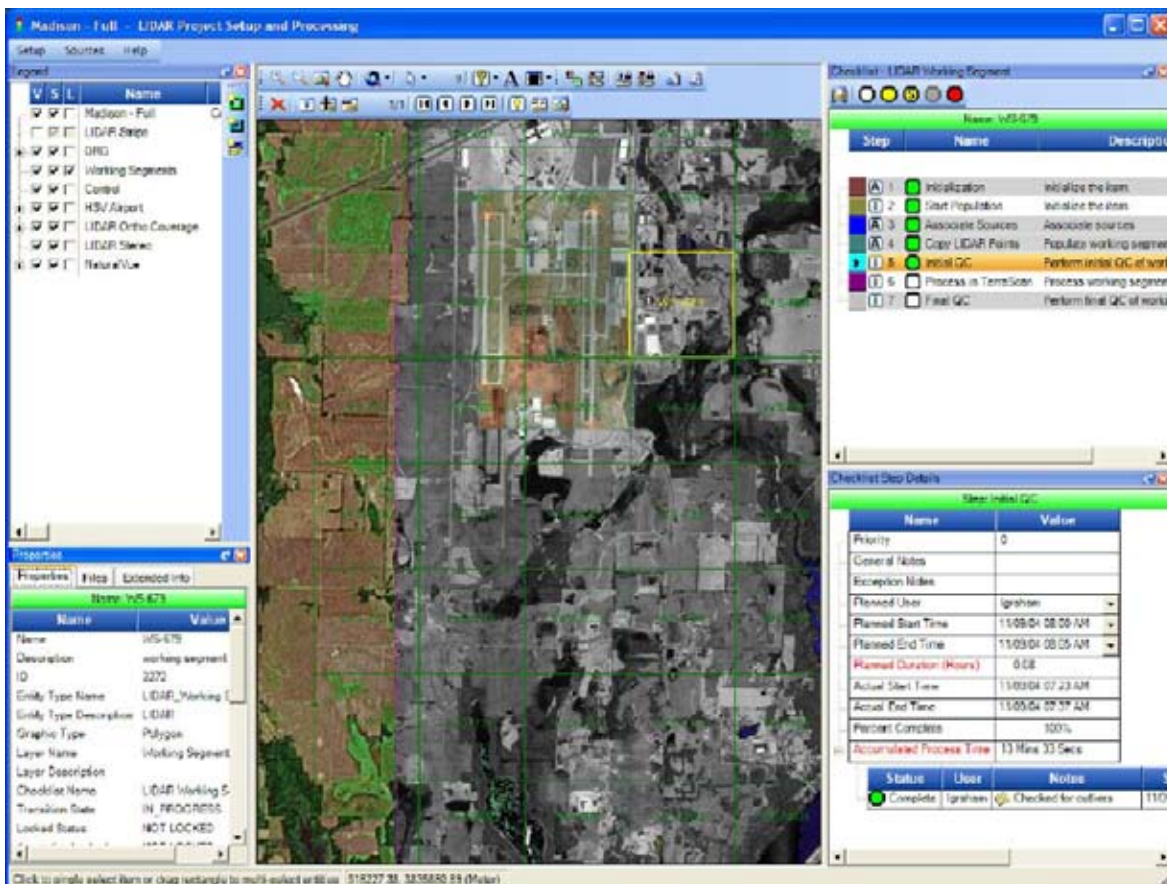




The GeoCue software suite, from GeoCue Corporation, is a next generation geospatial process management system. GeoCue provides an integrated project management and control environment with a familiar map orientated graphical user interface. GeoCue is an extensible process management system that envelops your software tools, processes, and data management system, converting your current production process into an organized and efficient enterprise system. This means that you can migrate your existing processes to a distributed multiuser system without purchasing new workstation tools and without the need to retrain operators. GeoCue is designed to be very flexible, yet easy to use, maintain and extend. Using an integrated graphic environment builder, you can custom tailor a workflow to suit your particular needs. GeoCue supports a virtually unlimited library of production Environments that are immediately accessible through a unified, intuitive user interface.



Madison, Alabama LIDAR project showing LIDAR Ortho, NaturalVue backdrop and high resolution inset of Huntsville Airport. Data provided courtesy of Optimal Geomatics, EarthSat and USGS. LIDAR collected with an Optech ALTM 1210.

# AN ENTERPRISE CLIENT SERVER APPLICATION

GeoCue is a Client-Server multiuser application, designed as a multi-tiered architecture with “thick” clients running on each production desktop but with the actual project data stored in the centrally located GeoCue Server. The storage and management of project data is a critically important aspect of a process management system. GeoCue Server uses a conventional database (we currently support Microsoft SQL Server) for the storage of project metadata with disk-based files used for the storage of large data types such as imagery, elevation data, laser point data and so forth. GeoCue Client provides the primary interface into the GeoCue system for project planners, project technicians and project managers. The system provides instant and accurate views of the status of a project to all users logged into the same project. When one user performs an operation such as locking a data entity for editing, an event is sent to all GeoCue clients that are currently logged onto the same project. This event causes the client displays to reflect the locked status of the object. There are many of these events supported in

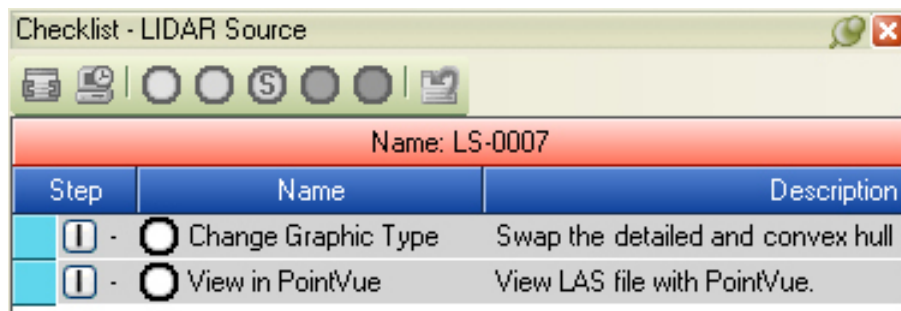
**“Storage and Management of project data is a critically important aspect of a process management system.”**

GeoCue, all using the Server to notify connected clients. Hosting data via the GeoCue Server gateway allowed us to build GeoCue as a transaction-based system. Each data manipulation operation within GeoCue causes a transaction to be performed in the database. This design means that GeoCue Clients do not have a “Save” button since each operation is incrementally saved via transaction processing against the database. An additional benefit of database storage of all operations is the ability of the system to protect data from unauthorized access. GeoCue provides controlled user access on both the user level and the project level. An additional capability of our server-based architecture is the ability to instantly publish project data to Internet hosted browsers via GeoCue Web Server or GeoCue Project Portal. This allows organizations who deploy GeoCue’s Web tools to pull their customers into the production loop by providing web based status views of projects as well as a powerful red-lining delivery tools and project data.

## WORKFLOW MANAGEMENT

One of the big problems with workflow management tools has been the approach of ‘big bang’, which implies that if you simply drop everything you are doing today and convert to someone else’s idea of data management, workflow procedures and often even processing software, you will be in business! Not only is this approach prohibitively expensive but also simply not realistic. Our approach with GeoCue is to ‘wrap’ your current workflows and data in a framework environment. This means that you continue to use the same workflow processes and software tools that you have today, just in a monitored way. This is akin to using a spreadsheet to do your computation rather than paper and a calculator. You are still doing the same computations with the same equations but certainly in a much more robust, accurate

and controlled environment. GeoCue provides a checklist system that “cues” users as to the next step in production. This checklist is tied to an advanced State Engine that allows you to specify the programs and actions that are to occur with the execution. These steps can be GeoCue Corp. provided functions, your existing third party software applications or even applications you have internally created. GeoCue even provides facilities for distributed processing of batch applications. The current status of each work segment is graphically conveyed to all users and can also be projected over the web to end-use customers (with the optional GeoCue Web Server or GeoCue Project Portal).



# PROJECT MANAGEMENT

A comprehensive project planning and tracking facility is built directly into GeoCue. Each time a step is executed via the Checklist system, the critical elements of tracking processing history such as the user, the start time, the end time and completion status are automatically recorded.

Unlike project tracking systems that rely on users remembering to record their activities in a "side-car" application, GeoCue automates these steps

as an integrated part of launching processing actions. In addition to tracking production history, GeoCue also allows you to input planning data such as the planned user, start time, anticipated processing time and the priority of the step. Based on planning data, GeoCue

will automatically compute the percent completion of the step. Using the optional Project Management CuePac, you can bulk load project planning data as well as generate detailed project status reports. Through the management reporting capabilities of GeoCue,

production history information can be an invaluable tool in budgeting and pricing of future projects. Like other elements of GeoCue, these features can

be tailored to meet your specific needs and those of your customers. The information retained in the Checklist Step Details can also serve as important documentation to meet ISO certification requirements.

Checklist Step Details  
Step: Process LAS in TerraScan

Name	Value
DPMS Export Date	1/1/1900 12:00:00 AM
Planned User	Igraham
Planned Start Time	12/07/06 12:00 AM
Planned End Time	NOT SET
Planned Duration (Hours)	0.25
Actual Start Time	12/07/06 11:16 AM
Actual End Time	NOT SET
Percent Complete	41%
Accumulated Process Time	6 Mins 5 Secs

Status	User	Machine	Notes	System Messages	Start Time	End Time	Duration
Pending	Igraham	ROADSERVER1			12/07/06 11:16 AM	12/07/06 11:16 AM	10 Secs
Suspended	Igraham	ROADSERVER1			12/07/06 11:16 AM	12/07/06 11:22 AM	6 Mins 5 Secs

# DISTRIBUTED PROCESSING

The Distributed Processing (Command Dispatch) System brings an exciting new level of productivity enhancements to GeoCue. Its basic capabilities include:

- Scheduling a task to run at a later time on the user's workstation
- Scheduling a task to run now or later on a remote workstation or server
- Splitting a task across multiple machines (*distributed* processing)
- Monitoring the progress of dispatched tasks
- Suspending tasks with the option of rescheduling upon restart
- Killing tasks that have been dispatched
- Allowing workstation users to remove their machine from the Command Dispatch cluster via a desktop icon

GeoCue is an enterprise *framework* that can be extended by GeoCue Corporation (generally via CuePacs), by third party developers/OEM partners and by you, the end user. We have designed and implemented the Command Dispatch System to comply with this philosophy by building interfaces into Environment Builder (the

workflow definition tool included with GeoCue) that allow you to set up commands for the Command Dispatch System. This means, for example, that if you have a super duper secret orthorectification executable program, chances are you can fairly easily integrate it into the GeoCue Command Dispatch System.

Dispatch Monitor

Status	Active	Description	Submit
Complete	False	Mosaic (LPS_MOSAIC)	msdell
Complete	False	Generate Image (GEN_STEREO)	thema (JEN)

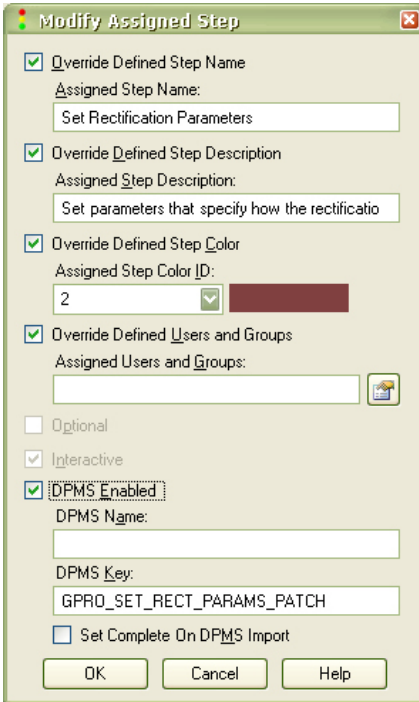
Task Details  
Entity Dispatch Status Summary

Pending	0/2
In Progress	0/2
Terminated	0/2
Exception	0/2
Complete	2/2
Required	0

SubTasks:

Status	Active	Machine	Start Time	End Time	Duration
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## EXTENDING GEOCUE



A CuePac is a collection of GeoCue menus, checklists and auxiliary programs that implement a “canned” set of workflows. CuePacs for common production workflows such as LIDAR production, orthophoto creation, feature collection, image archive management and so forth will be produced by GeoCue Corp., by geospatial production software companies, systems integrators and, of course, by you, the user of GeoCue. CuePacs can be custom tailored to fit individual workflows via Environment Builder, an intrinsic component of GeoCue. This fully open approach to process management allows GeoCue to be the core for any geospatial workflow application. LIDAR 1 , DEM, and Project Manager (PM) CuePacs are application Environments for GeoCue developed by GeoCue

Corp. Working closely with our Industry Partners, these CuePacs tailor GeoCue into comprehensive production solutions in which GeoCue provides the framework and third party vendors provide the ‘vertical’ applications. For example, our LIDAR 1 CuePac integrates products from Terrasolid into an enterprise LIDAR processing system used extensively by major LIDAR production companies. The Leica Ortho Accelerator CuePac (available from Leica Geosystems) converts the industry proven Leica ortho tools into an integrated enterprise ortho production system supporting features such as distributed processing. The biggest advantage to users is a single, unified production environment that manages and tracks production across multiple disciplines and products.

## INTEGRATION SERVICES

Nearly all production companies today deploy a wide range of software tools in mixed workflows. Most companies have developed internal software and integration techniques to optimize their processing workflows. They invariably discover that continuing in this direction is both slow and rapidly becomes cost prohibitive. What started as a small, internal development to improve a particular workflow has grown into a logistically impossible to maintain nightmare. GeoCue

Corporation offers custom consulting services to assist you in integrating your existing workflows into a GeoCue managed system. This typically consists of a three phase process:

1. Analyzing your existing workflows and technology.

2. Designing a recommended flow integrated into GeoCue.

3. Deploying the solution (with training).

A GeoCue encapsulated workflow provides you all of the benefits of your custom workflow in a cost effective package. For example, if you have designed your own

rectification software, integration into GeoCue will maintain your Intellectual Property investment while making advanced features such as distributed processing and task tracking

available. In addition to GeoCue enabled workflows, we offer consulting services for best practices in general geospatial processing. Our expertise covers the gamut from sensor selection to detailed application training for geospatial data processing.

**“Our goal is simple - improving your bottom line through increased production efficiency.”**



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