Welcome to the
Eastwood Harris Pty Ltd
Primavera P6
Version 7
TRICKS AND TRAPS
PRESENTATION

Copyright of Eastwood Harris Pty Ltd

Purpose of the Presentation

- To demonstrate the P6 Version 7 bars functions, and

- To suggest some solutions for bar formatting issues.

Topics

TRICKY P6 FUNCTIONS

- Float on a Completed Activities

- Relationships on a Baseline Bar

- How to Create a Summary Bar

- Negative Float on a Complete Activity

- Why is Negative Float showing when it should not

- Summary Duration Calculations
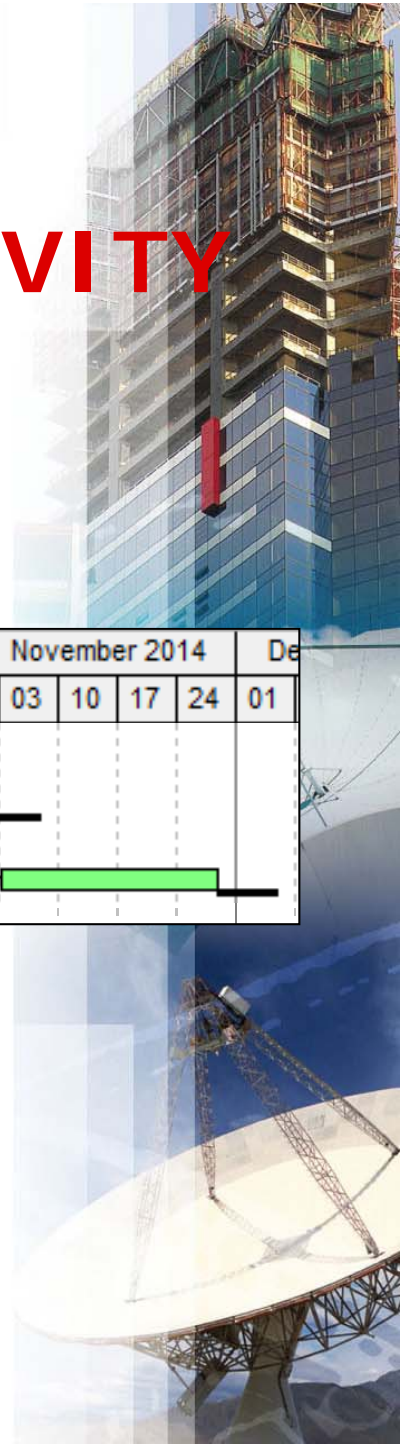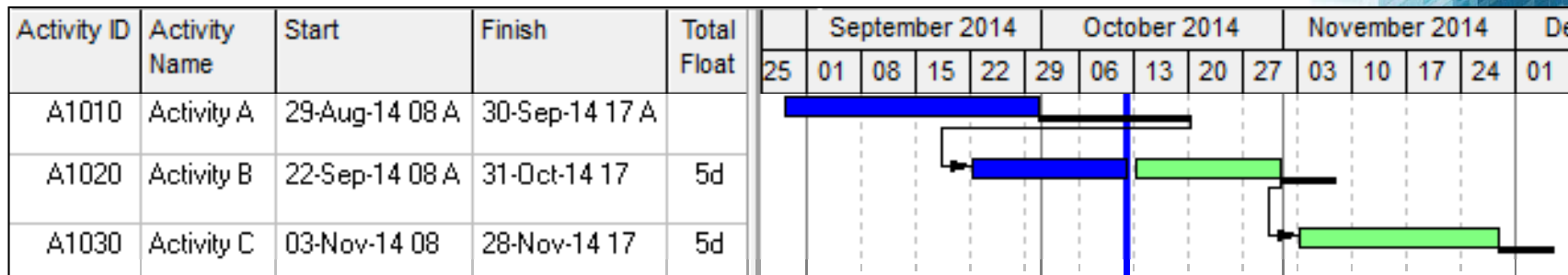
- Baseline Bar showing when no baseline is set

TECHNIQUES

- Bars without Successors are critical

- Multiple Project Float Calculation

- Start or End Float

- Activity Durations with Resources
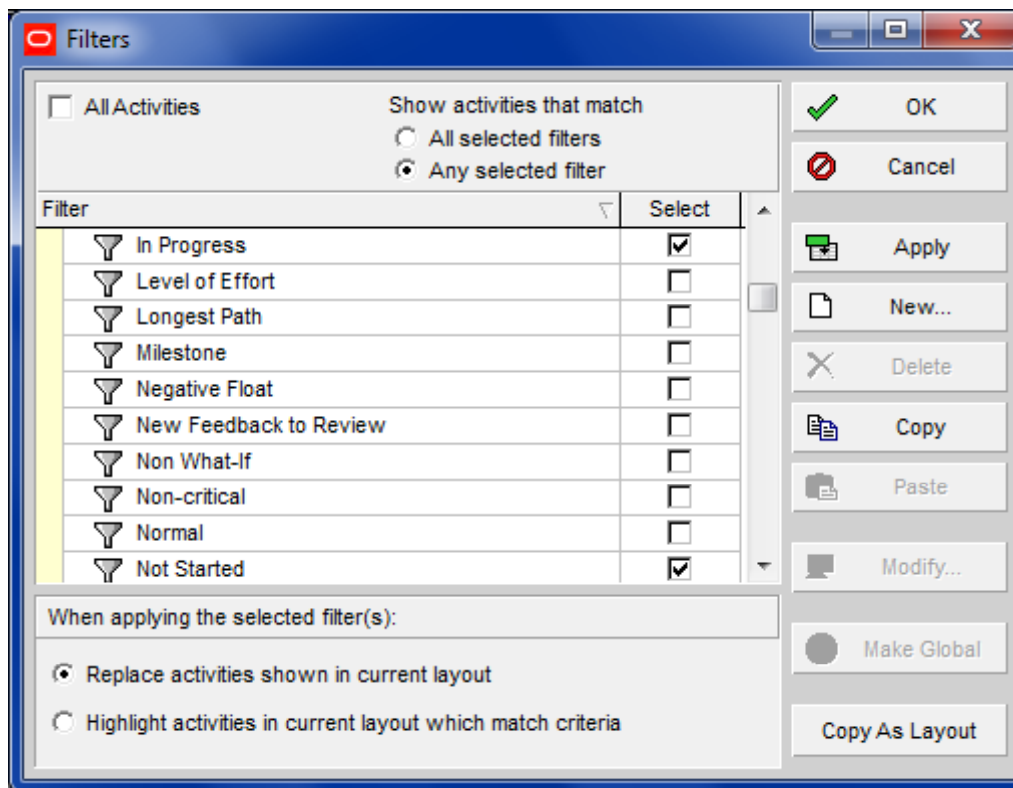
FLOAT ON A COMPLETED ACTIVITY

- By default a Total Float bar is displayed on a completed task, but the Float value is set to "Null", this is not logical:

Activity ID	Activity Name	Start	Finish	Total Float
A1010	Activity A	29-Aug-14 08 A	30-Sep-14 17 A	
A1020	Activity B	22-Sep-14 08 A	31-Oct-14 17	5d
A1030	Activity C	03-Nov-14 08	28-Nov-14 17	5d

FLOAT ON A COMPLETED ACTIVITY

- To remove this set the filter on the Float Bar in the in the **Bars** form to be **Not Started or In Progress**:

Display	Name	Timescale	User Start Date	User Finish Date	Filter	Preview
☑	Float Bar	Float Bar			Not Started or In Progress	▬▬▬▬

FLOAT ON A COMPLETED ACTIVITY

Activity ID	Activity Name	Start	Finish	Total Float	September 2014					October 2014				November 2014				D
					25	01	08	15	22	29	06	13	20	27	03	10	17	24	01
A1010	Activity A	29-Aug-14 08 A	30-Sep-14 17 A																
A1020	Activity B	22-Sep-14 08 A	31-Oct-14 17	5d															
A1030	Activity C	03-Nov-14 08	28-Nov-14 17	5d															

RELATIONSHIPS ON A BASELINE BAR

- To remove relationships on the Baseline bar, move in to the Baseline bars to the bottom of the Bars form:
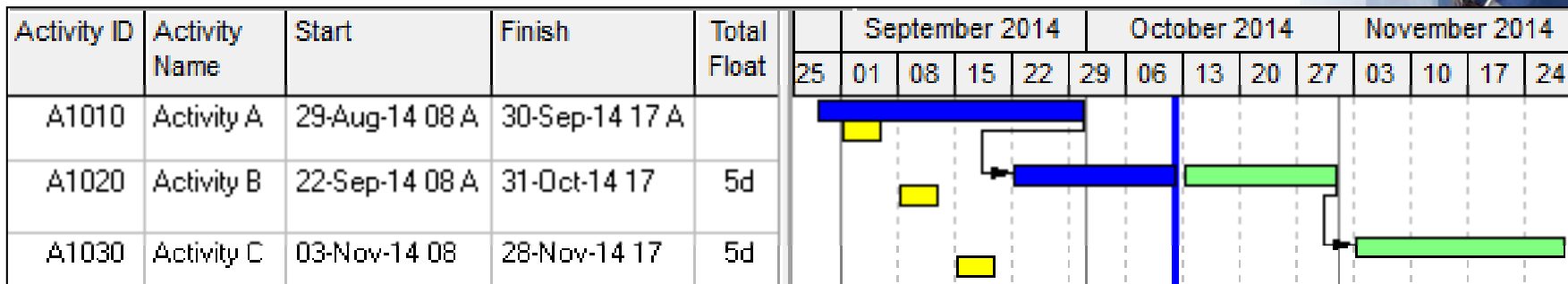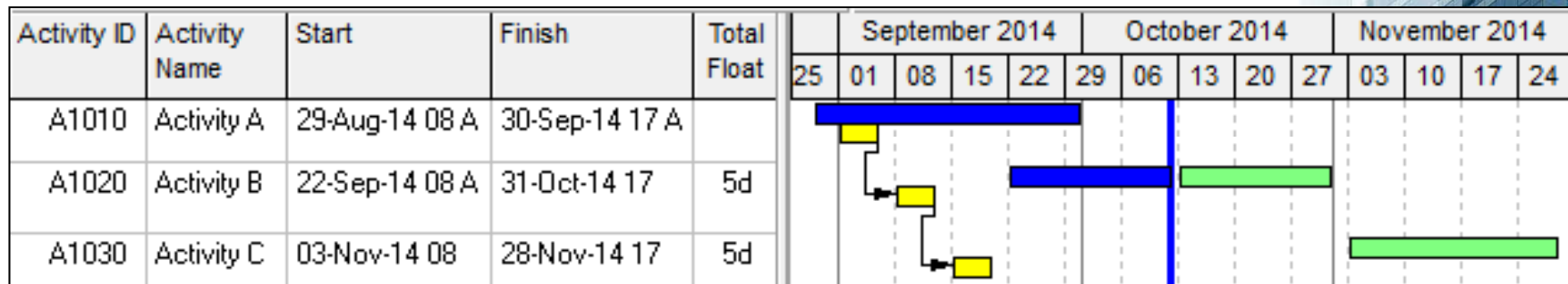
HOW DO YOU CREATE A SUMMARY BAR

- To create a new summary bar you will see that you can not select **Summary** from the filter drop down box:

Display	Name	Timescale	User Start Date	User Finish Date	Filter	Preview
☑	Summary	Current Bar			Summary	▬▬▬▶

HOW DO YOU CREATE A SUMMARY BAR

- Open to the **Bars** form, **Bar Settings** tab and select **Show bar for grouping bands**:

NEGATIVE FLOAT IS SHOWING WHEN IT SOULD NOT

- Why do I have one day Negative Float:

NEGATIVE FLOAT SHOULD NOT BE SHOWING

- Always show the time when scheduling as P6 does not have a default start or finish time and often selects 00:00 as the time when setting actuals or constraints:

A GAP BETWEEN THE DATA DATE AND ACTIVITY BAR

- When an activity is complete the Early Start and Early Finish are set to the Data Date, 12 Oct at midnight, NOT to the Actual Start as in many other products,

- When an activity is in progress the Early Start is set to the Activity calendar Start Date and Time NOT to the Actual Start as in many other products.

- To prevent this stet the Data Date to the Activity Calendar Start Date:
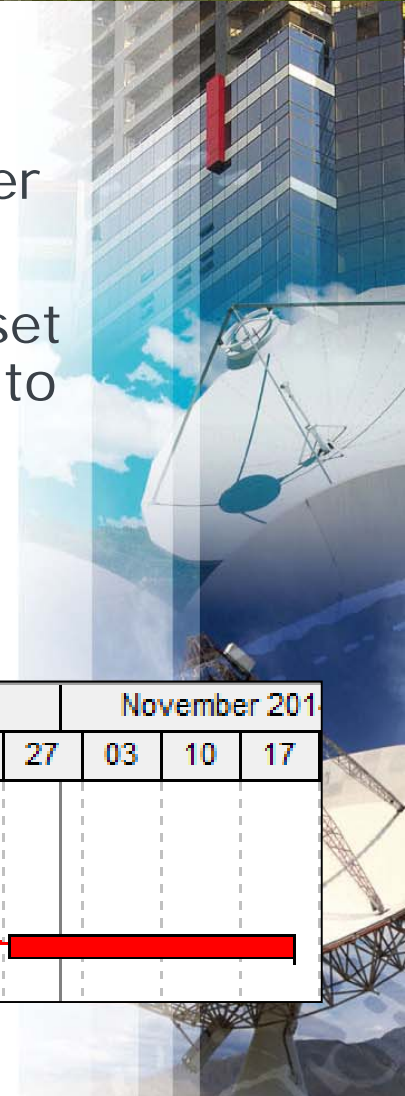
Activity ID	Activity Name	Early Start	Early Finish
A1010	Activity A	12-Oct-14 00	12-Oct-14 00
A1020	Activity B	13-Oct-14 08	24-Oct-14 17
A1030	Activity C	27-Oct-14 08	21-Nov-14 17

HOW DO SUMMARY DURATIONS CALCULATE

- What Bars are these?

Database Default Calendar, WBS and Project Durations – Version 6.2 & Earlier

- The durations of all bands such as Project, WBS, and Resources are calculated from:

  - The Database **Default Calendar** and

  - The **Hours/Day** setting in the **Edit**, **User Preferences…**, **Time Units** tab.

- The following picture show the duration of the workshop used in this publication set at firstly 5 days per week, 8 hours per day and a duration of 35 days with an Hours/Day setting of 8 hours.

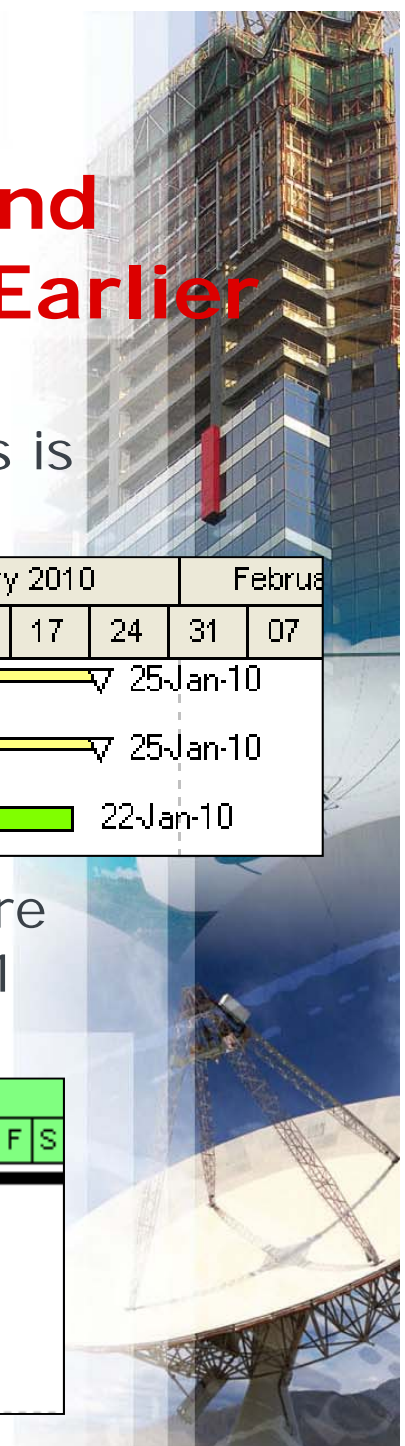| Project ID	At Completion Duration	er 2009			December 2009				January 2010				Februa
		15	22	29	06	13	20	27	03	10	17	24	31	07
◆ BIDS	35	07-Dec-09 A ▽━━━━━━━━━━━━━━━━━━▽ 25-Jan-10											
◇ OzBuild	35	07-Dec-09 A ▽━━━━━━━━━━━━━━━━━━▽ 25-Jan-10											
REF101206	35	07-Dec-09 ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇ 22-Jan-10											

Database Default Calendar, WBS and Project Durations – Version 6.2 & Earlier

- Now with the **Default Calendar** changed to a 7 day/week 24 hour per day the duration of 139 days is clearly misleading,

- The duration of the Project Summary WBS Nodes are also clearly misleading, the Research Node is not 31 days long.
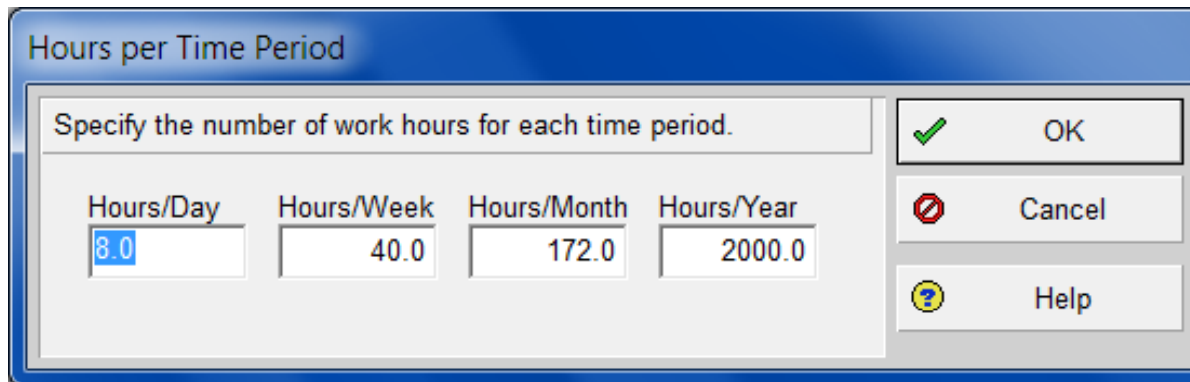
Database Default Calendar, WBS and Project Durations – Version 6.2 & Earlier

- There are some issues that need to be carefully considered when planning and controlling multiple projects with different calendars in one database when the correct durations in days are important,

- Primavera performs best when the all calendars in all the projects are set with the same hours per day,

- If this is not possible you may consider:

  - Showing durations in hours only,

  - Creating a separate database for projects that require a different hours per day,

  - Not displaying the durations against Project nodes, WBS nodes and any other summary nodes by not checking the **Show Group Totals** in the **Group and Sort** form,

  - Create a global change to put the correct duration in a text field.

Calculation of Activity Duration in Days – Version 7

- In earlier version of P6 the calculation of the durations in hours for all calendars was set either by the Administrator in **Admin**, **Admin Preferences…**, **Time Periods** tab or by the User in the **Edit**, **User Preferences…**, **Time Units** tab.

- Primavera Version 7 has removed these two options above and has created of a new calendar function for each titled **Hours per Time Period**:

Hours per Time Period

Specify the number of work hours for each time period.

Hours/Day	Hours/Week	Hours/Month	Hours/Year
8.0	40.0	172.0	2000.0

✓ OK

⊘ Cancel

? Help

Calculation of Activity Duration in Days – Version 7

- The picture below has the Project Default calendar set as the 8hr/d & 5d/w and the picture shows that when the calendars are different then the Project Default calendar is used to calculate the summary duration for WBS Nodes, Projects etc:

Activity ID	Calendar	Original Duration
Calendars Durations		10d
Calendars = Project Default	8hr/d & 5d/w	10d
A1030	8hr/d & 5d/w	10d
A1040	8hr/d & 5d/w	7d
A1050	8hr/d & 5d/w	5d
Calendars all different		10d
A1060	7 x 24hr. Days	12d
A1070	8hr/d & 7d/w	12d
A1080	8hr/d & 5d/w	10d
Calendars NOT = Project Default	7 x 24hr. Days	12d
A1090	7 x 24hr. Days	12d
A1100	7 x 24hr. Days	5d
A1110	7 x 24hr. Days	8d

A BASELINE BAR IS DISPLAYED WHEN NO BASELINE SET

- This issue is due to the planned dates

Planned Dates

- The Planned Dates are very complex and their calculation method is outlined in the book, in summary:

- When an activity is **Complete** or **In-progress** they match the status of the schedule before the last update,

- When an activity has Not Started they match the Early Start and Early Finish.

Activity ID	Activity Name	Planned Start	Planned Finish
Date field example			
A1000	A	01-Nov-10	26-Nov-10
A1010	B	29-Nov-10	24-Dec-10
A1020	C	31-Dec-10	27-Jan-11

Planned Dates Issues

- The Planned Dates are dates that most schedulers would not want displayed,

- These dates are displayed as the **Project Baseline** bars and **Primary User Baseline** bars when no baseline has been assigned,

- You must be sure that all users set their **Primary User Baseline** baselines before they display the bars.
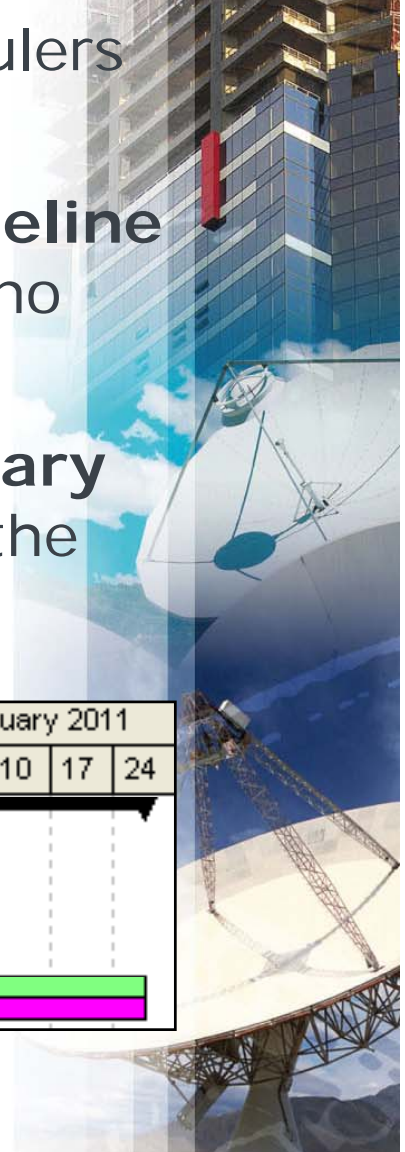
BARS WITHOUT SUCCESSORS ARE CRITICAL

- This is useful if you have not complete a schedule and need to present it but do not want to show all the long float bars when the schedule has not had all the successors added:

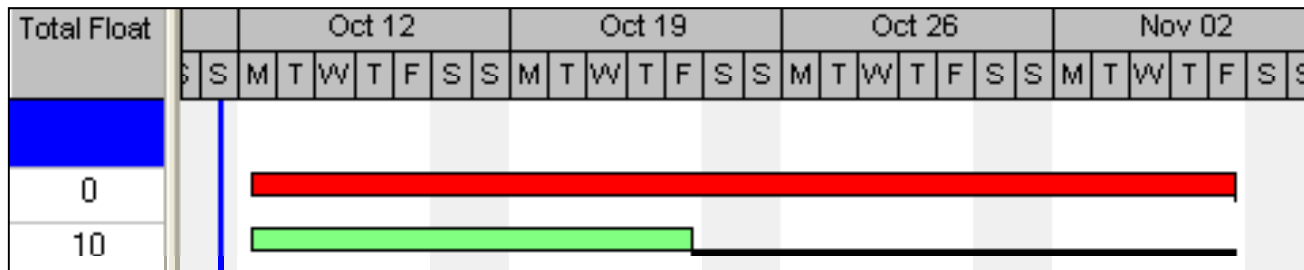| Total Float		Oct 12	Oct 19	Oct 26	Nov 02
	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
0							
0							

Scheduling Options – Make Open Ends Critical
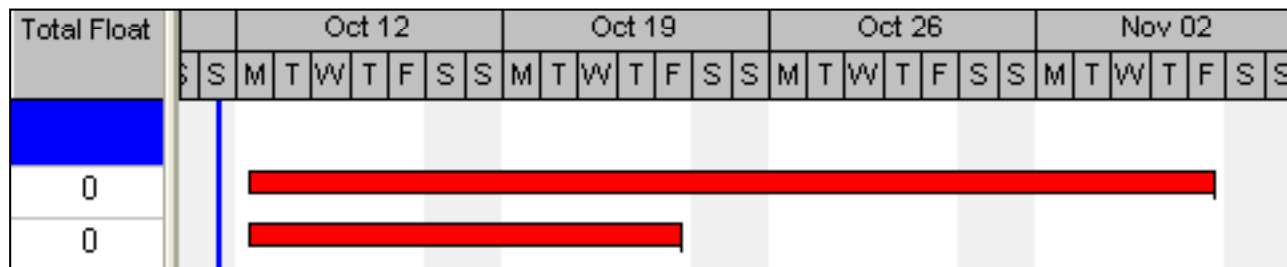

Bar Refaeli

Make Open-ended Activities Critical

- Activities without a successor as displayed as critical when they have float, this option makes the Late Dates equal the Early Dates when an activity has no successor.
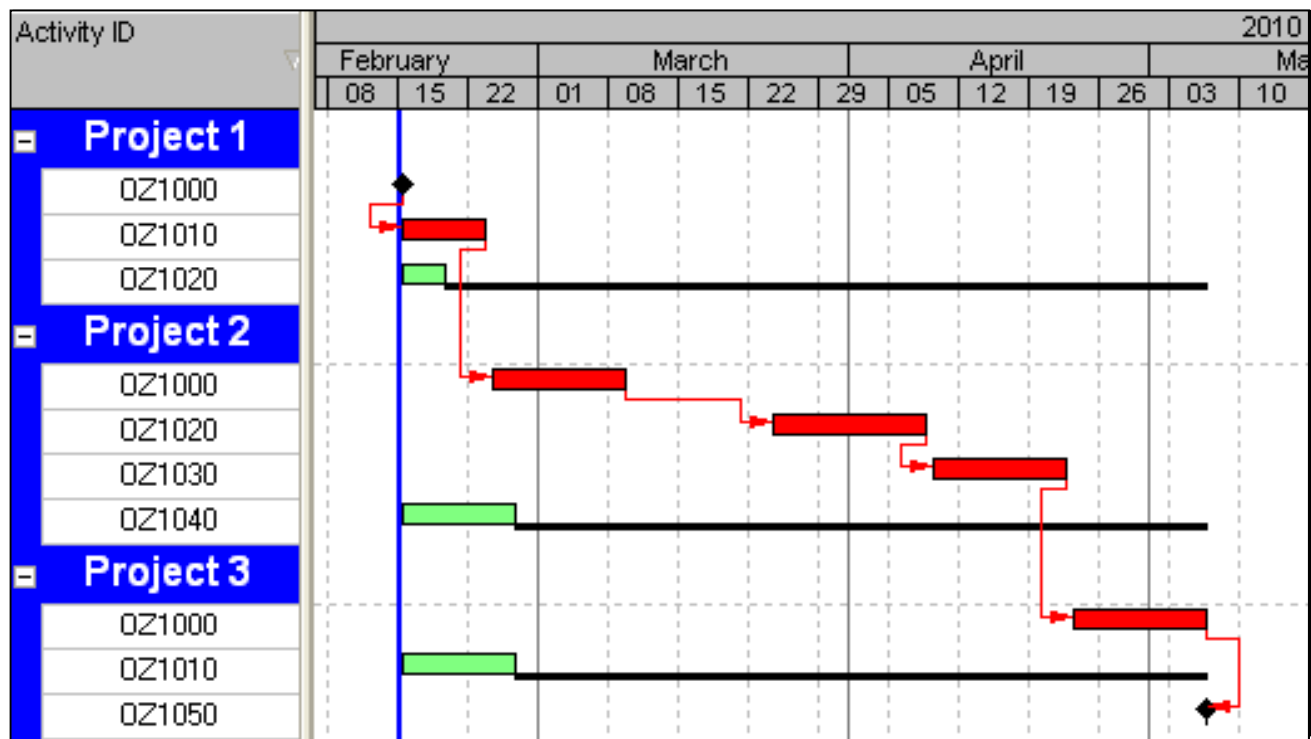
- Open-ends Not Critical:

Total Float		Oct 12	Oct 19	Oct 26	Nov 02
	S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S S
0					
10					

- Open-ends Critical:

Total Float		Oct 12	Oct 19	Oct 26	Nov 02
	S	S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S S
0					
0					

Calculate float based on finish date of

New to Primavera Version 6.2:

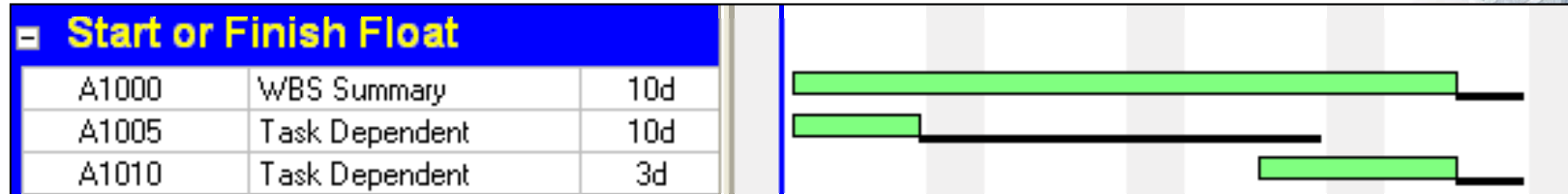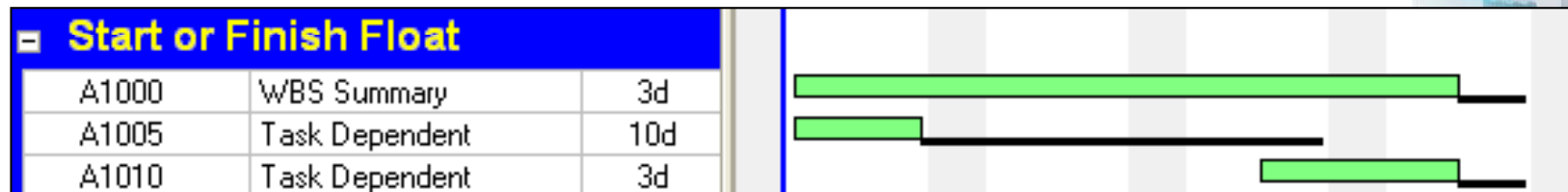- Each project
- Opened projects

Compute Total Float as

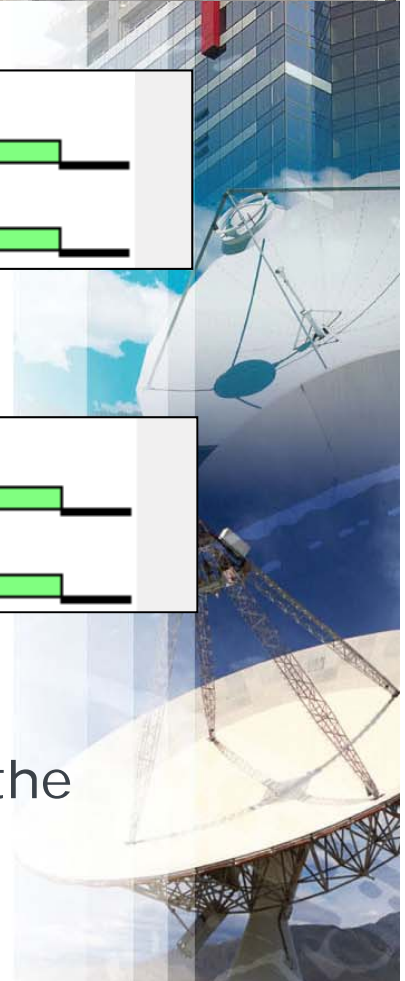There are three options for this calculation:
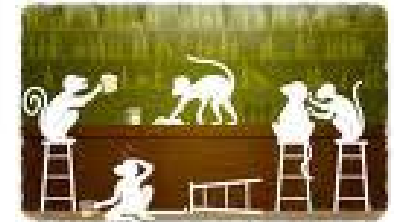
- Start Float = Late Start – Early Start

- Finish Float = Late Finish – Early Finish

- Smallest of Start Float and Finish Float

- **Note:** It can be seen from the pictures above that the Total Float bar only displays the Finish Float.

Drive activity dates by default

- When this option is switched **OFF** it is possible for a resource to calculate outside the activity duration,

- When it is switched **ON** the resource durations are linked to the activity duration:

Activity ID	Activity Type	Original Duration	Start	Finish
Drive Activity Dates		20d	01-Feb-10	26-Feb-10
A1000	Resource Dependent	10d	01-Feb-10	12-Feb-10
A1010	Resource Dependent	10d	15-Feb-10	26-Feb-10

Activity ID	Activity Type	Original Duration	Start	Finish
Drive Activity Dates		20d	01-Feb-10	26-Feb-10
A1000	Resource Dependent	10d	01-Feb-10	12-Feb-10
A1010	Resource Dependent	10d	15-Feb-10	26-Feb-10

Resources

Activity A1000   New Activity

| Resource ID Name	Drive Activity Dates	Remaining Duration	Remaining Units / Time	Start	Finish	Calendar
PEH.Paul E Harris	☑	10d	8/d	01-Feb-10	12-Feb-10	Standard
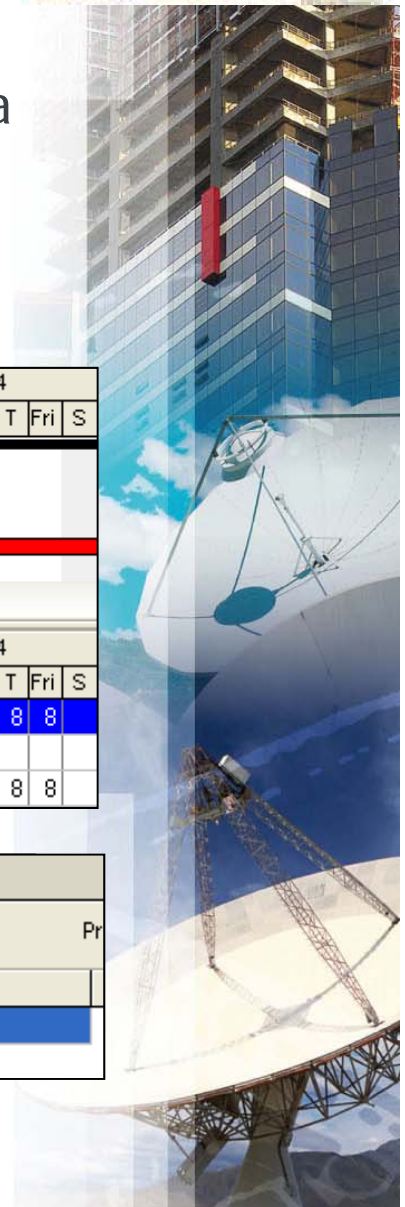
Activity Durations

- An Activity Duration is adopted from the longest Resource Duration,

- When more than one Resource has been assigned to an activity with different Units and/or Units/Time, the Resources many have different durations,

- In the following example the Activity Duration is 10 days, which is calculated from David William's **Resource Original Duration** of 10 days:

Activity ID	Activity Name	Original Duration
A1050	Duartion Type - Fixed Units	10d

Oct 13

General | Resources | Status

Activity A1050 — Duartion Type - Fixed Units

| Role ID	Resource ID Name	Original Lag	Original Duration	Remaining Units	Remaining Units / Time
Oz.SE	ARL.Angela Lowe	0d	5d	40.00h	100%
Oz.BM	DTW.David Williams	0d	10d	40.00h	50%
Oz.CS	MAY.Melinda Young	0d	5d	40.00h	100%
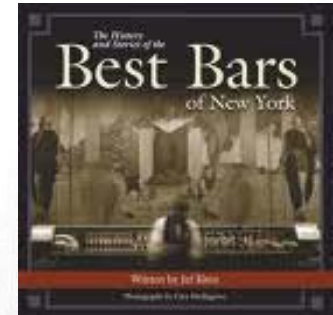
Resource Lag

- A Resource may be assigned a Lag, the duration from the start of the activity to the point at which the Resource commences work,

- In the following example the Activity Duration is 12 days, which is calculated from Angela Lowe's **Resource Original Lag** of 7 days and **Resource Original Duration** of 5 days:

Activity ID	Activity Name	Original Duration
A1050	Duartion Type - Fixed Units	12d

Oct 13

General | Resources | Status

Activity A1050 | Duartion Type - Fixed Units

Role ID	Resource ID Name	Original Lag	Original Duration	Remaining Units	Remaining Units / Time
Oz.SE	ARL.Angela Lowe	7d	5d	40.00h	100%
Oz.BM	DTW.David Williams	0d	10d	40.00h	50%
Oz.CS	MAY.Melinda Young	0d	5d	40.00h	100%
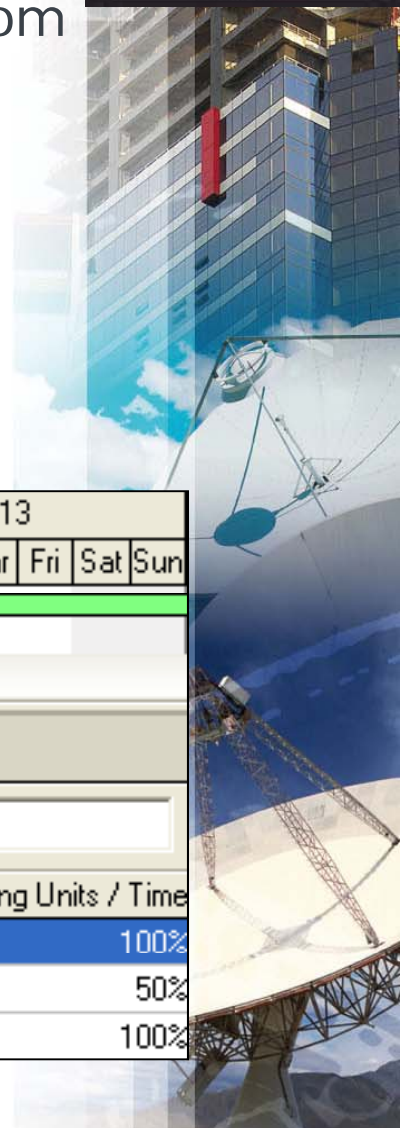
COST MANAGEMENT USING WBS ACTIVITIES AND EXPENSES

- P6 was developed without the ability to catch and collect costs at WBS Node,

- Many software packages do collect costs at WBS Node which includes SAP,

- This section will outline how one can use WBS Activities and Expenses to manage costs collected by another system and imported into P6.

Set Up the User Definable Fields

In order to import cost at WBS Node I suggest:

- Create a WBS Activity in WBS Node to manage costs.

- Assign Costs to Expenses, then you will not run into issues such as the Cost zeroing out when the Remaining Duration equals Zero as may happen with resources.

- P6 Expenses only have Budget, Actual, Remaining and At Completion cost fields.

- Costs have a number of elements, including Budget, Committed, Received, Quality Checked, Invoices, Outstanding Commitment against contracts and orders, Unallocated WBS funds (Remaining Contingency).

Set Up the User Definable Fields – continued....

To manage these cost fields:

- Set up Expense User Definable Fields to import the costs into.

- Costs in the **Expense User Definable Fields** may then be Global Changed into the appropriate Expense field for reporting and comparing to the Baseline.

- Set up **Activity User Definable Fields** to import the costs into to display the costs in columns as Expense User Definable Fields may not be displayed in Gant chart columns.

- Both the **Expense User Definable Fields and the Activity User Definable Fields are identical and the costs end up in three places, Expense Costs, Expense User Definable Fields and**

Set Up the User Definable Fields – continued….

All the following fields contain the same costs:

- **Expense User Definable Fields** which hold all the different types of costs and are used to import costs into.

- **Expense Costs** fields which are populated by a Global Change from the Expense User Definable Fields

- **Activity User Definable Fields** allowing costs to be show in Gantt Chart Columns.

Set Up the User Definable Fields – continued....

- Set up User Definable Fields as per below,

- The Activity and Expense are identical,

- The "PO" prefix keeps the order in the database and keeps the fields together.

User Defined Fields

Activities

Display: User Defined Fields

Title	Data Type
PO-01 Original Budget	Cost
PO-02 Current Budget	Cost
PO-03 Original Commitment	Cost
PO-04 Current Commitment	Cost
PO-05 Delivered	Cost
PO-06 Quality Checked	Cost
PO-07 Invoiced	Cost
PO-08 Accrewed	Cost
PO-09 Outstanding Commitment	Cost
PO-10 Unalocated Funds	Cost

Close   Add   Delete   Help

User Defined Fields

Project Expenses

Display: User Defined Fields

Title	Data Type
PO-01 Original Budget	Text
PO-02 Current Budget	Text
PO-03 Original Commitment	Cost
PO-04 Current Commitment	Cost
PO-05 Delivered	Cost
PO-06 Quality Checked	Cost
PO-07 Invoiced	Cost
PO-08 Accrewed	Cost
PO-09 Outstanding Commitment	Cost
PO-10 Unallocated funds	Cost

Close   Add   Delete   Help

Set Up the User Definable Fields – continued….

All the following fields contain the same costs:

- **Expense User Definable Fields** which hold all the different types of costs and are used to import costs into.

- **Expense Costs** fields which are populated by a Global Change from the Expense User Definable Fields

- **Activity User Definable Fields** allowing costs to be show in Gantt Chart Columns.

Assign Expenses

- Assign Expenses against the WBS Activities with their Budget and At Completion Costs,

- Baseline the project,

- Update the Activities.

Activity ID	Orig Dur	BL Project Expense Cost	Actual Expense	Remaining Expense Cost	At Completion Expense Cost
WBS Summ	185d	A$600.00	A$198.31	A$401.69	A$600.00
WBS 1	86d	A$100.00	A$100.00	A$0.00	A$100.00
WBS-1	86d	A$100.00	A$100.00	A$0.00	A$100.00
XX1010	0d	A$0.00	A$0.00	A$0.00	A$0.00
XX1020	25d	A$0.00	A$0.00	A$0.00	A$0.00
XX1030	21d	A$0.00	A$0.00	A$0.00	A$0.00
XX1040	22d	A$0.00	A$0.00	A$0.00	A$0.00
XX1050	18d	A$0.00	A$0.00	A$0.00	A$0.00
WBS 2	59d	A$200.00	A$98.31	A$101.69	A$200.00
WBS-2	59d	A$200.00	A$98.31	A$101.69	A$200.00
XX1070	23d	A$0.00	A$0.00	A$0.00	A$0.00
XX1080	16d	A$0.00	A$0.00	A$0.00	A$0.00
XX1090	20d	A$0.00	A$0.00	A$0.00	A$0.00
WBS 3	40d	A$300.00	A$0.00	A$300.00	A$300.00
WBS-3	40d	A$300.00	A$0.00	A$300.00	A$300.00
XX1110	20d	A$0.00	A$0.00	A$0.00	A$0.00
XX1120	20d	A$0.00	A$0.00	A$0.00	A$0.00
XX1130	0d	A$0.00	A$0.00	A$0.00	A$0.00
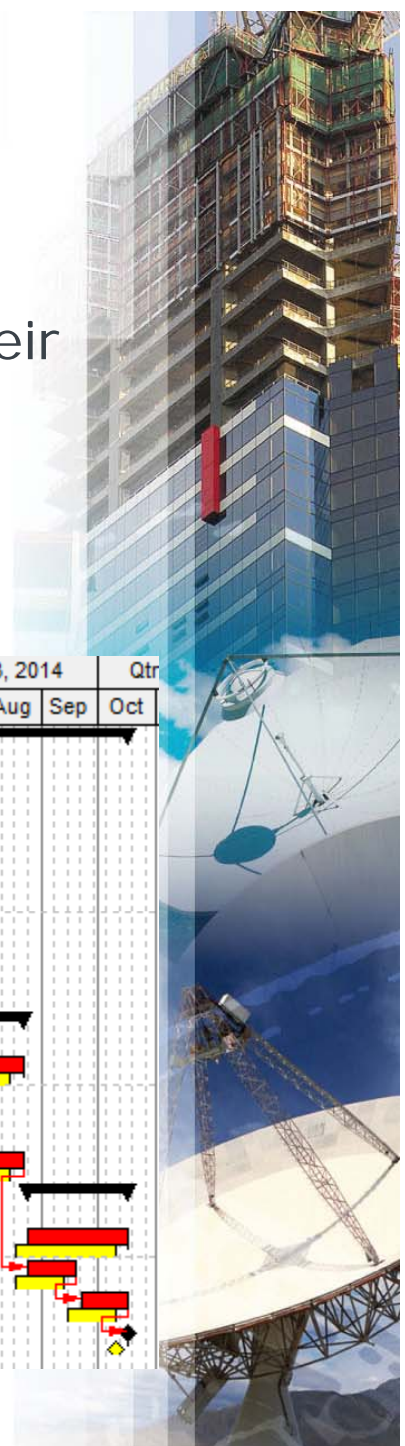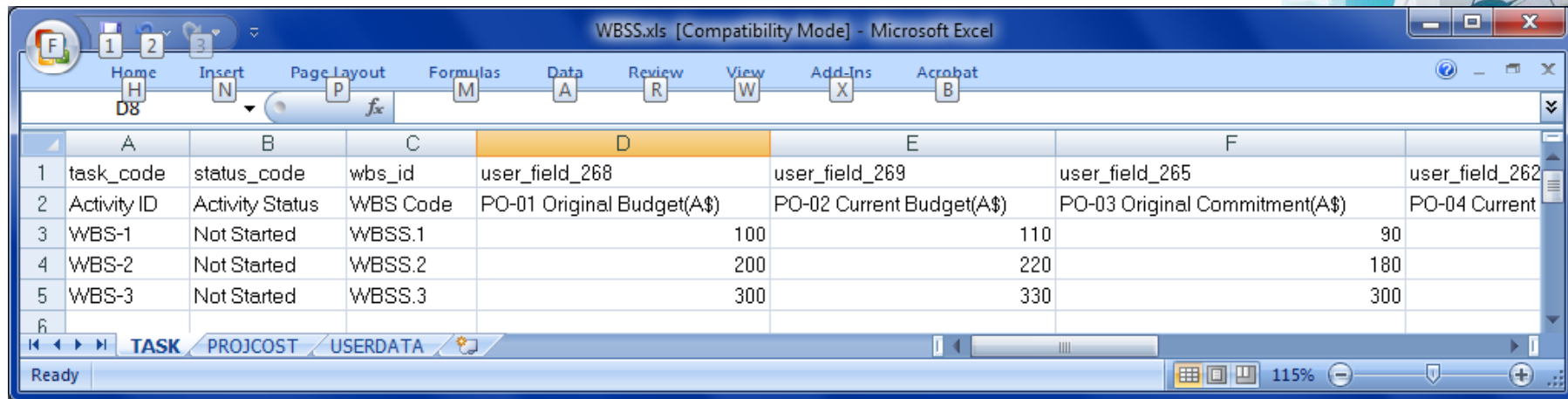
Export the UDS Fields to Excel

- Export the Activity and Expense UDF Fields to Excel to be populated and import, create a template as per below,

- Filter just on WBS Activities:
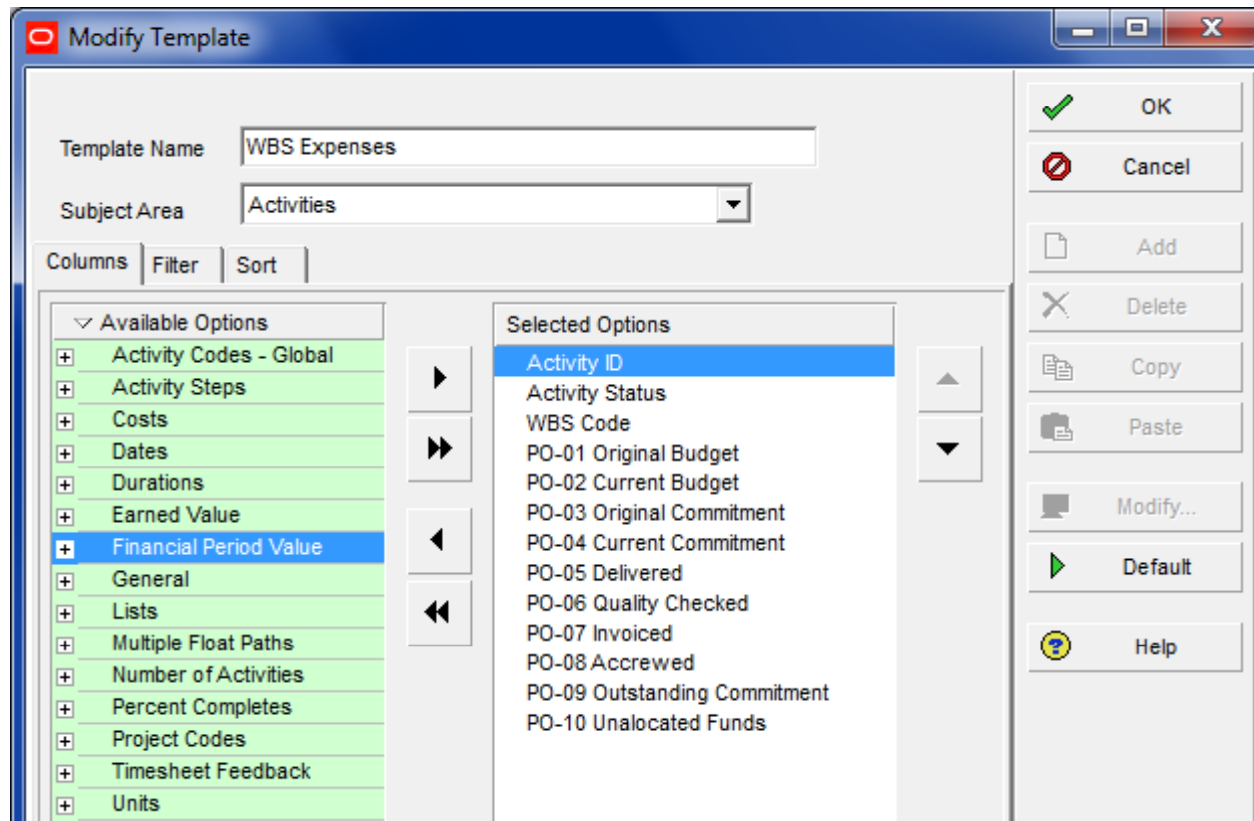
Update the Spread Sheet & Import

- The Activity and Expenses Spread Sheet will both have exactly the same fields,

- Populate one TASK sheet and Copy & Paste to the PROJCOST sheet,

- Import the data:

Review Data

- Review the data, the costs should be assigned against the Activity UDFs and the Expense UDFs:

Global Change UDF into Expense Columns

- Depending on what cost you want put where run a Global Change like the one below:

Review Data

- The UDF Values for Activities and Expenses should be the same:

Presented by
Eastwood Harris Pty Ltd Suppliers of Primavera and Microsoft Project books and training material
www.primavera.com.au
www.eh.com.au