# P2 Engine

# Advancing the state-of-the-art knowledge



"Progress lies not in enhancing what is, but in advancing towards what will be" (Khalil Gibran)

### P2 Engine

P2 Engine is a command line utility tool based on the LUA scripting language to generate gigabytes of project data. It generates project baseline scheduling data and risk analysis metrics as well as dynamic project progress data that can be used for testing and validating novel research ideas.

The algorithms of P2 Engine can be classified into three classes:

- · Baseline Scheduling: Schedule projects using critical path and resource allocation algorithms
- Risk Analysis: Analyze project risk using basic or advanced Monte-Carlo simulation runs
- Project Control: Generate project performance data and analyze Earned Value Management control data

#### Faster than ever before

P2 Engine gives the user access to a wide range of complex algorithms incorporated in ProTrack 3.0. By using simple scripts, any researcher can solve difficult and critical dynamic project scheduling optimization problems using these intelligent algorithms. P2 Engine can easily produce an enormous database of optimization results for a wide range of project management problems faster than ever before and advances the state-of-the-art knowledge available today.

Platform. P2 Engine is a platform independent software tool that runs on Windows, Mac as well as on Linux.

**Power.** P2 Engine runs on the supercomputer of the Flemish Supercomputer Centre (VSC). This cluster of computers is the largest academic computing infrastructure in Flanders.

**Research**. P2 Engine is used for a more than a million euro research project at Ghent University (Belgium) in collaboration with University College London (UK) and George Washington University (US).

P2 Engine is based on the LUA scripting language available at www.lua.org.

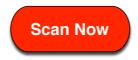
### Who

P2 Engine is currently used as a research tool for master students and PhD students at Ghent University (Belgium), and for consultancy projects to advance current business processes with extended dynamic scheduling features.

## **Pricing**

Free academic licenses are available upon request. Commercial business licenses are used for integrating P2 Engine in existing software business systems or to analyze your projects through a detailed project scan.







"If you can't measure it, you can't manage it"

#### How to scan your project...

#### ... and analyze, understand and improve your project characteristics

Through a well-balanced combination between research experience and practical relevance, OR-AS measures and maps your project characteristics and analyzes its strengths and weaknesses in order to improve your integrated project control approach at your company. A project scan is relevant for project managers working in both the private and public sector, and applies to large and small projects with critical performance, time and budget targets.

#### Project scan

The central idea of a project scan is to understand the underlying characteristics and to map them with the best practices and research knowledge to better control your projects and improve your actions to bring projects in danger back on track. It is based on an award winning methodology published in "Measuring Time" and benchmarks your project along the four following dimensions:

**Network scan.** The characteristics of your project WBS in terms of network topology and time and cost distributions is a crucial factor in the understanding and selection of the best project control method.

**Resource scan.** The efficiency of your resource allocations depends on the availability and tightness of your resources and has an impact on the schedule risk analyses and project control methods.

**Sensitivity scan.** A Schedule Risk Analysis (SRA) using basic and/or advanced Monte-Carlo simulation runs is a crucial analysis to validate the efficiency of a bottom-up control approach for your project.

**Control scan.** A project control scan using simulated time/cost accuracy predictions is a necessary prerequisite for understanding the efficiency of a top-down control approach using Earned Value Management/Earned Schedule (EVM/ES) performance systems.

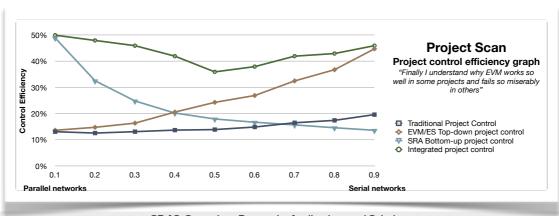
#### Methodology

A project scan is done by P2 Engine which is the fastest and most efficient Project Management monitoring tool developed at Ghent University (Belgium) and commercialized by OR-AS. P2 Engine is based on the LUA scripting language (www.lua.org) and makes use of the efficient algorithms of ProTrack (www.protrack.be).

#### **Pricing**

The price of a project scan depends on the size of your project and the quality of the delivered data, and includes an analysis in P2 Engine and a written evaluation report. The data should be delivered as an MS Excel data dump from your company's PM software tool or as a ProTrack file. Extra costs can be incurred when data is not available or when extra interfaces must be written to import/export your data into an easy-to-access database format. A further integration between P2 Engine and your software processes belongs to the possibilities upon evaluation of the project scan results and is not included in the project scan proposal.

<Download this project scan methodology in the keynote presentation of EVM World 2012 from www.or-as.be>



OR-AS: Operations Research - Applications and Solutions

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