The Challenge

The challenge for any production oriented organization is to realize their production potential and to maximise the return on the substantial investments in plant, equipment, and personnel. Production managers often don’t have the necessary tools to comprehensively explain why production potential is not being achieved and provide informed justifications for expenditure on improvement and optimization projects. Many organizations track downtime for maintenance, however without factoring loss in terms of volume and dollars into the overall equation, an important aspect of operational reporting and the decision making process is missing.

Effective asset management relies on the accurate capture, classification and reporting of asset performance. Without such information, maximizing asset potential is at best a makeshift process. Industrial production processes depend upon the combined contributions of a critical number of assets, all working in harmony along the value stream. The cost of an underperforming or failed asset is impossible to determine without understanding the upstream and downstream consequences of the failure to the whole production process.

Modern production requires a system that can place the reduced availability or complete loss of an asset into a context that empowers asset managers to make informed decisions.

The Solution

P2 A-Plus is a web based solution for operations and management personnel to capture, validate, approve and analyze production loss and downtime/utilisation data.

Typical Communication Lifecycle

P2 A-Plus supports the automatic detection of events from external systems and P2 Server via a plug-in interface. Additional events can be recorded manually using a simple wizard-based data entry interface.

P2 A-Plus data capture is driven by flexible asset and allocation models. Events are classified according to codes such as equipment, root cause, usage (scheduled/unscheduled), department, etc. Events undergo an approval workflow to ensure reporting is on validated data.

P2 A-Plus provides business intelligence to enable operations management and engineering personnel to further optimize production, make accurate and timely decisions, and achieve the best possible return on investment for the assets utilized within the production process. Events can be compared against benchmark KPIs, such as planned and actual production. KPIs are calculated for wider integration and visualization via P2 Server and Explorer.

P2 A-Plus contains flexible, interactive, out of the box reporting and charting. The wide range of standard reports and charts will meet the broad loss and downtime/utilisation reporting and analysis requirements of operations and management.
Key Features

• Supports automatic event detection and manual wizard-based event entry.
• Supports a fully configurable downtime and loss model for tracking the cause, reason, department, and time usage of events.
• Splits events to allocate downtime/loss to multiple departments, equipment, shifts, etc.
• Supports role-based user security configuration with a full audit trail on events, and an optional event approval workflow.
• Support for multiple products when accounting for loss, i.e. oil, gas, condensate.
• Interfaces to the P2 Server Data Dictionary to load any data source of production information, and utilizes P2 Server hierarchies, templates, and P2 Explorer Trending.
• A highly extensible design supports the integration of custom fields and business logic into the P2 A-Plus workflow.
• Powerful reporting engine supporting a broad range of highly configurable charts.
• Drill-down analysis of loss and downtime.

Solution Benefits

• Improvement of the production process, through the identification of primary causes of loss and downtime, which leads to opportunities for improvement and focuses maintenance spending where it is most valuable.
• Comprehensive reporting tools, enabling analysis using varying levels of granularity.
• Consistent system capacity values and reporting of events.
• Reduced data entry, due to automatic event detection. Users only have to add information to events, rather than having to create events.
• Clearly identifies loss via a comparison of planned and actual production, and the detailed accounting for the difference between the two.
• Improves production efficiency by enhancing decision-making with accurate and timely information.

Technology Vitals

P2 A-Plus has a three-tier structure comprising of a web-based user interface, a Server platform using Windows Server 2008 R2 and .NET Framework to provide interoperability and processing. Cached data and configuration is stored in Microsoft SQL Server or Oracle databases.