Remote Access Capabilities and Database Considerations

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Does your company need a single enterprise level database for all of the site investigation data that is collected? Do you want multiple offices to have access to this database? Do you need synchronization capabilities to upload data from remote field offices located outside your VPN or WAN? PLog can be configured for all of these requirements.

At this time, PLog does not support wireless synchronization via the PDA. There are no immediate plans to support wireless synchronization, but as the technology improves and becomes more economical it is something that we consider for future version of the software. Currently, all synchronization and data access must be performed via a personal computer with Internet access or located on your companies network.

Enterprise Databases

• **What enterprise level databases are supported?** The standard PLog system includes a Microsoft Access database, which is not an enterprise level database. However, Microsoft SQL Server has been deployed for a few clients who are storing larger amounts of data and need remote synchronization capabilities. PLog uses standard ODBC technology for making the connection, so theoretically any ODBC compliant database will work.

• **What is different about synchronizing with an enterprise level database compared with Microsoft Access?** There are many differences in the capabilities of an enterprise database compared with a desktop database like Access and are outside the scope of this whitepaper. However, a key difference is that enterprise databases allow remote access such that any person with an internet connection and the proper permissions can connect to the database even if the database is located behind a firewall. The configuration is as follows. SQL server is configured in your office on a server. Port 1433 on the firewall is opened, which allows remote access with authentication to MS SQL Server. Therefore, someone at a remote field office with a personal computer can synchronize data from the PDA to the main office where logs, fences, lab testing data and reports can all be generated. Alternatively, a remote office may want to generate a paper-based field log. To accomplish this, personnel synchronize the PDA with the database and then import the data into gINT to create a paper-based field log.

• **Can multiple offices access the data stored in the PLog enterprise database?** Yes, just as a remote field office on a 56K modem can connect to the database, any office located on the domain, VPN or simply with Internet access can gain access to the database using the same technology described in the previous section.

Other Database Considerations

• **Can I have a database that stores raw field data in it as well as a separate database that has the final boring log output data?** Yes, some of our clients do exactly that, but some custom configuration is required to accomplish this. Essentially, you have a database to which the PDAs synchronize. This database is a "field data" database. You have a separate database that stores all the final data including lab testing and any changes made during the QA/QC process.

In order to make this work easily, the gINT schema (gINT data template .gdt file) should match the database schema of the "field database" and "final site investigation database". Once the data has been imported into gINT and any changes as part of the QA/QC process have made as well as any laboratory data integrated, all this can be automatically exported to the "final" SQL Server database.

• **Why would I want two separate databases with site investigation data?** The first reason is to be able to compare for litigation purposes raw field logs with final output logs. A more compelling and positive reason is to have all final site data investigation data in a single repository as opposed to multiple gINT project files or multiple paper files. This repository is a very powerful tool and significant asset for your company. Generally, site investigation data is not treated as an asset, but it truly is. If a single borehole log cost $1,000 including drilling and reporting costs (which is quite low in many cases) and you have thousands or tens of thousands of boring logs, that is a tremendous asset because you can potentially save your clients tremendous amounts of money by utilizing historical data instead of re-drilling. At this point, the combination of PLog and gINT is truly a geotechnical data management system.

The historical data can be readily accessed via a GIS, which is extremely useful during proposal, bidding and even design phases of a project. This is especially applicable when doing work for DOT's or other large organizations such as corporations, universities, U.S. Army Corps of Engineers, etc., where tremendous amounts of site investigation data have been collected in the past.

For example, the Virginia DOT estimated that utilizing historical data from boreholes performed during the original construction of the Woodrow Wilson Bridge saved them nearly $10,000 per borehole on the new Woodrow Wilson Bridge project (these boreholes are located offshore).

• **Can gINT data be accessed over the Web?** Several gINT clients have successfully built Web interfaces that enable them to share gINT data with external parties including consultants, clients, and in the case of government agencies, with the general public. Because of these successes, gINT Software is now offering its clients custom-designed Internet solutions for real-time access to gINT data. These solutions are highly secure and allow storage, management, distribution and collaboration with full audit trails, the ability to assign individual access rights, and file annotation capabilities via a highly secure web-based content management tool. Several different solutions are available and all are customizable to suit individual needs.

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