



iPMine

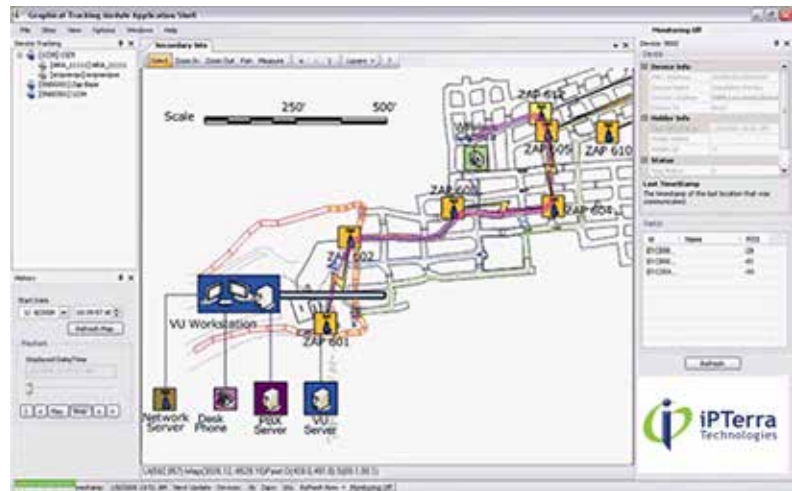
Communications and Mine-Safety Solution

iPMine-VU

Tracking and Monitoring Enterprise Software
Release 3.0

The iPMine-VU tracking and monitoring enterprise software is the interface link between the wireless network, location and communication devices, and dispatch/control operation. It allows dispatchers, control center and management personnel to track, monitor, and communicate (voice and text) with miners underground. It also allows the mine operation system administrator to manage overall system configuration, maintain and register devices and miners, and adapt the system as the underground mine terrain changes over time.

As with any enterprise software application, iPMine-VU requires a server computer, either rack mount or stand-alone, configured with the Windows Server 2003 or higher operating system, Microsoft SQL Server database, and Microsoft's .NET framework.



iPMine-VU Tracking and Monitoring Screenshot

IPMINE-VU SOFTWARE MODULES

Tracking and Monitoring Module

The tracking and monitoring module lets users graphically and visually track and monitor miners and equipment as they move through the mine, in real-time. The mapping engine displays real-time location of miners and equipment directly superimposed on the mine map, with options to view selected areas, and zones inside the mine. The tracking module supports a "point and click" interface with navigation tools, pan and zoom, measurement tool to proximate distances, and a search function to locate specific miners based on search filtering options. The play back (audit trail) feature of the tracking module makes ideal to re-visit events that took place in the past. The tracking and monitoring feature is also available in hierarchical tree-style format for quick look-ups and web access.

Communication Module

The Communication module supports a fully-featured voice and text messaging. Communication can be from miner to miner, miner to dispatcher, or dispatcher to miner. Users have the option to type in a free-style message or select a pre-defined message for speed and ease of use. Text messaging is configured with a mailbox that allows users to manage incoming and outgoing messages, compose a message for one

or several miners, and have a one-on-one discussion. When an incoming text message is received by a dispatcher, a message box pops up, with a configurable audible sound, alerting the dispatcher that a message has arrived. Emergency/SOS messages have the highest priority. Safety personnel can broadcast and receive emergency alerts.

Communication Gateway Module

This module acts as the traffic manager between iPMine-M8s, iPMine-ZAPs, and other components of iPMine-VU. The Communication Gateway module receives messages from iPMine-M8s, translates and transfers them to destination addresses and records them in iPMine's data repository for information persistency and audit trail. The Gateway dispatches the interested events to its subscribers through an IP connection.

Data Repository Module

The Data Repository module, running on MS-SQL Server, is the interface between the data collected and the Communication Gateway module. The module provides services such as, table definition, stored procedures, alert triggers, and data views.



FEATURES & BENEFITS

Track the Location of Miners and Equipment on an Interactive Map

Increase safety by knowing where miners and equipment are at all times, and thoroughly investigate accidents with iPMine-VU's audit trail feature.

Communicate Effectively

Communicate in real-time, voice and text messaging.

Change Shifts, and Configure Crews

Stay organized with iPMine-VU's crew management feature.

Password Protected System with In-Depth User Logging

Maintain security.

Intelligent Framework

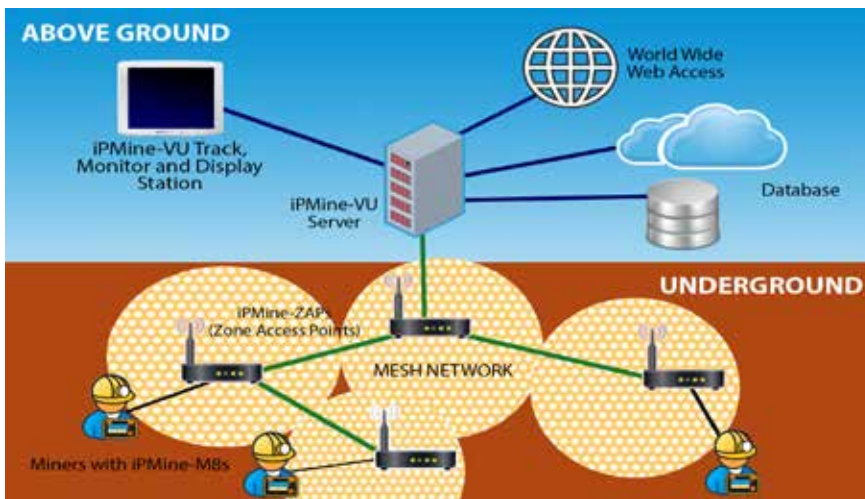
Prevents the server from being "blocked" by unresponsive iPMine-M8 devices or iPMine-ZAPs.

Detailed Archiving

Keep accurate and historical records for investigations, inquiries, reviews, or troubleshooting.

Flexible Design

Server can respond to one or more communication devices concurrently, while running an unlimited number of tracking and monitoring users on different workstations.



Web-Enabled Administration Module

iPMine-VU's web-enabled Administration module utilizes the Internet to provide users with access both from a local or remote location. The module provides the following features:

- Check the status of entire system and make needed changes to ensure continued efficiency. A current snap shot of the system summarizes attributes for active and inactive iPMine-M8 devices and iPMine-ZAPs, and adjustable refresh rates allow for real-time status checks. Users can also monitor operational parameters for the server and the database.
- The System Configuration option provides system administrators with the tools to customize and preserve the integrity of the system. Users can maintain different types of iPMine-M8 devices and iPMine-ZAPs, define text messages, and type of users.
- The Device and Device Holder maintenance options allow system administrators to add, and update iPMine-M8 devices and their respective holders. A search option is also provided for a quick look-up. The Registration option allows system administrators to associate a device to a holder.
- The User definition option allows administrators to create accounts, assign/update security privileges and permissions to individual users for access to certain modules, or permissions to monitor certain sites, levels, and areas.
- The Level maintenance option allows administrators to add/update map level layouts, create/update pathways where the actual position and orientation of iPMine-ZAPs are deployed.
- Add user names, and log-in IDs, define and organize crews, manage shift assignment, and view lists and tables summarizing current information for all registered iPMine-M8 devices and iPMine-ZAPs.
- The report generating feature lets users create a paper trail of a number of reports. These reports can be exported into a variety of file types including Adobe PDF, and Microsoft Excel.
- Manage the information accumulated by the system during normal, day-to-day operation. Users can organize, sort, and archive information.
- An extensive online help file. The Help feature supports a well-organized layout, sorted by topic, and contains "How To" informational articles about iPMine's various modules, menus and windows.

About iTerra Technologies, Inc.

iTerra develops and markets a real-time, 2-way wireless/wireline communications and mine-safety solution for the global mining industry. iPMine, iTerra's flagship product, tracks, monitors and communicates with miners and equipment underground and above ground.

