



RiDUET

CONTEXT & INSIGHT THROUGH
ROBUST OPERATIONAL ANALYTICS.

Downtime Tracking

Operational Insights

Equipment Monitoring

Delay Accounting



Stop Guessing. Start Tracking.



RtDUET

Downtime at your mine is like a shot to the heart. Your operation can't afford any loss in availability. Let's keep your machines running and your commodities flowing.

RtTech Software provides mining operations with the tools required to help reduce operational waste and uncover hidden opportunities for process improvement.

When equipped with the power of real-time data, you are able to be proactive in decreasing downtime events by targeting and eliminating the root-causes of equipment failure.

Decrease downtime and increase output. We all know that more output equals more profit.

Extended
functionality for
users of the AVEVA®
PI System®.

It's time to decrease
downtime and increase output
with operational analytics.

DOWNTIME TRACKING
OPERATIONAL INSIGHT
EQUIPMENT MONITORING
DELAY ACCOUNTING

10% +

Average reported increase
in Asset Availability



BUILT ON OSISOFT PI TECHNOLOGY
Leverage your investment in
OSisoft® PI to deliver quantifiable
results.



OPERATIONAL INSIGHT
Uncover root causes of downtime
and inefficiencies in your critical
operations.



KPI CALCULATION ENGINE
Calculates 24 standard KPIs including
Availability, Utilization, and MTBF using
simple as well as complex triggers.

From control-room to board-room.

DOWNTIME TRACKING

Stop guessing.
Start tracking.

Clients tell us that prior to RtDUET they had short downtime events that were completely missed. Even insignificant events add up to significant productivity loss. Downtime is usually tied to equipment failures or breakdowns, but it includes any unplanned event that stops or slows down a line.

Track downtime and slowdowns using RtDUET's operator-friendly event dashboard. After an event is captured - classify, split, or have a supervisor verify. Concerned about certain type or length of downtime? Set an automatic alert.

OPERATIONAL INSIGHT

Find the
underlying cause.

The line goes down. One operator classifies the downtime cause as 'hot fan' while another writes 'fan stopped'. Even if both reasons are recorded, it's impossible to aggregate the data to pinpoint the cause.

The first step to finding the root cause is standardized reason codes which are set-up easily within RtDUET's configuration toolkit. Root cause analysis and Maintenance and Reliability KPIs pinpoint top reasons for downtime, potential equipment failures and a maintenance plan to extend equipment life and delay costly capital expenditures.



EQUIPMENT MONITORING

Relying on unreliable data?

Did the line go down at 3:10 or 3:20? Is the downtime costing \$10,000 or \$100,000 in lost production? Without accurate duration and classification, how can you know?

Equipment monitoring has replaced manual downtime recording. Reduce the time required for your operators to record downtime events, and increase data accuracy with automatic fault codes and standardized classification of your downtime. With RtDUET, be proactive to improve your operator's productivity and operate more efficiently with more accurate data, faster, to determine the best course of action.

DELAY ACCOUNTING

Trash the spreadsheet.

Monthly, weekly, even daily performance updates can't accurately account for the implications or causes of downtime or slowdown events.

RtDUET for Delay Accounting analyzes data in mining, mineral and metal processing industries in real-time, with root cause analysis and Pareto visualizations to inform decisions that maximize asset availability when it counts. Proven effectiveness in the world's elite mines, RtDUET can identify operational efficiencies to reduce cost per tonne and improve asset availability by 5-10%.



CASE STUDY

Barrick Gold

Despite twelve straight years of rising costs through to 2012, Barrick was well-positioned as number one in the industry for reserves and production; however, Barrick's leadership wisely started a major strategic transition to become a more sustainable company in any gold-price environment. The company redirected all efforts towards 'Disciplined, profitable production'. At the Pueblo Viejo mine in Dominican Republic, one such focus was production loss accounting. One of Barrick's higher performing mines, the site processes over one million ounces of gold per year. That level of production translates to 1000 tons per hour, generating revenue of over \$200,000 each hour meaning every minute of production counts.

Headquartered in Toronto, Canada, Barrick is the world's leading gold mining company, with mines and projects on five continents. Barrick's vision is the generation of wealth through responsible mining; developing and operating high quality assets through disciplined allocation of human and financial capital and operational excellence.

Downtime system requirements

Automatic downtime event detection and logging

Manually add downtime events

Detect production slowdowns as well as complete stoppages

Split a downtime event into multiple sub-events

Supervisor approval of downtime events

Automatic calculation and reporting of standard maintenance metrics such as availability, utilization & MTBF



CHALLENGE

Eroding margins push need for operational efficiency

Unknown areas of production loss and inaccurate data

RtDUET

Automatic downtime detection

Calculation of standard metrics

Integration with existing data historian

SOLUTION

Reduced operating delays

Increased data accuracy

Project ROI + justification

The premise of the RtDUET system set-up at Barrick is straight forward but includes checks and balances to ensure accurate data capture.

After a shutdown or slowdown is triggered, operators use the RtDUET interface to classify the event. The reason codes accessible to the control room operator are relevant to the asset and aligned with the Enterprise Asset Management system to streamline the process. At the end of each shift, automatic emails are sent to supervisors which prevents coding errors, yet another check to ensure data quality.

“In a large-scale distributed processing plant, a centralized tool for capturing and reporting on operational delays is essential.”

PAUL YAROSHAH, P. ENG

Senior Process Control Engineer
Pueblo Viejo Mine, Barrick Gold

Fact:

RtDUET offers tight integration with Barrick's data historian, AVEVA's PI system and offered easy-to-use configuration tools and a web-based interface, all key features.



Features for the way you work.

MONITOR

Asset monitoring

Monitors equipment 24/7 for any stoppages and/or production delays.

KPI Time Horizons

Track your KPIs on any time frame from hourly to yearly. Can also be based on batches or other triggers

CONTROL

Event Functionality

Merge and un-merge events and split events manually or automatically.

Back Calc Capabilities

Set an auto back calc in the event of history data changes or pick a range of time to recalculate events.



GET DOWNTIME VISIBILITY.
RID THE BOTTLENECKS.
MONITOR EQUIPMENT HEALTH.
SHARE PERFORMANCE KPIs.
MAX PROFIT WITH MORE OUTPUT.
IMPROVE DATA ACCURACY.
LOWER MAINTENANCE COSTS.

ANALYZE

Auto-classified downtime
Downtime events can be automatically classified when event meets predetermined criteria

VISUALIZE

KPI dashboard
Real-time visualization of production performance.

Information timeline
Events displayed chronologically to analyze asset performance and repairs

Web-based interface
Reports and dashboard are accessible anytime via secure web application.

INFORM

Operational Insight
Contextualized data is formatted to easily prioritize high-cost pain points and detect root cause.

Out-of-the-box configurable reports
Configure reports to reflect 24 KPI calculations in a clear, concise manner.

Automated KPI calculation engine
Calculates 24 standard KPIs including Availability, Utilization, MTBF using simple as well as complex triggers.

Utilize Existing PI tools
Leverage the existing AVEVA® PI tool set including PI Vision and Datalink.



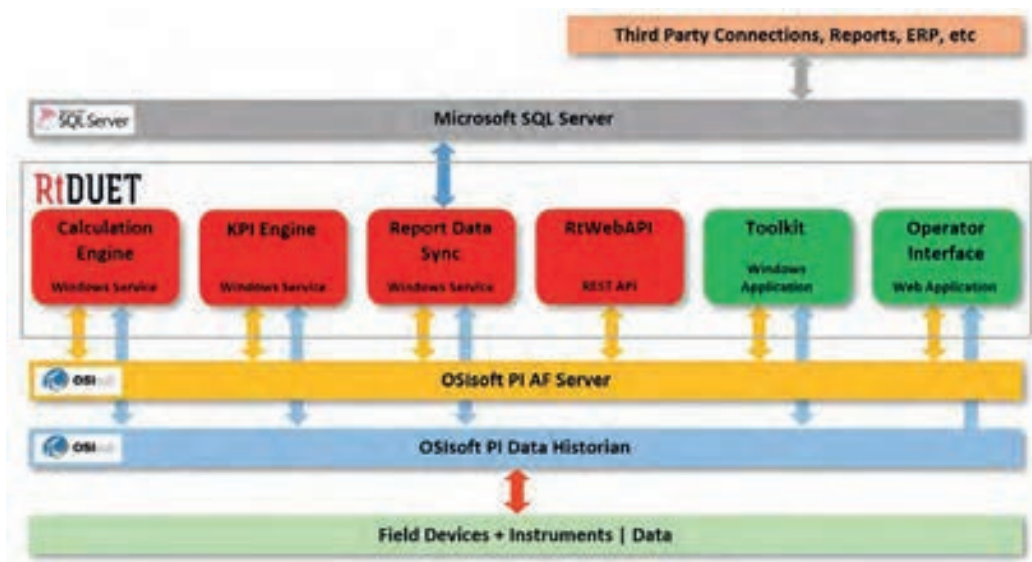
Designed for use with the AVEVA® PI System®.

SYSTEM ARCHITECTURE:

RtDUET provides extended functionality for users of the AVEVA® PI System®.

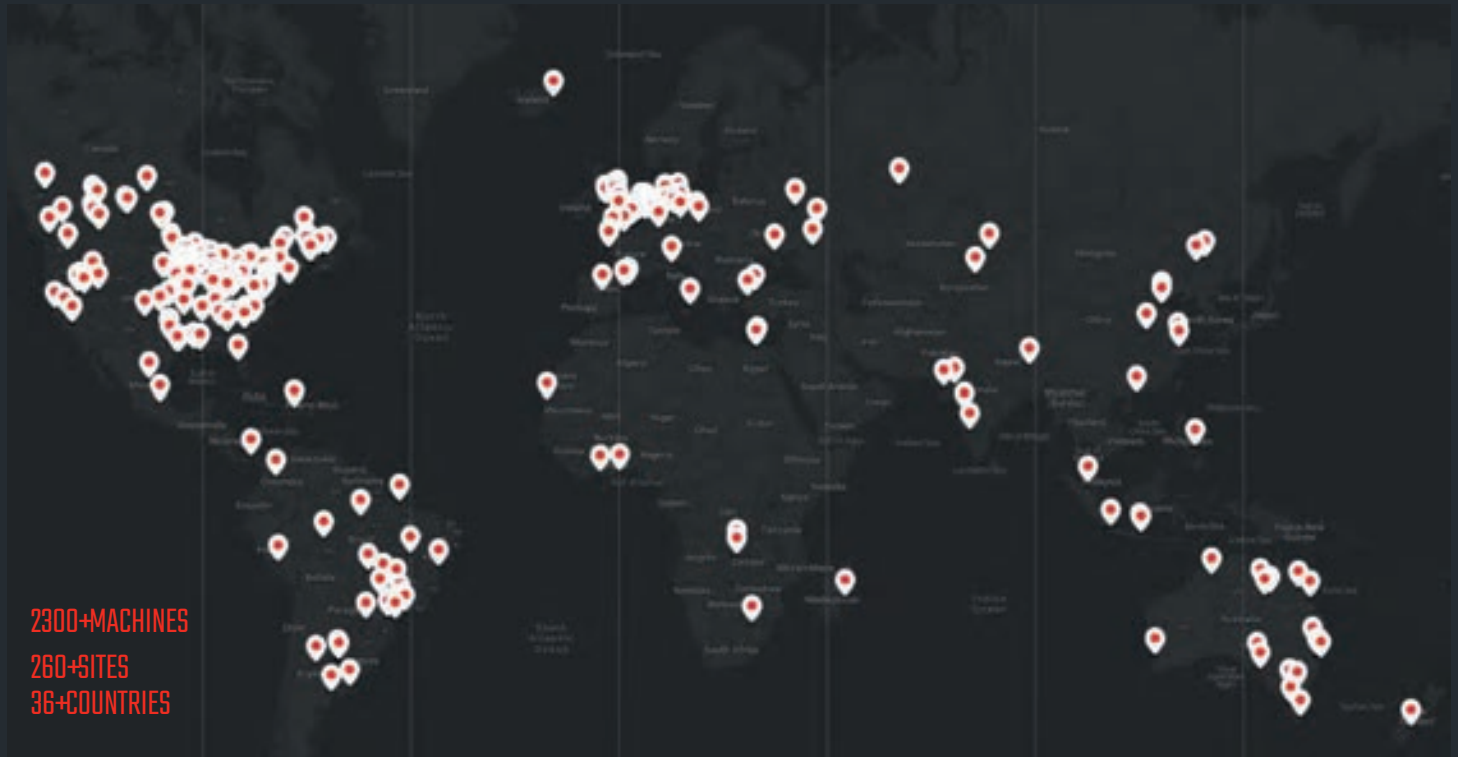
RtDUET also provides easy access to the underlying data records for downtime events and KPIs through advanced analytics. With simple out-of-the-box reporting and integration into on-site systems, accessing data can also be achieved through standard reporting tools such as Power BI, Tableau, and Excel.

RtDUET utilizes AVEVA® PI system® data from tags as trigger inputs to assets. The AVEVA® PI AF SDK® is utilized for configuration and storage of downtime and KPI records in the event frame subsystem as well as a database for reason tree, time usage configuration and asset hierarchy.



"RtTech stood out because they had good experience in industrial environments, (the solution) worked off the AVEVA® PI System® nicely and they were able to meet our timelines."

ANDREW COOPER, P. ENG
Energy Specialist, New Afton Mine
New Gold



Installations around the globe.

Our footprint spans across the globe, helping companies in 36+ countries get the most out of their mining operations by maximizing productivity and reducing energy costs.

We'd love the opportunity to be your partner in operational improvement!

Stop Guessing. Start Tracking.

OSIsoft.

APPLICATION
PARTNER



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