

Prepared October 2001  
by  
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*With input from Primavera*

*Aberdeen Computer Services (ACS) has been a Primavera Authorised Representative in Aberdeen, Scotland for six years. Prior to signing on with Primavera, ACS was an authorized reseller for Welcom. The majority of Primavera software licences that ACS has sold during the past six years are in the Maintenance & Turnaround environment. To date, ACS has struggled to migrate Primavera Project Planner® 3.1 (P3® 3.1) customers to Primavera Project Planner® for the Enterprise (P3e®).*

**Overview:**

*This paper outlines the compelling reason(s) for the typical Maintenance & Turnaround (M&T) customer to migrate from P3 to P3e 3.0. The basis for implementing this plan is based on the fact that on average it takes 1 year to build a plant that will be maintained for 25+ years. This means that the owner of the plant will be required to execute on daily maintenance, capital projects, and numerous turnaround and shutdown projects during the life of the plant. Therefore, ACS believes that the project management sales potential for owners far exceed that of EPCs and specialty contractor.*

*The information put forth in the document reflects the experiences and thoughts of ACS.*

## Maintenance & Turnaround Migration Plan

The existing Maintenance & Turnaround customers who utilize Primavera's scheduling software have achieved a capability maturity model (CMM) level of 3 or 4, with 5 as the highest level possible. The functionality that these customers require was not available in early versions of P3e. The release of P3e version 3.0 changes that. There is now a tool available that meets the needs of these expert users. This paper outlines the recommended benefit statements and persuasion points to discuss with those users who have been reluctant to migrate.

### What project work types are we migrating to P3e?

The M&T market can be characterized as having three types of projects:

**(A)** Capital project — a standard construction project, little or no variation between M&T construction project and "typical" construction project. There are always new units being built, capacity being added, and replacement type projects being executed by the Capital & Engineering divisions. These projects vary in size, from one work order up to \$1billion in value. They can be typically categorised as Owner/EPC-driven projects.

**(B)** Shutdown or Turnaround project — typically a short-duration, high-number-of-activities project, can vary in length from 15 days to two months. Characterised by multiple short-term activities, completely unpredictable (with equipment reliability playing a large role) and often experiencing a dramatic growth in scope (which directly correlates to poor planning and scheduling). These projects are a challenge to status and manage. Also, they are likely to use up to 75% contract labour, and have extreme calendars constraints.

**(C)** Preventive and breakdown maintenance (Work Order Management) — encompass any time frame (typically daily maintenance), from next week to end-of-asset-life, and very often in conjunction with a well-developed work management system as the data source (ie: Maximo, Indus, or SAP's PM module). There is no critical path, indeed no requirement for activity relationships at all. Vast numbers of activities require resource levelling by user- (or Work Management System-) imposed priority code.

Why has ACS incorporated capital projects into this discussion of M&T when those projects could be viewed as the responsibility of a different division within the customer's company? Part of our message is integration. Indeed, one of the most compelling stories we have to tell is the "whole plant" story. No other customer location lends itself to this message more than a refinery, chemical plant, or utility generation plant. It is one set of activity codes, one set of resources, etc. for all the projects across the whole plant. We should be talking to the person at the plant who cares that a maintenance fitter can't help in a shutdown, or that a new capital project does not "know" the turnaround schedule.

### Where does P3 version 3.1 fail such customers?

- There is no mixing of daily and hourly calendars in a project group, and a three-year limit on an hourly calendar. Those features are desperately needed in order to integrate (A), (B) and (C). **How did we get away with it?** Many integration dreams did not get past this point. We need to ask our customers to revisit the business processes where they might have rejected integration solutions that were too hard to accomplish in P3 3.1. This is at the heart of our conversion effort. To simply replace business processes like-for-like is to incorporate compromises required by P3 3.1 that are not required by P3e. There are fabulous new features in P3e that allow for seamless integration among business units/departments/divisions.

- No Steps. Some customers invented “job card datasets” when actually what was required were weighted steps. This feature is much needed for (A) and (B). There is work that needs to take place in order to examine the multi-level work orders that SAP or Maximo can create, versus our new multi-level activities.
- Minutes. Or at least half-hours. Needed for (B).
- Layout capabilities were much too small. Yes, we know that 100,000 activities that can be scheduled BUT only 32,000 can be used in a layout. The HUGE number of design compromises made because the model was too small is legendary.
- Auto cost rules at the project group level only – another missing “feature” that was best discussed after you had received the customer’s order.
- Data integrity. Btrieve is not good when the Windows network lets it down, as it does frequently. Oracle or SQL Server databases are much better at smoothing out the patchy performance of most big corporate LANs.
- Earned Value analysis reporting is basic. Once your customers get to maturity level 3 and 4, they realize that bar charts are not enough, and that Earned Value analysis is “The Whole of the Law.” Customers were required to utilize add-on product to help P3 3.1 accomplish Earned Value analysis.

### **Where does P3e version 3.0 catch up with P3 version 3.1?**

- Two constraints per activity. This allows the compliance band concept so enthusiastically received in P3 3.1 to be used in P3e. We want to resource level with a fixed end date — which requires type (C) projects to have two constraints. A complete show-stopper for our clients.
- Early & Late S-curves on one output (the banana curve)
- Start and Finish milestones

### **Where does P3e version 3 overtake P3 version 3.1?**

- Methodology Manager — the potential for this is enormous, so much so that there is the opportunity for territorial dispute with work management systems such as SAP, Maximo, etc. Companies that have existing standard procedures/methodologies can import their information into Methodology Manager. Methodologies can then be applied as a standard by project type, or can be customized to suit the parameters of each project individually. What can be accomplished with methodologies will CAPTIVATE the companies that operate at maturity level 3 and 4. I may lead with it.
- Number of activities. We really need HUGE numbers here for long-term PMR smoothing, end-of-asset-life forecasting, etc.
- 32bit application (vs. 16B Bit P3), which is more compatible with the system requirements of other programs that are commonly used today.
- Filters. Grouping filters adds more power and flexibility by using “and” or “or” statements.

- “Real” resource tables, rather than one value per cell. This will greatly reduce the amount of exporting to Excel that takes place. The obsession with Stacked Histograms, with one colour per resource, will remain but these “Artemis-like” tables are functionally better for addressing the same problem.
- Primavision. Without having to learn project management software a person can use this web-based tool to develop high-level schedules, allocate resources, establish priorities and communicate deliverables. We have huge potential in the Primavera Enterprise suite that simply does not exist in the legacy product.
- Steps. The weighted step functionality allows for quick and easy planning of lock-out-tag-out activities as well as the activities associated with blinds.
- Primavera Mobil reporting will reduce daily project statusing by several hours. This tool will eliminate the reams of paper that are carried around to status each project activity, as well as the data entry required to update the project schedule at the end of each shift. Through the Palm-based application customers are able to update project activities from the field.
- Earned Value analysis. There is a real expert’s story to tell here. Major improvements to P3e version 2.1 include actual curves, a more complete fields list and better layout presentation and summarisation. Light years ahead of the legacy system.

My favourite extras by project type:

- (a) The EPS structure, External Resources, Earned Value curves
- (b) Minutes!
- (c) Volume