Physical Data Model
Model: Online_Model_Physical_v2
Package:
Diagram: online model physical 1
Author: egrunhau Date : 7/15/2008
Version : v2

SECTIONS

SECTION_ID	NUMBER(10)	<pk>	<i1>	not null
SECTION	VARCHAR2(60)	<ak>	<i2>	not null
PREV_SECTION	VARCHAR2(60)			null
BEGIN_DBMARK	VARCHAR2(30)			not null
END_DBMARK	VARCHAR2(30)			not null
SECTION_LENGTH	NUMBER			null
COMMENTS	VARCHAR2(200)			null
CREATED_BY	VARCHAR2(90)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(90)			null
DATE_UPDATED	DATE			null
UPLOAD_ID	NUMBER(7)			null

PK_SECTIONS <pk>
UK_SECTIONS_SECTION <ak>
SECTIONS_PK <i1>
SECTIONS_AK <i2>

XML_DOCS

ID	INTEGER	<pk>	<i>	not null
CREATED_BY	VARCHAR2(30)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(30)			null
DATE_UPDATED	DATE			null
ELEMENT_FILENAME	VARCHAR2(60)			null
ELEMENT_DATE	DATE			null
ELEMENT_XML	XMLTYPE			null
DEVICE_FILENAME	VARCHAR2(60)			null
DEVICE_DATE	DATE			null
DEVICE_XML	XMLTYPE			null
COMMENTS	VARCHAR2(200)			null
MIME_TYPE	VARCHAR2(100)			null

PK_XML_DOCS <pk>
PK_XML_DOCS <i>

HARDWARE_SETTINGS

ID	INTEGER	<pk>	<i1>	not null
PV_LOG_FILENAME	VARCHAR2(60)	<ak>	<i2>	not null
CREATED_BY	VARCHAR2(30)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(30)			null
DATE_UPDATED	DATE			null

PK_HARDWARE_SETTINGS <pk>
UK_PV_LOG_FILENAME <ak>
PK_HARDWARE_SETTINGS <i1>
UK_PV_LOG_FILENAME <i2>

INITIAL_CONDITIONS

ID	INTEGER	<pk>	<i1>	not null
INIT_COND_FILENAME	VARCHAR2(60)	<ak>	<i2>	not null
CREATED_BY	VARCHAR2(30)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(30)			null
DATE_UPDATED	DATE			null

PK_INITIAL_CONDITIONS <pk>
UK_FILENAME <ak>
PK_INITIAL_CONDITIONS <i1>
UK_FILENAME <i2>

DEVICE_TYPES

ID	INTEGER	<pk>	<i1>	not null
DEVICE_TYPE	VARCHAR2(4)	<ak>	<i2>	not null
CREATED_BY	VARCHAR2(30)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(30)			null
DATE_UPDATED	DATE			null
DEFAULT_SLICING_POS_CHK	SMALLINT			null

PK_DEVICE_TYPES <pk>
UK_DEVICE_TYPE <ak>
PK_DEVICE_TYPES <i1>
UK_DEVICE_TYPE <i2>

DEVICE_TYPES:
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DEFAULT_SLICING_POS_CHK INDICATES DEFAULT SLICING POSITION ASSOCIATED WITH A DEVICE TYPE.

IF A DEVICE_TYPE IS A "SLICED" TYPE DEVICE (SUCH AS A "QUAD"), THEN A POSITION TAKES ON THE VALUE:

0 = BEGIN
1 = MIDDLE
2 = END

IF A DEVICE_TYPE IS NOT A "SLICED" TYPE DEVICE (SUCH AS A "BPMS"), THEN THE POSITION VALUE IS MEANINGLESS, AND SO, IS SET TO NULL.

MODEL_DEVICES

ID	INTEGER			not null
RUNS_ID	INTEGER	<fk2>	<i3>	null
LCLS_ELEMENTS_ELEMENT_ID	NUMBER(5)	<fk3>	<i4>	null
DEVICE_TYPES_ID	INTEGER	<fk1>	<i2>	null
CREATED_BY	VARCHAR2(30)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(30)			null
DATE_UPDATED	DATE			null
DEVICE_PROPERTY	VARCHAR2(30)			null
DEVICE_VALUE	NUMBER			null

PK_MODEL_DEVICES <pk>
PK_MODEL_DEVICES <i1>
FK_TYPE_DEVICE <i2>
FK_RUN_DEVICE <i3>
FK_ELEM_DEVICE <i4>

RUNS

ID	INTEGER	<pk>	<i1>	not null
HARDWARE_SETTINGS_ID	INTEGER	<fk1>	<i2>	null
XML_DOCS_ID	INTEGER	<fk3>	<i4>	null
INITIAL_CONDITIONS_ID	INTEGER	<fk2>	<i3>	null
CREATED_BY	VARCHAR2(30)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(30)			null
DATE_UPDATED	DATE			null
RUN_SOURCE_CHK	VARCHAR2(60)			null
RUN_ELEMENT_FILENAME	VARCHAR2(60)			null
RUN_ELEMENT_DATE	DATE			null
RUN_DEVICE_FILENAME	VARCHAR2(60)			null
RUN_DEVICE_DATE	DATE			null
COMMENTS	VARCHAR2(200)			null

PK_RUNS <pk>
PK_RUNS <i1>
FK_HW_RUNS <i2>
FK_IC_RUNS <i3>
FK_DOC_RUN <i4>

FK_RUNS_FK_HW_RUN_HARDWARE
FK_RUNS_FK_DOC_RU_XML_DOCS
FK_RUNS_FK_IC_RUN_INITIAL
FK_MODEL_DE_FK_TYPE_D_DEVICE_T
FK_MODEL_DE_FK_RUN_DE_RUNS
FK_LCLS_ELE_FK_LCLS_E_SECTIONS
FK_ELEMENT__FK_RUN_EL_RUNS

LCLS_ELEMENTS

ELEMENT_ID	NUMBER(5)	<pk>	<i1>	not null
SECTION_ID	NUMBER(10)	<fk>	<i2>	null
ELEMENT	VARCHAR2(16)	<ak>	<i3>	not null
FIRST_SOURCED_FROM	VARCHAR2(30)			not null
ELEMENT_TYPE	VARCHAR2(6)			null
ACTIVE_FLAG	VARCHAR2(1)			null
ELEMENT_COMMENT	VARCHAR2(200)			null
IS_BEAMLINE_ELEMENT_FLAG	VARCHAR2(1)			null
AREA	VARCHAR2(6)			null
KEYWORD	VARCHAR2(4)			null
ENGINEERING_NAME	VARCHAR2(16)			null
NONMAD_SUML_M	NUMBER			null
NONMAD_SOLID_EDGE_XCOOR_M	NUMBER			null
PRIMARY	VARCHAR2(200)			null
SLC_MICRO_NAME	VARCHAR2(200)			null
IOC_LOC	VARCHAR2(200)			null
UNIT	VARCHAR2(200)			null
CREATED_BY	VARCHAR2(90)			null
DATE_CREATED	DATE			null
UPDATED_BY	VARCHAR2(90)			null
DATE_UPDATED	DATE			null
BEAMLINE_ID	NUMBER(7)			null
DRAW_ID	NUMBER			null
INSTALLED_FLAG	VARCHAR2(1)			null
NONMAD_LTU_SUML_M	NUMBER			null
NONMAD_LTU_SOLID_EDGE_XCOOR_M	NUMBER			null

AK_ELEMENT_UK_LCLS_ELE <ak>
PK_LCLS_ELEMENTS <pk>
LCLS_ELEMENTS_PK <i1>
FK_LCLS_ELEMENTS_SECTION_ID_FK <i2>
LCLS_ELEMENTS_AK <i3>

ELEMENT_MODELS

ID	INTEGER	<pk>	<i1>	not null
RUNS_ID	INTEGER	<fk1>	<i2>	null
LCLS_ELEMENTS_ELEMENT_ID	NUMBER(5)	<fk2>	<i3>	null
CREATED_BY	VARCHAR2(30)			not null
DATE_CREATED	DATE			not null
UPDATED_BY	VARCHAR2(30)			null
DATE_UPDATED	DATE			null
ELEMENT_NAME	VARCHAR2(60)			null
INDEX_SLICE_CHK	SMALLINT			null
ZPOS	NUMBER			null
EK	NUMBER			null
ALPHA_X	NUMBER			null
ALPHA_Y	NUMBER			null
BETA_X	NUMBER			null
BETA_Y	NUMBER			null
PSI_X	NUMBER			null
PSI_Y	NUMBER			null
ETA_X	NUMBER			null
ETA_Y	NUMBER			null
ETAP_X	NUMBER			null
ETAP_Y	NUMBER			null
R11	NUMBER			null
R12	NUMBER			null
R13	NUMBER			null
R14	NUMBER			null
R15	NUMBER			null
R16	NUMBER			null
R21	NUMBER			null
R22	NUMBER			null
R23	NUMBER			null
R24	NUMBER			null
R25	NUMBER			null
R26	NUMBER			null
R31	NUMBER			null
R32	NUMBER			null
R33	NUMBER			null
R34	NUMBER			null
R35	NUMBER			null
R36	NUMBER			null
R41	NUMBER			null
R42	NUMBER			null
R43	NUMBER			null
R44	NUMBER			null
R45	NUMBER			null
R46	NUMBER			null
R51	NUMBER			null
R52	NUMBER			null
R53	NUMBER			null
R54	NUMBER			null
R55	NUMBER			null
R56	NUMBER			null
R61	NUMBER			null
R62	NUMBER			null
R63	NUMBER			null
R64	NUMBER			null
R65	NUMBER			null
R66	NUMBER			null

PK_ELEMENT_MODELS <pk>
PK_ELEMENT_MODELS <i1>
FK_RUN_ELEM_MODELS <i2>
FK_ELEM_MODEL <i3>

ELEMENT_MODELS:
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INDEX_SLICE_CHK INDICATES A SPECIFIC SECTION OF A GIVEN DEVICE:

0 = BEGIN
1 = MIDDLE
2 = END

FK_ELEMENT__FK_ELEM_M_LCLS_ELE
FK_SYMBOLS__FK_SYMBOL_LCLS_ELE
FK_MODEL_DE_FK_ELEM_D_LCLS_ELE

SYMBOLS_UPLOAD

ID	NUMBER(7)	<pk>	<i1>	not null
ELEMENT_ID	NUMBER(5)	<fk1>	<i2>	null
UPLOAD_ID	NUMBER(7)	<fk2>	<i3>	null
SOLID_EDGE_ID	NUMBER(7)			null
AREA	VARCHAR2(6)			null
KEYWORD	VARCHAR2(4)			null
ELEMENT	VARCHAR2(16)			null
ENGINEERING_NAME	VARCHAR2(16)			null
EFFECTIVE_LENGTH	NUMBER			null
APERTURE	NUMBER			null
ANGLE	NUMBER			null
K1	NUMBER			null
K2	NUMBER			null
TILT	NUMBER			null
E1	NUMBER			null
E2	NUMBER			null
H1	NUMBER			null
H2	NUMBER			null
ENERGY	NUMBER			null
SUML	NUMBER			null
SOLID_EDGE_X_COOR	NUMBER			null
SOLID_EDGE_Y_COOR	NUMBER			null
SOLID_EDGE_Z_COOR	NUMBER			null
SOLID_EDGE_X_ANGLE	NUMBER			null
SOLID_EDGE_Y_ANGLE	NUMBER			null
SOLID_EDGE_Z_ANGLE	NUMBER			null
REVISION	NUMBER(3)			null
REVISION_DATE	DATE			null

SYMBOLS_UPLOAD_PK <pk>
SYMBOLS_UPLOAD_PK <i1>
FK_SYMBOLS__LCLS_ELEM_LCLS_ELE_FK <i2>
SYMBOLS_UPLOAD_SYMBOLS_UP_FK1_FK <i3>

FK_SYMBOLS__SYMBOLS_U_SYMBOLS_

SYMBOLS_UPLOAD_LOG

UPLOAD_ID	NUMBER(7)	<pk>	<i>	not null
DATE_UPLOADED	DATE			null
UPLOADED_BY	VARCHAR2(30)			null
COMMENTS	VARCHAR2(1000)			null
FILENAME	VARCHAR2(200)			null
VERSION_DATE	DATE			null
BEAMLINE	NUMBER(7)			null

SYMBOLS_UPLOAD_LOG_PK <pk>
SYMBOLS_UPLOAD_LOG_PK <i>