Presentation for DOAG Regional Meeting

September 7, 2011:

One More Oracle Product:

*Primavera*,

A Practitioner’s Point of View

Dieter Wambach
- **Head of Scheduling, Ferrostaal Industrieanlagen**
- **Studies:** Business and Mathematics
- **Experience:**
  - Systems Analyst, IT Project Manager, Head of IT, Head of Scheduling
  - Oracle Admin-Training for 7.3
  - Planning for: software development, finance, oil & gas, biofuels, industrial plants, refineries, new product development, etc.
  - Standards for project management for different companies
  - Trainer for Primavera (P6 and P3; own licence since 1995), project costing, and project management
  - Biggest Primavera project I handled: 191,000 activities

- **Active in PMI, Chapter Frankfurt**
History and Basic Concept of Primavera

- **First issued:** 1983, new version P3e: 1999 (current: P6 R8)
- **First customer in Germany:** 1989 (Mannesmann Mobilfunk
  \(\rightarrow\) Create D2-Net for mobile communication)
- **Scope:** (Multi-)Project-Planning & Controls, Costing,
  Resource-Planning, Progress-Measurement, KPIs
- **Basic Concept:** One central database, access by all
  planners simultaneously to all projects from all locations
- **Access:** Direct, via Citrix, or web-based
- **Supported databases:** Oracle, MS-SQL
- **State of the Art for:** Construction, Administration, IT-
  Manufacturers, Finance
Primavera, Typical Installation

Project a
Project b
Project c
...

P6-server: with databases for different BU's or one central db

Venuses:
- Other locations
- Contractors, customers

Via Citrix or WEB:
- Sites (world-wide)

Direct, via Citrix or Web:
- Tech-Support e.g. Oracle

Interfaces:
- HQ-Users

HQ

Oracle Applications, SAP + other software
Primavera Basics

- State of the art for complex projects, e.g. plants
- Powerful coding, filters (multi-level, using Boolean Algebra), layouts (per project, per user) → well supported reporting
- All projects, resources, reports, layouts, … in one database
- Relationships between projects, common calculation if appropriate rights
- By design Primavera forces the user to keep standards
- GUI: All functions/views work the same way
- Scenario planning, project costing, Earned Value, different KPI covered by standard
- Percent complete per activity
- Sophisticated security options, high level of data security
- Scalable, no real limits for data
Primavera Basics: Multi Project Management (1)

Program / System 1

Related Projects

Project 1

Project 2

Project 3

Project 4

Project 5

Project 6

Project n

MS = Milestone Plan
OC = Overall Control Plan
SP = Sub Projects
Primavera Basics: Multi Project Management (2)

Program Milestones

Project Milestones

Proj.1

Proj.2

Proj.3

Proj.4

Proj.5

Proj.n

Inter Project Relationships

Management Overview Project:
Fast overview on all related projects; focussed on Management-Information

Management Overview Project

From Inteco, www.inteco.de
Resource Usage (Over Allocation) (1)

„Boss, I need more staff!“

Or … ?
Resource Planning

Planning: related to time, location, deliveries of

- Persons
- Machines, equipment, material…

Target

- Assign required qualifications to projects when needed
- Level resource usage / Avoid peaks
- Assign resources to projects related to their strategic priority
- Tool for skill management
Basics of Resource Planning

- **Resources:**
  - Labour
  - Non-labour (equipment, machinery)
  - Material
- **Roles** (=qualification; labour and non-labour)
- **Assigned to activities** (“Bucket Planning” in web-tool on WBS level)
- **Budgeted units fixed or depending on planned, actual and %-complete** (→EAC)
- **Parameter settings for:**
  - Resource
  - Project/WBS
  - Activity
  - User
### Influence of Activity’s Duration Type

<table>
<thead>
<tr>
<th>Activity duration type</th>
<th>When you change units, this value changes...</th>
<th>When you change the duration, this value changes...</th>
<th>When you change units/time, this value changes...</th>
<th>When you add the first resource, this value changes...</th>
<th>When you add additional resources, this value changes...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Units/Time</td>
<td>Duration</td>
<td>Units</td>
<td>Duration</td>
<td>Units</td>
<td>Duration</td>
</tr>
<tr>
<td>Fixed Duration &amp; Units/Time</td>
<td>Units/Time</td>
<td>Units</td>
<td>Units</td>
<td>Units</td>
<td>Units</td>
</tr>
<tr>
<td>Fixed Units</td>
<td>Duration</td>
<td>Units/Time</td>
<td>Duration</td>
<td>Units</td>
<td>Units/Time of each resource</td>
</tr>
<tr>
<td>Fixed Duration &amp; Units</td>
<td>Units/Time</td>
<td>Units/Time</td>
<td>Units</td>
<td>Units</td>
<td>Units/Time of each resource</td>
</tr>
</tbody>
</table>

*P7 Manual P 277*
Resource/Role Master Data (extract)

Roles:

<table>
<thead>
<tr>
<th>General</th>
<th>Resources</th>
<th>Prices</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculate costs from units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate Type</td>
<td>Price / Unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price / Unit1</td>
<td>85.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price / Unit2</td>
<td>54.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price / Unit3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price / Unit4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price / Unit5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calendar:
- Standard 5 Day 0.8 Workweek

Default Units / Time:
- 40h
### Project Master Data (Extract) (1)

<table>
<thead>
<tr>
<th>General</th>
<th>Notebook</th>
<th>Budget Log</th>
<th>Dates</th>
<th>Funding</th>
<th>Codes</th>
<th>Defaults</th>
<th>Resources</th>
<th>Settings</th>
<th>Calculations</th>
</tr>
</thead>
</table>

#### Defaults for New Activities

- **Duration Type**: Fixed Duration & Units
- **Percent Complete Type**: Duration
- **Activity Type**: Task Dependent

#### Auto-numbering Defaults

- **Activity ID Prefix**: P1
- **Auto-numbering**: Task Dependent
- **Start Milestone**: 10

**Increment Activity ID based on selected activity**
<table>
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</tr>
</thead>
</table>

### Activities
- Default Price / Unit for activities without resource or role Price / Units: 98.00 €/h
- **Activity percent complete based on activity steps**
- Link Budget and At Completion for not started activities
- Reset Original Duration and Units to Remaining
- Reset Remaining Duration and Units to Original

### Resource Assignments
- When updating Actual Units or Cost:
  - Add Actual to Remaining
  - Subtract Actual from At Completion
  - Recalculate Actual Units and Cost when duration % complete changes
- Update units when costs change on resource assignments
- Link Actual and Actual This Period Units and Cost
## Assignment Data (Extract)

<table>
<thead>
<tr>
<th>General</th>
<th>Status</th>
<th>Resources</th>
<th>Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Resources

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Role</th>
<th>Rate Source</th>
<th>Hours / Time</th>
<th>Rate / Unit</th>
<th>Budgeted Units</th>
<th>Units This Period</th>
<th>Actual Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Painting Crew</td>
<td>Sitework</td>
<td>Resource</td>
<td>640h/d</td>
<td>0.00 €/h</td>
<td>9600h</td>
<td>0h</td>
<td>9600h</td>
</tr>
</tbody>
</table>

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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Remaining Units

<table>
<thead>
<tr>
<th>Remaining Units</th>
<th>Units/Time</th>
<th>At Completion Units</th>
<th>Start</th>
<th>Finish</th>
<th>Calendar</th>
<th>Curve</th>
</tr>
</thead>
<tbody>
<tr>
<td>0h</td>
<td>8h/d</td>
<td>9600h</td>
<td>28-Sep-2006</td>
<td>14-Oct-2006</td>
<td>School District 5 Day</td>
<td></td>
</tr>
</tbody>
</table>
Individual Preferences

User Preferences

<table>
<thead>
<tr>
<th>Time Units</th>
<th>Resource Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates</td>
<td>When adding or removing multiple resource assignments on activities</td>
</tr>
<tr>
<td>Currency</td>
<td>- Preserve the Units, Duration, and Units/Time for existing assignments</td>
</tr>
<tr>
<td>Email</td>
<td>- Recalculate the Units, Duration, and Units/Time for existing assignments based on the activity Duration Type</td>
</tr>
<tr>
<td>Assistance</td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td></td>
</tr>
<tr>
<td>Password</td>
<td></td>
</tr>
</tbody>
</table>

Resource Analysis

Calculations

Startup Filters

Assignment Staffing

- When assigning a resource to an existing activity assignment:
  - Always use the new resource's Units per Time and Overtime factor
  - Always use current assignment's Units per Time and Overtime factor
  - Ask me to select each time I assign

- When a resource and role share an activity assignment:
  - Always use resource's Price per Unit
  - Always use role's Price per Unit
  - Ask me to select each time I assign

Display the Role Limit based on

- Custom role limit
- Calculated primary resources' limit
... and After Assignment ("Finisher")
My team is overcharged!
Resource Planning: Why

- Costs for personnel is a major part of project costs
- Restricted availability of skilled personnel
- Many projects simultaneously; use same resources
- Different time frames e.g. start dates and durations
- Focus on projects according to their strategic priority
- Check availability in different locations
- Some resources can only work one project a time, e.g. test equipment
Live Presentation
Discussion