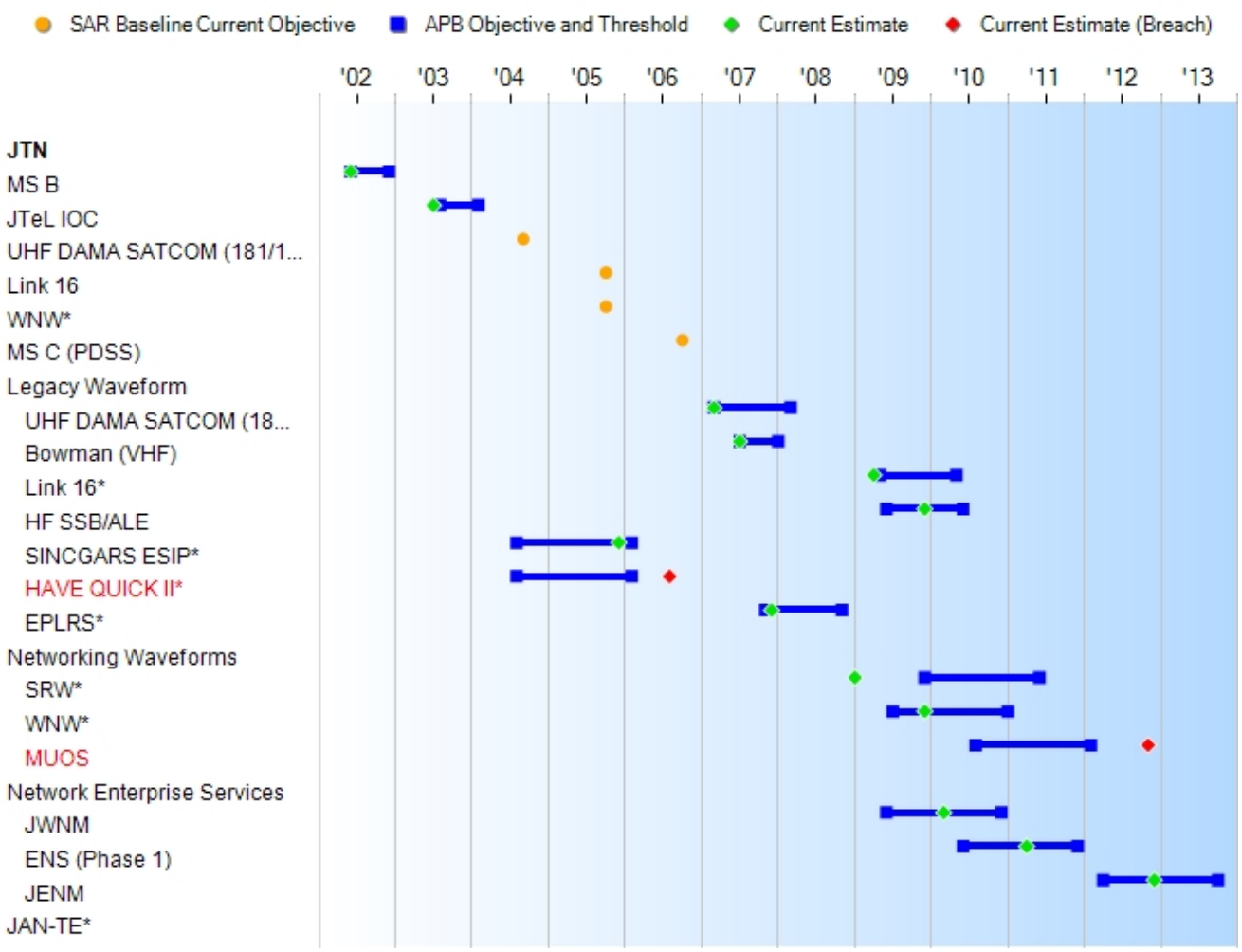
APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

The HAVE QUICK II and Mobile User Objective System Formal Qualification Testing breaches were reported in the December 2006 SAR and September 2011 SAR, respectively.

Schedule


SAR Baseline Current Objective
APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
JTN
MS B
JTeL IOC
UHF DAMA SATCOM (181/1...
Link 16
WNW*
MS C (PDSS)
Legacy Waveform
UHF DAMA SATCOM (18...
Bowman (VHF)
Link 16*
HF SSB/ALE
SINCGARS ESIP*
HAVE QUICK II*
EPLRS*
Networking Waveforms
SRW*
WNW*
MUOS
Network Enterprise Services
JWNM
ENS (Phase 1)
JENM
JAN-TE*

Schedule Events				
Events	**SAR Baseline Development Estimate**	**Current APB Development Objective/Threshold**		**Current Estimate**
MS B	Jun 2002	Jun 2002	Dec 2002	Jun 2002
JTeL IOC	Aug 2003	Aug 2003	Feb 2004	Jul 2003
UHF DAMA SATCOM (181/182/183)*	Sep 2004	N/A	N/A	N/A
Link 16	Oct 2005	N/A	N/A	N/A
WNW*	Oct 2005	N/A	N/A	N/A
MS C (PDSS)	Oct 2006	N/A	N/A	N/A
Legacy Waveform				
UHF DAMA SATCOM (181/182/183/184)*	N/A	Mar 2007	Mar 2008	Mar 2007
Bowman (VHF)	N/A	Jul 2007	Jan 2008	Jul 2007
Link 16*	N/A	May 2009	May 2010	Apr 2009
HF SSB/ALE	N/A	Jun 2009	Jun 2010	Dec 2009
SINCGARS ESIP*	Aug 2004	Aug 2004	Feb 2006	Dec 2005
HAVE QUICK II*	Aug 2004	Aug 2004	Feb 2006	**Aug 2006**[1]
EPLRS*	Mar 2005	Nov 2007	Nov 2008	Dec 2007
Networking Waveforms				
SRW*	N/A	Dec 2009	Jun 2011	Jan 2009
WNW*	N/A	Jul 2009	Jan 2011	Dec 2009
MUOS	N/A	Aug 2010	Feb 2012	**Nov 2012**[1]
Network Enterprise Services				
JWNM	N/A	Jun 2009	Dec 2010	Mar 2010
ENS (Phase 1)	N/A	Jun 2010	Dec 2011	Apr 2011
JENM	N/A	Apr 2012	Oct 2013	Dec 2012
JAN-TE*	N/A	TBD	TBD	N/A

[1] *APB Breach*

Change Explanations

None

Notes

A star (*) denotes a KPP.

Acronyms and Abbreviations

ALE - Automatic Link Establishment
DAMA - Demand Assigned Multiple Access
ENS - Enterprise Networking Services
EPLRS - Enhanced Position Location Reporting System
ESIP - Enhanced System Improvement Program
HF - High Frequency
JAN-TE - Joint Airborne Network - Tactical Edge
JENM - Joint Enterprise Network Manager
JTeL IOC - JTRS Technology Lab Initial Operational Capability
JWNM - JTRS WNW Network Manager
MS - Milestone
MUOS - Mobile User Objective System
PDSS - Post Deployment Sustainment Support
SATCOM - Satellite Communications
SINCGARS - Single Channel Ground and Airborne Radio System
SRW - Soldier Radio Waveform
SSB - Single Side Band
UHF - Ultra High Frequency
VHF - Very High Frequency
WNW - Wideband Networking Waveform

Performance

Performance Characteristics				
SAR Baseline Development Estimate	**Current APB Development Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
UHF DAMA SATCOM (181/182/183)*				
225-400 MHz 5 and 25KHz 64Kbps	N/A	N/A	N/A	N/A
WNW*				
2M-2GHz Scalable BW,BPS	N/A	N/A	N/A	N/A
Link 16				
(960-121 5MHz) 3 MHz 118/236 Kbps w/FEC	N/A	N/A	N/A	N/A
Legacy Waveforms				
SINCGARS ESIP*				
30-88MHz 25KHz 1 6Kbps	30-88MHz 25KHz 16Kbps	30-88MHz 25KHz 16Kbps	30-88MHz 25KHz 16Kbps	30-88MHz 25KHz 16Kbps
HAVE QUICK II*				
225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps
EPLRS*				
420-450 MHz 3MHz (57Kbps VHSIC SIP 114Kbps VECP)	420MHz - 450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)	420MHz - 450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)	420MHz-450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)	420MHz-450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)
Bowman (VHF)				
N/A	30MHz - 80MHz; 25KHz; 156Kbps	30MHz - 80MHz; 25KHz; 156Kbps	30MHz- 80MHz; 25KHz; 156Kbps	30MHz- 80MHz; 25KHz; 156Kbps
HF SSB/ALE				
N/A	1.5MHz - 30MHz; 3Khz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel	2.0MHz - 30MHz; 3KHz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel	2.0MHz- 30MHz; 3KHz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel	2.0MHz- 30MHz; 3KHz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel
Link 16*				
N/A	960MHz - 1215MHz;	960MHz - 1215MHz;	960MHz- 1215MHz ;	960MHz- 1215MHz ;

	3MHz; 118/1137 Kbps, w/FEC	3MHz; 118/1137 Kbps, w/FEC	3MHz; 118/ 1137 Kbps, w/FEC	3MHz; 118/ 1137 Kbps, w/FEC
UHF DAMA SATCOM (181/182/183/184)*				
N/A	225MHz - 400MHz; 5KHz & 25KHz; 75bps - 64Kbps	225MHz - 400MHz; 5KHz & 25KHz; 75bps - 56Kbps	225MHz- 400MHz; 5KHz & 25KHz; 75bps- 56Kbps	225MHz- 400MHz; 5KHz & 25KHz; 75bps - 56Kbps
Networking Waveforms				
WNW (Throughput) *				
N/A	5Mbps	2Mbps	7Mbps	7Mbps
SRW (Network Throughput)*				
N/A	1200Kbps	600Kbps	600Kbps	600Kbps
MUOS				
N/A	240MHz - 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps	240MHz - 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps	240MHz- 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps	240MHz- 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps
Network Enterprise Services				
JWNM				
N/A	Reconfigure 150 sets operating WNW in 5 min	Reconfigure 35 sets operating WNW in 10 min	TBD	Reconfigure 35 sets operating WNW in 10 min
JENM				
N/A	Provide network planning, management and control of WNW, SRW, and MUOS on all Increment 1 form factors	Provide network planning, management and control of WNW, SRW, and MUOS on all Increment 1 form factors	TBD	Provide network planning, management and control of WNW, SRW and MUOS on all Increment 1 form factors
ENS				
N/A	SINCGARS R/R IP data w/WNW, SRW and EPLRS on all applicable Increment 1 form factors (HF and UHF) SATCOM DAMA R/R IP data w/all applicable Increment 1 waveforms and form factors	SINCGARS R/R IP data w/WNW, SRW and EPLRS on the GMR; SINCGARS R/R IP data with SRW and EPLRS on the HMS MANPACK; WNW R/R IP data with HF and UHF SATCOM DAMA on the GMR	TBD	SINCGARS R/R IP data w/WNW, SRW on the GMR; SINCGARS R/R IP data with SRW on the HMS MANPACK; WNW R/R IP data with HF and UHF SATCOM DAMA on the GMR
JAN-TE (Network Throughput)*				
N/A	TBD	TBD	TBD	TBD

Requirements Reference

Operational Requirements Document (ORD) 3.2/3.2.1 (Increment 1) dated August 28, 2006

Change Explanations

None

Notes

Asterisk (*) Denotes KPP. Increment 1 focuses on initial near-term waveform software capability development of the KPP waveforms and network manager.

Per the December 21, 2009 ADM, the JAN-TE capability remains an unfunded requirement.

Acronyms and Abbreviations

A&D - Analog & Digital
ALE - Automatic Link Establishment
Bps - Bits per second
BW - Bandwidth
DAMA - Demand Assigned Multiple Access
ENS - Enterprise Networking Services
EPLRS - Enhanced Position Location Reporting System
ESIP - Enhanced System Improvement Program
FEC - Forward Error Correction
GHz - Gigahertz
GMR - Ground Mobile Radio
HF - High Frequency
HMS - Handheld, Manpack and Small Form Fit
IP - Internet Protocol
JAN-TE - Joint Airborne Network - Tactical Edge
JENM - Joint Enterprise Network Manager
JWNM - JTRS WNW Network Manager
Kbps - Kilobits per second
KHz - Kilohertz
Mbps - Megabits Per Second
MHz - Megahertz
min - Minutes
MUOS - Mobile User Objective System
R/R - Routing/Retransmit
SATCOM - Satellite Communications
SINCGARS - Single Channel Ground and Airborne Radio System
SIP - Software Integration Plan
SRW - Soldier Radio Waveform
SSB - Single Side Band
UHF - Ultra High Frequency
VECP - Value Engineering Change Proposal
VHF - Very High Frequency
VHSIC - Very High Speed Integrated Circuit
w/ - with
WNW - Wideband Networking Waveform

Track to Budget

General Notes

During the year of execution, DoD transfers funding from RDT&E to O&M to support program requirements.

RDT&E

Appn		BA	PE		
Navy	1319	05	0604280N		
	Project		**Name**		
	3076		Joint Tactical Radio System (JTRS) Network Enterprise Domain (NED)		(Sunk)
Navy	1319	05	0605030N		
	Project		**Name**		
	3077		Joint Tactical Networking Center (JTNC)	(Shared)	
Army	2040	05	0604280A		
	Project		**Name**		
	162		Joint Tactical Radio System (JTRS) Network Enterprise Domain (NED)	(Shared)	(Sunk)
Army	2040	05	0605030A		
	Project		**Name**		
	EA8		Joint Tactical Networking Center (JTNC)	(Shared)	
Army	2040	05	0605031A		
	Project		**Name**		
	EF05		Joint Tactical Networks (JTN)		
Air Force	3600	05	0605030F		
	Project		**Name**		
	655068		Joint Tactical Networking Center (JTNC)	(Shared)	

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2002 $M			BY 2002 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	812.9	1743.2	1917.5	1789.0	914.4	1961.8	2079.5
Procurement	0.0	0.0	--	0.0	0.0	0.0	0.0
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	812.9	1743.2	N/A	1789.0	914.4	1961.8	2079.5

Cost Notes

Per the January 2014 ADM, the Joint Tactical Networking Center (JTNC) and PM JTN are split. The JTNC budget is no longer captured in this Current Estimate (CE) for FY 2014 - FY 2033. The CE presented reflects approved reprogramming actions, realignments, and Small Business Innovative Research transfer. FY 2017 - FY 2033 CE reflects the split of funding between RDT&E and O&M.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	0	0	0
Procurement	0	0	0
Total	0	0	0

Quantity Notes

The JTN products are not systems or end items. They are components of software-defined radios. Accordingly, the JTN Program has no unit quantities.
There is no production or deployment directly associated with the JTN Program. All production and deployment will be functions of military service purchases of software defined radios and their intended usage. Consequently, there will be no LRIP or Full Rate Production decisions associated with this program. (Para 3.4.2.1 of the Network Enterprise Domain Acquisition Strategy of February 2008).

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	1905.2	18.0	18.1	13.1	13.0	12.8	11.1	88.2	2079.5
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	1905.2	18.0	18.1	13.1	13.0	12.8	11.1	88.2	2079.5
PB 2015 Total	1915.5	18.0	8.1	9.6	9.0	9.0	7.2	120.3	2096.7
Delta	-10.3	0.0	10.0	3.5	4.0	3.8	3.9	-32.1	-17.2

Funding Notes

Changes in FY 2016 RDT&E funding amounts as reflected in the FY 2016 PB. The allocation via the Resource Management Decision (RMD) between RDT&E and O&M resulted in higher RDT&E reflected for JTN in FY 2016, however, the overall funding for JTN efforts in FY 2016 is reduced to $27.048M ($18.055M RDT&E and $8.993M O&M) in the FY 2016 PB from the total allocated funding for PM JTN efforts on Joint Enterprise Network Manager, Soldier Radio Waveform, and Wideband Networking Waveform of $37.308M in FY 2015 PB. All future JTN funding is held as RDT&E in the FYDP. Funding is allocated to O&M, Army (OMA) in the year of execution via the annual RMD. This report only reflects RDT&E annual estimates. Army funds waveform efforts and contributes the JENM funding shared with the Navy and Air Force.

JTN FY 2016 PB funding profile estimates (FY 2016 - FY 2020):

FY 2016: Army $18.055M RDT&E + $8.993M O&M = $27.048M

FY 2017:
Army $8.679M RDT&E + $12.901M (to OMA in year of execution) = $21.580M; Air Force $4.405M RDT&E + $2.022M (to O&M in year of execution) = $6.427M /// Total Funding: $28.007M

FY 2018: Army $8.718M RDT&E + $13.036M (to OMA in year of execution) = $21,754M; Air Force $4.267M RDT&E + $1.975M (to O&M in year of execution) = $6.242M /// Total Funding: $27.996M

FY 2019: Army $6.861M RDT&E + $15.346M (to OMA in year of execution) = $22.207M; Air Force $3.375M RDT&E + $2.780M (to O&M in year of execution) = $6.155M; Navy $2.507M RDT&E + $3.044M (to O&M in year of execution) = $5.551M /// Total Funding = $33.913M

FY 2020: Army $5.291M RDT&E + $17.197M (to OMA in year of execution) = $22.488M; Air Force $3.399M RDT&E + $2.652M (to O&M in year of execution) = $6.051M; Navy $2.447M RDT&E + $3.136M (to O&M in year of execution) = $5.583M /// Total Funding = $34.122M

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	0	0	0	0	0	0	0	0	0
PB 2016 Total	0	0	0	0	0	0	0	0	0	0
PB 2015 Total	0	0	0	0	0	0	0	0	0	0
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	--	221.5
2008	--	--	--	--	--	--	241.5
2009	--	--	--	--	--	--	207.5
2010	--	--	--	--	--	--	200.8
2011	--	--	--	--	--	--	115.4
2012	--	--	--	--	--	--	168.5
2013	--	--	--	--	--	--	59.3
2014	--	--	--	--	--	--	--
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	--
2017	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	--
2019	--	--	--	--	--	--	2.5
2020	--	--	--	--	--	--	2.4
2021	--	--	--	--	--	--	2.5
2022	--	--	--	--	--	--	2.6
2023	--	--	--	--	--	--	2.6
2024	--	--	--	--	--	--	2.7
2025	--	--	--	--	--	--	3.0
2026	--	--	--	--	--	--	3.1
2027	--	--	--	--	--	--	3.2
2028	--	--	--	--	--	--	3.2
2029	--	--	--	--	--	--	2.3
2030	--	--	--	--	--	--	1.6
2031	--	--	--	--	--	--	1.2
2032	--	--	--	--	--	--	0.8
2033	--	--	--	--	--	--	0.6
Subtotal	--	--	--	--	--	--	1248.8

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2002 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	--	194.4
2008	--	--	--	--	--	--	208.1
2009	--	--	--	--	--	--	176.5
2010	--	--	--	--	--	--	168.3
2011	--	--	--	--	--	--	94.5
2012	--	--	--	--	--	--	135.6
2013	--	--	--	--	--	--	47.0
2014	--	--	--	--	--	--	--
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	--
2017	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	--
2019	--	--	--	--	--	--	1.8
2020	--	--	--	--	--	--	1.7
2021	--	--	--	--	--	--	1.7
2022	--	--	--	--	--	--	1.8
2023	--	--	--	--	--	--	1.7
2024	--	--	--	--	--	--	1.8
2025	--	--	--	--	--	--	1.9
2026	--	--	--	--	--	--	1.9
2027	--	--	--	--	--	--	2.0
2028	--	--	--	--	--	--	1.9
2029	--	--	--	--	--	--	1.4
2030	--	--	--	--	--	--	0.9
2031	--	--	--	--	--	--	0.7
2032	--	--	--	--	--	--	0.4
2033	--	--	--	--	--	--	0.3
Subtotal	--	--	--	--	--	--	1046.3

FY 2016 changes reflect Resource Management Decision (RMD) movement of funding for the annual transfer of Navy RDT&E to the Army as executing agent. FY 2019 - FY 2033 RDT&E funding reflects the portion of funding estimated to be required for development efforts after the annual RMD. Funding is split between O&M and RDT&E during year of execution. Funding required for O&M is in accordance with the estimated cost to sustain the software code.

Annual Funding 2040 | RDT&E | Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	--	--	--	--	--	--	11.0
1999	--	--	--	--	--	--	13.4
2000	--	--	--	--	--	--	35.5
2001	--	--	--	--	--	--	59.8
2002	--	--	--	--	--	--	72.7
2003	--	--	--	--	--	--	62.9
2004	--	--	--	--	--	--	105.6
2005	--	--	--	--	--	--	140.3
2006	--	--	--	--	--	--	131.7
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	57.8
2015	--	--	--	--	--	--	18.0
2016	--	--	--	--	--	--	18.1
2017	--	--	--	--	--	--	8.7
2018	--	--	--	--	--	--	8.7
2019	--	--	--	--	--	--	6.9
2020	--	--	--	--	--	--	5.3
2021	--	--	--	--	--	--	2.5
2022	--	--	--	--	--	--	2.6
2023	--	--	--	--	--	--	2.6
2024	--	--	--	--	--	--	2.7
2025	--	--	--	--	--	--	3.0
2026	--	--	--	--	--	--	3.1
2027	--	--	--	--	--	--	3.2
2028	--	--	--	--	--	--	3.2
2029	--	--	--	--	--	--	2.3
2030	--	--	--	--	--	--	1.6
2031	--	--	--	--	--	--	1.2
2032	--	--	--	--	--	--	0.8
2033	--	--	--	--	--	--	0.6
Subtotal	--	--	--	--	--	--	785.8

Annual Funding 2040 | RDT&E | Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2002 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	--	--	--	--	--	--	11.4
1999	--	--	--	--	--	--	13.8
2000	--	--	--	--	--	--	36.0
2001	--	--	--	--	--	--	59.8
2002	--	--	--	--	--	--	71.9
2003	--	--	--	--	--	--	61.1
2004	--	--	--	--	--	--	100.2
2005	--	--	--	--	--	--	129.3
2006	--	--	--	--	--	--	118.1
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	44.8
2015	--	--	--	--	--	--	13.7
2016	--	--	--	--	--	--	13.6
2017	--	--	--	--	--	--	6.4
2018	--	--	--	--	--	--	6.3
2019	--	--	--	--	--	--	4.9
2020	--	--	--	--	--	--	3.7
2021	--	--	--	--	--	--	1.7
2022	--	--	--	--	--	--	1.7
2023	--	--	--	--	--	--	1.7
2024	--	--	--	--	--	--	1.7
2025	--	--	--	--	--	--	1.9
2026	--	--	--	--	--	--	1.9
2027	--	--	--	--	--	--	1.9
2028	--	--	--	--	--	--	1.9
2029	--	--	--	--	--	--	1.3
2030	--	--	--	--	--	--	0.9
2031	--	--	--	--	--	--	0.7
2032	--	--	--	--	--	--	0.4
2033	--	--	--	--	--	--	0.3
Subtotal	--	--	--	--	--	--	713.0

FY 2016 changes as reported in the President's Budget reflect updated cost methodology based on actual costs to date resulting in less funding allocated to O&M via the Resource Management Decision.

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2017	--	--	--	--	--	--	4.4
2018	--	--	--	--	--	--	4.3
2019	--	--	--	--	--	--	3.4
2020	--	--	--	--	--	--	3.4
2021	--	--	--	--	--	--	2.5
2022	--	--	--	--	--	--	2.6
2023	--	--	--	--	--	--	2.6
2024	--	--	--	--	--	--	2.7
2025	--	--	--	--	--	--	3.0
2026	--	--	--	--	--	--	3.1
2027	--	--	--	--	--	--	3.2
2028	--	--	--	--	--	--	3.2
2029	--	--	--	--	--	--	2.3
2030	--	--	--	--	--	--	1.6
2031	--	--	--	--	--	--	1.2
2032	--	--	--	--	--	--	0.8
2033	--	--	--	--	--	--	0.6
Subtotal	--	--	--	--	--	--	44.9

Annual Funding 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2002 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2017	--	--	--	--	--	--	3.3
2018	--	--	--	--	--	--	3.2
2019	--	--	--	--	--	--	2.4
2020	--	--	--	--	--	--	2.4
2021	--	--	--	--	--	--	1.7
2022	--	--	--	--	--	--	1.8
2023	--	--	--	--	--	--	1.7
2024	--	--	--	--	--	--	1.8
2025	--	--	--	--	--	--	1.9
2026	--	--	--	--	--	--	1.9
2027	--	--	--	--	--	--	2.0
2028	--	--	--	--	--	--	1.9
2029	--	--	--	--	--	--	1.4
2030	--	--	--	--	--	--	0.9
2031	--	--	--	--	--	--	0.7
2032	--	--	--	--	--	--	0.4
2033	--	--	--	--	--	--	0.3
Subtotal	--	--	--	--	--	--	29.7

FY 2016 changes reflect Resource Management Decision (RMD) movement of funding for the annual transfer of Air Force RDT&E to the Army as executing agent. FY 2019 - FY 2033 RDT&E funding reflects the portion of funding estimated to be required for development efforts after the annual RMD. Funding is split between O&M and RDT&E during year of execution. Funding required for O&M is in accordance with the estimated cost to sustain the software code.

Low Rate Initial Production

There is no LRIP for the JTN program.

Foreign Military Sales

None

Nuclear Costs

None

Unit Cost

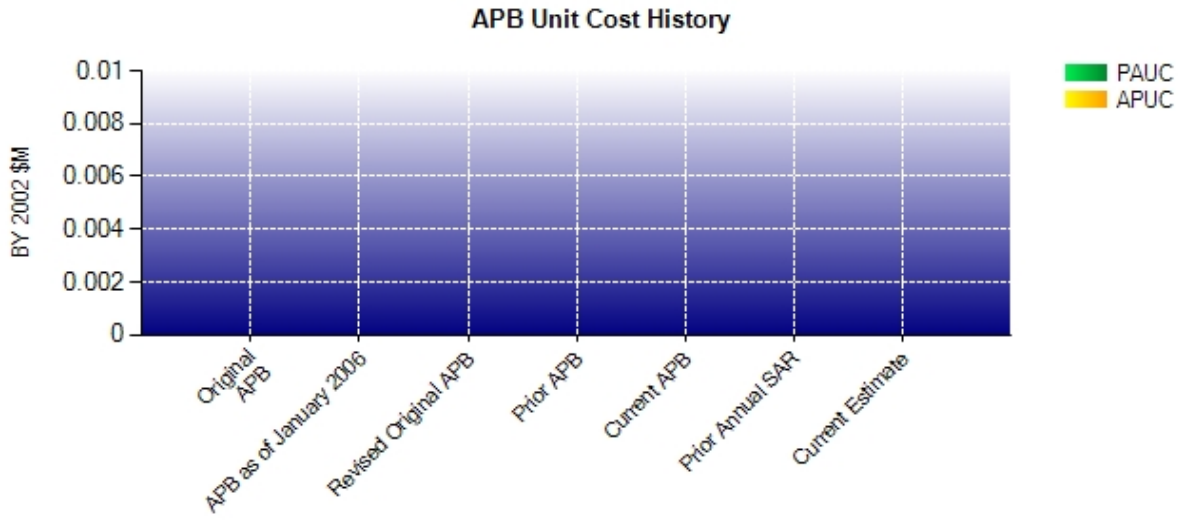
Unit Cost Report

Item	BY 2002 $M Current UCR Baseline (Dec 2009 APB)	BY 2002 $M Current Estimate (Dec 2014 SAR)	% Change
Program Acquisition Unit Cost			
Cost	1743.2	1789.0	
Quantity	0	0	
Item	--	--	--
Average Procurement Unit Cost			
Cost	0.0	0.0	
Quantity	0	0	
Unit Cost	--	--	--

Item	BY 2002 $M Original UCR Baseline (Jun 2002 APB)	BY 2002 $M Current Estimate (Dec 2014 SAR)	% Change
Program Acquisition Unit Cost			
Cost	812.9	1789.0	
Quantity	0	0	
Unit Cost	--	--	--
Average Procurement Unit Cost			
Cost	--	0.0	
Quantity	--	0	
Unit Cost	--	--	--

The JTN products are not systems or end items but are components of software-defined radios; therefore, the JTN program has no unit quantities.

Unit Cost History



Item	Date	BY 2002 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Jun 2002	N/A	N/A	N/A	N/A
APB as of January 2006	Jun 2002	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Jan 2008	N/A	N/A	N/A	N/A
Current APB	Dec 2009	N/A	N/A	N/A	N/A
Prior Annual SAR	Dec 2013	N/A	N/A	N/A	N/A
Current Estimate	Dec 2014	N/A	N/A	N/A	N/A

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.000	--	--	--	--	--	--	--	--	0.000

A PAUC Unit Cost History is not available, since no Initial PAUC Estimate had been calculated due to a lack of defined quantities.

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.000	--	--	--	--	--	--	--	--	0.000

An APUC Unit Cost History is not available, since no Initial APUC Estimate had been calculated due to a lack of defined quantities.

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	Jun 2002	N/A	Jun 2002
Milestone C	N/A	Oct 2006	N/A	N/A
IOC	N/A	N/A	N/A	Jul 2003
Total Cost (TY $M)	N/A	914.4	N/A	2079.5
Total Quantity	N/A	0	N/A	0
PAUC	N/A	N/A	N/A	N/A

The JTN products are not systems or end items but are components of software-defined radios; therefore, the JTN program has no Milestone C.

Cost Variance

Summary TY $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Development Estimate)	914.4	--	--	914.4
Previous Changes				
Economic	+31.0	--	--	+31.0
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+725.3	--	--	+725.3
Estimating	+426.0	--	--	+426.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+1182.3	--	--	+1182.3
Current Changes				
Economic	-3.3	--	--	-3.3
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-13.9	--	--	-13.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-17.2	--	--	-17.2
Total Changes	+1165.1	--	--	+1165.1
CE - Cost Variance	2079.5	--	--	2079.5
CE - Cost & Funding	2079.5	--	--	2079.5

Summary BY 2002 $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Development Estimate)	812.9	--	--	812.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+648.1	--	--	+648.1
Estimating	+333.4	--	--	+333.4
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+981.5	--	--	+981.5
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-5.4	--	--	-5.4
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-5.4	--	--	-5.4
Total Changes	+976.1	--	--	+976.1
CE - Cost Variance	1789.0	--	--	1789.0
CE - Cost & Funding	1789.0	--	--	1789.0

Previous Estimate: December 2013

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-3.3
Adjustment for current and prior escalation. (Estimating)	+0.7	+0.8
Revised estimate to reflect actual funding reductions (Navy). (Estimating)	-6.9	-9.2
Revised estimate to reflect updated cost methodology based on actuals (Navy). (Estimating)	-5.2	-9.8
Revised estimate to reflect removal of funding associated with the Joint Tactical Networking Center (Army). (Estimating)	-6.2	-8.0
Revised estimate to reflect Small Business Innovation Research and Small Business Technology Transfer Assessment (Army). (Estimating)	-1.8	-2.3
Revised estimate to reflect transfer of funding to Army Program Element for execution. (Subtotal)	-0.1	0.0
Revised estimate to reflect annual transfer of Air Force RDT&E to the Army as executing agent (Army). (Estimating)	(+4.2)	(+5.6)
Revised estimate to reflect annual transfer of Air Force RDT&E to the Army as executing agent (Air Force). (Estimating)	(-4.3)	(-5.6)
Revised estimate to reflect actuals between O&M and RDT&E funding (Army). (Estimating)	+20.5	+28.1
Revised estimate to reflect updated cost methodology (Army). (Estimating)	-6.3	-10.7
Revised estimate to reflect actuals between O&M and RDT&E funding (Air Force). (Estimating)	+5.6	+7.5
Revised estimate to reflect updated cost methodology (Air Force). (Estimating)	-5.7	-10.3
RDT&E Subtotal	-5.4	-17.2

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: UHF/HF SwISS
Contractor: Rockwell Collins, Inc.
Contractor Location: 400 Collins Road NE
Cedar Rapids, IA 52406
Contract Number: N00039-09-D-0021
Contract Type: Cost Plus Fixed Fee (CPFF), Cost Plus Incentive Fee (CPIF)
Award Date: June 19, 2009
Definitization Date: June 04, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
23.9	N/A	0	21.3	N/A	0	21.3	21.3

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the difference between the cumulative total of initial prices of the task orders issued versus the authorized funding against the same task orders. The initial contract price is the cumulative total of the initial price of the task orders issued under the base contract as reported on the Contract Funds Status Report (CFSR). The current contract price represents the cumulative total of the funding authorized for the task orders issued as reported on the CFSR.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	0.0	0.0
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost portion does not meet the threshold requirements for EVM reporting.

Notes

The High Frequency/Ultra High Frequency Sateliite Communications Software In-Service Support contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract was awarded to Rockwell Collins, Inc. in June 2009 with an total estimated value of $45.4M and a five-year period of performance. Five task orders (TOs) were issued under the base contract with a cumulative total of $21.3M as reported on the Contract Funds Status Report (CFSR). All five TOs are complete. TO 0001, Tactical Data Controller (TDC), was awarded with a value greater than $20M. As such, a monthly Cost Performance Report (CPR) Contract Data Requirements List (CDRL) was required for upload to the Defense Cost and Resource Center EVM repository. The TDC Formal Qualification Test (FQT) was completed in April 2011 and the TO was closed out in September 2011, eliminating the monthly CPR CDRL requirement.

(1) Task Order 1: Enterprise Network Services Phase 1: TDC; Value = $20.5M; Period of Performance is Complete; EVMS = Yes.
(2) Task Order 2: Technical Support; Value = $0.187M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: HF Information Assurance (IA) Lean Six Sigma; Value = $0.136M; Period of Performance is Complete; EVMS = No.
(4) Task Order 4: Full Duplex; Value = $0.325M; Period of Performance is Complete; EVMS = No.
(5) Task Order 5: HF IA Burn-down; Value = $0.143M; Period of Performance is Complete; EVMS = No.

The Period of Performance of this contract ended in June 2014.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

This contract is more than 90% complete; therefore, this is the final report for this contract.

Contract Identification

Appropriation: RDT&E

Contract Name: SINCGARS SwISS

Contractor: ITT Corporation

Contractor Location: 1919 W Cook Road
Fort Wayne, IN 46818

Contract Number: N00039-09-D-0020/1

Contract Type: Cost Plus Fixed Fee (CPFF), Cost Plus Incentive Fee (CPIF)

Award Date: May 15, 2009

Definitization Date: April 29, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
62.0	N/A	0	62.0	N/A	0	29.2	29.2

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	0.0	0.0
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost or incentive portion does not meet the threshold requirements for earned value management reporting.

Notes

The Single Channel Ground and Airborne Radio System Enterprise Network Services (ENS) Phase 1 (Software Internet Controller (SoftINC)) Software In-Service Support contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract was awarded to ITT/Exelis in May 2009 with a contract price of $62.0M and a five-year period of performance. There are five Task Orders (TO) on contract; all five are complete. At time of contract award, TO 1 (SoftINC) was awarded, and because the value was greater than $20M, a monthly Cost Performance Report (CPR) Contract Data Requirements List (CDRL) was required for upload to the Defense Cost and Resource Center EVM repository. The SoftINC Formal Qualification Test was completed in April 2011 and the TO was closed out in November 2011, eliminating the monthly CPR CDRL requirement.

(1) Task Order 1: ENS Phase 1: SoftINC; Value = $25.2M; Period of Performance is Complete; EVMS = Yes.
(2) Task Order 2: Technical Support; Value = $0.133M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: General Support; Value = $0.319M; Period of Performance is Complete; EVMS= No.
(4) Task Order 4: Packet Mode; Value = $1.7M; Period of Performance is Complete; EVMS = No.
(5) Task Order 5: Technical Support; Value = $1.8M; Period of Performance is complete; EVMS = No.

Efforts for this contract completed in May 2014.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

This contract is more than 90% complete; therefore, this is the final report for this contract.

Contract Identification

Appropriation: RDT&E

Contract Name: Bowman VHF WF

Contractor: ITT Corporation

Contractor Location: 1919 W Cook Road
Fort Wayne, IN 46818

Contract Number: N00039-10-D-0047

Contract Type: Cost Plus Fixed Fee (CPFF), Cost Plus Incentive Fee (CPIF)

Award Date: September 16, 2010

Definitization Date: September 25, 2012

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
49.5	N/A	0	49.5	N/A	0	4.9	4.9

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	0.0	0.0
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost portion does not meet the threshold requirements for EVM reporting.

Notes

The JTRS Bowman (JBW) Software In-Service Support (SwISS) contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform. The contract value is $49.5M. There are five Task Orders (TO) on the contract, and all TOs are complete. None of these efforts require EVM.

(1) Task Order 1: SwISS Information Assurance (IA) Standards; Value = $4.5M; Period of Performance is Complete; EVMS = No.
(2) Task Order 2: Test and Evaluation on Technical Support for Communication and Electronic Security Group; Value = $0.074M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: Technical Maintenance/Support for Radios; Value = $0.027M; Period of Performance is Complete; EVMS = No.
(4) Task Order 4: Re-port JBW on Soldier Radio Multifunction; Value = $0.051M; Period of Performance is Complete; EVMS = No.
(5) Task Order 5: IA Remediation; Value = $0.297M; Period of Performance is Complete; EVMS = No.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract. The effort on this contract completed in September 2014.

Contract performance data is not required for this contract as no active task order exceeds the monetary threshold for earned value metrics reporting.

This contract is more than 90% complete; therefore, this is the final report for this contract.

Contract Identification

Appropriation: RDT&E

Contract Name: Wideband Networking WF

Contractor: General Dynamics C4 Systems, Incorporated

Contractor Location: 8201 E McDowell Road
Scottsdale, AZ 85257

Contract Number: N65236-11-D-4806

Contract Type: Cost Plus Fixed Fee (CPFF), Cost Plus Incentive Fee (CPIF)

Award Date: September 20, 2011

Definitization Date: April 17, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
64.6	N/A	0	64.6	N/A	0	18.9	18.9

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	0.0	0.0
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost portion does not meet the threshold requirements for EVM reporting.

Notes

The Wideband Networking Waveform (WNW) Software In-Service Supportcontract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract value is $64.6M. There are ten Task Orders (TO) on the contract, and TOs 1 -5, 7,and 8 are complete. None of these efforts require EVM.

(1) Task Order 1: Technical Support; Value = $1.2M; Period of Performance is Complete; EVMS = No.
(2) Task Order 2: Network Integration EvaluationSupport; Value = $0.148M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: Waveform Development Environment (WDE)/Waveform Testing Environment (WTE) Stand up; Value = $0.826; Period of Performance is Complete; EVMS = No.
(4) Task Order 4: WNW 4.0.7 Information Assurance (IA) Fixes; Value = $2.7M; Period of Performance through November 2013; EVMS = No.
(5) Task Order 5: Technical Support; Value = $1.3M; Period of Performance is complete; EVMS = No.
(6) Task Order 6: High Assurance Internet Protocol Encryptor and Mobile Ad hoc Network Updates/Modifications; Value = $5.8M; Period of Performance through January 2014; EVMS = No.
(7) Task Order 7: Critical IA Fixes; Value = $1.2M; Period of Performance through December 2013; EVMS = No.
(8) Task Order 8: Data Dictionary; Value = $0.400M; Period of Performance is complete; EVMS = No.
(9) Task Order 9: WDE and WTE Phase 2; Value = $0.977M; PoP is through
May 2014; EVMS = No.
(10) Task Order 10: Technical Support - Year 3; Value = $0.999M; Period of Performance is through September 2014; EVMS = No.
(11) Task Order 11: Critical IA Fixes; Value = $0.799M; Period of Performance is through September 2014; EVMS = No.
(12) Task Order 12: Radio Mission Data Set Update; Value = $0.22M; Period of Performance is through December 2014; EVMS = No.
(13) Task Order 13: Technical Support; Value = $0.73M; Period of Performance is through September 2015; EVMS = No.
(14) Task Order 14: Greenhill's License Renewal; Value = $0.27M; Period of Performance is through October 2015; EVMS = No.
(15) Task Order 15: Electronic Protection Enhancements; Value = $1.24M; Period of Performance is through November 2015; EVMS = No.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

Contract performance data is not required for this contract as no active task order exceeds the monetary threshold for earned value metrics reporting.

Contract Identification

Appropriation: RDT&E

Contract Name: Soldier Radio Waveform SwISS

Contractor: Harris Corporation

Contractor Location: 1680 University Ave
Rochester, NY 14610

Contract Number: N66001-12-D-0043

Contract Type: Cost Plus Fixed Fee (CPFF), Cost Plus Incentive Fee (CPIF)

Award Date: April 30, 2012

Definitization Date: July 10, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
25.8	N/A	0	25.8	N/A	0	14.6	14.6

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	0.0	0.0
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost portion does not meet the threshold requirements for EVM reporting.

Notes

The Soldier Radio Waveform Software In-Service Support contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract value is $25.8M. There are nine Task Orders (TO) on the contract, and TO 1, 2, 3, 4, 5 and 7 are complete. This effort does not require EVM.

(1) Task Order 1: Technical Support; Value = $1.0M; Period of Performance is Complete; EVMS = No.
(2) Task Order 2: Combat Network Radio Pre-emption Implementation; Value = $1.0M; Period of Performance is through March 2014; EVMS = No.
(3) Task Order 3: Waveform Development Environment / Waveform Testing Environment Stand-up; Value = $2.6M; Period of Performance is throughAugust 2014; EVMS = No.
(4) Task Order 4: Technical Support; Value = $1.3M; Period of Performance is through April 2014; EVMS = No.
(5) Task Order 5: Problem Report and Network Enterprise Domain Change Proposal Implementation; Value = $1.9M; Period of Performance is through August 2014; EVMS = No.
(6) Task Order 6: Over the Air Management (OTAM); Value = $5.8M; Period of Performance is through September 2015; EVMS = No.
(7) Task Order 7: RDT&E Technical Support; Value = $1.0M; Period of Performance is through October 2014; EVMS = No.
(8) Task Order 8: General Technical Support; Value; $1.2M; Period of Performance is through 02 June 2015; EVMS= No.
(9) Task Order 9: OTAM 1.0 Release & Problem Report Implementation; Value; $1.3M; Period of Performance is through 23 September 2015; EVMS = No.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

Contract performance data is not required for this contract as no active task order exceeds the monetary threshold for earned value metrics reporting.

Deliveries and Expenditures

Deliveries				
Delivered to Date	**Planned to Date**	**Actual to Date**	**Total Quantity**	**Percent Delivered**
Development	0	0	0	--
Production	0	0	0	--
Total Program Quantity Delivered	0	0	0	--

Expended and Appropriated (TY $M)			
Total Acquisition Cost	2079.5	Years Appropriated	18
Expended to Date	1875.2	Percent Years Appropriated	50.00%
Percent Expended	90.18%	Appropriated to Date	1923.2
Total Funding Years	36	Percent Appropriated	92.48%

The above data is current as of February 04, 2015.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	January 30, 2015
Source of Estimate:	POE
Quantity to Sustain:	0
Unit of Measure:	software maintenance year
Service Life per Unit:	25.00 Years
Fiscal Years in Service:	FY 2009 - FY 2033

There are no quantities associated with JTN; the unit of measure is the average annual cost to maintain the software code.

Sustainment Strategy

The JTN program office maintains software only and does not have any hardware (no quantities). JTN products are integrated (ported) onto radios and network managers that are maintained by hardware programs. Software Maintenance will continue from FY 2009 through FY 2033. Original Software Maintenance estimate was based on the methodology that maintenance begins at the end of each waveform's Formal Qualification Test and is applied as a declining percentage of initially-estimated development cost. This costing methodology was established per the Office of the Deputy Assistant Secretary of the Army for Cost and Economics recommendation (in accordance with Cost Assessment and Program Evaluation Office-accepted National Aeronautics and Space Administration standard for expected software maintenance levels) and as approved by the USD(AT&L) during the Network Enterprise Domain's FY 2008 APB reset. However, the January 2014 ADM provided the opportunity for a revised software maintenance methodology. Starting in FY 2016, the updated cost methodology uses historical actual costs as the basis for developing Cost Estimating Relationships to project future sustainment costs.

Sustainment support for the waveforms and network managers is accomplished via the Software In-Service Support contracts. These contracts provide both the waveforms and net managers technical support, maintenance, and upgrades. JTN software is in initial fielding.

Software modifications and upgrades include repair of deficiencies reported by the user, preplanned product improvements based on emerging requirements and other types of system change packages. After testing of the modified code, updates will be released to the field as integrated builds. Major changes to the code will be released as a new version. The hardware platforms will be responsible for updating fielded system.

Antecedent Information

No Antecedent

Annual O&S Costs BY2002 $M		
Cost Element	**JTN Average Annual Cost Per Software Maintenance Year**	**No Antecedent (Antecedent) N/A**
Unit-Level Manpower	0.000	0.000
Unit Operations	0.000	0.000
Maintenance	0.000	0.000
Sustaining Support	23.002	0.000
Continuing System Improvements	0.000	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	23.002	--

Item	Total O&S Cost $M			
	JTN			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	739.0	812.9	575.1	N/A
Then Year	1221.0	N/A	992.6	N/A

Overall, the current estimates are lower than the APB estimate due to the revised software maintenance methodology and removal of the Joint Tactical Networking Center costs per the January 2014 ADM.

Equation to Translate Annual Cost to Total Cost

Total O&S Cost is the average annual cost of software maintenance * planned service years: $23.002M * 25 years = $575.054M.

O&S Cost Variance		
Category	**BY 2002 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2013 SAR	563.5	
Programmatic/Planning Factors	11.6	Reduced funding in FYDP caused efforts to move to out years increasing overall costs.
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	11.6	
Current Estimate	575.1	

Costs have increased since the December 2013 SAR but remain lower than the APB.

Disposal Estimate Details

Date of Estimate:	January 30, 2015
Source of Estimate:	POE
Disposal/Demilitarization Total Cost (BY 2002 $M):	Total costs for disposal of all software maintenance year are 0.0

Disposal Costs are not applicable for this software program.