VANTAGE

Multi-Discipline Supports

Project Setup Guide



MDS11.6

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1 Introduction

1.1 About this guide

This manual is designed to give the administrator guidance on how to setup and configure the framework templates for the Multi-Discipline Supports (MDS) application. It is assumed that the administrator is an experienced user who has attended a training course and has an understanding of the MDS application.

1.2 An overview of the MDS application

The MDS application allows the user to create standard supports for the pipe work, cable racks, and HVAC model objects. The application is highly interactive, enabling the user to design supports with the minimum of effort. The MDS application is also highly configurable allowing the administrator to define project related defaults, to control the design of supports, and to determine the range and types of ancillary support components that can be used on the project.

The standard supports in this application are designed using structural sections and are template driven, so in essence the template reflects the Standard. A default set of structural templates based on British Standard Steelwork Sections is supplied with the application. All of the supplied templates may be configured by the office or project to adopt any relevant national or regional standard for steelwork sections. For further information see the *MDS Application Framework Template Administration Guide*.

Ancillaries are the items that are attached to the supported object such as a u-bolt, bolt on shoe, anchor, and slip-unit. The ancillaries associated with the template reflect those available with, or, suitable for, the Standard. If the available templates do not reflect what you want to build, either ask your administrator to work with AVEVA Solutions to get your requirement designated as a new Standard (and hence a new template) or create as a special. A good example of a special would be the need to add an additional brace to an existing template. This would have to be designed as, or converted to, a special with the extra brace added in using the standard PDMS Beams and Columns application. Otherwise a new template/standard is required.

Vessel Supports are identified as template/standard driven.

Ancillaries for cable tray and HVAC, sometimes referred to as fixings, are deemed to be the responsibility of the relevant contractor and are not dealt with in this application.

1.3 The administrator’s role

The administrator is responsible for initial setup of the default files and the design template database associated with the MDS Hangers application.

1.4 MDS catalogues and specifications

The MDS application is supplied with a catalogue and specification. The range of bore and components in the catalogue are fixed and should be adequate for all projects. The catalogue supplied and associated specification '/MDS' must not be modified by the administrator or any other user.

2 PDMS projects

2.1 Supplied projects

The MDS Application is supplied to all users of MDS with two projects. They are MDS and MAS and are supplied along with any client-specific project. In the following example the client specific project is CCA (Client Catalogue A):

Project MDS: Contains all databases for use with the MDS application

Project MAS: Standard PDMS MAS project customised for use with the MDS application

Project CCA: Client Catalogue A (only supplied where clients have additional development completed by AVEVA)

2.2 Supplied databases

2.2.1 Project MDS

Database Name	Db Number	Description
MDS/CATA	7320	Catalogues and specifications
MDS/DESISTDS	7321	For use with db no 7325
MDS/DRAFT	7322	Draft libraries/templates
MDS/LEXI	7323	Lexicon database
MDS/DESITMPL-BS	7324	Framework templates for BS steel
MDS/DRAFTSTDS	7325	Standards in Draft format
MDS/DESITMPL-PSL	7326	Hanger templates for Pipe Support Ltd
MDS/DESITMPL-GRI	7327	Hanger templates for Grinnell
MDS/PROP	7328	Properties database
MDS/DESITMPL-AISC	7329	Framework templates for AISC Steel
MDS/DESI-SPECIAL-TMPL-BS	7330	Project special framework templates for BS Steel
MDS/DESI-SPECIAL-TMPL-DIN	7331	Project special framework templates for DIN Steel
MDS/DESI-SPECIAL-TMPL-AISC	7332	Project special framework templates for AISC Steel

MDS/DESITMPL-PIHASA	7333	Framework templates for Pihasa

2.2.2 Project MAS

Please refer to the PDMS product documentation for details.

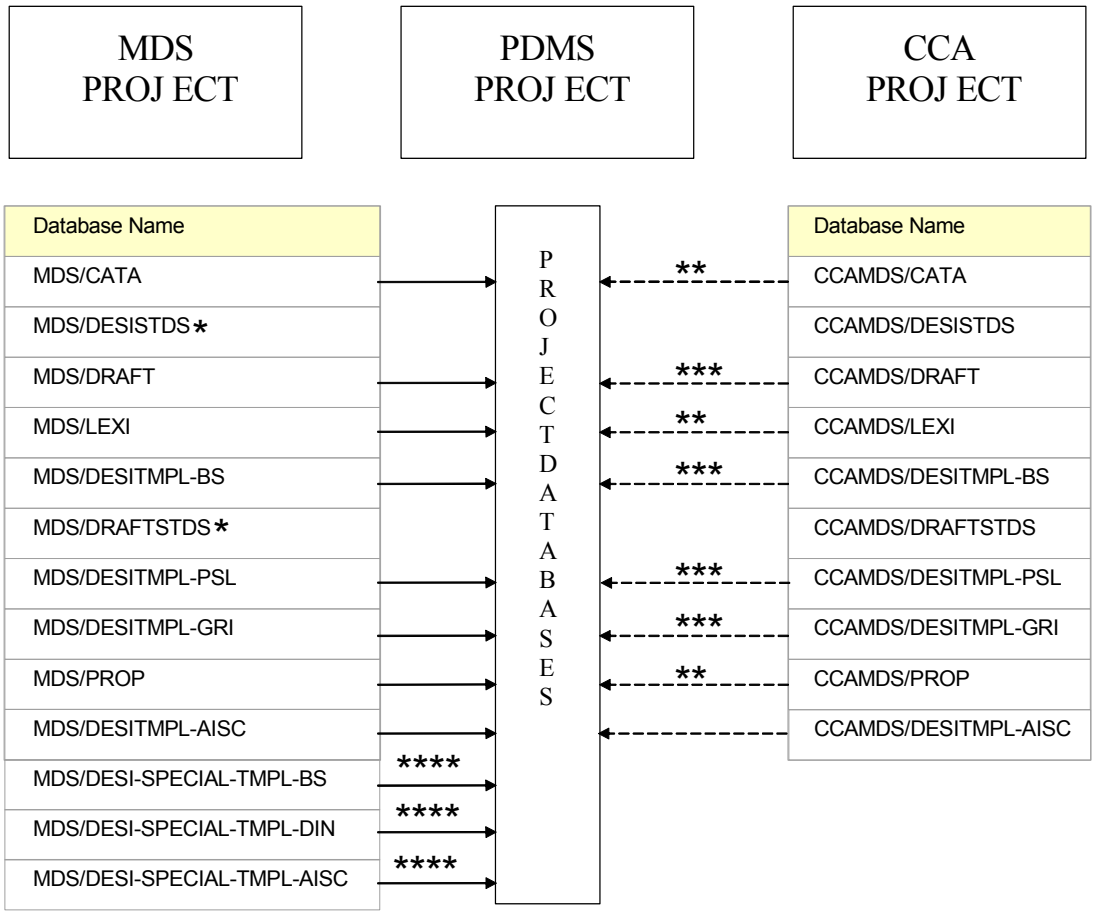
2.2.3 Project CCA

Database Name	Db Number	Description
CCAMDS/CATA	As project	Client Catalogues and specifications
CCAMDS/DESISTDS	As project	For use with db CCAMDS/DRAFTSTDS
CCAMDS/DRAFT	As project	Draft libraries/templates
CCAMDS/LEXI	As project	Lexicon database
CCAMDS/DESITMPL-BS	As project	Framework templates for BS steel
CCAMDS/DRAFTSTDS	As project	Standards in Draft format
CCAMDS/DESITMPL-PSL	As project	Hanger templates for Pipe Support Ltd
CCAMDS/DESITMPL-GRI	As project	Hanger templates for Grinnell
CCAMDS/PROP	As project	Properties database
CCAMDS/DESITMPL-AISC	As project	Framework templates for AISC Steel

3 Project database setup

3.1 Project schema

The databases used by MDS are controlled centrally (foreign databases) from the MDS project along with any client project if supplied. The schema shown below reflects a project using this type of setup and shows the CCA project as a client supplied project.



* These databases are not required in the main project.

** Add these databases in addition to those supplied with the MDS project.

*** Use these databases to replace those supplied with the MDS project.

**** Copy one of these databases to the project where it can be used for project specials.

3.2 Project default files

Client projects, when issued, contain default files customised to the client's requirements. Use these default files in preference to those supplied with the MDS project.

4 MDS catalogue/Data Access Controls (DAC) requirements

There are several catalogue requirements that need to be implemented into the PDMS project for MDS to function correctly as described in this section.

The introduction of trunnions made from PDMS branches need certain rules to be adhered to in the catalogue database as described in Section 4.4.

4.1 Elbows

The following diagram shows the catalogue requirement when MDS adds a trunnion to an elbow.

Minimum dac access for support user

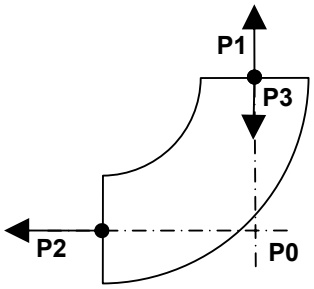
GTYP ELBO and BEND

Modify SPREF

Modify ARR

Modify LEA

Modify CREF



Ppoint P3 is at ppoint P1 but in opposite direction

Ppoint P3 assumes same bore as P1

MDS appware will flip component if required

MDS appware will reselect component if no branch exists and checks to see if P1 and P3 in same place and same bore.

Scanner will select new component from current spec.

4.2 Reducers

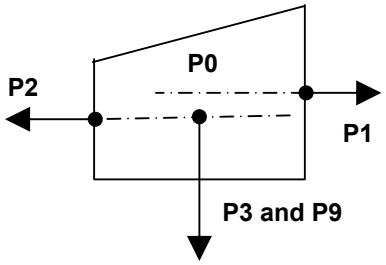
The following sketch shows the catalogue requirement when MDS adds a trunnion to a reducer.

Minimum dac access for support user

GTYP REDU

Modify SPREF

Modify CREF



Ppoint P3/P9 is at intersection of ppoint P0 and ppoint P2 but orientated down

P3 and P2 must be identical bore

Mds appware will reselect component if no branch exists and checks to see if P1 and P3 are the same bore

Scanner to select new component from current spec

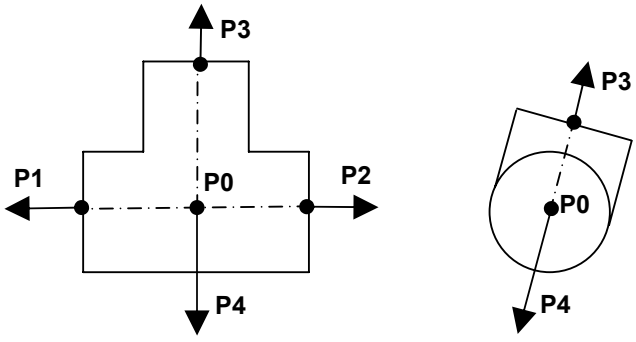
4.3 Tees

The following diagram shows the catalogue requirement when MDS adds a trunnion to a tee.

Minimum dac access for support user

GTYP TEE delete

GTYP CROSS create and modify



Reselect as cross scanner to select new component from current spec.

MDS will duplicate orientation of original tee.

MDS will handle direction of trunnion from P4

4.4 In line trunnions

The following information shows the catalogue requirement when MDS adds an in-line trunnion:

Minimum dac access for support user

GTYP TEE create and modify

Scanner to select new component from current spec with SKEY TESO with equal bore

4.5 Reinforcing pad material

When MDS creates a reinforcing pad on a tube element, it will automatically set the MTOREF attribute to the SPREF of the LSTU to allocate material for the pad. Currently there is no method to set the required length apart from the MTOLENGTH attribute of the detail reference of the lstu spref. It is recommended that this attribute is set to the maximum length of a reinforcing pad so that the maximum length is ordered in all cases.

5 Configuration checklist

5.1 Project configuration

To be re-worked and re-positioned

The table below contains all the steps an administrator needs to check when he attempts to configure the MDS application for a project's requirements.

Step	Description
1	Modify DES-SUPP-DEFS in the projects default directory for: Design Application Defaults i.e. Clearance, Overlap, Pipe slope etc. Application Support Type i.e. FT01 not needed by project. Replacement Support Name i.e. FT09 displayed in Design and Draft Application as PS132 Support Descriptions i.e. Pedestal Support for Elbow required to be described as Duck Foot Available Support Ancillaries i.e. AT01 not allowed on Support Type FT01 Modify the Hangers Configuration Description and Configuration name. Remove configurations that are not used on the Project
2	Modify DES-SUPP-PARS in the project default directory for: Compete all dimensions (design parameters), weight, minimum and maximum values required by the project
3	Modify the project specification to match settings used in DES-SUPP-PARS. For example the pipe class 'CS' for carbon steel to match the :MDSPipeMat uda at specification level in the project.
4	Modify DES-SUPP-ID in the project default directory for support zone identification.
5	Modify DES-SUPP-NAMES* in the project default directory for: Auto naming files.
6	Structural Design Templates - Refer to the MDS Framework Template Admin Guide for information on how to achieve this.
7	Hanger Design Templates-Check that the Template represents the configuration defined in DES-SUPP-HANG & DES-SUPP-DEFS. Check Zone attributes are set.
8	Drawing Backing Sheets – To be modified if the project requires different sketches.

Table 1 Project configuration checklist

End of document