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Net-Enabled Command Capability COST CONTROL PLAN (CCP)

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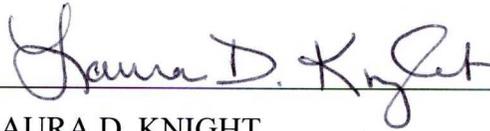
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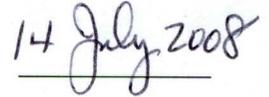
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APPROVAL PAGE

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EXECUTIVE SUMMARY

Net-Enabled Command Capability (NECC) is an Acquisition Category (ACAT) ID pre-Major Defense Acquisition Program (MDAP) as well as a pre-Major Automated Information System (MAIS) program under the leadership of the Defense Information Systems Agency (DISA), in partnership with Department of Defense (DoD) Services. NECC is envisioned to become DoD's principal Command and Control (C2) capability.

The purpose of the NECC Cost Control Plan (CCP) is to document the approach to maintaining cost, schedule, and performance as the Joint Program Executive Office (JPEO), Joint Program Management Office (JPMO), and Component Program Management Offices (CPMOs) execute the NECC program. Information gathered by executing the processes documented in this plan will be used by the DoD for future estimating purposes. Although this plan contains metrics and measures pertaining to Capability Module (CM) hosting, operations, and maintenance, the primary focus is on systems engineering, development, certification, and testing. Future updates to this plan will include more detailed implementation metrics and measures.

The NECC program develops net-centric capabilities as loosely-coupled services using a Service Oriented Architecture (SOA). NECC is developing software and has no hardware development activities. The JPMO acts as the system integrator for the developed software, as opposed to a traditional Lead System Integrator (LSI) contractor. Given these tenets, the CCP has been adapted to provide an innovative approach to meet the management needs of the NECC program.

The CCP describes a metrics-oriented approach to cost control. These metrics measure the processes and effectiveness of deliverables, costs, amount of effort, time (milestones), and defects or changes in the major elements of the NECC program. These elements are separated into two major layers: (1) those engineering and acquisition related tasks managed and led by the JPMO; and (2) the software development related tasks managed and led by the various CPMOs. The metrics collected in the two layers provide, in total, a tailored set of cost control activities that meet the intent of Office of the Secretary of Defense (OSD) guidelines for cost control and earned value reporting, as well as providing a set of predictive indicators for use by the various stakeholders within NECC.

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1 PURPOSE

The Net-Enabled Command Capability (NECC) program rapidly delivers continuous Command and Control (C2) enhancements to the Warfighter using an innovative strategy to acquire and implement leading edge C2 technologies and capabilities. The purpose of the NECC Cost Control Plan (CCP) is to: (a) document the approach to monitoring the cost, schedule, and performance of NECC processes; (b) provide guidance for and support to the semi-annual Overarching Integrated Product Team (OIPT); and (c) to support the Department of Defense (DoD) pilot Service Oriented Architecture (SOA) development program and provide Acquisition Technology and Logistics (AT&L) with data for planning and analyzing future efforts. The CCP provides the methodology by which the NECC Joint Program Manager (JPM), supported by the Component Program Managers (CPMs), reviews and manages cost, schedule, and performance in order to bring the program to a successful conclusion within its established baselines.

2 PROGRAM OVERVIEW

In order to understand the cost control process, it is necessary to understand the NECC program and its acquisition strategy. The NECC program seeks to tailor the DoD acquisition process, which will allow the program to acquire state of the art net-centric software technology more rapidly and economically. There are numerous distinct aspects of the [NECC Acquisition Strategy \(AS\)](#)¹ that take advantage of the flexibility provided in the DoD 5000 guidelines one of which is this tailored CCP.

Program Organization: The Defense Information Systems Agency (DISA) is the lead Component with overall responsibility for NECC execution. DISA established the Joint Program Executive Office (JPEO), to provide program oversight. DISA concurrently established the Joint Program Management Office (JPMO) to manage acquisition requirements, implement the architecture, perform systems engineering, and sustain the capability on the Global Information Grid (GIG). Each Service branch and DISA established a Component Program Management Office (CPMO) that reports directly to the JPEO. The CPMOs are responsible for Capability Module (CM) development and for implementing NECC services within their Component or Agency. CPMOs produce CMs for the entire program, resulting in centralized management of the program with decentralized execution through the Components. The organizations work in concert as a Joint program to produce capabilities rapidly.

Operational Concept: NECC uses a SOA, which is a single, net-centric services based architecture providing capability to the Warfighter through the GIG. Capabilities developed on this SOA provide the decision support infrastructure to access, display, and understand information necessary for the Warfighter to make efficient, timely, and effective decisions. The C2 capabilities in NECC provide DoD the means to achieve decision superiority in engagements, a key tenet of Joint Vision 2020.

Capability Module: The NECC program builds net-centric services as CMs, not as a large, completely integrated software system. CMs are small, loosely coupled, militarily useful pieces of software that reside on the GIG. The individual nature of CMs and the planned

¹ NECC Increment 1 Milestone B Acquisition Strategy (AS), v1.0, 27 May 2008, URL: <https://www.us.army.mil/suite/page/491726>

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responsiveness to the Warfighter require agility and flexibility in NECC's development, contracting, testing, funding, and acquisition processes.

Systems Engineering: NECC Increment 1 Capability Development Document (CDD) Change Annex 1, dated 10 July 2008², lays out the C2 needs for the Warfighter. Over the course of the program, requirements developers, through the Joint Combat Capability Development (JCCD) process, generate Capability Definition Packages (CDPs). Over time, NECC engineers perform standard Systems Engineering (SE) on these CDPs to produce a baseline set of CM specifications. Then, NECC JPEO uses work packages for CM development.

Work Packages: The NECC JPEO allocates CM development to the CPMOs via work packages. These packages describe the development, integration, test, certification requirements, EV/metrics reporting, and implementation, including operations and sustainment for the CM.

Work packages address cost, schedule, and performance requirements; shared resource coordination; and other agreements and dependencies required to produce and sustain the CM. NECC's development process defines work packages per the [NECC System's Engineering Plan \(SEP\)](#)³. All work packages are not defined prior to Milestone B, but are developed over the course of the program's System Development and Demonstration (SDD) phase. This ongoing systems engineering analysis of each work package is different from a typical software development program.

Business Strategy/Contracting: Work packages define specifications, cost, and schedule agreements for CPMOs building CMs. The JPEO allocates the work packages among the Components, who then execute development on their contracts to produce a CM, which will be used by all partners in this Joint program. The NECC program does not use a single contract vehicle to develop CM software, but rather employs a modular approach to contracting. The CPMOs determine the appropriate contract vehicle to develop their allocated CMs. These contracting vehicles are typically multiple-award, Indefinite Delivery/Indefinite Quantity (IDIQ) contracts with a number of prime contract vendors. In general, they are available for use by any CPMO for NECC CM development. For an individual CM, a CPMO usually completes a Task Order (TO) under an IDIQ vehicle using the CM's work package. To monitor progress, NECC uses processes defined in this CCP, which have been tailored to the reporting needs associated with small development contract TO.

Development: The JPMO manages the software development process and software production activities for the program. The developmental process includes Capability Provisioning Activities (CPAS), which are net-centric processes for maturing CMs from initial conception to operational support of the Warfighter on the GIG. The process makes use of the Federated Development and Certification Environment (FDCE), which is a virtual environment that exists on the GIG and addresses the challenges associated with developing and certifying net-centric capabilities in support of CPAS. As with any developmental activity, developmental and operational Test and Evaluation (T&E) is conducted. NECC T&E uses the FDCE, which also supports CM certification and accreditation activities. Once a CM passes the required tests and

² CDD Change 1 Annex received a favorable review by the Joint Capabilities Board 20 June 2008. A favorable JROC review is expected 10 July 2008 followed by an approving JROCM in July 2008

³ NECC System Engineering Plan (SEP), v1.0, 9 August 2007, URL: <https://www.us.army.mil/suite/page/491726>

is certified and accredited, the Milestone Decision Authority (MDA), or as delegated, will make the decision to field the capability via the GIG.

Implementation and Sustainment: With a successful fielding decision, the JPMO makes Increment 1 capabilities available at all Enterprise GIG Computing Nodes (GCNs), and Services/Components make these selected capabilities available at local nodes through the implementation process. Once fielded, various providers sustain the CMs. A centralized NECC enterprise strategy for managing sustainment organizations was developed from lessons learned during the Technology Development (TD) phase. The Integrated Logistic Support (ILS) activities for NECC are spread across many materiel providers managed by their assigned CPMOs. These organizations are responsible for CM core sustainment while the NECC JPMO is responsible for sustaining NECC infrastructure activities, such as the FDCE and the Joint Technical Operations Control Capability (JTOCC).

3 COST CONTROL PLAN OVERVIEW

NECC creates a set of loosely coupled services in software CMs integrated into a SOA accessible through the GIG. The program uses IDIQ contract TOs to procure CMs. None of these TOs are large enough in scope to meet the threshold for using DoD standard Earned Value Management Systems (EVMS), and to do so would be cost-prohibitive and likely ineffective. The NECC program employs the use of an Earned Value (EV) system using assessed Level-of-Effort (LOE) and weighted performance milestones.

The NECC program is using a system of cost controls developed in conjunction with the Cost Analysis Improvement Group (CAIG). The NECC cost control system provides for program management control using Earned Value Management (EVM), program metrics, and associated measures. Metrics are standard definitions of quantitative aspects of program cost, schedule and performance. Measures are the direct numerical evidence or data that support the metric. Under the NECC CCP, the JPMO/CPMOs are responsible for cost, schedule, and performance surveillance, and reporting of the CM software development process to evaluate CM development performance. In addition to metrics on CM development, the CCP includes metrics for the entire SE process from CDP receipt through CM operation and sustainment. The NECC Program Control Branch is responsible for collecting and analyzing a broader set of surveillance metrics to evaluate performance of the end-to-end NECC process.

3.1 OBJECTIVES

The overarching objective of the CCP is to outline a predictive system that provides Program Managers (PMs) the tools to manage cost, schedule, and performance baselines proactively and to mitigate risk to the program. It also outlines a methodology for data collection and analysis that allows the PM, JPEO, and other interested parties to predict future increment costs more effectively.

This objective is achieved through the development of a set of metrics that capture cost, schedule, and performance data. Metrics collected for engineering and development efforts provide predictive measures to assist the program in improving performance, avoiding major shifts in the critical path, and enhancing future cost estimating practices.

The metrics and associated measures support the NECC business strategy. NECC development is extremely agile and the development process is highly iterative and interactive; therefore, the program's metrics must provide rapid feedback in order to be effective. In addition, the CCP must account for the dynamic CDP to CM maturation process and the many processes that run concurrently within the program.

3.2 COST CONTROL PROCESS LAYOUT

The cost control process (see Figure 1) for NECC is based on DoD and industry best practices, tailored to meet the needs of the NECC acquisition process. The NECC cost control system provides for program management control at the lowest possible level, where tailored metrics defined by JPMO and CPMO stakeholders allow data collection and reporting on cost, schedule, and performance. Performance measurement data collected over the course of the NECC lifecycle phases provide essential criteria for validating the NECC business strategy. NECC maintains a cost control tracking and metric reporting construct in order to manage cost, schedule, and performance associated with the development process.

The Metrics Analysis Working Group (MAWG) is responsible for the collection and analysis of appropriate metrics and associated measures on a periodic basis. This working group is led by the JPMO Program Control Branch. MAWG membership includes representatives from designated JPMO and CPMO activity leads, as well as support personnel (i.e., Program Executive Office (PEO) and Program Analysis and Evaluation (PA&E)). Products of this working group are used as input for risk management, Program Management Direction Team (PMDT) monthly program reviews, OIPT semi-annual program reviews, DoD SOA Pilot activities, Defense Acquisition Executive Summaries (DAES) and Selected Acquisition Reports (SAR), and program Integrated Baseline Reviews (IBRs). The MAWG processes include those necessary to collect and analyze program metrics and measures and to identify significant variances and trends that impact cost, schedule, and performance. The MAWG also coordinates closely with the NECC Risk Management Working Group and provides recommendations and supporting documentation to the JPM.

Functional area representatives are appointed by JPMO Branch Chiefs and CPMO PMs to serve on the MAWG as their representatives for all issues concerning the identification, development, analysis, and reporting of metrics and EV. Their roles are to serve as a member of the MAWG to liaison between branch chiefs and CPMO services. The functional area representatives are the managers for their respective branches that ensure metrics are continually updated and relevant to NECC.

3.2.1 JPMO COST CONTROL

Cost control at the JPMO has two components: metrics and EV. Metrics are further categorized as Executive-Level and Working-Level, each of which are compiled and tracked by functional area representatives and CPMO representatives. A subset of metrics is provided to PA&E for analysis; however, all metrics are evaluated by the MAWG.

3.2.1.1 EXECUTIVE-LEVEL METRICS

Executive-level metrics, as detailed in Appendix A, B, C, D, and E of this document, represent those metrics captured on a monthly basis and used as leading indicators to analyze trends and

avoid major shifts in the critical path. Findings and recommendations from the MAWG are presented monthly to the PMDT and semi-annually to the OIPT.

3.2.1.2 WORKING-LEVEL METRICS

Working-level metrics, as detailed in Appendix A, B, C, D and E of this document, are used as leading indicators to assist in the management of specific activities and provide requisite analysis. Working-level metrics are included in the monthly presentation to the PMDT only as necessary to support more thorough analysis and understanding of executive-level metrics.

3.2.1.3 EARNED VALUE

The JPMO is collecting and assessing EV for the NECC program using the methods of LOE, and performance milestones. The JPMO will contract for CM development and non-development efforts. These efforts will be tracked using LOE and milestone 0/100 methods of EVM.

3.2.2 *CPMO COST CONTROL*

Cost control within the CPMO has two components: metrics and EV. Metrics are further categorized as Executive-Level and Working-Level, each of which are compiled and tracked by CPMO representatives. A subset of metrics is provided to PA&E for analysis; however, all metrics are evaluated by the MAWG.

3.2.2.1 EXECUTIVE-LEVEL METRICS

Executive-level metrics, as detailed in Appendix E of this document, represent those captured on a monthly basis and are used as leading indicators to analyze trends and avoid major shifts in the critical path. Findings and recommendations from the MAWG are presented monthly to the PMDT and semi-annually to the OIPT.

3.2.2.2 WORKING-LEVEL METRICS

Working-level metrics, as detailed in Appendix E of this document, are used as leading indicators to assist in the management of specific activities and provide requisite analysis. Working-level metrics are included at the monthly presentation to the PMDT when those metrics exceed acceptable tolerances and thresholds. Working-level metrics are also used to support more thorough analysis to support executive-level metrics.

3.2.2.3 EARNED VALUE

Earned value performance metrics are collected at the CM spiral level and reported to the JPMO, via the MAWG. Detailed EV data and metrics will be managed internally by the CPMOs.

Cost Control Process Layout

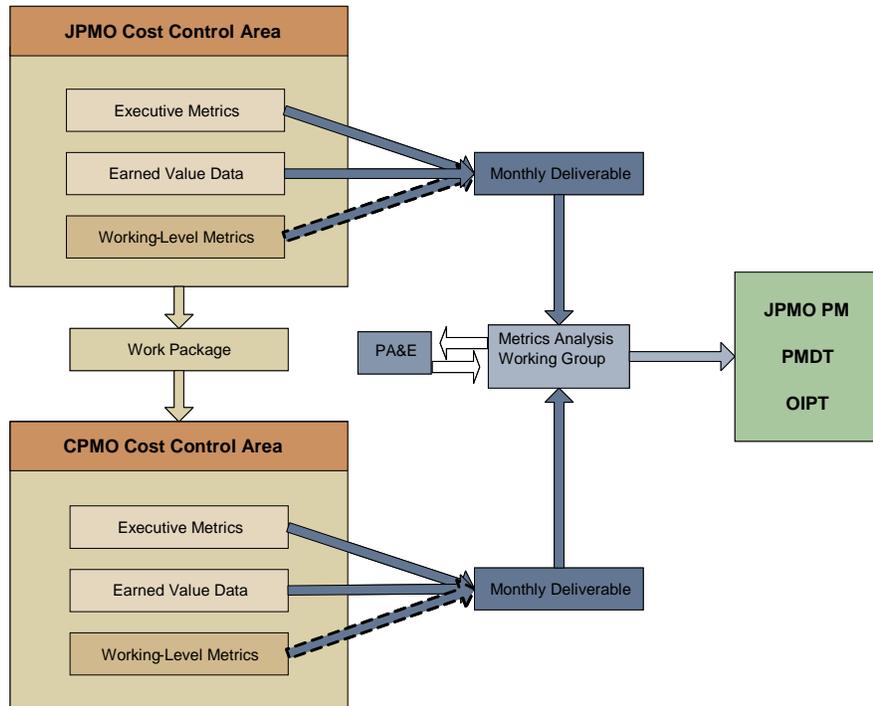


Figure 1: CCP Process

4 CCP IMPLEMENTATION

The JPMO will maintain the established infrastructure necessary to execute the tenets detailed in this CCP. This includes the MAWG membership and governance, metric collection, analysis and reporting processes, a Work Breakdown Structure (WBS), and an Integrated Master Schedule (IMS). Functional area representatives, in collaboration with JPMO Branch Chiefs and Subject Matter Experts (SME), are responsible for the development of each metric, to include the associated measures and the data collection, analysis, and reporting methodology.

CPMOs are responsible for reporting metrics and EV data to the JPMO, as described in the CM work packages. In addition, the CPMOs are expected to use their own performance monitoring and control systems to ensure their efforts stay within acceptable tolerance as defined by the JPMO.

4.1 WORK BREAKDOWN STRUCTURE

The WBS provides consistency and helps manage the cost control, cost estimation, scheduling, and risk analysis processes for NECC. It will primarily be used as an organizational tool within the cost control process. Metrics are associated with particular WBS elements, and as data is gathered against these metrics, variations are analyzed for their potential cost, schedule, and risk impacts to the program. Conversely, as the program progresses, WBS elements that are found to require additional monitoring will (with their associated definitions) guide what new metrics

must be developed to acquire the desired level of insight. The WBS dictionary lists the elements of the WBS and their associated program-specific definitions. The WBS is found in Appendix H.

4.2 INTEGRATED MASTER SCHEDULE

The IMS will be used by NECC Program Control and the MAWG as the primary means for measuring and assessing schedule variance. The IMS is a time-phased schedule that serves as a tool for time phasing work and assessing technical performance. Schedule activities in the IMS are traceable to the WBS elements used in the CCP, allowing commonality for integrated program assessment of cost, schedule, technical performance, and associated risks. The IMS is updated on a weekly basis, is reviewed at the PMDT on a monthly basis, and is posted on the NECC workspace on the Defense Knowledge Online (DKO).

4.3 METRICS

The CCP includes a metrics-oriented approach to cost control. The metrics and associated measures are critical elements used to evaluate the overall performance of the program, including tracking trends, resources, milestones, and deviations in the major elements and development activities of the NECC program. The metrics provide a tailored set of cost control activities that meet the intent of Office of the Secretary of Defense (OSD) guidelines for cost control and earned value reporting, as well as provide a set of predictive indicators for use by the JMPO, CPMOs, and other program stakeholders.

4.3.1 LEVEL OF DETAIL

The level of detail established for each metric is consistent with the CCP goals. These goals are affordable set up and maintenance; easily understood metrics; and provide predictive information to manage cost, schedule, and performance baselines proactively.

4.3.1.1 WORK PACKAGE REQUIREMENTS

The NECC JPEO allocates CM development to the CPMOs via work packages. The CM Development Work Package describes the development, integration, test, and certification requirements for the CM. The CM Hosting and Sustainment Work Package describe implementation details, which include operations and sustainment. All work packages address cost, schedule, performance requirements; shared resource coordination; and other agreements and dependencies required to produce and sustain the CM.

4.3.2 METRICS DATA AND ANALYSIS PROCESS

The NECC metrics data and analysis process addresses: (1) development and refinement of metrics for each of the functional areas of the program, and (2) collection and analysis of the metrics and measures across the functional areas of the program (See Appendices A, B, C, D and E for Functional Area and CPMO Metrics). The NECC metrics are developed for a specific domain or functional area, by thorough analysis of the related functional area processes with the metrics owners and the SMEs. The metrics are updated periodically as needed to coincide with the scheduled CCP revisions to include specific measures, execution and correlation information, data collection methodology, thresholds, and objectives related to the metrics and analysis methodology that considers specific domain related analysis as well as the cross functional area

analysis. The NECC Metrics Form F1/F2 provides the template and requisite guidance to comprehensively develop a NECC metric. The NECC Metrics Form F1/F2 template is provided as reference in Appendix F of this document.

The NECC metrics data analysis process produces a robust and relevant set of metrics, for which the measures and ancillary data provide pertinent data that is analyzed across the Functional Areas of the program. The MAWG processes ensure the timeliness and repeatability of the collection, analysis, and reporting procedures. The NECC metric data analysis process is depicted in Figure 2.

Metric Data Analysis Process

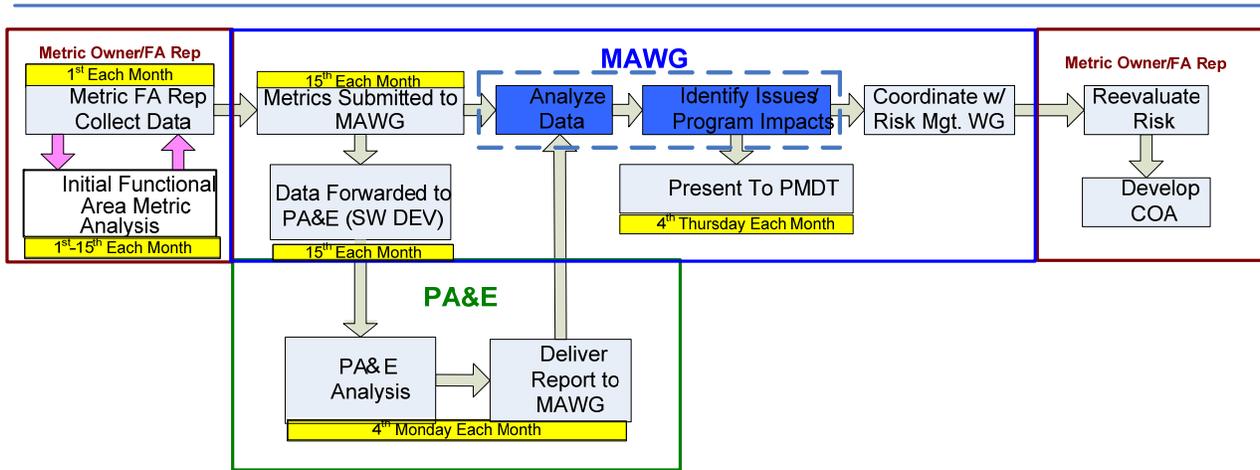


Figure 2: Metric Data Analysis Process

4.3.3 METRICS REPORTING

All metrics are submitted to the NECC JPMO Program Control Branch using the approved metrics reporting templates. Figure 3 depicts the Metrics Reporting Quad Chart Template used to report any executive or working-level metric being reported to the PMDT. Metric reporting is the responsibility of the NECC Branch Chiefs, functional area representative, and CPMs. The executive metrics and appropriate working-level metrics, analyzed across functional areas, are briefed monthly to the PMDT. The analysis of the metrics are used to support the semi-annual OIPT.

Metric Reporting Quad Chart

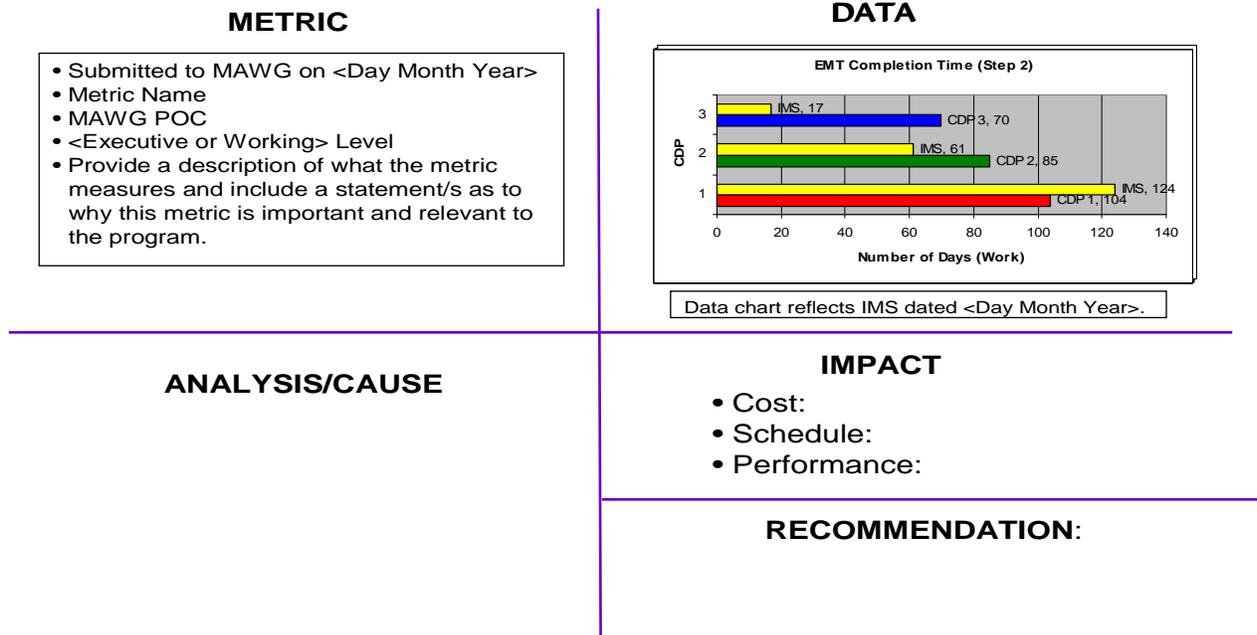


Figure 3: Metric Reporting Quad Chart Template

The NECC MAWG Chair provides a monthly reporting to the PMDT, specifically addressing the status of metrics, data collection, and submission as well as resultant information from the functional area and cross-functional area analysis activities. This report includes, but is not limited to, the following:

- Variance reports and suggested corrective actions
- Critical path activity performance
- Project personnel and staffing
- Project baseline change performance

The JPMO implements recommended corrective actions based on any variance reports identifying activities that fall outside established thresholds and tolerances.

4.3.3.1 JPMO METRIC AND EARNED VALUE REPORTING PROCESS FLOW

The following steps describe the process flow for reporting and data analyses from the JPMO branches:

1. MAWG collects all approved metrics via spreadsheets from each NECC Program Control Branch and performs functional area analysis.
2. MAWG compiles EV in database tracking application and produces various reports.

3. MAWG chair compiles JPMO EV data and submits to Defense Cost and Resource Center (DCARC).
4. MAWG creates metrics and EV reports for presentation to the PMDT and presents conclusions at monthly PMDT and semi-annual OIPT meetings. All executive-level metrics are reported to the PMDT, specific reports are created for each meeting based on the level of detail required for each meeting.

4.3.3.2 CPMO METRIC AND EARNED VALUE REPORTING PROCESS FLOW

The following steps describe the process flow for reporting and data analyses at the CPMO:

1. MAWG collects and analyzes EV data via the CM Status reports and metrics spreadsheets (Appendix G) from each CPMO.
2. A subset of the metrics submitted by the CPMO is sent to PA&E for a more detailed analysis.
3. MAWG compiles CPMO EV in database tracking application and produces various reports. CPMO EV data is submitted to DCARC.
4. PA&E transmits complete metric reports back to NECC Program Control Branch.
5. MAWG combines PA&E metric analysis and EV analysis into reports for presentation to the PMDT and provides conclusions at monthly PMDT and semi-annual OIPT meetings. All executive-level metrics are reported to the PMDT, specific reports are created for each meeting based on the level of detail required.

4.3.3.3 FREQUENCY

All metrics and EV data are submitted to the JPMO (Program Control Branch) by each JPMO branch and each CPMO no later than the 15th of each month (if the 15 falls on a weekend, it is due the following workday), for the previous calendar month. Status on all metrics are provided monthly as either “No Change to Data” (NCTD), “No-Data-To-Report” (NDTR), “Data Collected Reported on Quad” (DCROQ), or “Data Collected Not Reported on Quad” (DCNROQ) on the Monthly Status Report Excel Template. Appendix K specifies data reporting requirements.

4.4 EARNED VALUE MANAGEMENT

The LOE and performance milestones and apportioned work are the methods used in EVM for the NECC program. Resources allocated and tracked at the JPMO-level control accounts based on LOE estimates, which are examined by the MAWG on a monthly basis. In LOE situations, EV is reported based on the number of hours worked within a particular task. Performance milestones receive their value when the task is complete and receive 100% credit at that time. The CPMOs uses the CM status reporting template. Figure 4 depicts the format template that will contain CM development EV data for reports to the JPMO. A Milestone and Level of Effort (LOE) Guidelines document is under development which will reflect our process and procedures.

4.4.1 EARNED VALUE REPORTING METHODS

Coupled with standard engineering metrics collected throughout various areas of the NECC program, EV is reported using the CM Status reporting template (Figure 4). Work packages

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outline the reporting requirements for each CM spiral. As part of a CM development work package, each CPMO shall submit planned and earned figures on a monthly basis at the CM spiral level summarized at Performance Milestones and Events. Actual costs are submitted using reporting categories at the work package level.

Reporting Categories include:

1. Program Management
2. Systems Engineering
3. Software Development
4. Engineering Documentation
5. Training Development
6. Information Assurance Certification and Accreditation
7. Operations and Maintenance (Hosting)
8. Integration and Technical Piloting
9. Test and Certification
10. Initial Commercial-Off-The-Shelf (COTS) Licensing

Completed Performance Milestones (reference Appendix L) claim EV based on the 0/100 EV Method.

Upon execution of the work package, the CPMO shall, in accordance with the CM Status Reporting Template (Fig 4), explain any deviations of actual expenditures/schedule from planned costs/schedule at the monthly PMDT using the approved Quad Chart format.

In cases where multiple CPMOs are assigned work on a particular CM, the assigned lead CPMO is responsible for collecting and delivering a consolidated report to the JPMO. Consolidated JPMO and CPMO EV reports are forwarded to DCARC on a monthly basis.

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GENERAL INFORMATION				CURRENT REPORTING PERIOD		OVERALL STATUS				VAR REPORTING THRESHOLD:			
CPMO	[Enter Data Here]			Start Date:	[MM/DD/YY]	% Planned	#REF!					Cur	Cum
CM Name	[Enter Data Here]			End Date:	[MM/DD/YY]	% Complete	#REF!			BCWS (PV)	\$0.00	\$0.00	
CM #	[Enter Data Here]					% Spent	#REF!			BCWP (EV)	\$0.00	\$0.00	
Spiral #	[Enter Data Here]			WP SIGNATURE DATE						ACWP (AC)	\$0.00	\$0.00	
JPMO WBS	[Enter Data Here]			Start Date:	[MM/DD/YY]	SUMMARY (CM Level)				SV	\$0.00	\$0.00	
CM Type (Adopt/Buy/Create)	[Enter Data Here]					BAC	#REF!			CV	\$0.00	\$0.00	
SW Development Type	[Enter Data Here]			PRIMARY DEVELOPER CONTRACT/TASK				EAC	\$0.00	SV%			
5.x)	[Enter Data Here]			Start Date:	[MM/DD/YY]	VAC	#REF!			CV%			
Partnership Tier (1,2,3)	[Enter Data Here]			End Date:	[MM/DD/YY]	VAC%	#REF!			SPI			
Mission Capability Area	[Enter Data Here]									CPI			
CDP #	[Enter Data Here]			CPMO EV POC									
SW Developer	[Enter Data Here]			POC Name	[Enter Data Here]								
				POC Phone #	[###] ###-###								
				POC Email	[Enter Data Here]								
Reporting Categories	BAC (\$K)	Budget Hrs	EAC (\$K)			[MM-YY]	[MM-YY]	[MM-YY]	[MM-YY]	[MM-YY]	[MM-YY]	[MM-YY]	[MM-YY]
<i>Move the X to the current reporting month</i>													
PROGRAM MANAGEMENT													
	#REF!	0		BCWS (PV) (\$K)	Cur	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
					Cum	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
				BCWP (EV) (\$K)	Cur	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
					Cum	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
				ACWP (AC) (\$K)	Cur	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
					Cum	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
				SV (\$K)	Cur	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
					Cum	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
				CV (\$K)	Cur	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
					Cum	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
				SPI	Cur								
					Cum								
				CPI	Cur								
					Cum								

Figure 4: Sample CM Status Reporting Template

5 RISK IDENTIFICATION AND MITIGATION

The JPMO has a risk management process to monitor and mitigate risk. This is documented in the [NECC Risk Management Plan \(RMP\)](#)⁴. NECC's risk management is a continuous process inherent within the development cycle. Identifying and analyzing potential risks early on and developing mitigation plans for these risks help to reduce program costs, maintain accurate schedules, and achieve expected performance objectives. Metrics are related to risk as a means to proactively identify potential risk and quantify the probability of an adverse event occurrence. This is combined with the likely consequences of the event to assess risk level. Metrics are also used in risk management as a means to monitor the mitigation activities and ensure risk exposure is progressively reduced to acceptable levels.

The risk analysis activity of the program's risk management process requires an assessment of the potential cost impact from a functional and/or a programmatic level for each identified risk. While that cost impact should be quantified to the greatest extent possible, the analysis typically begins with a subjective estimation and progresses until a more specific impact to the program's cost baseline can be identified. The cost impact analysis is documented to show the rationale behind the original assessment, as well as the "to be" impact anticipated once the risk has been mitigated to an acceptable level.

The NECC Risk Management Board (RMB), chaired by the NECC JPM, is responsible for oversight of the program's risk management process. This forum provides the mechanism for reviewing proposed risks and for tracking progress of mitigation activities.

6 MONITORING AND CONTROL PROCESS

6.1 RE-BASELINE PROCEDURES

IBRs will serve as a consistent forum for the PMDT to discuss any required changes to current and future schedules. Generally, work that has yet to begin (i.e., planned work) can be re-baselined; work that has begun cannot be re-baselined.

7 COST CONTROL TOOL

The JPEO Financial Database tool is a centralized data storage system used to support the NECC Cost Control processes. The tool provides the necessary capabilities for reporting EV metrics, budget execution plans, historical information, and detailed requirements information.

⁴ NECC Risk Management Plan (RMP), 1.0.3, 02 November 2007, URL: <https://www.us.army.mil/suite/folder/9397864>

APPENDIX A: SYSTEMS ENGINEERING METRICS TABLE

Systems Engineering Metrics Table		
Metrics	Measures	Type
Complexity of CDP	# of use cases # of Modified use cases	Working
Requirements Volatility	# of requirement shells that require modification Total # of requirement shells	Working
Duration from CDP draft to RBR (i.e. Step 2 Duration)	# of days	Executive
Volatility of Component Structure	# of components in MCA Component Model # of component relationships that change	Working
% of CM Specifications Completed	# of CM Specifications completed Total # of Components identified as NECC CMs	Working
% of CM specifications completed per MCA component model	# CM Specs completed per MCA component model Total # CMs per MCA component model	Working
% of requirements identified in CM Specifications	# of requirements identified in CMs Specifications Total # requirements identified	Working

Systems Engineering Metrics Table		
Metrics	Measures	Type
Duration for completion/update of CM Specifications (i.e. Step 3 duration)	Start date – Completion Date of Step 3 per CM	Executive
Duration of CM C2 Catalog Analysis	# of candidates evaluated # of candidates selected Time to conduct market analysis (C2 Catalog Analysis Report)	Working
Duration for Draft WP development	Start date for CPMO(s) to respond to request for Draft WP Dates of submission of Draft WP to JPMO	Working
% of requirements allocated to Allocated Baseline CM specs	# of requirements identified in CM Specifications Accumulated number of requirements allocated to Spiral Allocated CM Specs approved for development	Working
Duration to complete evaluation of DWPs	Start of evaluation of DWPs Completion of Evaluation Criteria Summary	Working
Productivity of Step 4 processes	Number of approved Spiral Allocated CM Specs per month Total number of approved Spiral Allocated CM Specs	Working

Systems Engineering Metrics Table		
Metrics	Measures	Type
Duration to obtain PEO approval of Allocated Baseline recommendations	Days to schedule, prepare, and obtain approval of Allocated Baseline recommendation from PEO per Allocated baseline per CM	Working
Total duration for completion/update of Spiral Allocated Baseline process (i.e., Step 4 process)	Start and Stop of Step 4 process Days Step 4A Days Step 4B Days Step 4C Days Step 4D Days Step 4E Days Step 4G	Executive
JPMO resource requirements for Step 4 process per spiral of a CM	Average JPMO resource per day for Step 4 Total duration for completion/update of Spiral Allocated Baseline process (i.e. Step 4 process) per spiral of a CM	Working
6a.1) WP proposal development	# days to submit final WP response (CPMO)	Working
6a.2) Cost Estimation Accuracy	Original estimate Proposed cost estimate	Working
6b) Change Allocated Baseline (Tech/cost tradeoffs)	Approved allocated baseline Negotiated allocated baseline	Working

Systems Engineering Metrics Table		
Metrics	Measures	Type
Total duration for Step 6 process	Start and End dates for total Step 6 process PEO approval to when WP signature and/or MIPR is accepted.	Executive
CM spiral Maturation Progress	# of TECC assertions per CM spiral Total # of TECC validated per CM spiral Total # of criteria per CM spiral Stage of FDCE	Executive
% of successful CM Fielding Decisions	# of positive CM decisions Total # of requests	Executive
Duration of time from an FDR to CM operational status.	Date of FDR Date to operational turn on	Executive

APPENDIX B: TEST, EVALUATION, AND PILOTING (TE&P) METRICS TABLE

Test, Evaluation, and Piloting (TE&P) Metrics Table		
Metrics	Measures	Type
Adequacy of MOE/MOS	# of functional requirements addressed in MOE/MOSs # of total functional requirements per CM Spiral	Working
Time to tailor the TECC (expressed in days)	Start date = Spiral allocated CM spec completed. End date = Finalization of the allocated baseline for the CM spiral.	Working
NR KPP % Conformance	Total # of NR KPP requirements per CM spiral # of NR KPP requirements met # of NR KPP requirements waived # of NR KPP requirements deferred	Working
Time to complete Risk assessment	Start date = Final DPTE Work Package End date = Assessment completion/OSD approval	Executive
Time to Identify Warfighter Resource Requirements	Start date = Final WP End date = TEMP Package update	Executive

Test, Evaluation, and Piloting (TE&P) Metrics Table		
Metrics	Measures	Type
Time to develop draft scenario and vignettes	Start date = CPE/OCE concept paper submitted End date = signed execution plan/DTP	Working
Time to develop TEMP Update (expressed in days)	Start date = completion of RALOT End date = OSD approval of TEMP package Update	Executive
Time to develop D-DTP (expressed in days)	Start date = CDR + 5 days End date = D-DTP approval by CPMO	Executive
Developmental Test Event Execution & Reporting Duration	Start date = DTRR approval End date = completion of test report	Executive
Time to develop O-DTP (expressed in days)	Start date = CDR + 5 days End date = O-DTP approval by OSD	Executive
Operational Test Event Execution & Reporting Duration	Start date = OTRR approval End date = completion /submission of test reports	Executive
% of MOEs tested	# of MOEs planned	Working

Test, Evaluation, and Piloting (TE&P) Metrics Table		
Metrics	Measures	Type
Time to complete Interoperability Assessment	Start time of assessment activities Completion of Assessment	Working
CM interoperability Success	Interoperability test cases Planned Interoperability test cases Executed Interoperability test cases Passed Interoperability test cases Failed	Working
Planning, execution, and reporting time for UFP events (expressed in days)	Time to finalize UFP Announcement/Survey form Time to conduct UFP event/complete surveys Time to complete UFP assessment report/lesson learned	Working
UFP Participation Level	# of total participants per UFP event # of surveys submitted per UFP event Total # of UFP events # of events on SIPRNET # of events on NIPRNET # of events on Internet Time to complete UFP event Start date End date	Working

Test, Evaluation, and Piloting (TE&P) Metrics Table		
Metrics	Measures	Type
Planning, execution, & reporting time for CPE events (expressed in days)	Time to finalize CPE Concept Paper Start date End date Time to complete CPE R&P Matrix Start date End date Time to complete the Execution Plan/Detailed Test Plan Start date End date Time to execute CPE event/complete surveys Start date End date Time to complete CPE assessment report/lesson learned Start date End date # of CMs integrated in the CPE # of events on SIPRNET # of events on NIPRNET # of events on Internet	Working

Test, Evaluation, and Piloting (TE&P) Metrics Table		
Metrics	Measures	Type
Capability to perform the necessary piloting event	# of piloting planned # of piloting events successfully executed # of piloting events delayed due to lack of resources ** reasons for delays (interim place holder)	Executive
Planning, execution, & reporting time for OCE events (expressed in days)	Time to finalize OCE Concept Paper Start date End date Time to complete OCE R&P Matrix Start date End date Time to complete the Execution Plan Start date End date Time to execute OCE event/complete surveys Time to complete OCE assessment report/lesson learned Start date End date # of CMs integrated in the OCE # of events on SIPRNET # of events on NIPRNET	Working

Test, Evaluation, and Piloting (TE&P) Metrics Table		
Metrics	Measures	Type
Distribution of RALOT determinations	# of L1 # of L2 # of L3 # of L4 Total # of RALOTs Period of time (assume 1 year)	Executive

APPENDIX C: TECHNICAL OPERATIONS & SUPPORT METRICS TABLE

Technical Operations & Support Metrics Table		
Metrics	Measures	Type
Duration of negotiation formal agreement with Host Provider (# of days)	Start date when CM Attribute Information is provided to Host Provider End date when formal agreement is signed/funded	Executive
Establishment of the computing environment by Host Provider (# of days)	Start date for Host Provider to establish environment Completion date for Host Provider for computing environment agreed to in the formal agreement	Working
Quality of Pre-Deployment Checklist submission (threshold/objective=100%)	# of invalidated items Total # of items	Working
Duration for the Pre-Deployment Checklist approval/validation process (# of days)	Date of initial submission Date of approval by JTOCC	Working
Quality of Electronic Performance Support System (EPSS Training Content)	# of invalidated items Total # of items	Working
Duration for the EPSS approval/validation process (# of days)	Date of initial submission Date of approval by JPMO training SMEs	Working
Quality of network configuration information	# of errors in information Total # information items	Working

Technical Operations & Support Metrics Table		
Metrics	Measures	Type
Duration required to provide correct network configuration information	Start Date of initial request End Date of accepted response	Working
CP Installation time	Time to complete the installation of the CPs at the Enterprise Host Provider site(s)	Working
Availability of Enterprise CMs	# of successful transactions per CP Total # of attempted transactions per CP # of CPs in a CM NOTE: Web Service = CP	Executive
Service Usage	# of WS in CM # of successful attempts to use a service	Executive
Characterization of Incident Reports	Category of Quality Deficiencies Criticality of incident Reports # of incident Reports	Working
Performance of Incident Resolution Process	Mean Time to Resolve Incident (Mean = sum (Time to close) / N) Median Time to Resolve Incident (Median = value of the data point at ((M/2)-1) Start time of opening Incident Ticket (X) Resolution time Incident Ticket Completed 1..N Time to Close = Resolution time - start time of Incident Ticket Number of total Incident tickets per month by CM.	Executive

Technical Operations & Support Metrics Table		
Metrics	Measures	Type
Quality of Service of CM (%)	<p>CM is made up of 1..N CPs</p> <p>CP(i)A = Availability of CP as defined in the Cost Control Plan (CCP)</p> <p>W(i)= importance of CP(i). This is a number from 0 to 1 and can be a decimal number representative of the importance of the CP to the functioning of the overall CM.</p> <p>QoS_CP(i) = CP(i)A * W(i)</p> <p>If the CP is critical to the CM working then the W(i) value would be set to a high value. If the CP is an accessory to the functioning of the CM then it can receive a waiting of 0 and is not counted in the QoS measure for the CP.</p> <p>Sum (W(1) ... W(N)) = 1</p> <p>QoS_CP(i) = CP(i)A * W(i) where W(i) is not equal to 0.</p> <p>Where W(i) is equal to zero it is not included in N</p> <p>QoS (CM) = Quality of Service Measure and the availability for the overall CM in a given month</p> <p>QoS(CM) = Sum (QoS_CP(1) .. QoS_CP(N) where W(i) is not equal to zero</p>	Executive
Major Category Change Requests	# of change requests	Executive
Conformance with EPSS Guidance	<p>Total # of test cases</p> <p># of test cases passed</p>	Working

Technical Operations & Support Metrics Table		
Metrics	Measures	Type
Time to validate Users Manual conformance to EPSS Guidance	Start date = delivery of Users Manual End date = conclusion of the test case execution	Working
Conformance with Functional Tutorial Guidance	Total # of test cases # of test cases passed	Working
Time to validate Functional Tutorials conformance to Functional Tutorial Guidance	Start date = delivery of Functional Tutorials End date = conclusion of the test case execution	Working
Conformance with SCORM® Compliant Courseware	Total # of test cases # of test cases passed	Working
Time to validate SCORM® Compliant Courseware conformance to Advanced Distributed Learning (ADL) Guidance	Start date = delivery of SCORM® Compliant Courseware End date = conclusion of the test case Execution	Working
Enterprise Level Deployment Preparation	Time to complete artifacts that are identified in the Pre-deployment Checklist Duration (# of days) for SLA finalization Duration (# of days) for H&S Work Package	Working
Response Time for CMs	Time a Service Request is sent to the CP Time as Service Request is received back from the CP Number of Service Requests	Working

APPENDIX D: PROGRAM CONTROL METRICS TABLE

Program Control Metrics Table		
Metric	Description	Metric Level
- Budget Execution	Percentage of Obligations against Agency/OSD goals	Executive
- Budget Execution	Percentage of Disbursements against Agency/OSD goals	Executive
- WP Execution	Number of days from Chief Engineer's signature to release of final CM WP	Executive
- WP Execution	Number of days to process final WP	Executive
- WP Execution	Number of change orders against final CM WPs Number of days to process the mods to the approved CM WP	Working-Level
Program Execution	Number of days to process procurement package/modifications from CFE MIPR signature to award. Number of days to process funding document/package from PM signature to commitment.	Working-Level
Program/Milestone Document Staffing	# of Days variance - Planned Start date vs. Actual Start date	Working-Level
Program/Milestone Document Staffing	# of Days variance - Planned End date vs. Actual End date	Working-Level

APPENDIX E: CPMO DEVELOPMENT METRICS TABLE

CPMO Development Metrics Table		
Metrics	Measures	Type
Contract coordination timeline	Date RFP put out to industry RFP closing date Date contract/task awarded	Executive

CPMO Development Metrics Table		
Metrics	Measures	Type
SW Development Defect Rate	<p># of errors by priority level for each CM spiral per month</p> <p>Number of defects detected and fixed each month</p> <p>Number of defects detected and deferred to later spirals each month</p> <p>Priority level of defects (Priority 1-5, based on IEEE standards)</p> <p>Dispositions:</p> <p>Fixed Defects (Software Trouble Reports)</p> <p>Deferred/Rejected Defects (Software Trouble Reports)</p> <p>Accepted Software Change Proposals</p> <p>Deferred/Rejected S/W Change Proposals</p> <p>Priority Levels:</p> <p>Priority Level 1: Prevents the accomplishment of an operational or mission essential capability. Jeopardizes safety, security, or other requirement designated "critical".</p> <p>Priority Level 2: Adversely affects the accomplishment of an operational or mission essential capability and no work-around solution is known. Adversely affects technical, cost, or schedule risks to the project or to life cycle support of the system, and no work-around solution is known.</p>	Working

CPMO Development Metrics Table		
Metrics	Measures	Type
	<p>Priority Level 3: Adversely affects the accomplishment of an operational or mission essential capability but a work-around solution is known. Adversely affects technical, cost, or schedule risks to the project or to life cycle support of the system, but a work-around solution is known.</p> <p>Priority Level 4: Results in a user/operator inconvenience or annoyance but does not affect required operational or mission essential capability. Results in inconvenience or annoyance for development or support personnel, but does not prevent the accomplishment of those responsibilities.</p> <p>Priority Level 5: Any other effects not covered by Priority 1-4.</p> <p>Number of defects detected and fixed each month</p> <p>Number of defects detected and deferred to later spirals each month</p> <p>Priority level of defects (Priority 1-5, based on IEEE standards)</p>	

CPMO Development Metrics Table		
Metrics	Measures	Type
Software Change Proposals (SCPs)	<p>Number of S/W change proposed each month during development/installation/testing that are not associated with S/W trouble reports or other defects</p> <p>Number of proposed S/W changes accepted each month for inclusion in the current spiral</p> <p>Number of proposed S/W changes rejected or deferred to later spirals each month</p> <p>Priority level of S/W change proposals (Priority 1-5, based on IEEE standards)</p> <p>Scope of S/W change proposals</p> <p>SCPs that do not change the overall scope of a CM (just move requirements between different spirals of a CM)</p> <p>SCPs that change the scope of a CM (addition of completely new requirements)</p> <p>Priority Levels:</p> <p>Priority Level 1: Prevents the accomplishment of an operational or mission essential capability. Jeopardizes safety, security, or other requirement designated "critical".</p> <p>Priority Level 2: Adversely affects the accomplishment of an operational or mission essential capability and no work-around solution is known. Adversely affects technical, cost, or schedule risks to the project or to life cycle support of the system, and no work-around solution is known.</p>	Working

CPMO Development Metrics Table		
Metrics	Measures	Type
	<p>Priority Level 3: Adversely affects the accomplishment of an operational or mission essential capability but a work-around solution is known. Adversely affects technical, cost, or schedule risks to the project or to life cycle support of the system, but a work-around solution is known.</p> <p>Priority Level 4: Results in a user/operator inconvenience or annoyance but does not affect required operational or mission essential capability. Results in inconvenience or annoyance for development or support personnel, but does not prevent the accomplishment of those responsibilities.</p> <p>Priority Level 5: Any other effects not covered by Priority 1-4.</p>	
Time to produce IA documentation & successfully complete IARR (expressed in days)	<p>Start date of IA activities (resources are applied)</p> <p>Completion date of IARR</p>	Working
Stability of CM Design (stability of design process)	Number of major/minor findings during CDR requiring resolution per CM	Working

CPMO Development Metrics Table		
Metrics	Measures	Type
SLOC	SLOC by type New Modified Re-hosted Translated Deleted Verbatim COTs integrated Auto-generated Total SLOC Labor hours for SLOC SLOC by function (training)	Executive
CM Maturation Status	# of CMs in development stage # of CMs in development piloting stage # of CMs in operational piloting stage Earned value data	Executive
Time to develop CM training package to specific interactivity (IMI Level)	Start date for applying resources to training package Delivery date of CM training package	Working
Time to complete ILS products sufficient for OT	Start date of ILS development (from the IMS) Completion date of ILS documentation	Working

CPMO Development Metrics Table		
Metrics	Measures	Type
CM Spiral Development Milestone Completion	<p>Originally planned milestone completion date per initial CM Development Work Package</p> <p>Updated planned milestone completion date per IBR.</p> <p>Forecasted milestone completion date updated each month</p> <p>Actual milestone completion date</p>	Executive

APPENDIX F: FORM F1/F2

<p><u>Form F1</u></p> <ul style="list-style-type: none">- “<i>Submit New Metric</i>” MAWG Process Step
<p><u>1) Functional Area Metric:</u></p> <ul style="list-style-type: none">- <i>Specify the title of the metric.</i>
<p><u>2) Type of Metric:</u></p> <ul style="list-style-type: none">- <i>Specify whether the metric is classified as an Executive or Working Level metric.</i> <p><i>Executive Metrics</i></p> <ul style="list-style-type: none">• <i>Executive metrics represent those reported to the JPMO on a monthly basis and used as leading indicators to avoid major shifts in the critical path and to analyze trends within current processes and standard estimates.</i> <p><i>Working-Level Metrics</i></p> <ul style="list-style-type: none">• <i>Working-level metrics are maintained by activity leads and used as leading indicators to assist in the management of specific activities and provide anomaly analysis.</i>
<p><u>3) Metric Definition:</u></p> <ul style="list-style-type: none">- <i>Describe clearly the definition of the metric.</i>
<p><u>4) Importance of Metric to Program (Relevance):</u></p> <ul style="list-style-type: none">- <i>Why is this metric important to NECC?</i>- <i>How do this metric and the resultant trends contribute to the understanding of the functional area activities, processes and relationships?</i>
<p><u>5) Metric Implementation and Correlation:</u></p> <p>Reference:</p> <ul style="list-style-type: none">- <i>Specify reference material associated with or supporting this metric.</i>

Measures:

- *Identify specific measures that support the stated metric.*
- *Ensure the specific measures are quantitative and measurable.*
- *Consider time or duration as a measure.*

Sample Set Information:

- *Specify minimum and optimum number of data points to fully conduct analysis including variance, trends and potential risks.*

Functional Area Correlation:

- *Identify other functional areas involved in the data collection and analysis of the specific metric.*

6) Data Collection:

Methodology:

- *Identify the sources of the data to be collected, including the locations or sites and individuals or organizations involved in the collection activities.*
- *Specify how the data is captured and documented.*
- *Identify any known limitations or constraints associated with the data collection.*

Sample Data:

- *Specify the data element and the format of the data collected (i.e., calendar days vs. work days)*

Interval of collection:

- *Specify the interval or frequency that the data is to be collected for each measure.*

Threshold/objective development:

- *Specify the threshold and objective attributes that are consistent with the metric and measures.*

Data Collection & Analysis Roles/Responsibilities:

- *Specify all organizational elements required for comprehensive collection and analysis (functional area and cross-functional area).*

Who is involved in the data collection?

Who is required for the data analysis?

Form F2 “Adjudicate Metric” and “Validate/Format Reworked Metric”

Metric Coordination Across Functional Areas:

- **Present the proposed metric to MAWG and examine/revise appropriately for threshold and objectives attributes and data and analysis methodology.**

Consider the following questions for guidance:

- *How is the CDP development process impacted?*
- *What other branches and processes are impacted?*
- *How is the NECC end-to-end process impacted?*
- *What are the risks associated with this metric?*

Metric Data Analysis Process
MAWG Steps 2 - 3

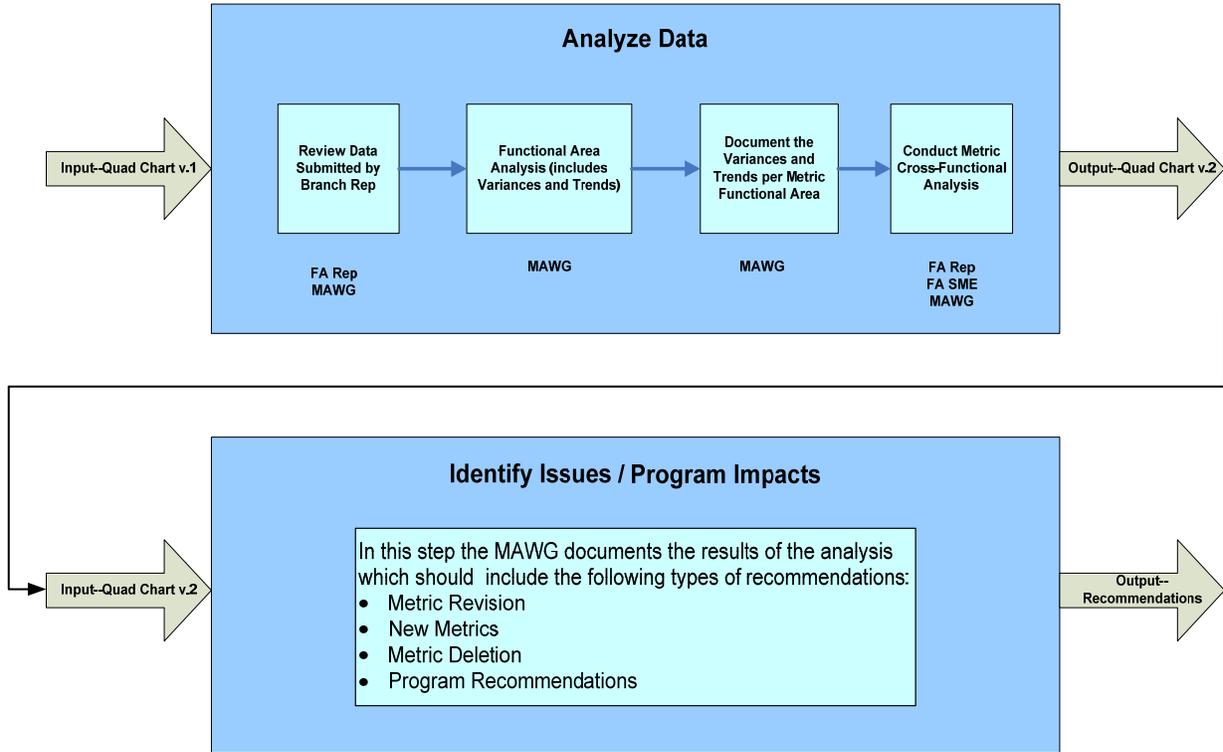
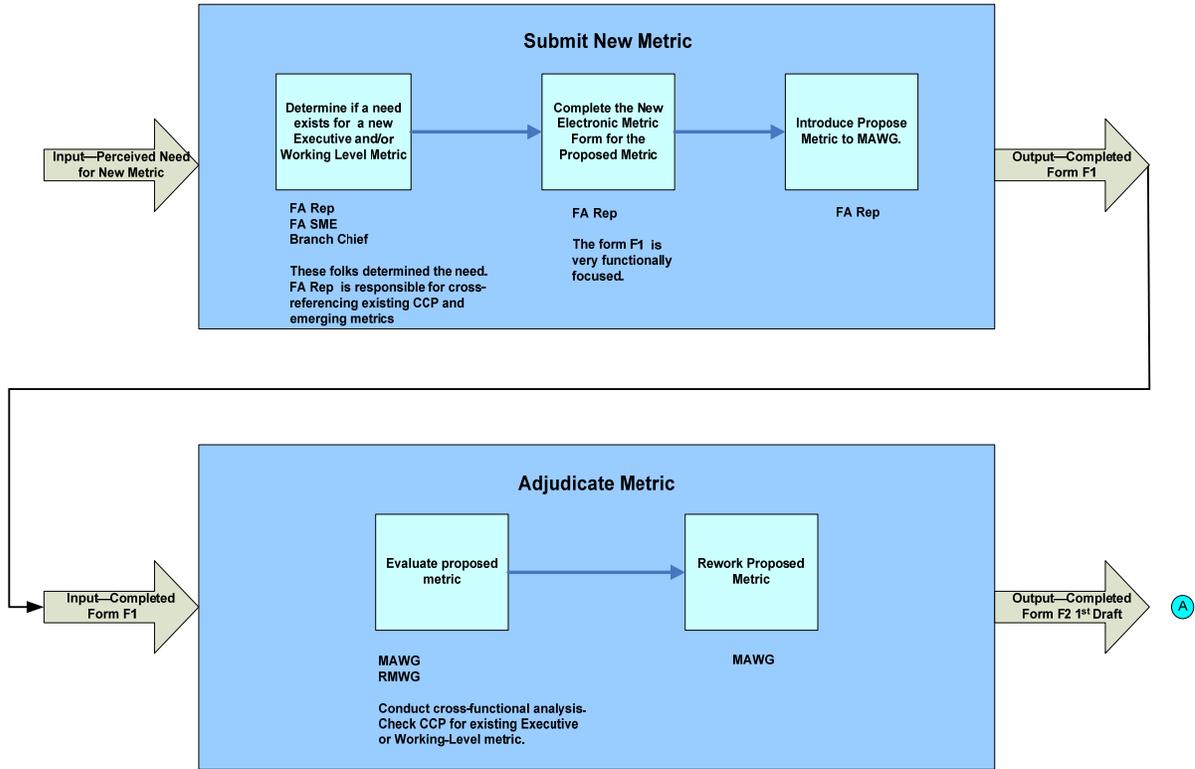


Figure 5: Metric Data Analysis Process MAWG Steps 2-3

Note: The figure above represents the dark blue boxes in Figure 2, Section 4.3.2, page 8

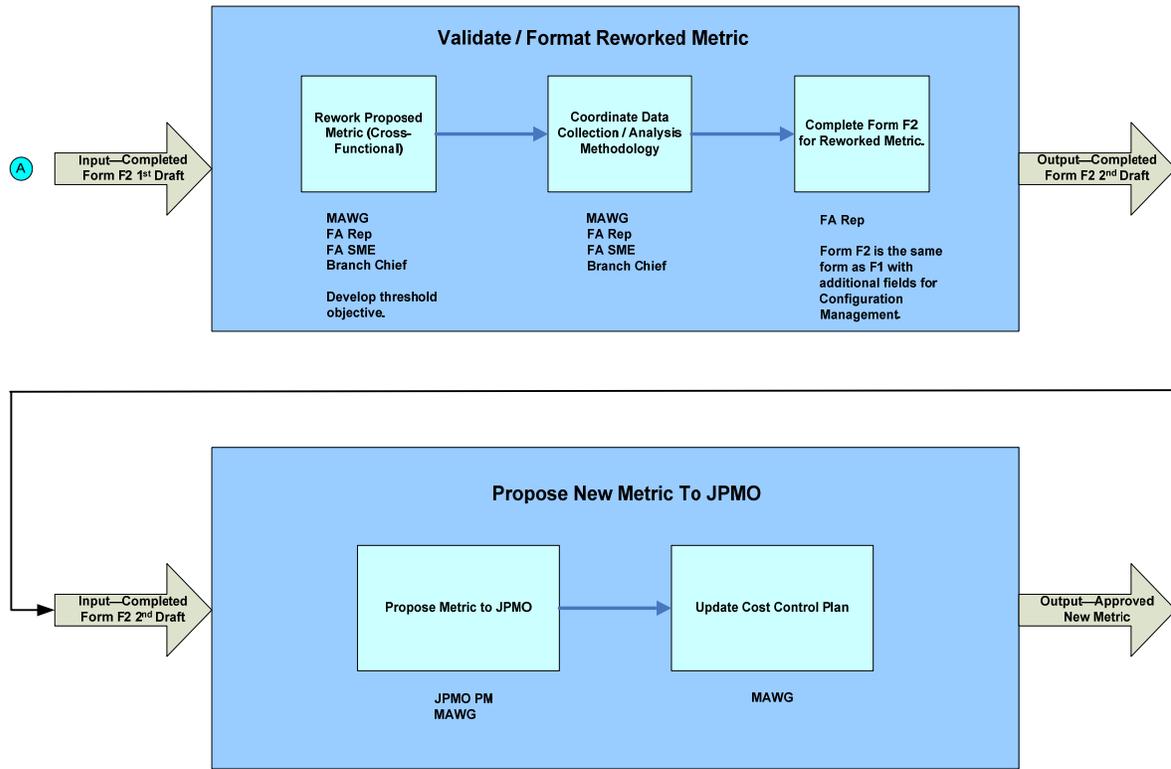
Metric Analysis Working Group Process



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Figure 6: Metric Analysis Working Group Process

Metric Analysis Working Group Process (Continued)



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Figure 7: Metric Analysis Working Group Process (Continued)

APPENDIX G: SOFTWARE METRICS

Software Development Metrics		
	Jan-00	Feb-00

Estimated SLOC & Associated Labor Hours (by month)	SLOC	Labor Hrs	SLOC	Labor Hrs

Actual SLOC Production (by month)	Type		SLOC	SLOC
	New	Cur	0	0
		Cum	0	0
	Modified	Cur	0	0
		Cum	0	0
	Re-hosted	Cur	0	0
		Cum	0	0
	Translated	Cur	0	0
		Cum	0	0
	Deleted	Cur	0	0
		Cum	0	0
	Verbatim	Cur	0	0
		Cum	0	0
	COTS Integrated	Cur	0	0
		Cum	0	0
	Auto-Generated	Cur	0	0
		Cum	0	0
	Total SLOC	Cur	0	0
		Cum	0	0

Actual Labor Hours (by month)	Cur	0	0
	Cum	0	0

Staffing Level (FTE)			
	Estimated	0.00	0.00
	Actual	0.00	0.00

Fixed Defects (Software Trouble Reports)			
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UNCLASSIFIED

Priority 1	Cur	0	0
	Cum	0	0
Priority 2	Cur	0	0
	Cum	0	0
Priority 3	Cur	0	0
	Cum	0	0
Priority 4	Cur	0	0
	Cum	0	0
Priority 5	Cur	0	0
	Cum	0	0
Total Defects	Cur	0	0
	Cum	0	0

Deferred/Rejected Defects (Software Trouble Reports)			
Priority 1	Cur	0	0
	Cum	0	0
Priority 2	Cur	0	0
	Cum	0	0
Priority 3	Cur	0	0
	Cum	0	0
Priority 4	Cur	0	0
	Cum	0	0
Priority 5	Cur	0	0
	Cum	0	0
Total Defects	Cur	0	0
	Cum	0	0

Accepted Software Change Proposals		Within Scope	Out of Scope	Within Scope	Out of Scope
Priority 1	Cur	0	0	0	
	Cum	0	0	0	0
Priority 2	Cur	0		0	
	Cum	0	0	0	0
Priority 3	Cur	0		0	
	Cum	0	0	0	0
Priority 4	Cur	0		0	
	Cum	0	0	0	0
Priority 5	Cur	0		0	
	Cum	0	0	0	0
Total SCPs	Cur	0	0	0	0
	Cum	0	0	0	0

UNCLASSIFIED

Deferred/Rejected S/W Change Proposals			Within Scope	Out of Scope	Within Scope	Out of Scope
Priority 1	Cur		0	0	0	
	Cum		0	0	0	0
Priority 2	Cur		0		0	
	Cum		0	0	0	0
Priority 3	Cur		0		0	
	Cum		0	0	0	0
Priority 4	Cur		0		0	
	Cum		0	0	0	0
Priority 5	Cur		0		0	
	Cum		0	0	0	0
Total SCPs	Cur		0	0	0	0
	Cum		0	0	0	0

Milestone	Orig WP Planned Date	Planned Date	Forecast Date	Actual Date
<i>Initial Baseline Review</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>PDR</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>CDR</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>FDCE Registration</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>DTRR</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>DT</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>Entry into Dev Piloting</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>Entry into Ops Piloting</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>OTRR</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>OT</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]
<i>FDR</i>	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]	[MM/DD/YY]

<i>PRIMARY DEVELOPER CONTRACT/TASK</i>	
Start Date:	01/00/00
End Date:	01/00/00

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APPENDIX H: WORK BREAKDOWN STRUCTURE

1.							NECC Increment 1
1.	1.						Program Management
1.	1.	1.					PEO
1.	1.	2.					JPMO
1.	1.	3.					Army CPMO
1.	1.	4.					Navy CPMO
1.	1.	5.					Air Force CPMO
1.	1.	6.					USMC CPMO
1.	1.	7.					DISA CPMO
1.	1.	8.					MDA CPMO
1.	1.	9.					DNI CPMO
1.	2.						Systems Engineering
1.	2.	1.					SE Management
1.	2.	1.	1.				JPMO
1.	2.	1.	2.				Army CPMO
1.	2.	1.	3.				Navy CPMO
1.	2.	1.	4.				Air Force CPMO
1.	2.	1.	5.				USMC CPMO
1.	2.	1.	6.				DISA CPMO
1.	2.	1.	7.				MDA CPMO
1.	2.	1.	8.				DNI CPMO
1.	2.	2.					Architecture and Design
1.	2.	2.	1.				JPMO
1.	2.	2.	2.				Army CPMO
1.	2.	2.	3.				Navy CPMO
1.	2.	2.	4.				Air Force CPMO
1.	2.	2.	5.				USMC CPMO
1.	2.	2.	6.				DISA CPMO
1.	2.	2.	7.				MDA CPMO
1.	2.	2.	8.				DNI CPMO
1.	2.	3.					IA C&A Process
1.	2.	3.	1.				JPMO
1.	2.	3.	2.				Army CPMO
1.	2.	3.	3.				Navy CPMO
1.	2.	3.	4.				Air Force CPMO
1.	2.	3.	5.				USMC CPMO
1.	2.	3.	6.				DISA CPMO
1.	2.	3.	7.				MDA CPMO
1.	2.	3.	8.				DNI CPMO
1.	2.	4.					CDP Engineering
1.	2.	4.	1.				Mission Process Engineering (SEP 2)
1.	2.	4.	2.				Functional Analysis and Design Engineering (SEP 3)
1.	2.	4.	3.				Allocated Baseline Engineering (SEP 4)
1.	2.	4.	4.				Cross-CDP Functional Analysis (SEP 5)
1.	2.	4.	5.				Work Package Development (SEP 6)
1.	2.	5.					Integration and Transition Support
1.	2.	5.	1.				JPMO
1.	2.	5.	2.				Army CPMO
1.	2.	5.	3.				Navy CPMO
1.	2.	5.	4.				Air Force CPMO
1.	2.	5.	5.				USMC CPMO
1.	2.	5.	6.				DISA CPMO
1.	2.	5.	7.				MDA CPMO
1.	2.	5.	8.				DNI CPMO
1.	2.	6.					FDCI
1.	2.	6.	1.				Hardware
1.	2.	6.	1.	1.			JPMO
1.	2.	6.	1.	2.			Army CPMO
1.	2.	6.	1.	3.			Navy CPMO
1.	2.	6.	1.	4.			Air Force CPMO
1.	2.	6.	1.	5.			USMC CPMO
1.	2.	6.	1.	6.			DISA CPMO
1.	2.	6.	1.	7.			MDA CPMO
1.	2.	6.	1.	8.			DNI CPMO
1.	2.	6.	2.				COTS Software
1.	2.	6.	2.	1.			JPMO
1.	2.	6.	2.	2.			Army CPMO
1.	2.	6.	2.	3.			Navy CPMO
1.	2.	6.	2.	4.			Air Force CPMO
1.	2.	6.	2.	5.			USMC CPMO
1.	2.	6.	2.	6.			DISA CPMO
1.	2.	6.	2.	7.			MDA CPMO
1.	2.	6.	2.	8.			DNI CPMO
1.	2.	6.	3.				Developed Software
1.	3.						Prime Mission Product

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1.	6.	1.	5.	1.			FDCE
1.	6.	1.	5.	2.			JTOCC
1.	6.	2.					Training Services
1.	6.	2.	1.				TTT/JDTC
1.	6.	2.	2.				Mobile Training Teams
1.	6.	2.	2.	1.			Army CPMO
1.	6.	2.	2.	2.			Navy CPMO
1.	6.	2.	2.	3.			Air Force CPMO
1.	6.	2.	2.	4.			USMC CPMO
1.	6.	2.	2.	5.			DISA CPMO
1.	6.	2.	2.	6.			MDA CPMO
1.	6.	2.	2.	7.			DNI CPMO
1.	6.	2.	3.				Classroom Instruction
1.	6.	2.	3.	1.			Army CPMO
1.	6.	2.	3.	2.			Navy CPMO
1.	6.	2.	3.	3.			Air Force CPMO
1.	6.	2.	3.	4.			USMC CPMO
1.	6.	2.	3.	5.			DISA CPMO
1.	6.	2.	3.	6.			MDA CPMO
1.	6.	2.	3.	7.			DNI CPMO
1.	6.	2.	4.				JKDDC Hosting
1.	6.	3.					Training Mgmt Execution Infrastructure
1.	6.	3.	1.				JPMO
1.	6.	3.	1.	1.			EPSS
1.	6.	3.	1.	2.			Training Enterprise Node
1.	6.	3.	1.	2.	1.		LVC Gateway
1.	6.	3.	1.	2.	2.		Embedded Scenario Generation
1.	6.	3.	1.	2.	3.		Enterprise Hosting
1.	6.	3.	2.				Army CPMO
1.	6.	3.	3.				Navy CPMO
1.	6.	3.	4.				Air Force CPMO
1.	6.	3.	5.				USMC CPMO
1.	6.	3.	6.				DISA CPMO
1.	6.	3.	7.				MDA CPMO
1.	6.	3.	8.				DNI CPMO
1.	6.	4.					CM Hosting and Sustainment
1.	6.	4.	N				CM #N H&S Work Package
1.	6.	4.	N	M			Spiral #N
1.	6.	5.					HW Refresh
1.	6.	5.	1.				Army CPMO
1.	6.	5.	2.				Navy CPMO
1.	6.	5.	3.				Air Force CPMO
1.	6.	5.	4.				USMC CPMO
1.	6.	5.	5.				DISA CPMO
1.	6.	5.	6.				MDA CPMO
1.	6.	5.	7.				DNI CPMO
1.	6.	6.					COTS License Renewal
1.	6.	6.	2.				Army CPMO
1.	6.	6.	3.				Navy CPMO
1.	6.	6.	4.				Air Force CPMO
1.	6.	6.	5.				USMC CPMO
1.	6.	6.	6.				DISA CPMO
1.	6.	6.	7.				MDA CPMO
1.	6.	6.	8.				DNI CPMO
1.	7.						Data
1.	7.	1.					System Documentation
1.	7.	2.					Data Maintenance

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1.	3.	1.						Capability Module Production
1.	3.	1.	N					CM #N Development Work Package (SEP 7)
1.	3.	1.	N	M				Spiral #N
1.	3.	1.	N	M	1.			Program Management
1.	3.	1.	N	M	2.			Systems Engineering
1.	3.	1.	N	M	3.			SW Development
1.	3.	1.	N	M	4.			Engineering Documentation
1.	3.	1.	N	M	5.			Training Development
1.	3.	1.	N	M	6.			Information Assurance Certification & Accreditation
1.	3.	1.	N	M	7.			Operations and Maintenance (Hosting)
1.	3.	1.	N	M	8.			Integration and Technical Piloting
1.	3.	1.	N	M	9.			Test and Certification
1.	3.	1.	N	M	10.			Initial COTS Licensing
1.	4.							Piloting, Test, and Evaluation
1.	4.	1.						Integration and Technology Piloting (SEP 8)
1.	4.	1.	1.					CPAs Events
1.	4.	1.	1.	1.				OCE
1.	4.	1.	1.	2.				CPE
1.	4.	1.	1.	3.				UFP
1.	4.	2.						Test and Evaluation (SEP 8)
1.	4.	2.	1.					TEMP/ANNEX Production
1.	4.	2.	2.					Development Test and Evaluation
1.	4.	2.	3.					Operational Test and Evaluation
1.	4.	2.	4.					Initial Operational Test and Evaluation
1.	5.							Fielding and Implementation
1.	5.	1.						Site Activation and Facilities Preparation
1.	5.	1.	1.					Army CPMO
1.	5.	1.	2.					Navy CPMO
1.	5.	1.	3.					Air Force CPMO
1.	5.	1.	4.					USMC CPMO
1.	5.	1.	5.					DISA CPMO
1.	5.	1.	6.					MDA CPMO
1.	5.	1.	7.					DNI CPMO
1.	5.	2.						Deployed Hardware
1.	5.	2.	1.					Army CPMO
1.	5.	2.	2.					Navy CPMO
1.	5.	2.	3.					Air Force CPMO
1.	5.	2.	4.					USMC CPMO
1.	5.	2.	5.					DISA CPMO
1.	5.	2.	6.					MDA CPMO
1.	5.	2.	7.					DNI CPMO
1.	5.	3.						Deployed COTS Software
1.	5.	3.	1.					Army CPMO
1.	5.	3.	2.					Navy CPMO
1.	5.	3.	3.					Air Force CPMO
1.	5.	3.	4.					USMC CPMO
1.	5.	3.	5.					DISA CPMO
1.	5.	3.	6.					MDA CPMO
1.	5.	3.	7.					DNI CPMO
1.	6.							Technical Operations and Support
1.	6.	1.						Infrastructure Operations and Support
1.	6.	1.	1.					JTOCC Operations
1.	6.	1.	1.	1.				Service Provisioning
1.	6.	1.	1.	1.	1.			Configuration Management
1.	6.	1.	1.	1.	2.			Release Management
1.	6.	1.	1.	1.	3.			Change Management
1.	6.	1.	1.	2.				Service Desk
1.	6.	1.	1.	2.	1.			Tier 1 Service Desk Ops and Support
1.	6.	1.	1.	2.	1.			Tier 2 Service Desk Ops and Support
1.	6.	1.	1.	2.	1.			Tier 3 Service Desk Ops and Support
1.	6.	1.	1.	3.				Service Monitoring and Management
1.	6.	1.	2.					FDCE Operations
1.	6.	1.	2.	1.				JPMO
1.	6.	1.	2.	2.				Army CPMO
1.	6.	1.	2.	3.				Navy CPMO
1.	6.	1.	2.	4.				Air Force CPMO
1.	6.	1.	2.	5.				USMC CPMO
1.	6.	1.	2.	6.				DISA CPMO
1.	6.	1.	2.	7.				MDA CPMO
1.	6.	1.	2.	8.				DNI CPMO
1.	6.	1.	3.					Enterprise Hosting
1.	6.	1.	3.	1.				Back-Office Hosting
1.	6.	1.	3.	2.				CM Hosting
1.	6.	1.	4.					Software License Renewal
1.	6.	1.	5.					Tech Refresh

APPENDIX I: ACRONYMS

Acronym	Definition
ACAT	Acquisition Category
AS	Acquisition Strategy
AT&L	Acquisition Technology and Logistics
C2	Command and Control
C2C	Command and Control Capability
CAIG	Cost Analysis Improvement Group
CCP	Cost Control Plan
CDD	Capability Development Document
CDP	Capability Definition Package
CDR	Critical Design Review
CFE	Chief Financial Executive
CM	Capability Modules
COTS	Commercial-off-the-Shelf
CP	Capability Package
CPAS	Capability Provisioning Activities
CPE	Capability Provisioning Event
CPM	Component Program Manager
CPMO	Component Program Management Office
CWBS	Contract Work Breakdown Structure
DAES	Defense Acquisition Executive Summary
DCARC	Defense Cost and Resource Center
DCNROQ	Data Collected Not Reported on Quad
DCROQ	Data Collected Reported on Quad

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Acronym	Definition
DISA	Defense Information Systems Agency
DKO	Defense Knowledge Online
DoD	Department of Defense
DTP	Detailed Test Plan
DTRR	Development Test Readiness Review
DWP	Draft Work Package
EPSS	Electronic Performance Support System
EV	Earned Value
EVM	Earned Value Management
EVMS	Earned Value Management Systems
FDCE	Federated Development and Certification Environment
FDR	Fielding Decision Review
GCN	GIG Computing Node
GIG	Global Information Grid
IA	Information Assurance
IBR	Integrated Baseline Review
IDIQ	Indefinite Delivery/Indefinite Quantity
IEEE	Institute of Electrical and Electronic Engineers
ILS	Integrated Logistic Support
IMS	Integrated Master Schedule
JCCD	Joint Combat Capability Development
JMOS	Joint Management Oversight System
JPEO	Joint Program Executive Office
JPM	Joint Program Manager
JPMO	Joint Program Management Office

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Acronym	Definition
JTOCC	Joint Technical Operations Control Capability
LOE	Level-of-Effort
LSI	Lead System Integrator
MAIS	Major Automated Information System
MAWG	Metrics Analysis Working Group
MCA	Mission Capability Area
MDA	Milestone Decision Authority
MDAP	Major Defense Acquisition Program
MIPR	Military Interdepartmental Purchase Request
MOE	Measure of Effectiveness
MOS	Measure of Suitability
NCTD	No Change To Data
NDTR	No Data To Report
NECC	Net-Enabled Command Capability
NIPRNet	Unclassified but Sensitive Internet Protocol Router Network
NR KPP	Net-Ready Key Performance Parameters
OCE	Operational Capability Event
OIPT	Overarching Integrated Product Team
OSD	Office of the Secretary of Defense
PA&E	Program Analysis and Evaluation
PEO	Program Executive Office
PM	Program Manager
PMDT	Program Management Direction Team
R&P	Requirements and Planning
RALOT	Risk Assessment Level of Test

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Acronym	Definition
RFP	Request for Proposal
RMB	Risk Management Board
RMP	Risk Management Plan
S/W	Software
SAR	Selected Acquisition Report
SCORM	Shareable Content Object Reference Model
SDD	System Development and Demonstration
SE	System Engineering
SEP	Systems Engineering Plan
SIPRNet	Secret Internet Protocol Router Network; Secure Internet Protocol Router Network
SLA	Service Level Agreement
SLOC	Source Lines of Code
SME	Subject Matter Expert
SOA	Service Oriented Architecture
T&E	Test and Evaluation
TD	Technology Development
TE&P	Test, Evaluation, and Piloting
TECC	Test, Evaluation and Certification Criteria
TEMP	Test and Evaluation Master Plan
TO	Task Order
UFP	User Free Play
WBS	Work Breakdown Structure

APPENDIX J: REFERENCED DOCUMENTS

- Net-Enabled Command Capability (NECC) Configuration Management Plan (CMP), version 2.0, 2 July 2008
- Net-Enabled Command Capability (NECC) Risk Management Plan (RMP), version 1.0.3, 02 November 2007
- Net-Enabled Command Capability (NECC) Systems Engineering Plan (SEP), version 1.0, 9 August 2007, URL: <https://www.us.army.mil/suite/page/491726>
- NECC Increment 1 Milestone B Acquisition Strategy (AS), v1.0, 27 May 2008, URL: <https://www.us.army.mil/suite/page/491726>
- CDD Change 1 Annex, 20 June 2008

APPENDIX K: REPORTING PROCESS SUMMARY**Table 1: Earned Value Reporting Process**

Deliverable	From	To	Due	Reporting Format
Vendor EV Data	Vendor	CPMO Program Control	10 th of each month	Determined by CPMO PC
CPMO EV Report	CPMO Program Control	JPMO Program Control	15 th of each month	EV/Metric Reporting Template (Fig. 3)

Table 2: Metric Reporting Process

Deliverable	From	To	Due	Reporting Format
Software Development Metric Report	Software Developer	CPMO Program Control	10 th of each month	Determined by CPMO PC
CPMO Metric Report	CPMO Program Control	JPMO Program Control	15 th of each month	CM Status Reporting Template (Fig. 4)

Table 3: Cost Control Report Process

Deliverable	From	To	Due	Reporting Format
Cost Control Report	JPMO Program Control	JPMO PM	4th Thursday of every month	Presentation

Note: IBR's are held on an ongoing basis

APPENDIX L: CPMO MS AND DELIVERABLE

Milestone/ Event	EVM Method	Deliverable / Task Description
Program Management (PM)	LOE	Deliverable / Task Description
PM		Contractor Monthly/Weekly Status Reports
PM		Program Management Oversight
PM		Programmatic Risks: Start + 1 month, monthly updates
PM		EVM Monthly Metrics per Cost Control Plan
PM		EVM: Monthly reporting
PM		Deviation: As required
PM		Status/Updates to Current Detail Schedule of CM Activities
PM		Provide regular status updates to the NECC FDCE performance "dashboard"
PM		Technical Interchange Meetings
Initial Baseline Review (IBR)	0 / 100	Deliverable / Task Description
IBR		Spiral Allocated CM Specification: Update at IBR, PDR, CDR, and Tests
IBR		Baseline Schedule
Preliminary Design Review (PDR)	0 / 100	Deliverable / Task Description
PDR		Logical Architecture: Initial Start +1month, updates at start of Dev & Ops Piloting
PDR		Physical Architecture: Initial Start +1 month, update at start of Dev & Ops Piloting
PDR		CM Spec Change Recommendations (as required to ERB)
PDR		Spiral Allocated CM Specification: Update at IBR, PDR, CDR, and Tests
PDR		Hosting Strategy: Start +1month, update at start of Ops Piloting
PDR		CM Draft TRL Evaluation Report
PDR		Draft Technology Maturity Plan (as required)
PDR		Draft System Identification Profile (SIP)
PDR		Draft Interface Design Description (IDD)
PDR		Draft Software Design Description (SDD)
PDR		Draft DIACAP Implementation Plan (DIP)
Critical Design Review (CDR)	0 / 100	Deliverable / Task Description
CDR		CM Spec Change Recommendations (as required to ERB),
CDR		Spiral Allocated CM Specification: Update at IBR, PDR, CDR, and Tests
CDR		Hosting Strategy: Start +1month, update at start of Ops Piloting

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Milestone/ Event	EVM Method	Deliverable / Task Description
Program Management (PM)	LOE	Deliverable / Task Description
CDR		Hosting Sustainment Plan
CDR		Hosting SLA Specification: by CDR for Dev Pilot and Op Pilot
CDR		Hosting Terms of Use Specification: by CDR
CDR		CM Final TRL Evaluation Report
CDR		Final Technology Maturity Plan (as required)
CDR		Final TECC
CDR		Back Office Requirements
CDR		Hosting & Sustainment Costs
CDR		Final System Identification Profile (SIP)
CDR		Final DIACAP Implementation Plan (DIP)
CDR		Piloting Strategy Document
CDR		Piloting Infrastructure Plan
CDR		CM IA Self-Assessment Plan
CDR		Hosting Sustainment Plan
CDR		Final Interface Design Description (IDD)
CDR		Final Software Design Description (SDD)
CDR		Hosting Terms of Use Specification: by CDR
FDCE Registration	0 / 100	Deliverable / Task Description
FDCE Registration		Mitigation Plan
FDCE Registration		Updated PSP Appendixes and the SLA for this CM to include all ILS requirements necessary to support this CM
FDCE Registration		Pre-Deployment Checklist
Development Testing Readiness Review (DTRR)	0 / 100	Deliverable / Task Description
DTRR		Test Readiness Reviews
DTRR		Test Plan Documentation
DTRR		CPAS (UFP/CPE/OCE) Planning Documentation
DTRR		IA Readiness Review
DTRR		IATT or IATO
DTRR		List of applicable security configuration guides for the CM
DTRR		NetOps Readiness Review
DTRR		Deliver Software End Items
DTRR		Version Description Document (VDD)
DTRR		PSP Appendixes and the SLA for this CM to include all ILS requirements necessary to support this CM

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Milestone/ Event	EVM Method	Deliverable / Task Description
Program Management (PM)	LOE	Deliverable / Task Description
DTRR		Request for Deviation
DTRR		Test Procedure And Report
DTRR		Software Quality Assurance Report
DTRR		Administration Manual (as required)
DTRR		CM IA POA&M
DTRR		Draft Training Plan
DTRR		Draft Training Instructional Content
DTRR		Draft Training Support Package
DTRR		Draft Training Hosted on LMS
Development Testing (DT)	0 / 100	Deliverable / Task Description
DT		Spiral Allocated CM Specification: Update at IBR, PDR, CDR, and Tests
DT		Create Deficiency reports - initiate tracking of corrective actions for architecture requirements not met, and as incidents occur during developmental and operational testing.
DT		Software Maintenance – licenses, warranties, patches, etc.
DT		TECC Assertions
DT		TECC Evidence
DT		Developmental Testing Documentation
DT		CPAS (UFP/CPE/OCE) Conduct, Assessment and Reports
DT		Test Execution Report
Entry into Dev Piloting	0 / 100	Deliverable / Task Description
Entry into Dev Piloting		Logical Architecture (Update)
Entry into Dev Piloting		Physical Architecture (Update)
Entry into Dev Piloting		Hosting SLA Specification
Entry into Ops Piloting	0 / 100	Deliverable / Task Description
Entry into Ops Piloting		Logical Architecture (Update)
Entry into Ops Piloting		Physical Architecture (Update)
Entry into Ops Piloting		Hosting Strategy (Update)
Entry into Ops Piloting		Hosting SLA Specification
Entry into Ops Piloting		Final Training Plan
Entry into Ops Piloting		Final Training Instructional Content
Entry into Ops Piloting		Final Training Support Package
Entry into Ops Piloting		Final Training Hosted on LMS
Entry into Ops Piloting		Technical Data - record information used to define a design and to produce, support, maintain, or operate the system - is critical to the life-cycle sustainment of any system

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Milestone/ Event	EVM Method	Deliverable / Task Description
Program Management (PM)	LOE	Deliverable / Task Description
Operational Test Readiness Review (OTRR)	0 / 100	Deliverable / Task Description
OTRR		Test Readiness Reviews
OTRR		Provide Tier 2 and Tier 3 Service Desk
OTRR		Test Plan Documentation
OTRR		Operational Testing Documentation
OTRR		Deliver Software End Items
OTRR		Version Description Document (VDD)
OTRR		Administration Manual (as required)
OTRR		CPAS (UFP/CPE/OCE) Planning Documentation
OTRR		Software Maintenance – licenses, warranties, patches, etc.
OTRR		Final Updated PSP Appendixes and the SLA for this CM to include all ILS requirements necessary to support this CM
OTRR		Technical Data - record information used to define a design and to produce, support, maintain, or operate the system - is critical to the life-cycle sustainment of any system
Operational Test (OT)	0 / 100	Deliverable / Task Description
OT		Spiral Allocated CM Specification: Update at IBR, PDR, CDR, and Tests
OT		Create Deficiency reports - initiate tracking of corrective actions for architecture requirements not met, and as incidents occur during developmental and operational testing.
OT		Software Maintenance – licenses, warranties, patches, etc.
OT		TECC Assertions
OT		TECC Evidence
OT		CPAS (UFP/CPE/OCE) Conduct, Assessment and Reports
OT		JTOCC Execution Plan Deliverables
OT		JITC Interoperability Assessment
OT		Test Execution Report
OT		Draft Service Level Agreement (SLA)
OT		Service Implementation Plan
Fielding Decision Review (FDR)	0 / 100	Deliverable / Task Description
FDR		Deliver Final Software End Items