

Request for Demonstration:

COTS Maintenance/Logistics Planning Application Solutions

Requested By:

Carrier Planning Activity (CPA)

Submarine Maintenance Engineering Planning and Procurement Activity (SUBMEPP)

Surface Maintenance Engineering Planning Program (SURFMEPP)

Background: The three Naval lifecycle maintenance planning activities, which consist of Carrier Planning Activity (CPA), Submarine Maintenance Engineering Planning and Procurement Activity (SUBMEPP), and Surface Maintenance Engineering Planning Program (SURFMEPP), are responsible for all U.S. Naval lifecycle maintenance planning. The three Naval lifecycle maintenance planning activities are interested in technically refreshing their Naval lifecycle maintenance planning application by replacing it with a commercial off the shelf (COTS) maintenance/logistics planning application that provides equivalent capabilities.

To this end, the three Naval lifecycle maintenance planning activities would like vendors of COTS maintenance/logistics planning applications to provide a demonstration of their product using the enclosed examples as a framework. These examples are designed to allow vendors to illustrate how their application would address operations considered essential to naval lifecycle maintenance planning.

A separate Request for Proposal (RFP) may be issued at a later time to solicit proposals on a new COTS maintenance/logistics lifecycle maintenance planning application. The demonstration will be organized as follows:

- 1) Introduction, Purpose & Attachments**
- 2) Import a Sample Equipment Configuration File & Platform (Ship) Schedule**
- 3) Create a New Maintenance Requirement (ex.: Sprinkler Assessment)**
 - a. Schedule automatically based on periodicity and platform schedule (*see instruction 3.4 and 3.6*)
 - b. Change ship availability schedule and reschedule maintenance automatically (*see instruction 3.8*)
 - c. Add additional periodicity and reschedule automatically (i.e., 26M and each maintenance availability) (*see instruction 3.7*)
 - d. Manually change schedule for equipment/component and ensure manually scheduled jobs are unaffected (*see instruction 4.3*)
 - e. Make a one-time periodicity change (*see instruction 4.4*)
- 4) Create New Tank Maintenance Requirements (*see instruction 4.2*)**
 - a. Establish relationships between requirements (*see instruction 4.2*)
 - i. Mandatory
 - ii. Superseded
 - iii. Desirable
 - iv. Exclusive
- 5) Create a Maintenance Work Package (*see instruction 5.1*)**
 - a. Define a work package for a maintenance availability (*see instruction 5.1*)
 - b. Deliver a work package in various formats (*see instruction 5.3*)

NOTE: Each demonstration is expected to be completed in no more than four hours. If you choose to provide a demonstration and find that some portion of it cannot be accomplished by your application, then please notify us prior to your scheduled demonstration date.

Section 1: Introduction, Purpose & Attachments

TOPIC	EXPLANATION
Introduction:	The three maintenance planning activities will introduce their key personnel. The vendor should provide an overview of the application.
Purpose:	The purpose of this meeting will be to demonstrate the capabilities of the vendor's application relative to Naval maintenance planning. Additionally, this meeting will provide a more detailed understanding of available COTS applications to the 3 maintenance planning activities. NOTE: Any changes, additions, and/or alterations that were made to the basic "out-of-the-box" application must be explained.
Attachments:	The following information will be provided by the Government for use in this demonstration: 1) Sample equipment configuration file 2) A sample platform maintenance availability schedule (*referred to in this document as platform schedule) 3) Cross reference of naval/commercial terminology

Section 2: Import the Sample Equipment Configuration File & Platform Schedule

TOPIC	EXPLANATION	
Purpose:	Establish the equipment configuration and information necessary to run subsequent examples. Pre-populated data and platform schedule from the Government is preferred; however similar data and schedules provided by the vendor are also acceptable. This information will be used for all examples.	
Example:	Attached file	
Actor:	System User	
Data Provided:	This example involves data from the sample configuration file and the platform schedule.	
Assumptions:	N/A	
Capabilities:	This example demonstrates the following capabilities: <ul style="list-style-type: none"> • Equipment Configuration interfaces • Change management (tracks adds, changes, deletions, etc.) 	
INSTRUCTION	ACTIVITY	EXPECTED RESULT
2.1	Pre-configure the application based on the provided sample configuration file, or similar (provides new maintenance requirements with equipment configuration data to the application).	Basic equipment configuration is complete.
2.2	Show/explain the capabilities of your application to port/interface data in or out.	Multiple standard data formats supported.
2.3	Identify acceptable file formats.	A list of various file types.
2.3	Walk through application modules, navigation, screens, look and feel, etc.	Familiarization with application experience.

2.4	Review the data from the sample equipment configuration file, or vendor provided file, and the platform schedule.	Validation of appropriate equipment configuration and platform schedule data.
2.5	<p>Demonstrate methods used to maintain equipment configuration with actual deployed equipment configuration. Across the fleet of ships maintained by the planning activities, equipment is added, removed, and modified every day. These changes need to be reflected within the maintenance planning system daily, including the disposition of the associated attributes such as maintenance requirements and maintenance schedules. Demonstration to include:</p> <ul style="list-style-type: none"> • Add additional equipment configuration requirements to a component; • Change the equipment configuration attributes on a component; • Delete a component that is linked to an existing maintenance requirement with multiple other components. 	System will be able to identify and adjudicate differences.

Section 3: Create a New “Sprinkler Assessment” Maintenance Requirement

TOPIC	EXPLANATION
Purpose:	Demonstrate creation of a new maintenance requirement with various attributes and the ability to subsequently change.
Example:	<p>While at sea, an inspection on ship identified an issue with the fire suppression sprinklers on the aircraft carrier. The sprinklers were not working correctly due to a faulty valve and needed to be repaired immediately. The work was completed by Ships’ Force. Based on the identified maintenance issue, the program manager creates a new maintenance requirement to inspect the fire suppression sprinklers during every maintenance availability for all platforms with this component. The system needs to schedule the maintenance for all platforms with components linked to that maintenance over the life cycle of all related the platforms.</p> <p>Following a subsequent reliability-centered maintenance analysis, the program manager determines the maintenance requirement periodicity can be reduced from each availability to every 60 months. The application needs to reschedule the maintenance over the life cycles of all platforms with components linked to the maintenance.</p>
Actor:	User
Data Provided:	The examples involve data from the sample equipment configuration file and the platform schedule.
Assumptions:	N/A
Capabilities:	This example demonstrates the following capabilities:

	<ul style="list-style-type: none"> • Find a component in the sample configuration data. • Create a new maintenance requirement for that component (link it to platform components). • Schedule a maintenance requirement over the life cycle of the platforms with component linked to the requirement. • Re-schedule the maintenance requirement over the life cycle of the platforms with components linked to the requirement after its periodicity has been modified. 	
INSTRUCTION	ACTIVITY	EXPECTED RESULT
3.1	Navigate to the maintenance requirement module	Application presents screens to create a new maintenance requirement.
3.2	Search for the equipment/component in the supplied sample configuration data.	Component found and can be linked to the requirement being made.
3.3	<p>Create a new maintenance requirement with the following information, or similar:</p> <ul style="list-style-type: none"> • System ID - 12345 • System ID Description - Sprinkler Systems, Sea Water • Sequence Number – 1234 • FAC – J • Source Code – A1 • Nine Step Category – 1 • Title - Clean and Inspect Sea Water Sprinkler System • Description - A. Clean and inspect the Magazine Sprinkling Systems IAW NAVSEA XYZ. • Configuration – <ul style="list-style-type: none"> • CVN 68 • HSC 12345 / SPRINKLER SYS XSYSTEMITEM • Ship # / Ship Name / XYZ <ul style="list-style-type: none"> ▪ Maintenance Instruction Document - XYZ ▪ Maintenance Instruction Document Status – Issued ▪ Maintenance Instruction Document Type - TM ▪ Maintenance Requirement Origin - XYZ 	Creation of a new maintenance requirement to inspect the fire suppression sprinkler configuration within a platform.

	<ul style="list-style-type: none"> ▪ Maintenance Requirement Origin Version - 1 ▪ Work Center – XYZ ▪ Completion Date Override - N ▪ Corporate Planning Estimate – 20 man-days ▪ RPPY ID – Blank <ul style="list-style-type: none"> • Notional Life Cycle – None • Dry-Dock Indicator – N • Depot Availability Indicator – Y • Scheduling Indicator – Always • Location: All • Activity: All • Availability: All • Periodicity: None 	
3.4	Schedule maintenance over the life cycle of the ship taking into account the platform’s availability for maintenance (as provided in ship schedule). This maintenance should initially be scheduled in the next maintenance availability.	The platform’s maintenance is scheduled across its lifecycle.
3.5	Link another platform with the same fire suppression sprinkler to the maintenance requirement. Schedule maintenance over the life cycle of second platform, taking into account the platform’s availability for maintenance. This maintenance should initially be scheduled in the next maintenance availability.	The new ship’s maintenance is scheduled across the second platform’s lifecycle.
3.6	Change the scheduling criteria for the maintenance requirement to be accomplished at all dry-dock, maintenance availabilities. Show the effect of this change to the schedule.	The Platform Components linked to this Maintenance requirement will be re-scheduled to only maintenance availabilities that are tagged as dry-docking availabilities.
3.7	Change the scheduling criteria for the maintenance requirement to be accomplished at a specific periodicity, as follows: <ul style="list-style-type: none"> • Periodicity: 60M (every 60 months) has precedence over scheduling in every dry docking maintenance availability. Show the effect of this change to the schedule as close to 60M without going over 60M with the constraint of a dry-docking requirement being met.	Maintenance requirement for the linked platform components are re-scheduled into a dry-docking maintenance availability that occurs on or before every 60 months in the platform’s life cycles.

3.8	Demonstrate the ability to set multiple scheduling criteria for a requirement (i.e., must be performed every 26M and every maintenance availability.)	Scheduling flexibility is demonstrated.
3.9	Demonstrate the ability to re-schedule maintenance over the lifecycle when dates for a specific maintenance availability change.	Maintenance requirements will be re-scheduled accordingly across the platform's life cycle.

Section 4: Create New "Tank" Maintenance Requirements

TOPIC	EXPLANATION	
Purpose:	Demonstrate creation of a series of new maintenance requirements with various relationships and the ability to subsequently change.	
Example:	While in a maintenance availability a ship has tank work that needs to be accomplished. Using the sample equipment configuration data that was provided for tanks, create relationships between maintenance requirements that must be performed on the tanks.	
Actor:	User	
Data Provided:	This example involves data from the sample equipment configuration file and the platform schedule.	
Assumptions:	N/A	
Capabilities:	<p>This example demonstrates the following capabilities:</p> <ul style="list-style-type: none"> • Ability to establish relationships between component maintenance <ul style="list-style-type: none"> • Creation of mandatory relationships (i.e., a requirement must be performed when another requirement is performed) • Creation of superseded relationships (i.e., a requirement does not need to be performed if another requirement is being performed) but will be given credit for accomplishment when the higher level requirement is reported complete. • Creation of desirable relationships (i.e., not technically required but makes good business sense to do so) • Creation of exclusive relationships (i.e., conflicting requirements that should never be performed together) • Show the platform component's maintenance requirement schedule assignment changes based on changing relationships. 	
INSTRUCTION	ACTIVITY	EXPECTED RESULT
4.1	Demonstrate navigation to the maintenance requirement module.	Application presents screens to create a new maintenance requirement.
4.2	Demonstrate 2 maintenance requirements that must be performed together (mandatory relationship) Demonstrate 2 maintenance requirements, one of which	Creation of new maintenance requirements with business rules that

TOPIC	EXPLANATION	
	<p>eliminates the need for the other to be performed (superseded relationship)</p> <p>Demonstrate 2 maintenance requirements that should be performed together because it makes business sense (no technical reason to do together) (desirable relationship)</p> <p>Demonstrate 2 maintenance requirements that should never be performed together (exclusive relationship)</p>	<p>support the various relationships.</p>
4.3	<p>Demonstrate the software's limitations when scheduling a requirement. This may include number of scheduling activities, type of calendar used (5 or 7 day/week), how far out can you schedule, automatic rescheduling, etc.</p>	
4.3	<p>Demonstrate manually scheduling the requirement in an availability; execute automatic scheduling function.</p> <p>Automatic scheduling function of the application will not change manually set scheduled requirements but will provide an alert message when there may be a conflict.</p>	<p>The parent requirements will be schedule for a specific availability.</p> <p>The child maintenance will schedule appropriately based on the type of relationship:</p> <p>Mandatory child will be brought into the specific availability also.</p> <p>Superseding child will be marked as superseded in the specific availability.</p> <p>Desirable child will be brought into the specific availability and marked as desired.</p> <p>Exclusive child will be marked as excluded in the specific availability.</p>

TOPIC	EXPLANATION	
4.4	Schedule one parent requirement for a one-time periodicity of 24M and all subsequent assignments will follow the planned periodicities to be 72M.	Maintenance requirement can be custom scheduled for a unique case and will then revert to the planned periodicity for the remainder of the life cycle.

Section 5: Create a Maintenance Work Package for a ship for its Next Availability

TOPIC	EXPLANATION	
Purpose:	Demonstrate creating a work package. The work package includes all activities and instructions to execute required (scheduled) maintenance.	
Example:	A ship is returning from service at sea after 6 months. It will be dry-docked for a year for depot level maintenance and modernization. The platform's crew would like to review the DRAFT maintenance work package that must be performed while in dry dock. An application user creates a DRAFT maintenance work package for the platform.	
Actor:	User	
Data Provided:	This example involves data from the sample equipment configuration file and the platform schedule after it is ported into the application and the requirements have been created and related in previous scenarios.	
Assumptions:		
Capabilities:	<p>This example demonstrates the following capabilities:</p> <ul style="list-style-type: none"> • Create a work package for a maintenance availability. • Make manual adds/changes/deletions to the DRAFT work package. • Demonstrate reports and output formats. 	
INSTRUCTION	ACTIVITY	EXPECTED RESULT
5.1	Demonstrate ability to produce the work package; maintain change management from that point on; change the start and end dates of the availability and observe effect. Based on start and end date of the availability the application needs to be able to adjust work in each availability based on maintenance requirement periodicity and other scheduling criteria.	Work package produced includes all requirements that are due to be executed in a given availability; revision history maintained; effects of changes to the start and end dates are identified in the work package.
5.2	Demonstrate ability to manually add/delete requirements to/from the work package. Show impact of changes.	The work package can be modified manually and change management is maintained.
5.3	Demonstrate report types and outputs. (e.g., external	All outputs available from

TOPIC	EXPLANATION	
	file formats, ad hoc and canned reports, Microsoft Office formats, HTML, etc.)	the application are identified.

Section 6: General Requirements & Features

Purpose:	Demonstrate general application requirements and features including: <ul style="list-style-type: none"> • Workflow • Events/notifications • Security • Reporting and analysis • Navigation through the system
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Appendix A: Terminology Reference Table

Term	Definition
Attribute	A characteristic of an Maintenance Requirement (MR). The Title, Description, and Periodicity are three examples of attributes.
Child	A MR that is related to a parent MR that when the parent MR is accomplished it takes credit for the child MR. Accomplishing the parent MR makes the child MR no longer due.
Equipment Configuration	Techical Data assigned to a specific component that describes its design and installed location.
Interface	An exchange of data from one system to another.
Life Cycle	The life-span of the platform from commissioning through decommissioning including definition of all opertational and maintenaince periods.
Maintenance and Modernization Work Package (MMWP)	A collection of scheduled MRs that fall due within a Maintenance Availability. The collection of MR's may be delivered to executing activities by hard copy report or interface.
Maintenance Availability	A specific period of time a platform is available for maintenance. Time could range from 1 day to extended periods and is normally expressed in Months of duration.
Maintenance Planning Activities	Submarines: Submarine Maintenance, Execution, Planning, and Procurement (SUBMEPP) Carriers: Carrier Planning Activity (CPA) Surface Ships: Surface Maintenance Engineering Planning Program (SURFMEPP)
Maintenance Requirement (MR)	A prescribed maintenance task on a specific equipment/component.
Parent	A maintenance requirement that when accomplished will also take credit

Term	Definition
	for other related (child) maintenance requirements.
Periodicity	The frequency of occurrence prescribed to a MR. For example, an MR with a periodicity of “60M or at each dry-docking availability” is due no later than 60 months from its last accomplished date or at the next dry-docking availability, whichever comes first.
Platform	Asset being maintained, usually a ship or vessel. A platform could be an entire carrier ship and/or also an amphibious vehicle on that ship.
Platform Availability	When a platform is expected to be available for maintenance. Most dates are predetermined in advance however are constantly dynamic.
Platform Schedule	The predetermined Maintenance Availability periods of a specific platform.
Scheduling Criteria	Based mostly on periodicity, this describes in general terms how an MR can be scheduled and reflected in an MMWP.
Work Package	A list of maintenance requirements scheduled/due for execution during a specified ship’s maintenance availability.

Appendix B: Example of Scheduling a MR into a MMWP

