Pennant

OmegaPS

Supportability Software

- Our DND Solution

OmegaPS Suite

The true cost of ownership of a major asset such as a ship, vehicle, or air craft is much more than the purchase price. Equipment maintenance and support demands has a substantial effect on overall cost and asset availability. The OmegaPS Suite enables the definition of an optimized support solution with its support baseline data assembled in one place. In addition, OmegaPS Analyzer enables Life Cycle Costing estimates as required by the Canadian DND and defence suppliers.

OmegaPS

OmegaPS is a modular software that captures Supportability Analysis data and allows practitioners to re-use the data for producing technical documentation; completing provisioning activities; assessing design change impacts; and to conduct analysis to improve support. As part of the DRMIS solution, certain modules are configured to meet specific DND requirements. These modules are highlighted below.

## Canadian Provisioning Module

DND requires that OEMs and vendors supplying systems to the department complete initial provisioning in accordance with Canadian Forces Publication *D-01-100-214/SF-000 Specification for Preparation of Provisioning Documentation for Canadian Forces Equipment.* It is used to identify items of supply, items of production and

the requirement for stock holdings. OmegaPS integrates the initial provisioning data into the support baseline making it possible to make provisioning decisions based performance and maintenance data.

The Canadian Provisioning Module includes a view of the CGCS and DRMIS material information. This enables the TA/LCMM (Technical Authority/Life Cycle Material Manager) to manage equipment support item lists and Material Authorizations in one place. OEMs and vendors have a commercial view of the Canadian Provisioning module, enabling the Initial Provisioning requirements for PPB (Provision Parts Breakdown), ISL (Interim Spares List), RSPL (Recommended Spare Parts List), LLTIL (Long Lead Time Item List) and GSM (Government Supplied Material). Once this data is received, OmegaPS automatically links related CGCS and SAP data objects.

Fit Definition Module

The Fit Definition module links support baseline data with SAP required elements. In this manner, the TA/LCMM approved support baseline is the one integrated source for DRMIS master data. This provides DND with a single location for accepting support baseline data from vendors and for conditioning the data for use within SAP as shown below.
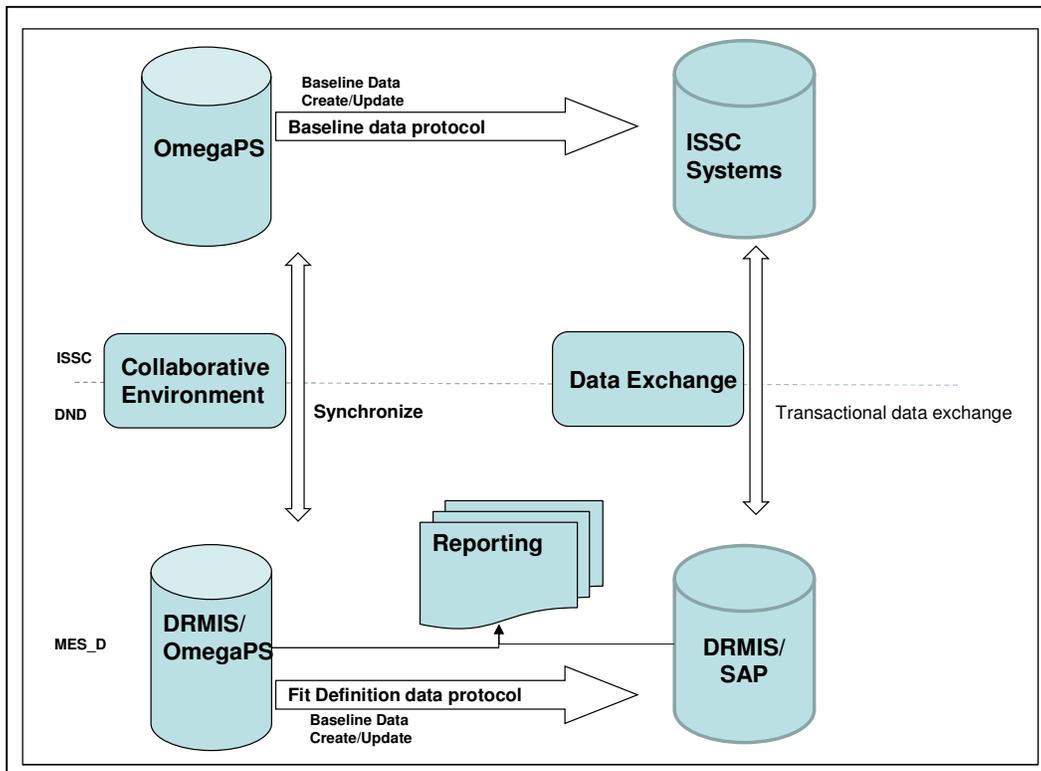
Maintenance and Illustrated Parts CFTOs

Currently OmegaPS produces Planned Maintenance and Performance Tests CFTOs as required by the RCN. The same data source generates maintenance task list loading files to create the equivalent DRMIS Task List. This ensures that there is a single source for maintenance data that is controlled by the technical authority.

Illustrated Parts CFTOs are also created directly from OmegaPS. With the daily update of NSN information, the Illustrated Parts publications is kept current with all material changes.

Reliability Centered Maintenance (RCM) Modules

Within OmegaPS there are two separate ways to conduct Reliability Centered Maintenance (RCM) analysis.

The first RCM module enables the user to both create an RCM logic and to conduct RCM analysis based on predicted failure modes associated with particular physical candidate items. This bottom up approach to RCM builds a maintenance plan for a complex asset from the maintenance requirements of each of its Candidate Items.

The second RCM module allows for analysis as specified by the ATA MSG-3 standard that is a top down functional analysis. This is the commonly accepted approach to RCM within the Aerospace industry. The OmegaPS Functional RCM module enables top down functional analysis as requested by the RCAF.

Maintenance Definition Module

Maintenance definition is a key aspect of any support baseline tool. Tasks are defined as a result of RCM analysis. The product allows for the capture of both Preventive and Corrective maintenance definition with all resource requirements identified. By maintaining this data in-service it is possible to analyze actual maintenance performed against the maintenance defined.

OmegaPS Analyzer

Two of the most desired objectives in the operation of complex assets are:
- Reduce operating costs
- Increase equipment availability

Analyzer models Level of Repair Analysis (LORA), Sparing and Life Cycle Cost (LCC) and thus enables the user to answer key questions on support cost and equipment availability.

Level of Repair Analysis (LORA)

LORA allows the user to determine the optimal maintenance strategies for the repair of equipment components with respect to life-cycle cost.

For each item analyzed (typically, the maintenance-significant items and costly replaceable units), there can be many options for how to perform repairs or to prevent failure events. The necessary maintenance tasks are described in the current equipment maintenance plan captured in the support baseline, establishing the starting point for the optimization.

From the results of the LORA procedure, maintenance task cost is calculated based on resources required, the frequency of occurrence, and the location where the work will be done. From the results of this LORA procedure, you can also determine the cost for performing the maintenance task for each repair level and then determine the optimal maintenance plan for the equipment from all the options with their associated costs.

The most economic maintenance plan, which you determine by means of the LORA, will be recommended as the approved maintenance plan.

If issues other than cost are significant, you can perform a non-economic LORA to specify the desired level of the repair action by applying override conditions.

Life Cycle Cost Analysis

LCC analysis allows the user to determine the expected life-cycle costs, for the support and operation of equipment. Each system analyzed has an expected cost of ownership based on the cost of resources and how much they are used. The cost of the resources are calculated at the lowest levels and then summed to determine the system-level costs.

Analyzer allows a customizable set of cost types to be considered. The information in the resulting reports may be used to forecast budgets or to determine if changes should be made to the hardware design, the support organization or the maintenance program.

Analyzer has the ability to model costs based on predefined Cost Breakdown Structure. The default template available is designed to meet Treasury Board requirements but can be modified as required for particular projects.

Sparing Analysis

Sparing analysis is performed to determine the optimal quantities of maintenance spare parts for the repair of a piece of equipment.

The optimal spares distribution is determined based on objective targets (such as, operational availability) and on the cost of achieving a desired target (such as, the price of the replacement part).

Baseline Comparison System (BCS)

A BCS establishes the support baseline performance standards using industry and DND support data, and when compared with actual in-service results, enables performance assessment and continuous improvement. BCS is enabled by OmegaPS Analyzer.

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