Weight & Balance for ENOVIA V5 (WC9)

BPA Delivery 7 for V5R19 (V5.6)

Installation Guide

V5R19

DASSAULT SYSTEMES

Table of Contents

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Introduction

Weight & Balance for ENOVIA V5 (WC9) is an application integrated into VPM Navigator and ENOVIA. From the installation perspective, the application is divided into 3 runtime views. Depending on the operating systems (OS) the name of the runtime repository is different:

- Windows OS:
  - intel_a
  - win_b64
- Unix OS :
  - AIX : aix_a
  - HP: hpux_b

Runtime views:

- VPM Navigator client programs.
- ENOVIA Server programs.
- DMC (Data Model Customized) This runtime is referring to the data dictionary for Weight & Balance. These metadata must also be published in the ENOVIA database.

This manual is aimed at administrators and provides information on how to install Weight & Balance for ENOVIA V5.

Related Documentation

- WC9_UserGuide
- WC9_ImplementationGuide

Prerequisites for Weight & Balance for ENOVIA V5

ENOVIA V5 platform is the main prerequisite for WC9 on the server side.
The integration of a DMC supporting the Weight & Balance required attributes is also a prerequisite.
A functional installation of ENOVIA VPM Navigator on the client side is also a prerequisite.

Information

The required ENOVIA V5 is R19
The required CATIA V5 and ENOVIA VPM V5 is R19

WC9 for the V5 Client

The installation of the WC9 Client is done through the Installshield. A shortcut will be generated.

Environment File

The shield will generate an environment file (WC9.txt) referencing the current ENOVIA VPM Navigator installation.

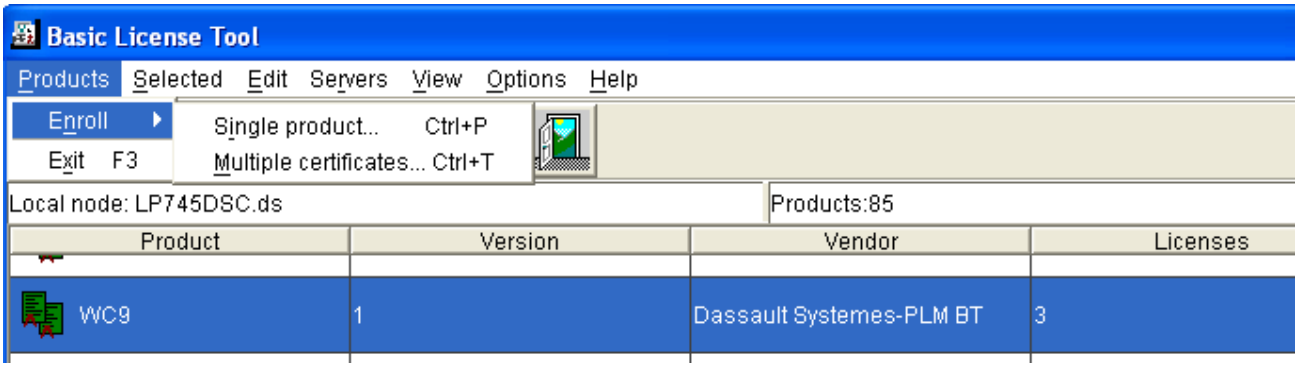
Other variables can be added to allow functionalities such as:

- Vault : **VaultClient_PropertiesFileName=VaultClient.properties**
  VaultClient_PropertiesFilePath=C:\...
- Traces : CNEXTOUTPUT=console

Licensing

Licensing for D6 is based on LUM. Server and Nodelock licenses are supported.
The LUM Server server should be LUM 4.6.8 or above.

Server and Nodelock licenses can be enrolled with the LUM Basic License Tool.



Nodelock licenses can also be enrolled by following the procedure below:

Because the BPA licenses are not integrated into the NodelockKeyManagement, you should manually input the parameters of your License into the nodelock file.
This file is located in:

For windows: C:\Documents and Settings\All Users\Application Data\IBM\LUM\nodelock
For AIX : /var/ifor/nodelock
For HP : /var/lum/nodelock

You should extract from the .lic file the following informations :

VendorID (looks like an UUID)
ProductPassword (a crypted key)
ProductAnnotation (should be unset)
ProductVersion (should be set to 1)

And insert them in nodelock file by respecting the order
comment : put your BPA trigram and its range date
vendorID ProductPassword ProductAnnotation ProductVersion

- Example :
  # WC9 from 15-Jul-08 to 14-Jul-09
  c6c8ef44bcb7.4a.74.95.13.1f.00.00.00 r8ezikjzgsvk9fzf7fe3p2gn3eaa "" "1"

Report Path Variable

In order to save an XML report, the Weight & Balance reporting command uses a pre-defined path that can be overridden by the user-defined global variable *REPORTPATH* in the ENOVIA VPM Navigator environment file. If this variable is not set, the default path is taken instead (for windows: C:\Temp)

- Example: **REPORTPATH = C:\ISPWC9WBClient\Reports**

An XML stylesheet file (XSL) is also provided with Weight & Balance package in order to display the XML report in a HTML format.

ENOVIA Server

The Data Model Customization (DMC) and the ENOVIA LCA runtime views need to be applied on the ENOVIA server, therefore, the environment file present on the server combine both runtime views paths.

Data Model Customization

The metadata file is provided as an example of attributes required by Weight & Balance (see code/dictionnary/WBProduct.metadata)

The PRODUCT domain has been extended in order to customize three of its classes: VPMPartMaster, VPMPartVersion and VPMItemInstance. The new domain is named WBProduct and contains the following entity definitions: WBPartMaster, WBPartVersion and WBItemInstance along with their attributes used by WC9.

This DMC or the creation of the required attributes in the DMC currently used in the enterprise should be installed/performed by the administrator. The environment variable CATDictionaryPath should point to where the metadata file for DMC is located.

Masks and Security Processes

The Weight & Balance user will have to analyze the Parts throughout the lifecycle of the product. Weight & Balance is able to analyze parts that may be locked by other users or that may be at the final stage in the lifecycle graphs. Weight & Balance is also able to override the ENOVIA security and update its own attributes on these parts. These changes can be made persistent in the database through the Weight&Balance Save command which will allow the user to commit the current ENOVIA session from cache to database. To make sure that no other changes then the Weight & Balances attributes are modified, the appropriate mask and security processes should be applied for the role of the Weight & Balance user.

ENOVIA Runtime View

In order to use the environment file for the Enovia server-side, the orbix daemon needs to be launched using the following command:

- [ENOVIA_INSTALL_PATH]/$OS/code/command/catstart -run "runOrbix" –env “WC9” -direnv “[PATH_TO_ENV_DIR]/CATEnv”, where WC9 is, in this example, the name of the environment file for Weight & Balance”

The example below shows how to set variables inside the “WC9.txt” environment file:

…
LIBPATH=$CUSTOPath/code/bin:$ENOVIAPath/code/bin:$ENOVAPIPath/code/bin:$CATAPIPath/code/bin
LD_LIBRARYN32_PATH=$CUSTOPath/code/bin:$ENOVIAPath/code/bin:$ENOVAPIPath/code/bin
SHLIB_PATH=$CUSTOPath/code/bin:$ENOVIAPath/code/bin:$ENOVAPIPath/code/bin:$CATAPIPath/code/bin
CATDictionaryPath=$DMCPath/code/dictionary:$CUSTOPath/code/dictionary:$ENOVIAPath/code/dictionary
… ,
where CUSTOPath, DMCPath, ENOVIAPath are the paths up to (and including) the $OS directory in the installation repository of each one of these runtime components. Example: ENOVIAPath= /usr/dassault/R18/V5VPM/aix_a

The customization path should come first in order to trigger the customization prior to the standard Dassault Systemes implementation.

Extra variables can be added to allow some functionalities such as :

- Overnight Batch: Traces for the batch are available if the CNEXTOUTPUT variable is set and if WBBatchProcessor variable is set to 1

Report Path Variable

In order to save an XML report, the Weight & Balance Batch uses a path defined by the user in the *REPORTPATH* global variable that can be set in the ENOVIA VPM Navigator environment file. If this variable is not set, a default path is taken instead (for Unix: /tmp)

- Example: **REPORTPATH = /home/usr/WC9user/Reports**

An XML stylesheet file (XSL) is also provided with Weight & Balance in order to display the XML report as an HTML one. The XSL needs to be located in the same folder as the XML file.

Black Box Processing

The processing of CATProduct BlackBoxes relies on the CATPDMExtractEV5Batch ENOVIA utility which extracts a CATProduct BlackBox in a file directory. This utility requires an available WC9 license, it also requires a window display manager otherwise an error message will be displayed at the computation.

This CATPDMExtractEV5Batch also requires a WPE license.

The IT_DAEMON_PORT should be defined in the server environment.

- Example: IT_DAEMON_PORT=1571

The User defined in should have the VPMADMIN.ADMIN.DEFAULT role.

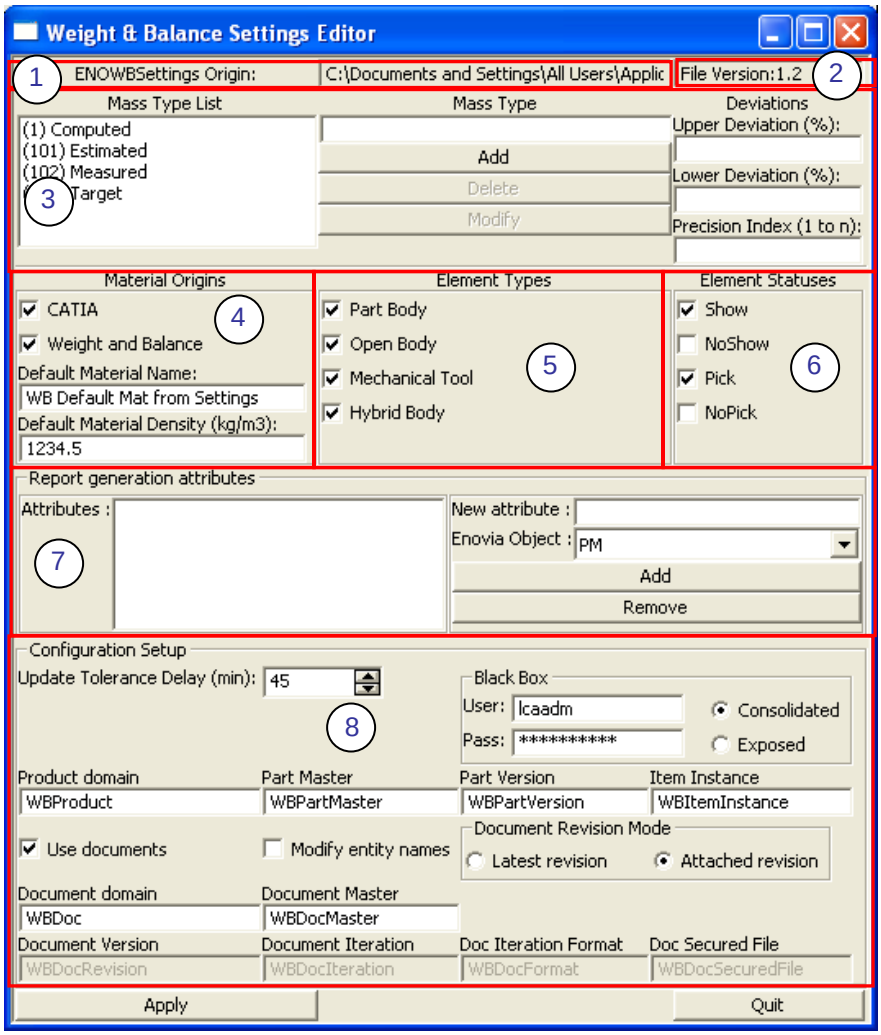
The Weight & Balance Settings Editor

The ENOWBSettings Editor application allows the Weight & Balance administrator to create and update the ENOWBCATSettings.CATSettings files used by the Weight & Balance application. This CATSetting file should be shared as read only to all the users on the server side.

NOTE: **The presence of a valid ENOWBCATSettings.CATSettings file is mandatory for the application to successfully run.**

This editor should be only executable for the administrator to avoid the possibility for users to generate their own CATSettings file. The resulting file should be strored in CATReferenceSettingsPath if used.

The purpose of this interface is to offer tools to manage the W&B processing options from a process point. This interface is to be used by the Weight and Balance Administrator to define options in line with the local policies.



1. ENOWBSettings location path.
2. Version of ENOWBSettings.CATSettings
3. Mass Type List
4. Material origin. The density and material names can be taken or not from W&B or CATIA.

5. Element Types
6. Element Statuses
7. Report generation attributes
8. Configuration Setup

Mass Type List

Mass types can be added, deleted or modified. Upper and lower deviation entered will become default deviations for this mass type in the W&B application. The precision index is used for the calculation of an assembly, using MostPrecise option.

Element Types

These are the features that can be taken into account during a compute. Part body refers to Mechanical Part, Open body refers to GSM Tool (surface), Mechanical Tool refers to solid (volume). Hybrid Body refers to post R13 feature which combines GSM Tool and Mechanical Tool. Note that if there are CATParts from R13 and older versions, the surface and volume features are separated and hybrid bodies don't exist. If there are CATParts from R14 and earlier versions, only hybrid bodies will be recognized by the feature modeler. No updates are available to switch R13 feature models into R14 ones.

Element Statuses

Indicate if the show / NoShow and Pick / NoPick bodies will be part or not of the calculation process.

Report generation attributes

The administrator indicates the non W&B attributes that will be displayed in the report. ENOVIA Object possibilities: PM (Part Master) and PV (Part Version). The administrator needs to indicate on which type of metadata the attribute exists.

Configuration Setup

Update Tolerance Delay Parameter

The Update Tolerance Delay Parameter can be defined on the environment on the server side.
When verifying if a Part is up to date the time stamp of the last computation is compared to the document and to the Part.
The Weight & Balance results are stored on the Parts, this modify the timestamp on the Part object.
This parameter has impacts on performances, if it is too small, Parts will never be seen as up to date.
The impact of having a large parameter is that if some attributes on the part are modified within the allowed delay the results may be seen as up to date even if they are not.
This is why it is strongly recommended to force a compute on a Part when attribute from the Material tab are modified (See User Guide for more details).

The Default value is 30 minutes, the range is 1 min to 1439 minutes (23 h 59 min).

Black Box Settings

This is where the User and Password for the Black Box extraction batch are defined.
The Black Box Mode consolidated or exposed is defined.

Product Domain, Part Master, Part Version and Item Instance

This is where the Custom ENOVIA environment mapping is defined.
Weight & Balance is looking for attributes defined on the Part Master, Part Version and Item Instance. If the environment is already customized with other attributes, a merge of the environment can be defined and the resulting customized Part Master, Part Version and Item Instances' name should be specified here.

Document Domain, Document Master and Modify Entity Names

This is where the Custom ENOVIA environment mapping is defined on the document
Weight & Balance is looking for attributes defined on the Document Master and Document Version. If the environment is already customized with other attributes, a merge of the environment can be defined and the resulting customized elements names name should be specified here.

Document Version, Iteration, Iteration Format and Secured File

The naming of these is usually derived from the Document Master, however it can be modified manually if necessary.

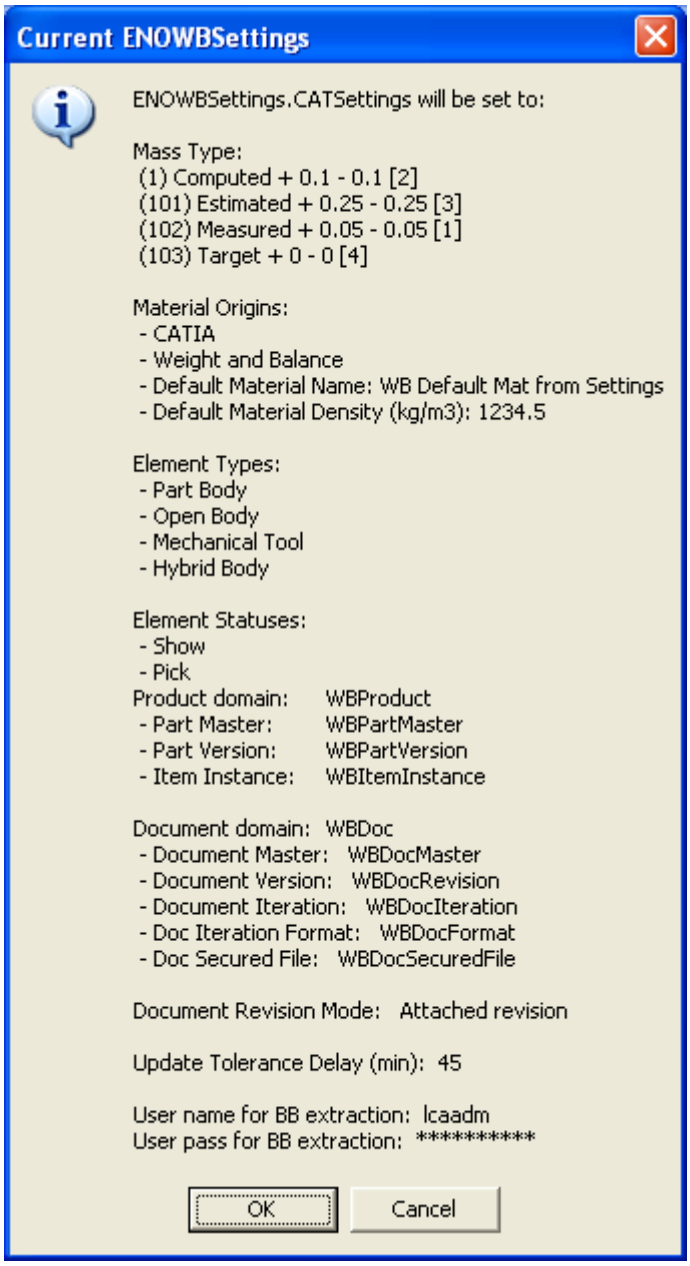
Document Revision Mode

This is where the Administrator defines if the latest revision is the attached revision or the latest revision available in the database.

Apply

When all information has been updated by the user, the Apply button needs to be clicked.
An information dialog appears and gives details on the values that will be stored in the Weight & Balance settings.

- Example:



If the OK button is pushed, values will be written in the settings file.