

Crash course to the Primavera XER-format

Version: 2-200303/shr

Brief

This note is about the Primavera XER files format with focus on the data format itself and how you can view (and edit) XER-files in Excel.

Introduction

This note describes in general terms how the Primavera P6 XER file format is structured and is not dependent of what version of Primavera you are using. A brief description of how you can use Excel as a viewer for the XER file is also included. **NOTE** don't change anything in the file unless you are absolutely sure of what you are doing.

In 1999 Primavera Inc acquired Eagle Ray Software Systems that was competing with Artemis and Open Plan (Welcom) for supplying the enterprise market with a feature rich upper tier planning system. The product was rebranded as Primavera P3/e and in 2007, when the first "real" portfolio capabilities were released in version 6 of the product, it was renamed Primavera P6. In that release the XER format was defined as the preferred import/export file format and the file extension XER simply stands for "eXport Eagle Ray".

It is important to understand that the primary aim of the XER format is to enable you to import data from another P6 system, and to recreate projects exactly as they are defined in the source system.

General format description

Primavera (P6) expects the format to be a "flat ASCII" file with visible characters and only allow the formatting characters "Carriage Return" (CR as defined by your operation system) and "Tabulator". When you open a XER file in a text editor you should see something like this:

```

ERMHDR 07.00 12/08/2011 Project admin Primavera Admin dbxDatabaseNoName Project Management EUR
%T
CURRTYPE
%F
curr_id decimal_digit_cnt curr_symbol decimal_symbol digit_group_symbol pos_curr_fmt_type
%R
1 2 $ . , #1.1 (#1.1) Dollar USD 3 1
%R
14 2 £ . , #1.1 (#1.1) British Pound U.K. 3 0.501762
%T
OBS
%F
obs_id parent_obs_id guid seq_num obs_name obs_descr
%R
565 0 Enterprise <HTML><BODY></BODY></HTML>
%T
POBS
%F
pobs_id pobs_parent_id seq_num pobs_name pobs_descr pobs_manager
%R
100 0 POBS_Root Performing Organization_Root
%R
101 100 0 P Performing Organization
%R
102 100 100 P-1 Performing Organization
%T
RCATTYPE
%F
rsrc_catg_type_id seq_num rsrc_catg_short_len rsrc_catg_type
%R
26 101 7 SBC-Project
%R
27 102 7 SBC_Vehicles
%E

```

The data is organized in lines each having a specific meaning, and each line separate the data fields with a Tab character and ends with a CR character. The first line starts with a magic word “ERMHDR” and signifies general system information P6 needs, e.g. the 2nd word “07.00” is the P6 version number from which the file was created. This header line always needs to be the first line in a correct formatted XER file.

The following lines will always start with a “%” and a single character that defines the line:

- %T Table
- %F Fields
- %R data Row
- %E End of data

Using Excel as a XER file viewer

To view the XER file in Excel you should take a copy of it and append the file extension “.txt”. If you right-click file and choose “Open with...” and selects Excel the file will just be imported with the standard template setup.

On the other hand if you start Excel first and then select “Open” and choose the file extension format for Text File that included “.txt” the import Wizard will guide you through the process, but you must ensure that file type is “Delimited” and Tab is selected as the data separator.

When you have opened the file you should immediately choose “Save as” and store the file in Excel format as “Save” will just save the data to the original “.txt” file adhering to the text format. You might now want to use “Conditional Formatting” to make the file more readable and later on add VBA scripts to make some standard check-up on the data.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ERMHDR	07.00	12/08/2011	Project	admin	Primavera Admin	dbxDatabaseNoN	Project Man	EUR				
2	%T	CURRTYPE											
3	%F	curr_id	decimal_digi	curr_symbol	decimal_syr	digit_group_symb	pos_curr_fmt_tyc	neg_curr_fm	curr_type	curr_short_n	group_digit	base_exch_rate	
4	%R	1	2	\$	.	.	#1.1	(#1.1)	Dollar	USD	3	1	
5	%R	10	2	\$	.	.	#1.1	(#1.1)	Argentine Pe	ARS	3	3.077	
6	%R	11	2	A\$	.	.	#1.1	(#1.1)	Australian D	AUST	3	1.208	
7	%R	13	2	R\$	.	.	#1.1	(#1.1)	Brazilian Re	BRL	3	2.014	
8	%R	14	2	E	.	.	#1.1	(#1.1)	British Poun	U.K.	3	0.501762	
9	%R	15	2	CA\$	.	.	#1.1	(#1.1)	Canadian Do	CAD	3	110.573	
10	%R	16	2	Y	.	.	#1.1	(#1.1)	Chinese Yuar	CNY	3	7.694	
11	%R	17	2	Ä	.	.	#1.1	(#1.1)	EURO	EUR	3	0.739088	
12	%R	20	2	HK\$	.	.	#1.1	(#1.1)	Hong Kong D	HKD	3	781.967	
13	%R	21	2	Rs	.	.	#1.1	(#1.1)	Indian Rupee	INR	3	40.67	
14	%R	23	2	*	.	.	#1.1	(#1.1)	Japanese Yei	JPY	3	120.167	
15	%R	24	2	K	.	.	#1.1	(#1.1)	Korean Won	KRW	3	924.743	
16	%R	25	2	N\$	.	.	#1.1	(#1.1)	Mexican Pes	MXN	3	107.938	
17	%R	26	2	R	.	.	#1.1	(#1.1)	Russian Roul	RUB	3	258.085	
18	%R	28	2	Sk	.	.	#1.1	(#1.1)	Swedish Kroi	SEK	3	680.579	
19	%R	29	2	kr	.	.	#1.1	(#1.1)	Swiss Franc	CHF	3	121.864	
20	%R	30	2	NIS	.	.	#1.1	(#1.1)	Israel Shekel	ILS	3	396.384	
21	%R	31	2	Ä	.	.	#1.1	(#1.1)	Euro1	EUR1	3	1	
22	%R	32	2	\$	.	.	#1.1	(#1.1)	(New Curren	CUR	3	1	
23	%T	OBS											
24	%F	obs_id	parent_obs_guid	seq_num	obs_name	obs_descr							
25	%R	565			0 Enterprise	<HTML><BODY></BODY></HTML>							
26	%T	POBS											
27	%F	pobs_id	pobs_parent	seq_num	pobs_name	pobs_descr	pobs_manager						
28	%R	100			0 POBS_Root	Performing Organization_Root							
29	%R	101	100		0 P	Performing Organization							
30	%R	102	100	100	P-1	Performing Organization							

The XER file relation to the P6 database

The “%T” and “%F” lines refers directly back into the database and it’s schema, i.e. how the data is named and structured. The P6 version number in the header line makes it possible to

convert a file exported from a system with a lower version than your P6 system. File exports will always be done in your system's version and there are no options to change that.

	A	B	C	D	E	F	G	H	I	J	K	L	M
66	%T	PROJECT											
67	%F	proj_id	start	moichng_eff_cmp_pct_flag	rsrc_self_adi	allow_complete	ts_rsrc_multi_assign	ts_rsrc_mar	ts_rsrc_wv	checkout_flg	project_flag	step_comple	cost_qty_rec_sur
68	%R	1202	Y		Y		Y	N	N	N	Y	N	N
69	%T	CALENDAR											
70	%F	clndr_id	default_flg	clndr_name	proj_id	base	clndr_id	last_chng_date	clndr_type	day_hr_cnt	week_hr_cnt	month_hr_cr	year_hr_cnt
71	%R	597	Y	01. 5d Standard Calendar 5d x 8h				#####	CA_Base	8	40	172	2000 (0) | CalendarDat
72	%R	1868	N	Standard	1202				CA_Project	8	40	172	2000 (0) | (0) (0) | C
73	%R	4187	N	Standard 5 Day Workweek				#####	CA_Base	8	40	172	2000 (0) | CalendarDat
74	%R	4288	N	5 day 40 h incl. public holidays				#####	CA_Base	8	40	172	2000 (0) | CalendarDat
75	%R	4289	N	7 day 56 h worldwide				#####	CA_Base	8	40	172	2000 (0) | CalendarDat
76	%R	4290	N	7 day 24 h/d worldwide				#####	CA_Base	8	40	172	2000 (0) | CalendarDat
77	%R	4338	N	5 day 40 h incl. public holidays	1202	4288			CA_Project	8	40	172	2000 (0) | CalendarDat
78	%R	4339	N	7 day 24 h/d worldwide	1202	4290			CA_Project	8	40	172	2000 (0) | CalendarDat
79	%R	4340	N	7 day 56 h worldwide	1202	4289			CA_Project	8	40	172	2000 (0) | CalendarDat
80	%R	4460	N	Possession	1202				CA_Project	8	40	172	2000 (0) | CalendarDat
81	%R	4461	N	5 day 40h night shift	1202	4288		#####	CA_Project	8	40	172	2000 (0) | CalendarDat

The "%T" shows the table name as it is defined in the P6 database and that is also the name you will see in report generators like PowerBI.

The same goes for the fields listed in the "%F" lines and there are a couple of special fields you should know about. That's the key fields which have names ending in the string "_id". The primary key is a mandatory, unique index for the table; for instance for the CALENDAR table the key field is "clndr_id" (like in cell B70).

Foreign keys are pointers to other tables' fields and does not need to be unique. For instance, in cell E70 the foreign key "proj_id" points back to the PROJECT table if the calendar is a Project calendar, while it will be blank for Global calendars

If you wish to dive further into this subject, you should download the EPPM Document Library from Oracle's "edelivery" site: <https://edelivery.oracle.com>. To gain access you need an Oracle ID but it's free to create one. The documentation is linked to a specific P6 version and you just need to download the one relevant for you. Upon extracting the ZIP file you start the web app by clicking on the "index.htm" file in the "root" folder and look under Technical Documentation > Database Schema Documentation.

Key	Name	Type	Description
PK	acct_id	integer	FK to ACCOUNT table - identifies cost account for activity
	acct_seq_num	integer	Sequence number for sorting
	acct_short_name	string(40)	Account code
	acct_name	string(100)	Account name
	parent_acct_id	integer	FK to ACCOUNT table - identifies parent in cost account hierarchy
	acct_descr	blob	Account description
	update_date	date	Refresh audit field of last date updated. Trigger maintained.
	update_user	string(255)	Refresh audit field of last user updated. Trigger maintained.
	create_date	date	Refresh audit field for date record created. Trigger maintained.
	create_user	string(255)	Refresh audit field for user that created the record. Trigger maintained.