

## *PumpView Security and Reliability* PV10.1

MultiTrode PumpView is a web-based pump station management system which allows pump stations to be controlled and monitored via a standard web-browser (e.g. Internet Explorer or Netscape). No other software is required, giving a huge reduction in commissioning, training, and support costs.

Municipal water and wastewater networks around the world are now viewed as critical infrastructure and, therefore, PumpView has been designed with the highest levels of security and reliability.

Using a web-based SCADA platform is a new concept to many organizations and this paper is designed to demonstrate that the security and reliability of the system is well ahead of a typical client/server SCADA installation at the municipal organization's premises.

### **Web platform hosted at a tier one data-centre**

PumpView is hosted at a tier one data-centre. This is a 24 x 7 state-of-the-art, purpose built, carrier grade data facility used by international companies for their online initiatives.

The data-centre is a fully redundant, robust world class facility using best of breed technology partners that are the building blocks of the web-based infrastructure of the 21st century.

This means that PumpView runs on a far more reliable platform than the typical SCADA system.

### *Security*

**The multi-level security includes:**

- 24 x 7 x 365 biometrics access, video surveillance and anti-terrorist mantraps

- Security Guards 24 x 7 x 365
- Bullet resistant glass
- Network based firewall
- Denial of service network protection
- Public, protected, secure and customised network security policies
- Intrusion detection and counter measures
- Security alert service

**The customer care and reporting features include:**

- 24 x 7 staffing
- Rapid notification of network incidents
- Automatic customer escalation procedures

### *Redundant systems*

**Power and temperature control systems include:**

- FM200 Fire Suppression
- In building power substation supplied by redundant feeds
- Centralised UPS system
- Dual Diesel Back-up with fuel reservoir of 40,000 liters (sufficient for 2 weeks)
- Three dedicated cooling towers

**The network connectivity includes:**

- Fully Redundant architecture - no single point of failure
- Readily scalable broadband connections to the internet
- Connections onto the internet via multiple carriers

# PumpView

## Security of data in transmission

How does the data from the remote site reach the PumpView webserver? And more importantly, is it secure during transmission?

The data transmission takes place over the GPRS data network (and also in some regions the CDMA data network). GPRS uses a variety of technologies to ensure security, including the fact that some aspects of the standards are not publicly available.

Additionally, data traffic between the cellular networks and the PumpView webserver is encrypted with a 128-bit VPN (virtual private network). 128-bit VPNs are considered uncrackable with current computing technology – requiring trillions of years to break by brute force methods using today's computing power.

## Security of data on the webserver

Is the data stored on the webserver really secure? How do we ensure that only the customer can view his or her data?

The website is running on a secure webserver, using encrypted sessions with the SSL (secure socket layer) protocol. This is similar to the security levels put in place by financial institutions to ensure that your financial details cannot be accessed by any other customers, or by anyone monitoring network traffic in any other location on the internet. The SSL certificate is issued by Thawte ([www.thawte.com](http://www.thawte.com)), a Verisign company. Verisign is the largest certification authority worldwide.

In addition, the data is stored on redundant backup media, and is backed up daily and weekly onto storage tapes, with weekly backups being held off-site at another secure location.

## Conclusion

MultiTrode PumpView is designed with the needs of municipalities in mind – to provide a highly secure, highly reliable, easy to use SCADA system, which does not require months of planning, high capital expenditure or dedicated technical staff to keep it operational.

The recent advances in web-based technology and security allow PumpView to meet this requirement.

To see a demonstration, visit [www.pumpview.com](http://www.pumpview.com).



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