



## NEWSLETTER

Volume 5

Issue 2

Summer 2009

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## SERIAL DEVICE SERVERS IN WASTE MANAGEMENT FACILITIES

Many of the devices at waste management facilities including scale indicators, printers and displays all connect to computers using a connection specification called "serial". There are many electrical standards for "serial" connections, including RS-232, RS-422, RS-485 and current loop. These types of connections were developed in the 1970's and were intended to work well in harsh industrial environments with the expectation that "the" computer was nearby. Zoom ahead to the new millenium and we find a proliferation of devices still using different variations of this serial interface while the information technology industry has wholly adopted network technology.

There are a number of issues that arise from this collision of the serial and network worlds.

- IT staff are generally not familiar with nor have the tools to install, maintain or diagnose various types of serial cables and connections
- With network technology and distributed network services, it cannot be expected that the computer is physically close to the serial devices, possibly even being on the internet
- Most computers do not even come equipped with serial ports, requiring the installation of a special card for handling serial connections

How can you bridge the gap between these two worlds?

The answer for many is to install a type of device called a Serial Device Server. This is typically a small, inexpensive box that connects to the network wirelessly or with an ethernet cable and then connects to one or more serial devices using any of the different serial connection methods.

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### NOTICE! GEOWARE ON-LINE TRAINING

Please note that GEOWARE On-line Training sessions have been put on hold for the summer. We will resume this program in September.



## GEOWARE DATA FOR THE ENTERPRISE

Whether we like to acknowledge it or not, data has become an important part of our professional lives. We are continually collecting, assembling, massaging and distributing data, in it's many forms in order to function in a meaningful way. We use data to make, support and sell our operational and policy decisions. We are required to provide data within and between organizations to comply with the policies and procedures that are beyond our control.

With GEOWARE providing many waste management organizations with their single largest stream of operations and administration data, it is more important than ever to make this data as accessible and distributable as possible. Within the last several years, GWI has invested heavily in technologies that allow GEOWARE data to be seamlessly integrated within organizations at the enterprise level. Recognizing that no single technology or tool can meet all the needs of all organizations, GWI offers an array of solutions that can be used to integrate GEOWARE data in your enterprise. The following solutions are ordered by technological complexity:

### **Embedded Adhoc Reports**

While GEOWARE includes a vast number of operations-based reports for common tasks, many users rely on the adhoc reports for getting the specific slices of data that they need. These reports include the Single, Dual and Multi-Attribute reports.

### **Report Charting Tool**

Being able to convey your message with the aid of meaningful charts and graphs is essential in communicating with senior management and public groups. This tool is driven from the report generation interface and provides graphical data representations that are exportable in JPEG format.

### **Report Data Exports**

Sometimes getting the raw data and performing your own analysis and formatting is the only way to get the job done. Many GEOWARE reports offer an export function in which the raw data driving the report can be exported directly in MS-Excel or Comma-separated formats.

### **SQL Report Query Views**

GEOWARE reports now offer a view of the Structured Query Language (SQL) script that generated the data for the report. This allows users of adhoc query tools to quickly copy and then customize the data queries to get just the data that you need.

### **Transaction Database Exports**

While the size and complexity of GEOWARE data can limit the usefulness of raw data exports, GEOWARE provides a data export tool that can export a set of data within a defined date range.

### **Corporate System Integration**

GEOWARE has a set of corporate system data exchange formats that can be re-used and/or customized to help organizations achieve significant

savings in the effort and time for integrating information with corporate accounting and ERP systems.

### **Adhoc Query Reporting Interface**

Built on industry standard database components, raw GEOWARE data can be made available to enterprise data reporting and analysis tools through the ODBC (Open Database Connectivity) protocol.

### **Multi-Tier Database Configurations**

This represents the ultimate data integration solution within an organization. By storing GEOWARE data directly on existing corporate database infrastructure, your internal information technology group can control functions including data backup, database tuning and custom adhoc reporting.

Just as we have seen through the rise of the internet, the value of data increases as it is used by more people. Many organizations already leverage the value of their GEOWARE data by making it widely available throughout their organization. If you see an opportunity to benefit from making GEOWARE data available in your enterprise, contact your account manager or [sales@geoware4.com](mailto:sales@geoware4.com).

- David Petro

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This allows computers anywhere on the network to connect to the serial device. There are many different manufacturers of serial device servers. While most of these manufacturers have developed their own proprietary protocols, there is an open standard identified by RFC-2217.

There are a number of advantages in adopting these devices in waste management facilities. These include:

- Leverage existing network infrastructure. It is significantly easier to install and maintain network cabling. Using serial device servers, serial cabling can be limited to short runs to the nearest network drop. Additionally, workstations appear neater and are easier to clean without a nest of cables behind them.
- Allows ANY networked workstation to access the serial devices. Workstations can be quickly reconfigured to connect and share different serial devices on the network.
- Reduces the operational impact and cost associated with lightning strikes. Scale indicators directly connected to computers can result in complete destruction of the computer when lightning strikes the large metal scale deck. Connecting the scale indicators to an embedded device server limits the cost of damage to hundreds of dollars instead of thousands.
- Facilitates remote diagnosis, support and management. Being inherently network-oriented, these devices normally support a web-based interface for configuration and diagnosis.
- Eliminates the need for specialized serial cards installed in computers. As computers are getting smaller, it is becoming more problematic to install additional cards inside the computer chassis.
- Reduces time to configure workstations. Because GEOWARE has native support for the RFC-2217 protocol, workstations do not have to be loaded with any specialized drivers to be able to allow use of the serial devices connected through the device servers.

- David Petro

## TIPS & TRICKS: Saving Report Configurations



Many GEOWARE reports offer an abundance of configuration and filter options. Did you know that after taking the time to configure a report just the way you want it, you can save your settings? Use the **Add** button and you will be prompted to select the folder where you want to save the configuration file. Next time you want to run the report with your saved configuration, use the **Load** button. Navigate to the desired folder and the saved configurations for that specific Geoware report will appear with a .gw4 extension.



## RECENT GEOWARE UPDATES

The following new features are now available in the latest releases of all GEOWARE software. A number of bug fixes are also included in these releases. Please visit [www.geoware4.com](http://www.geoware4.com) for a full listing of changes.

### **GEOWARE® 4.1 Waste Management Processing**

#### Auditing

1. When editing an In Progress load, the original load will now appear on the Audit Trail. Historically, Audit Trail reports listed original loads as "Orig". After this update, original loads will either be labeled "Normal" (for completed loads) or "Partial" for In Progress loads.
2. Prepayment and Collect Payment activities will also now appear on the Audit Trail. This includes the reversal of collected payments being tied to a load when it is voided.
3. Users may generate reports with all types of activities or filter on specific activity types.

#### Automated Processing

1. Gated automated lanes can now be used in an attended mode such that the gates remain open. While retaining the security of the gates during unattended processing, this enhancement allows operators to improve the speed of attended processing by eliminating the time required for the gates to open and close.

2. Scale attendants can now better support customers using unattended lanes though the use of a new tool that shows them the exact screen presented on the driver's terminals.

#### Selection of Origin and Destination Facilities

Previously, any facility could be selected as an Origin or Destination for a transfer. Now, only Facilities flagged as an Origin by administrators appear in the F2 Choices list and may be entered as the Origin Facility. This behaviour also applies to Destination Facilities.

#### Subsidies

Subsidy usage is now synchronized in GEOWARE systems across multiple waste management facilities. Customers who frequent different sites will have their total subsidy usage available at each facility. This results in easier management of subsidy programs and more control over subsidy limits.

### **GEOWARE® 4.0 Administration and Management Tools**

#### Report Exporting to Excel

As noted in the article, GEOWARE Data For The Enterprise, on page 2, support for exporting reports to a Microsoft Excel file has been added to the following reports:

- Annual Summary Report
- Multiple Attribute Report
- Transaction by Customer Report
- Material Type Report

- Customer by Material Report
- Single Attribute Report

#### Report Manager

The new GEOWARE Report Manager allows reports generated from Scalehouse Services and Data Warehouse to be viewed in a high resolution. The page orientation and paper size are detected by the print dialog so reports that are in landscape and letter will automatically be configured to print as such. The page orientation and paper size can also be configured in the report dialog.

#### New SQL Button

A new SQL button has been added to all reports. Press the SQL button to view SQL code for report. This is a valuable tool for ad-hoc reporting users who want to tweak existing GEOWARE reports to meet a specific need.

#### **How to Update**

Instructions for updating GEOWARE® 4.0 and 4.1 are now available on our website at [www.geoware4.com](http://www.geoware4.com).