Global Mining Standards and Guidelines Group

Application Program Interface Guideline review

The mining industry is host to a vast number of proprietary devices and technologies that are unable to communicate with other onboard and off-board technologies. As long as this communications gap exists between devices, onboard data sharing will prove insufficient and ineffective, limiting overall operational efficiency.

'Right now, with existing mining equipment, everyone is talking a different language,' says Sandy Pyke, Director of Technical Services, Peck Tech Consulting. 'The key advantage is if we can get everyone talking the same language, we can use a single interface.'

It is in this spirit of collaboration and communication that the GMSG is now calling on industry and GMSG Corporate Members to come forward and help bridge the gap and unify the language.

Through the Technology & Connectivity (T&C) Working Group, the GMSG has released a draft Guideline for an Application Program Interface (API). While the API for onboard data integration itself has yet to be defined, the guideline is designed to stimulate industry engagement, feedback, requirements and potential roadblocks.

To facilitate this discussion, the GMSG has defined a list of requirements and/or assumptions, with the intent that each requirement or assumption will be debated, modified, and ultimately ratified by industry during this review process.

Starting this fall, GMSG staff will be scheduling times for company representatives to review the API Guideline for device interconnectivity on mobile mining equipment. Working group leaders will also be made available to help with the review process.

The deadline for the guideline review process is late November.

Benefits of a mining API?

Peter Wan, Principal Advisor, Mining Technology, Teck Resources and leader of the T&C Working Group says 'There are clear, measurable benefits attached to the pillars of mining stakeholder profitability: safety, productivity, and operational efficiency.'

Safety: enables access to onboard data in real time and facilitates the innovation of smarter safety solutions, allowing the integration of proximity awareness, fatigue, and operational data to filter out nuisance alarms and key in on high-risk situations.

Productivity: integration of data sources such as penetration rates, dig rates, fragmentation, block models, *etc.* enables greater insight into factors affecting total mine productivity – *e.g.* allowing real-time adjustments to maximize mine-to-mill returns.

Operational efficiency: timely access to both asset health and production data can help identify symptoms of situations that are reducing operational effectiveness and provide insight into the root causes – and cost to the business – to identify issues requiring immediate resolution.

More benefits

- Enables single point of entry for manually input data (*e.g.* operator ID, equipment status) to reduce operator interaction and enhance data quality
- Facilitates seamless access to onboard devices and applications to create cost savings and innovation opportunities for all stakeholders
- Enhances alarm and warning notification filtering (access to associated data) to reduce nuisance alarms and increase operator situational awareness
- Synchronizes time between devices and/or applications, ensuring that data from independent systems can be correlated

The protocol shall allow applications to use and share:

- Sensor data (GNSS receivers, tilt, speed, *etc.*)
- Operator directives (log in/out, activity / delay codes, *etc.*)
- Computed information (alarms, detected objects, ground composition, *etc.*).

While the benefits of a mining API are clear and exciting, action is needed to make this vision a reality. Participating in this review process is the first step in realizing the cost savings and increased operational efficiencies that come with a mining API. The more industry participation and support that the review process receives in the beginning, the more effective the implementation will be in the end.

For more information contact: www.globalminingstandards.org GMSG Managing Director Heather Ednie at hednie@cim.org

H. Ednie
Global Mining Standards and Guidelines Group