

Parallel Processing Server

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1. Introduction

Welcome to the help library for the Parallel Processing Server system for map authors and system administrators. Parallel Processing Server allows you to distribute tasks across many computers in order to create map products faster. This help system focuses primarily on using Parallel Processing Server configuration and management.

If you're new to Map Publisher Professional and Parallel Processing Server, you can start learning about the system now by reading the topics in the [Application Overview](#).

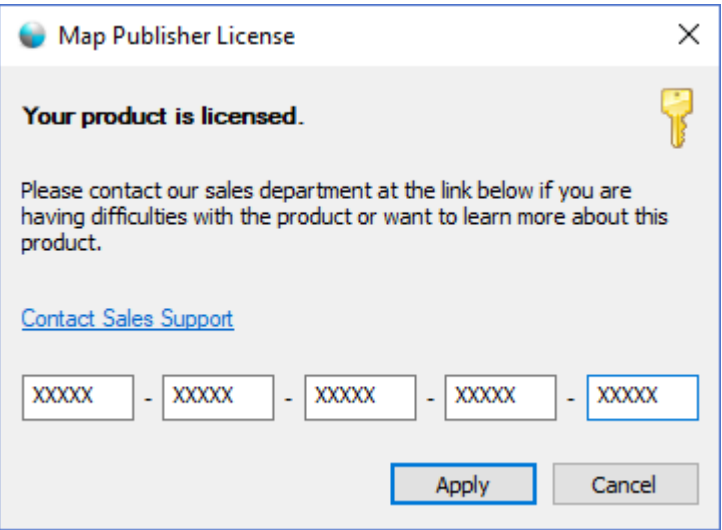
Using this Help

There are a number of ways to explore the information contained in this User Guide, depending on where you are and what you are looking for. The four major areas are:

- [Application Overview](#)
Start here if you want to learn about what the product does and what features it contains.
- [Desktop Application](#)
Read here if you want to know how to use the desktop product or to find out what a dialog, control or menu does.
- [Server Application](#)
Read here if you want to learn about the server components and how to manage or configure them.
- [How To](#)
Read here if you want to learn how to configure and deploy the services on a single computer or multiple computers or how to submit tasks to the Parallel Server.

Licensing

Parallel Processing Server is feature of Map Publisher and requires one license per installation.



- You can purchase Map Publisher Professional on our Web Site:
<https://www.lcic.xyz/products/purchase.html>
- Read more about licensing Map Publisher Professional:
- <https://www.lcic.xyz/products/licensing.html>

Contact Information

- Map Publisher Professional Website
<https://www.lcic.xyz/products/axis>
- Support Forums
<https://www.lcic.xyz/products/axis/forums>
- Support Email
support@lcic.xyz

2. Application Overview

Parallel Processing Server allows you to distribute map publishing tasks across many computers in order to process and prepare data more quickly. Parallel Processing executes many tasks, simultaneously on many computers. A task is an atomic unit of work within the overall process. For example: Creating a single png file is an atomic unit of work for a process that creates a tile cache. Or, extracting metadata from an image file is an atomic unit of work for a process that interrogates files on a network and creates a raster catalog of the image metadata. Parallel Processing Server enables you to harness the maximum computing power from all your hardware resources to get all your tasks done faster.

Parallel Processing Server has two main components. The components are:

- [Parallel Desktop](#)
- [Parallel Server](#)

The Parallel Server does the parallel processing work and the Desktop application is used to configure the server and view and or manage the log messages from the server.

Parallel Desktop

Parallel Processing Desktop is a simple GUI application that is installed with every instance of Parallel Processing Server. You can access it from one of the links that were installed on your desktop, start menu or from the Program Files folder. Administrative privileges are required for some of the functions in the application. To read more about this requirement visit [Parallel Desktop](#).

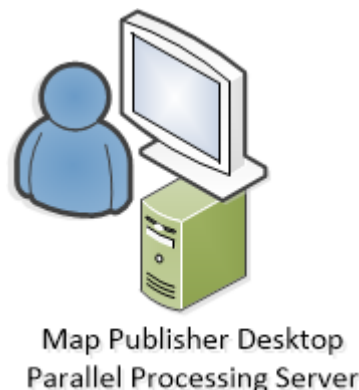
Parallel Server

Parallel Processing Server has three Windows Services that work in concert to distribute tasks across multiple computers on your network. The three services are:

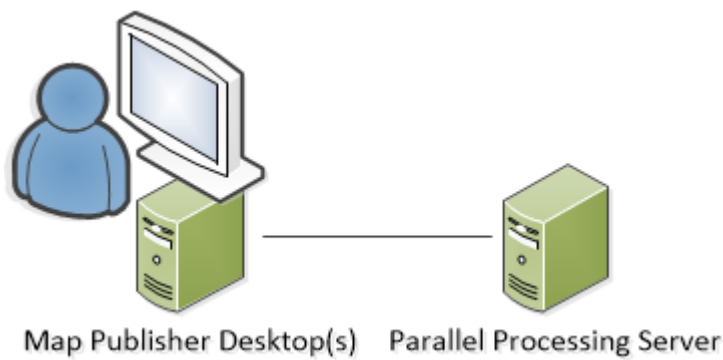
- [Queue Service](#)
A Multi-Node Task Queuing Service.
- [Load Balancer Service](#)
A Multi-Node Task Load Balancing Service.
- [Node Service](#)
A Multi-Process Task Node Service.

The services can be deployed together on a single computer or distributed across many computers. The deployment diagrams shown below illustrate different deployment strategies:

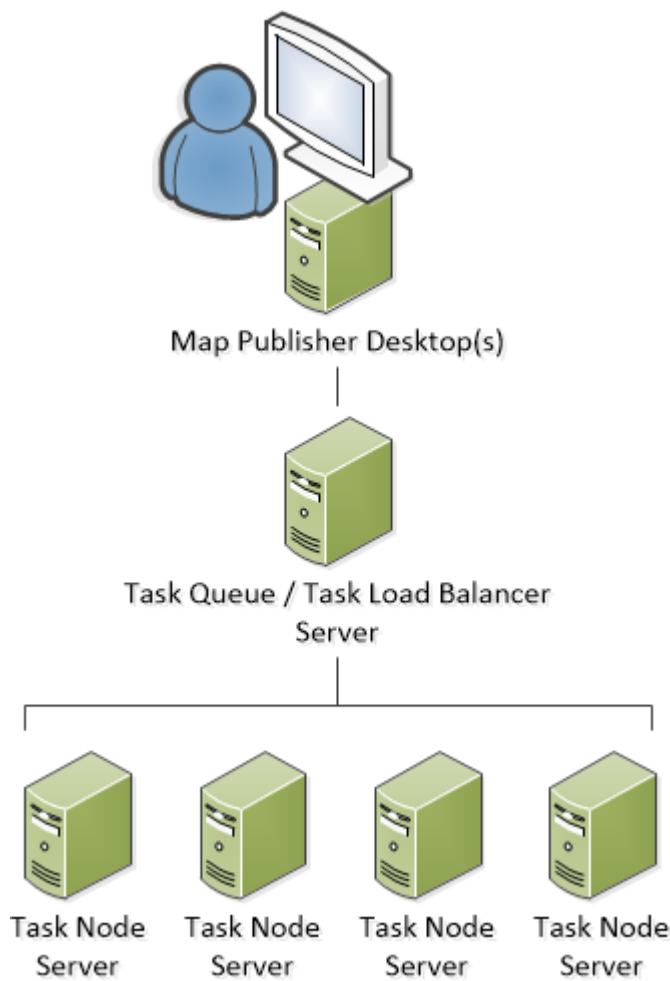
Single Computer:



Two Computers:



Many Computers:



To get started using Parallel Processing Server and determine what deployment strategy is best for you read the [Desktop](#), [Server](#) and [How To](#) sections of this help guide. Additional information on how to use Map Publisher Desktop with Parallel Processing Server can be found in the Map Publisher Desktop help guide.

3. Using The Application

3.1 Desktop

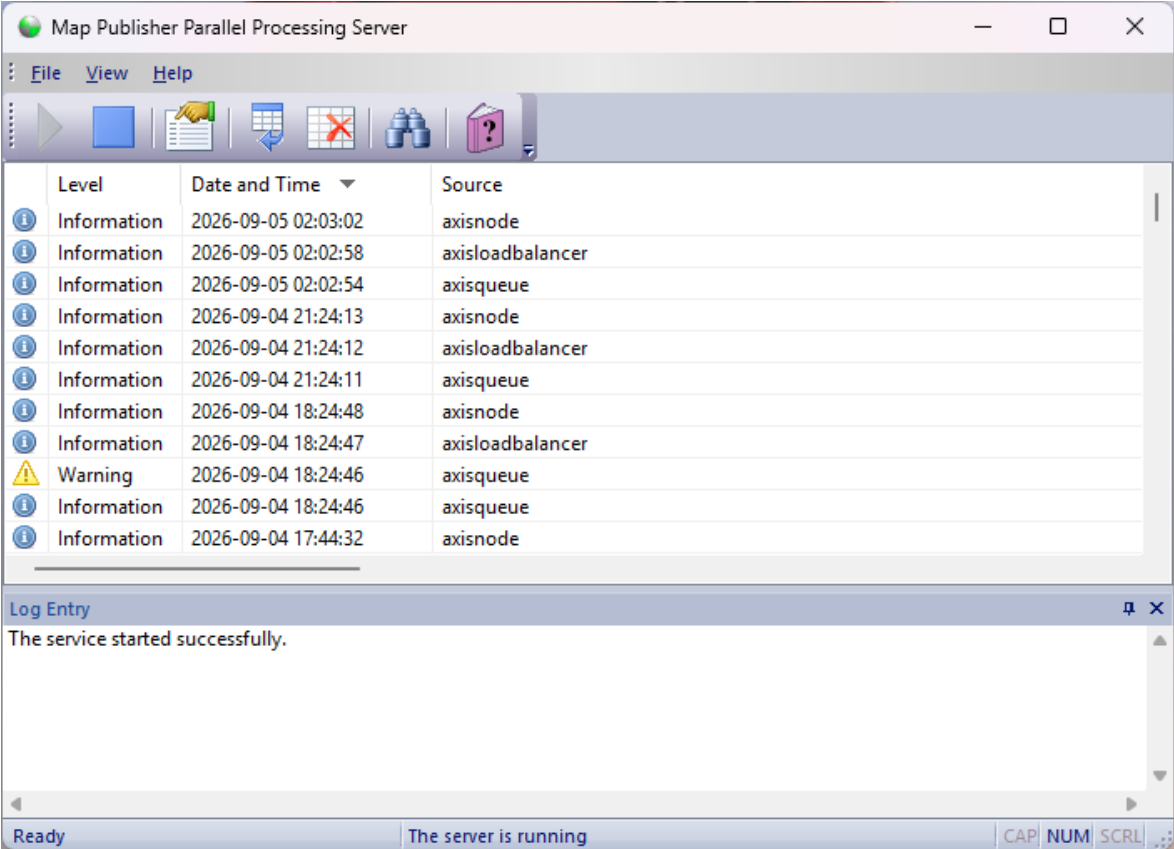
3.1.1 Overview

Parallel Processing Desktop is a management application that allows you to control and manage the Parallel Processing Server application. The application is a simple GUI application that is installed with every instance of Parallel Processing Server. You can access it from one of the links that were installed on your desktop, start menu or from the Program Files folder. Administrative privileges are required for some of the functions in the application. See Desktop Restrictions below to read more about the restrictions. Use

the Desktop application to stop, start, configure services properties and review event log entries. Visit the Desktop Control links below for more information.

Desktop Window

The screenshot below shows the Parallel Desktop Application Window:



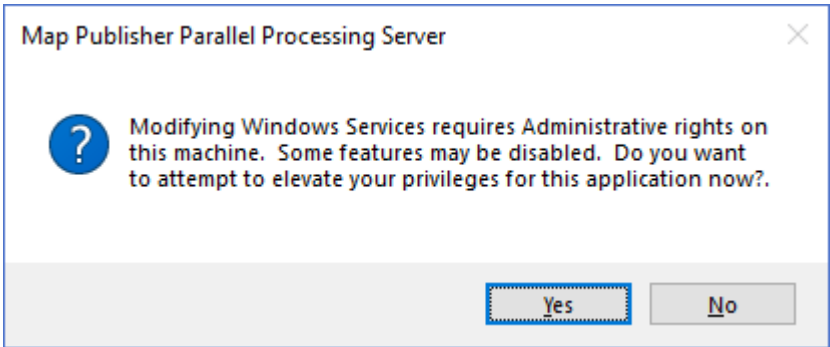
Desktop Controls

The application controls are:

- [Menu](#)
- [Toolbar](#)
- [Log Entry List](#)
- [Log Entry Docking Window](#)
- [Properties Dialog](#)
- [Find Dialog](#)
- [About Dialog](#)
- [Status Bar](#)

Desktop Restrictions

Administrative privileges are required for some of the functions in the application because the Microsoft Windows API requires administrative privileges when starting, stopping and configuring Windows Services. To read more about this restriction please visit the Microsoft [website](#) . Despite this restriction, the application will still run for a normal user if the user declines to elevate the application privileges on startup of the application. This can be useful if the user wants to inspect and / or export the log entries. If the application is started without administrative privileges the message box displayed below will appear:

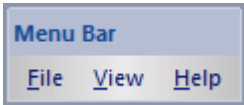


Choosing "Yes" will attempt to elevate the user privileges to Administrative. Choosing "No" will launch the application with a reduced set of functionality. If a user is already in the Administrators group then the message box will not appear. The behaviour described above can vary depending on the settings of Windows User Account Control (UAC).

3.1.2 Menu

The desktop menu control allows you to execute the features of the application by selecting the action you wish to perform with either the mouse or keyboard.

Desktop Menu



The popup menu items are:

- **File**
 - **Start**

Starts the Parallel Processing Server service components. Some of the services may not be started depending on the server configuration defined in the [Properties Dialog](#) .
 - **Stop**

Stops the Parallel Processing Server service components.
 - **Properties**

Displays the [Properties Dialog](#) window.
 - **Export**

Exports the [Log Entry List](#) as a semi-colon delimited list of records in a text file.
 - **Delete Log Items**

Deletes the Log Entries from the Windows Event Log and from the [Log Entry List](#) . This action cannot be undone.
 - **Find**

Displays the [Find Dialog](#) window that is used to find Log Entries that fully or partially match the search criteria.
 - **Exit**

Exits the application and closes all windows but does not stop the Windows Services.
- **View**
 - **Toolbars and Docking Widows**

- **Server**

Toggles the Server [Toolbar](#) on or off.
- **Log Entry**

Toggles the [Log Entry Docking Window](#) on or off.
- **Customize**

Displays the Customize Dialog window where you can customize the Menu and [Toolbar](#) options
- **Status Bar**

Toggles the [Status Bar](#) Window on or off.
- **Help**
 - **Help Guide**

Displays the Help Window guide (this application) for the application where you can read about Parallel Processing Server and how to use it.
 - **About Parallel Processing Server**

Displays the [About Dialog](#) window for the application where you can read about the manufacturer, copyright and find product links.

3.1.3 Toolbar

The desktop toolbar control allows you to execute the features of the application by selecting the action you wish to perform with the left mouse click.

Desktop Toolbar



The toolbar buttons are:

- **Start**

Starts the Parallel Processing Server service components. Some of the services may not start depending on the server configuration defined in the [Properties Dialog](#) .



- **Stop**

Stops the Parallel Processing Server service components.



- **Properties**

Displays the [Properties Dialog](#) window.



- **Export**

Exports the [Log Entry List](#) as a semi-colon delimited list of records in a text file.



- **Delete Log Items**

Deletes the Log Entries from the Windows Event Log and from the [Log Entry List](#). This action cannot be undone.



- **Find**

Displays the [Find Dialog](#) window that is used to find Log Entries that fully or partially match the search criteria.



- **Help Guide**

Displays the Help Window guide (this application) for the application where you can read about Parallel Processing Server and how to use it.



3.1.4 Log Entry List

	Level	Date and Time ▾	Source
	Information	2026-09-05 02:03:02	axisnode
	Information	2026-09-05 02:02:58	axisloadbalancer
	Information	2026-09-05 02:02:54	axisqueue
	Information	2026-09-04 21:24:13	axisnode
	Information	2026-09-04 21:24:12	axisloadbalancer
	Information	2026-09-04 21:24:11	axisqueue
	Information	2026-09-04 18:24:48	axisnode
	Information	2026-09-04 18:24:47	axisloadbalancer
	Warning	2026-09-04 18:24:46	axisqueue
	Information	2026-09-04 18:24:46	axisqueue
	Information	2026-09-04 17:44:32	axisnode
	Information	2026-09-04 17:44:31	axisloadbalancer
	Information	2026-09-04 17:44:30	axisqueue
	Information	2026-09-04 17:34:04	axisnode
	Information	2026-09-04 17:34:03	axisloadbalancer
	Information	2026-09-04 17:34:02	axisqueue
	Warning	2026-09-03 23:53:20	axisloadbalancer
	Information	2026-09-03 21:24:18	axisnode

Log entries are generated by the Queue Service, the Load Balancer Service and the Node Service in the Windows Event Log under the "**Applications and Services Logs**" section in a log called "**AxisParallelServer**". The Desktop Log Entry List control shows the log entries from this log only. The list can be sorted either ascending or descending per column by clicking on the column header. There are four columns in the list and they are as follows:

The four column names from left to right are:

- **Icon**



An icon that represents the level of the log entry to compliment the Level column text description.

- **Level**

A text description that represents the level of the log entry to compliment the Icon column. There are three possible Level description text messages matching the three possible icons. The three log levels are:

- **Error**

Log entries that are generated by the services that the user or system administrator should be concerned about and may mean the system is not working properly.

- **Information**

Log entries that are generated by the services that are informational to the user or system administrator and are a normal part of the operation.

- **Warning**

Log entries that are generated by the services that the user or system administrator should be advised of but may or maynot prevent the system from working properly.

- **Date and Time**

The local system date and time the service generated the log entry in the form of YYYY-MM-DD HH:MM:SS.

- **Source**

A short text description of the Windows Service that generated the log entry. The three possible descriptions are "axisqueue" for the Queue Service, "axisloadbalancer" for the Load Balancer Service and "axisnode " for the Node Service.

Desktop Log Entry List Actions

Using the [Find Dialog](#) window from the [Menu](#) or [Toolbar](#) control you can search for log entries that match text patterns, export log entries to a comma delimited text file and delete log entries from the Log Entry List . For more information please see [Menu](#) or [Toolbar](#).

3.1.5 Log Entry Docking Window



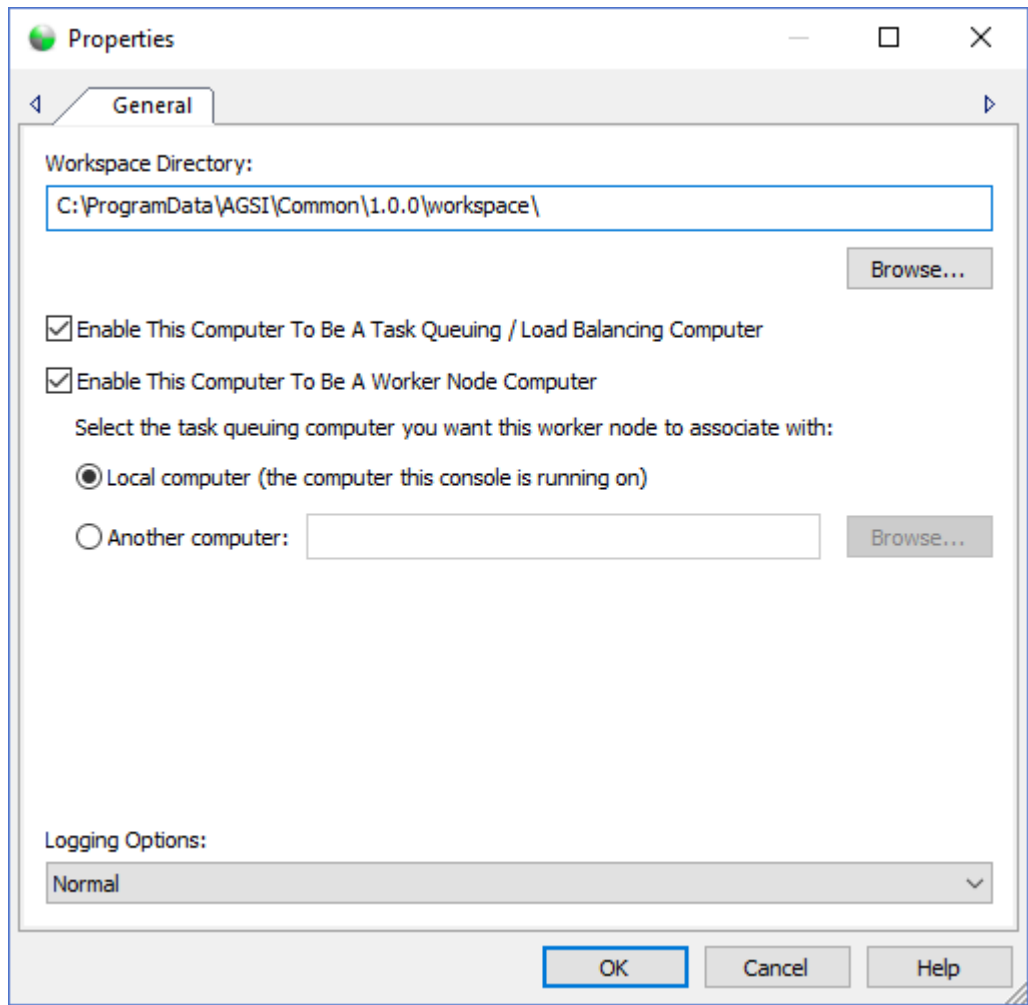
Log entry messages are displayed in the Log Entry Docking Window when a row in the [Log Entry List](#) is selected by either a left mouse click or the up and down arrows on the keyboard. When the [Log Entry List](#) is exported using the [Menu](#) or [Toolbar](#) commands the Log Entry message text is included in the Log Entry row.

Desktop Log Entry Docking Window Actions

The Log Entry Docking Window is a detachable window that can be turned on or off, float, or attach to any side of the main application window. It can also fade away as a tab

and fade back on mouse over of the tab. Use the *View->Toolbars and Docking Windows Menu* option to show or hide the Log Entry Docking Window.

3.1.6 Properties Dialog



The dialog controls are:

- **Workspace Directory**
Specifies the root directory path where the Parallel Processing Window Services can create temporary directories and files while processing tasks. The Windows Service logon credentials must have sufficient access rights to the root Workspace Directory for creating, reading, writing and deleting directories and files. Use the Windows Services application from the Administration Tools in the Control Panel to set the logon credentials for all the services that start with AGSI.
- **Workspace Directory Browse**
Launches a directory browse window to select the Workspace Directory path.
- **Enable This Computer to Be A Task Queuing / Load Balancing Computer**
Check this option if you want this computer to accept tasks from Map Publisher Professional Desktop applications for processing. A Task Queuing / Load Balancing Computer is a computer that queues tasks for processing and load balances the tasks to the Worker Node Computers. In a distributed deployment of Parallel Processing Server you should typically select this option on only one computer and designate the other computers to be Worker Node Computers that associate with the Task Queuing Computer. In a single workstation deployment all services should be enabled. By selecting or deselecting the option the Queuing and Load Balancing Services will both be enabled or disabled accordingly.
- **Enable This Computer to Be A Worker Node Computer**
Check this option if you want this computer to request tasks from Task Queueing / Load Balancing Computer. A Worker Node Computer is a computer that requests

tasks for processing from the Task Queuing / Load Balancing Computer. In a distributed deployment of Parallel Processing Server you should typically select this option for all computers other than the Task Queueing / Load Balancing Computer and associate the Worker Node Computer to the Task Queueing / Load Balancing Computer using the "Another Computer" text box listed below.

- **Local Computer**

Check this option in a single computer deployment when the Task Queuing / Load Balancing Services are also enabled.

- **Another Computer**

Check this option in a distributed computer deployment when the Task Queuing / Load Balancing Services are disabled and running on another computer. Specify the computer name of the Task Queueing / Load Balancing Computer that this computer should request tasks for processing from. It is recommended that you first install and start the Task Queueing / Load Balancing Services before installing and configuring Worker Node Computers in a distributed environment because the Worker Node Computer will try and contact the remote computer on startup.

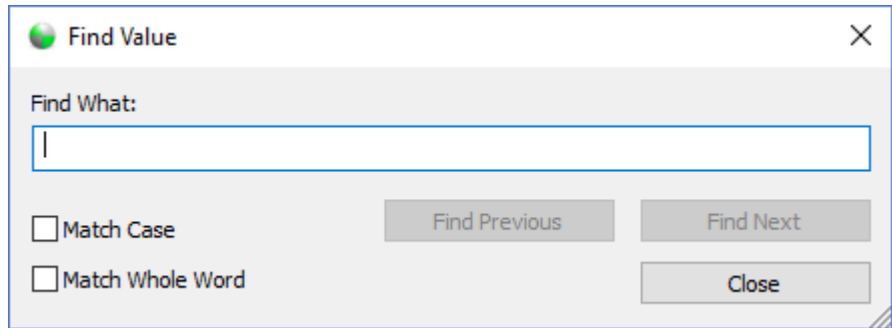
- **Another Computer Browse**

Launches a network browse window to select the Task Queueing / Load Balancing Computer name. Beware that on networks that contain many computers this dialog window can be quite slow. It is recommended that you type the name in the text box manually if your network is large or is slow.

- **Logging Options**

The logging option influences how the Parallel Processing Server Window Services log their processing steps. The three possible logging options are Normal, Traffic and Debug. Normal is recommended when the system is running under normal circumstances and the log entries will be limited with only high level information such as stop, start, warning and error messages. Traffic is much more verbose and will log events in more detail and should only be used when you want to get a picture of what is going on with your system but should be set back to Normal to avoid cluttering the log with useless information messages. Debug is the most verbose logging option and should be used to trouble shoot configuration and system problems.

3.1.7 Find Dialog



The dialog controls are:

- **Find What**

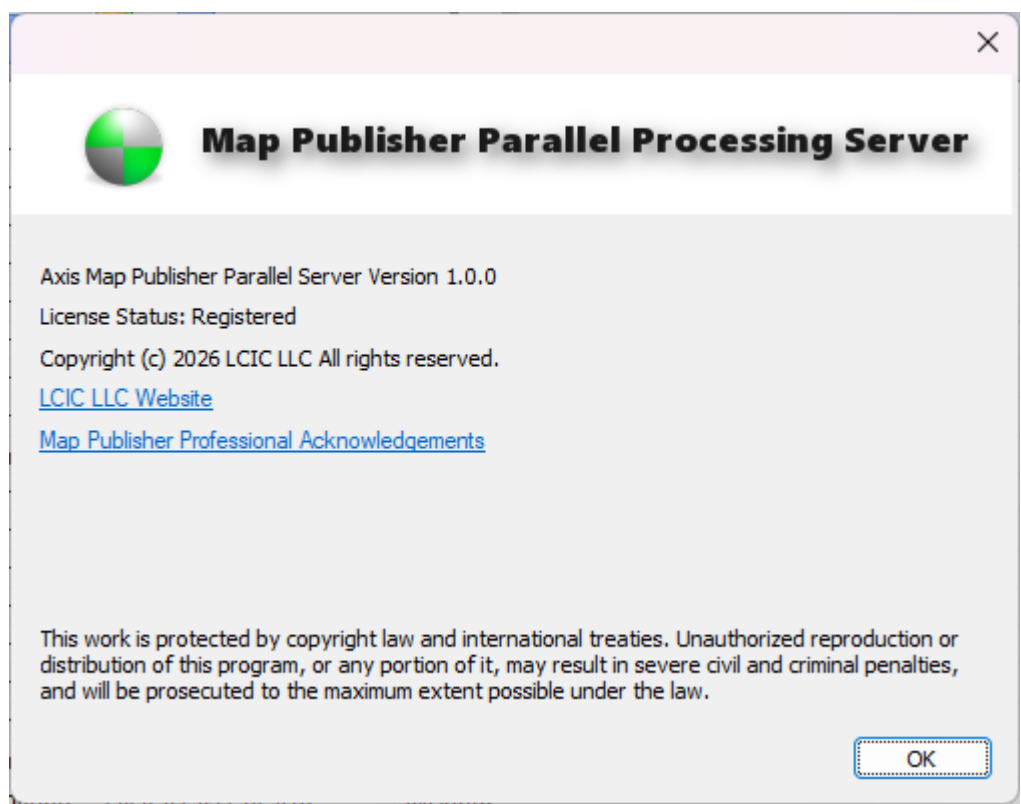
The search criteria to look for in the [Log Entry List](#) control. The find operation searches all the columns of the list and the log entry message text for a potential match. The cells or row with a match are highlighted in the list. The list will automatically scroll to the selected row as the search progresses through the list.

- **Match Case**

Specifies that any matches have the same case as the Find What text.

- **Match Whole Word**
Specifies that any matches match the entire Find What text.
- **Find Previous**
Moves the selection in the list to the next match, if one exists, moving up the list.
- **Find Next**
Moves the selection in the list to the next match, if one exists, moving down the list.
- **Close**
Closes the Find Dialog window.

3.1.8 About Dialog



The dialog controls are:

- **Product Name and Version**
Specifies the name of the product and version.
- **License Status**
Specifies the status of the license if in trial mode, expired or licensed.
- **Copyright**
Specifies the copyright and manufacturer of the product.
- **Links**
Provides links to the manufacturer website for more information about products and software acknowledgments.

3.1.9 Status Bar



The status bar panes are:

- **Mouse Target Control Text**

Displays the control help tip when the mouse cursor is over a control such as a button or menu item.

- **Server Status**

Displays the server as status as either started or stopped.

- **CAP Lock**

Displays if the keyboard caps lock key is toggled on or off.

- **NUM Lock**

Displays if the keyboard number lock key is toggled on or off.

- **SCRL Lock**

Displays if the keyboard scroll lock key is toggled on or off.

Use the View->Toolbars and Docking Windows [Menu](#) option to show or hide the Status Bar Window.

3.2 Server

3.2.1 Overview

Parallel Processing Server is comprised of three Windows Services that work in concert to distribute tasks across multiple computers on your network in order to get tasks done faster. The Map Publisher Desktop Application submits tasks to the Queue Service for processing where the tasks are placed into a First In First Out (FIFO) queue. Tasks are processed in the order they are received and are made available to the Load Balancer Service for distribution to the Worker Node Services. Tasks are classified in a way that ensures the optimal use of hardware resources in order accelerate time to completion. The more Node Services that are deployed to different computers means more tasks you can process in parallel. The Map Publisher Desktop application has a Task Docking Window that allows the user to monitor and manage the tasks. Once the Parallel Processing Server is installed, configured and running you only need to use the Parallel Desktop application if you want to inspect the system logs.

Server Services

The three services are:

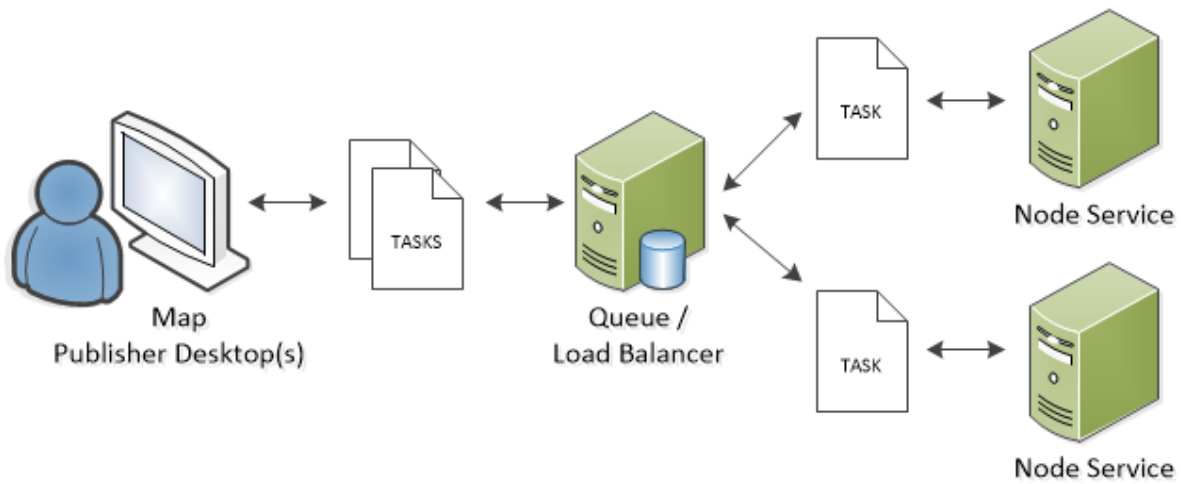
- [Queue Service](#)
- [Load Balancer Service](#)
- [Node Service](#)

Windows Services are special applications that are allowed to run under a designated user account, have no user interface and can stay running when users are logged off of the computer.

Task Flow

The diagram below illustrates how tasks travel through the parallel processing system from Map Publisher Desktop to the Node Services and back.

Parallel Processing Server



In the diagram above the life cycle of the task is:

1. A task, such as creating pyramid files for an image, is create by the Map Publisher Desktop user.
2. When the user submits the task, Map Publisher Desktop transmits a task request to the Queue service.
3. The Queue service receives the task request, serializes it to disk and then notifies the Load Balancer that there is a new task request pending.
4. When notified, Load Balancer picks up the task request and adds it to it's FIFO queue in the order it is received and waits for a Node service to request a task.
5. When the Load Balancer service receives a task request from a Node service it passes it along and then either waits for the task to complete or distributes more tasks depending on the type of task it is. Read more about Task Types below.
6. While a task is processing, log messages and percent complete notifications are relayed back to the Map Publisher Desktop from the Node services via the Queue and Load Balancer services.
7. When the task has completed a notification is sent to the Map Publisher Desktop application and a balloon window is displayed to alert the user. The Task Docking Window in Map Publisher Desktop will also reflect the change in task status to completed. Using the Task Docking Window in Map Publisher Desktop the user can view the task details and log messages. To learn more about the Task Docking Window and creating tasks read the help documentation that is part of Map Publisher Desktop.

Task Types

Tasks are typed according to how many logical CPU cores they need to execute most efficiently. There are three task types and they are:

- **Single Core Tasks**

Tasks that require one logical core on a machine to execute efficiently.

- **Mutliple Core Tasks**

Tasks that require all logical cores on a machine to execute efficiently.

- **Multiple Node Tasks**

Tasks that require all logical cores on every machine that is a Worker Node machine to execute efficiently.

Example Use Case Scenarios:

An example of a **single core task** is creating a histogram for a single image. Because only one core is needed per image the user can queue many images at once and the Load Balancer service will ensure that every available core on every Worker Node machine is continually creating a histogram for each image until all images have been processed. The Task Dialogs in Map Publisher Desktop make it easy to queue many single core tasks at once making it simple for the user to process lots of tasks simultaneously.

An example of a **multiple core task** is extracting all the tiles from an OGC GeoPackage file and writing them to disk as png or jpeg files. It makes sense in this case to utilize all cores on a single Worker Node machine to extract the tiles since it's possible to be writing multiple files on a computer at the same time. It's also possible to distribute the process across all Worker Node machines as a multiple node task, but because the process happens so fast on a single machine it really doesn't buy you much. When a multiple core task is processed by a Worker Node computer it will utilize all logical cores on the machine until the task is completed before it requests a new task to process from the Load Balancer service.

An example of a **multiple node task** is uploading or downloading many image files to a cloud storage service such as Azure Blob Storage or Amazon S3. In this case you may have tens or hundreds of thousands of images that you want to store in the cloud or retrieve from the cloud. Because the process is limited by network bandwidth distributing the work across all the Worker Node computers make sense so that you can ensure you are maximizing your network throughput. When a multiple node task is received by the Load Balancer Service the task temporarily takes over the Load Balancer service job of distributing tasks to the Worker Node Computers until the multiple node task is complete.

Task Status

Task status describes the state of the task as it moves through the parallel processing life cycle. The six task status state values are:

- **Pending**

The task has been submitted to the Queue service but has not yet been queued for the Load Balancer service.

- **Queued**

The task has been queued with the Load Balancer service and is waiting to be processed by a Worker Node computer.

- **Processing**

The task has been delivered to a Worker Node computer and is currently being processed.

- **Success**

The task has completed successfully.

- **Failed**

The task has failed to complete successfully.

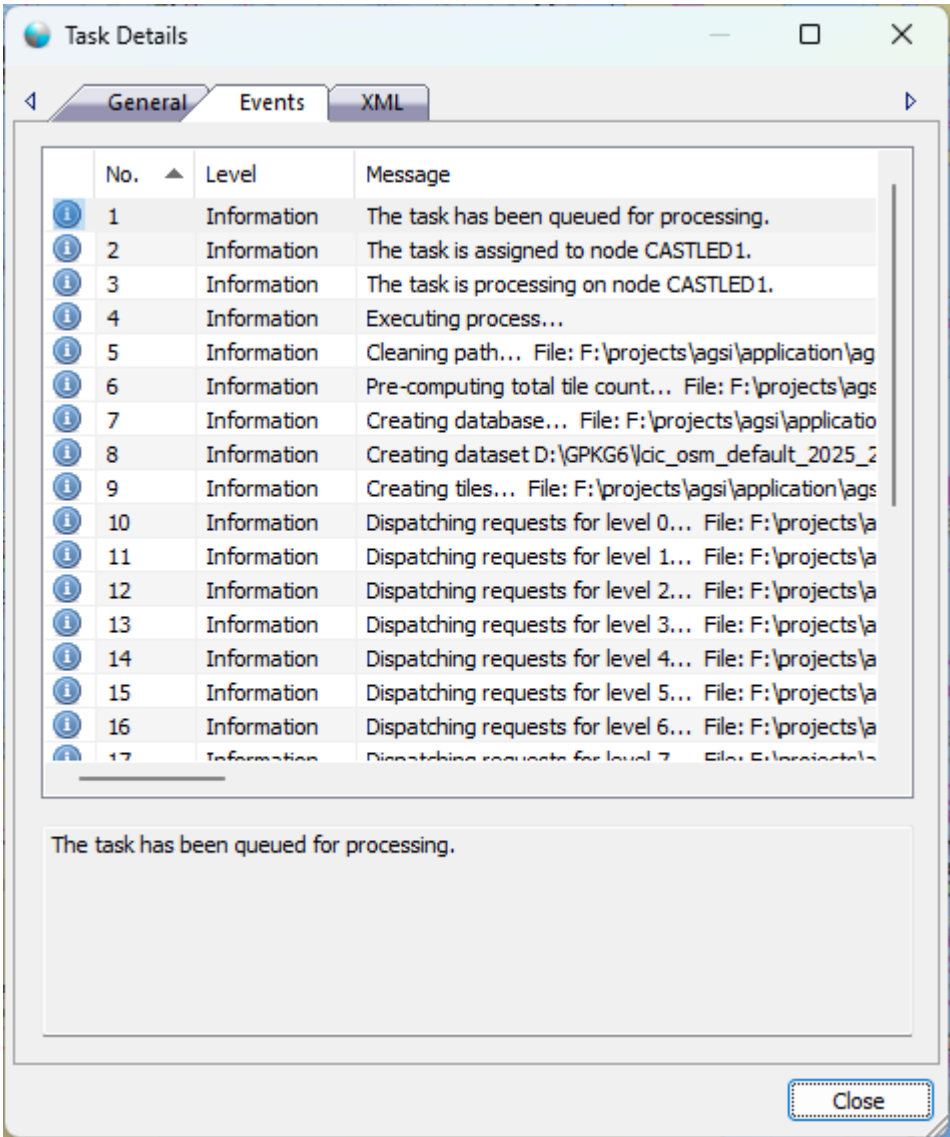
- **Cancelled**

The task was cancelled prematurely by the user.

Use the Task Docking Window in Map Publisher Desktop to inspect the status of tasks as they are they are moving through the parallel processing life cycle.

Task Messages

Task messages are informative messages that are accumulated as a task moves through the parallel processing life cycle. The log messages are intended to supplement the task percent complete information so the user can observe what happened to the task while it was processing. Task messages can be viewed using the Task Docking Window in Map Publisher Desktop. See the screenshot below to see the task details dialog window that is accessible from the Task Docking Window for each task in the task list.



Task Details

Task details can also be viewed using the Task Details Dialog shown below

Task Details

GeneralEventsXML

Identity

Id	4DB25E58-4AEB-47E8-8FAE-E3B8B824C...
Title	Tile Service
Description	Axis Tile Service

Status

State	Success
Start Time	Fri, 04 Sep 2026 13:24:59 UTC
End Time	Fri, 04 Sep 2026 16:07:17 UTC
Duration	02:42:18
Percent Complete	100

Instructions

User	chapmanm
User Full Name	chapmanm
Domain	CASTLED1
Host Address Client	CASTLED1
Host Address Server	
Target Path	
Creation Time	Sun, 30 Aug 2026 03:23:30 UTC

Files / Folders

--	--

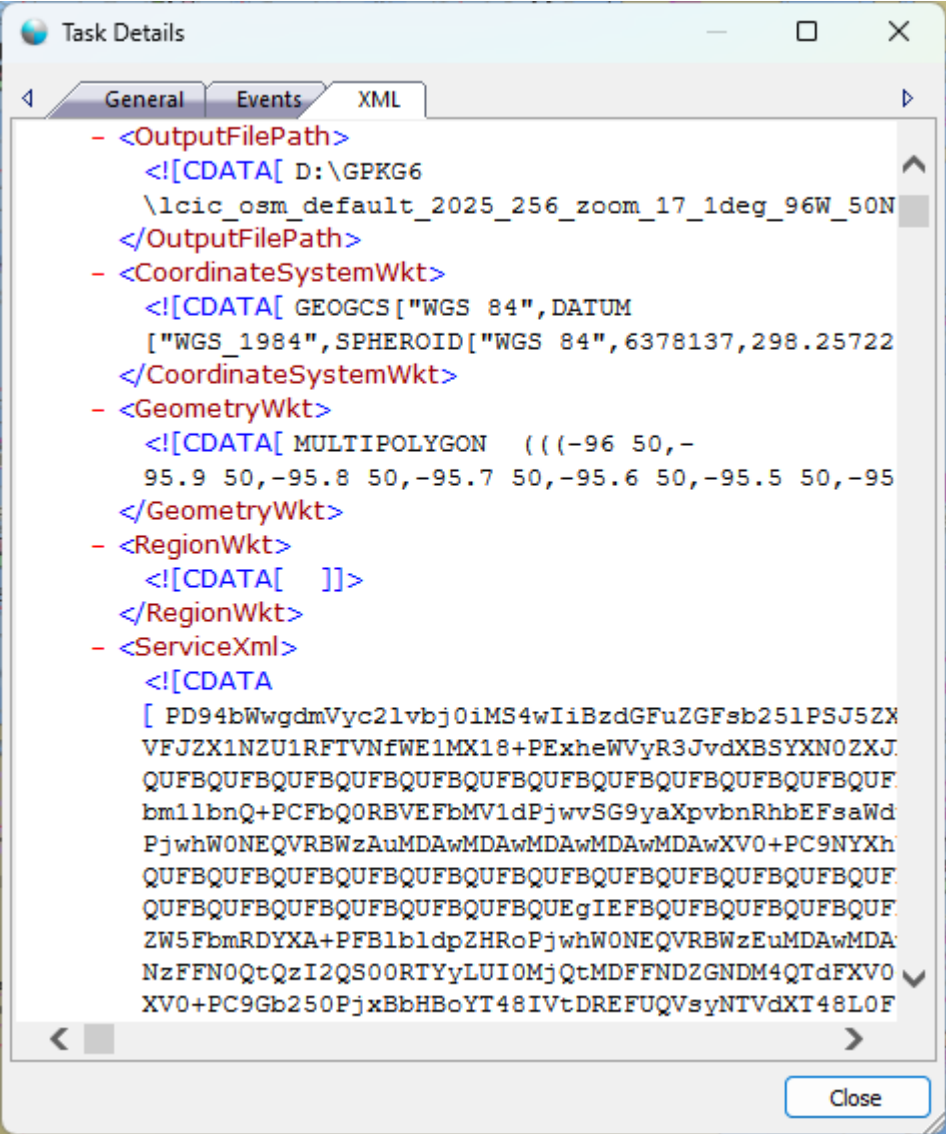
Creation Time

The date / time the task was submitted for processing in Coordinate Universal Time (UTC).

Close

Task XML

Task document raw XML can also be viewed using the Task XML Dialog shown below.

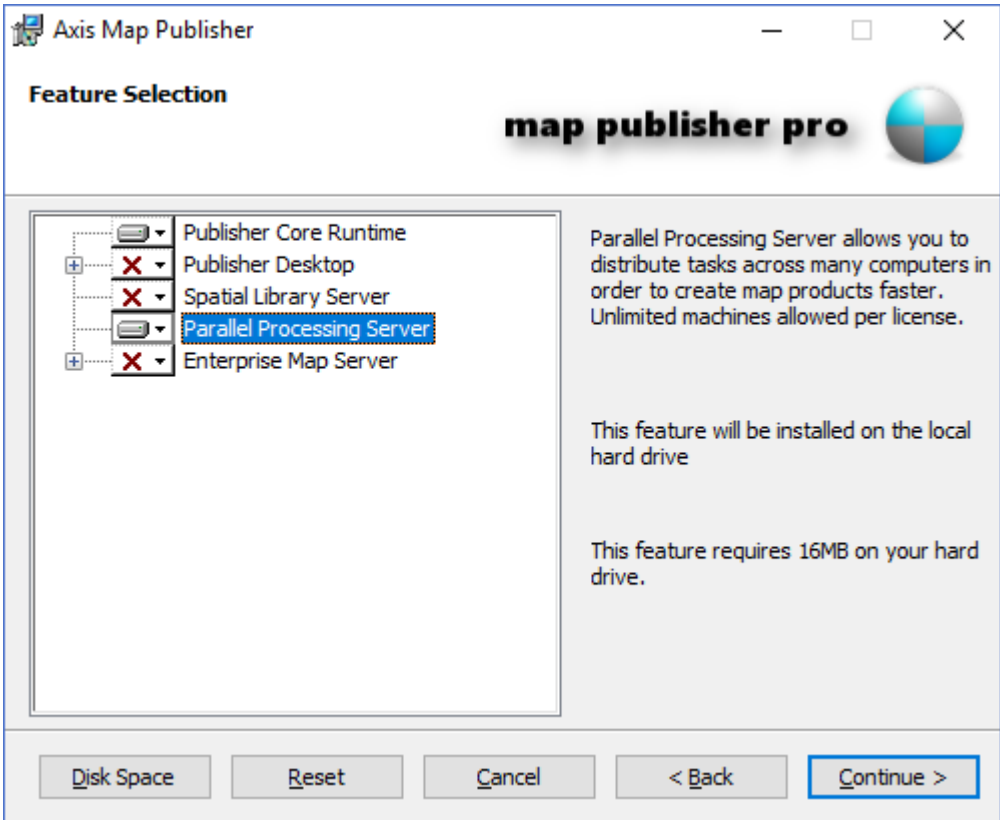


3.2.2 Queue Service

The queue service is the gateway in and out of Parallel Processing Server and is responsible for creating tasks, queuing tasks with the Load Balancer service, providing task status to GUI applications, cancelling tasks and deleting tasks.

Server Queue Service

The Queue Service is a Windows Service named "**AGSI Axis Queue Service <version>**". Windows Services are special applications that are allowed to run under a designated user account, have no user interface and can stay running when users are logged off of the computer. The queue service is required in order to process tasks created by Map Publisher Desktop and can be installed on the same computer as Map Publisher Desktop or on a separate computer that can be shared by many installations of Map Publisher Desktop. See the topics that start with "**Deploy**" in the [How To](#) section of this help documentation to learn more about Parallel Processing Server deployment strategies. The Queue Service is installed as part of the Parallel Processing Server in the installer package as shown in the screenshot below:

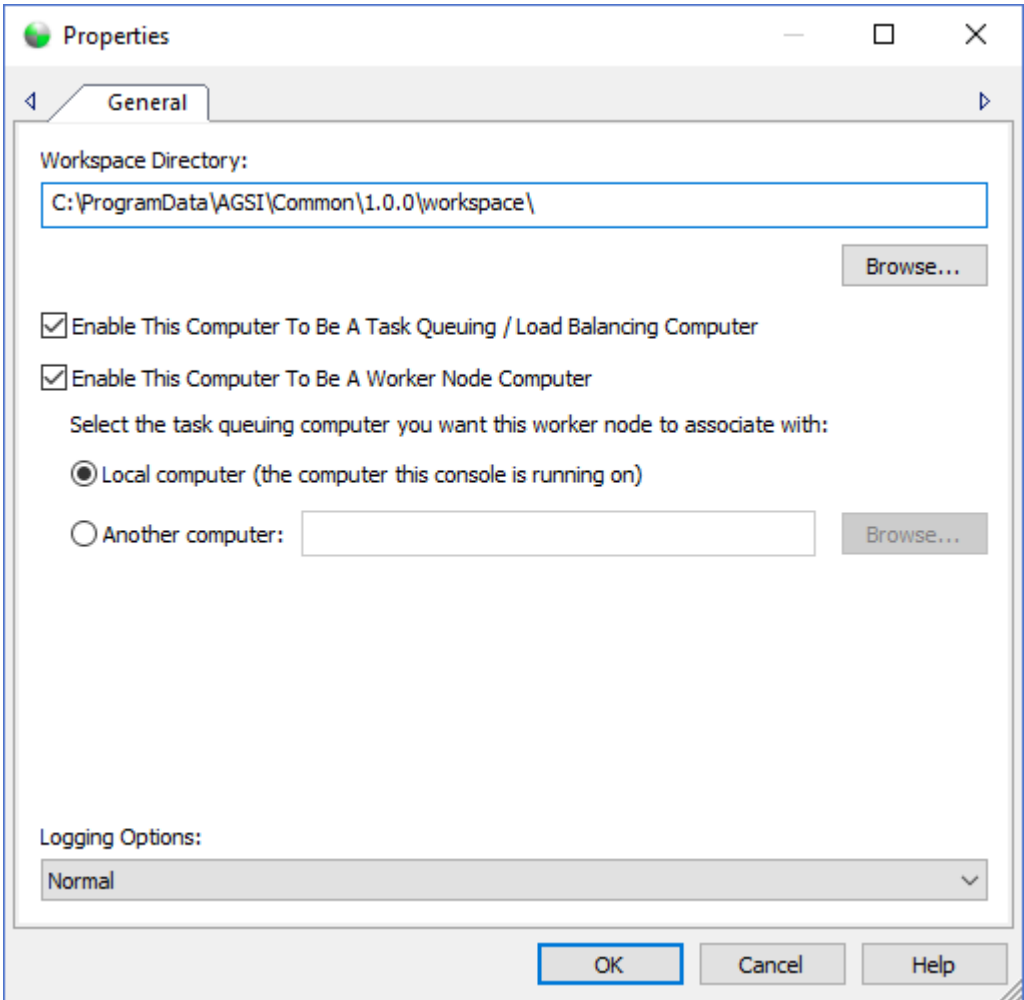


Queue Service Licensing

Parallel Processing Server is feature of Map Publisher and requires one license per installation. To learn more please visit <https://www.lcic.xyz/axis/licensing.html> for more information.

Queue Service Configuration

Users can configure the Queue Service using the [Parallel Desktop Properties Dialog](#). Users can manage additional Windows Services properties using the Microsoft Services MMC console application. To use the MMC console go to *Control Panel->Administrative Services->Services* and double click the service named "**AGSI Axis Queue Service <version>**" to see a list of Windows Service properties. The Queue Service can be enabled or disabled using either the [Parallel Desktop](#) application or Microsoft Services MMC console application. The screenshot below shows the option named "**Enable This Computer To Be A Task Queuing / Load Balancing Computer**" that enables or disables the Queue and Load Balancer services:



Queue Service Event Log

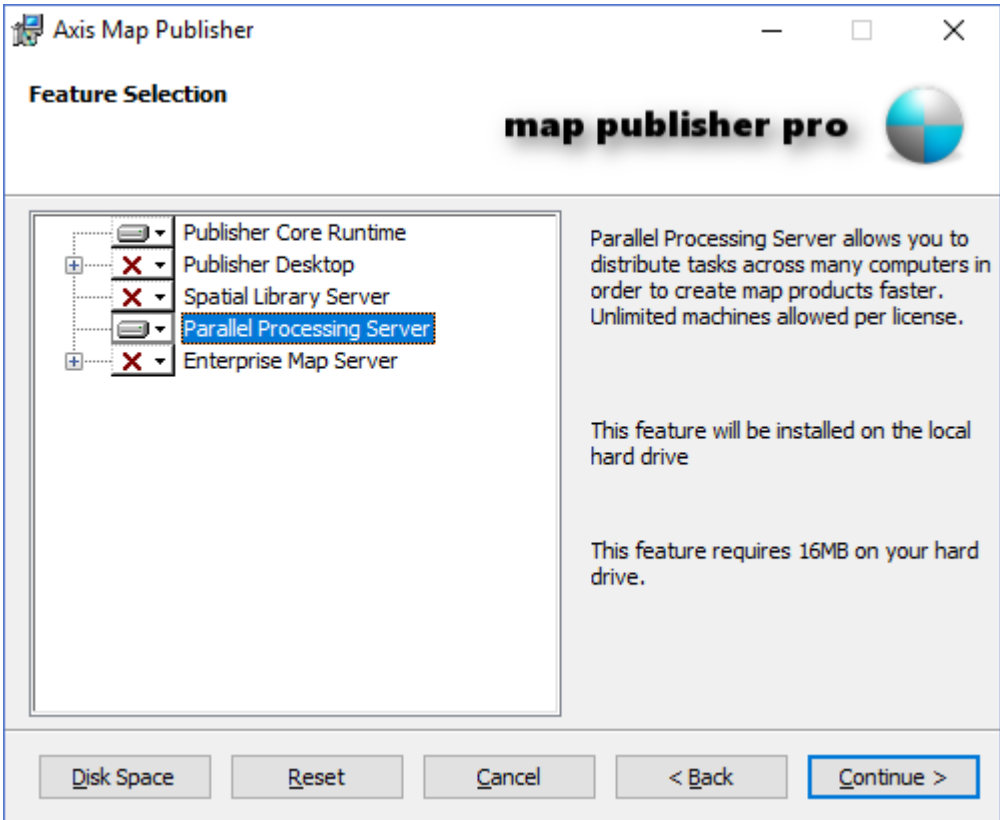
The Queue Service writes all system messages to the Windows Event Log and can be accessed using the [Parallel Desktop Log Entry List](#) or the Microsoft Event Log MMC console application. To use the MMC console go to *Control Panel->Administrative Services->Event Viewer* and navigate the tree control to "**Applications and Service Logs**" and look for the log file named "**AxisParallelServer**". Please note that the messages in this log are system messages for the service and usually do not contain information about the details of a task. Task details should be accessed using the Task Docking Window in Map Publisher Desktop.

3.2.3 Load Balancer Service

The load balancer service is the traffic cop of Parallel Processing Server and is responsible for intelligently distributing tasks with the Worker Node services in order to horizontally scale many tasks across many computers.

Server Load Balancer Service

The Load Balancer Service is a Windows Service named "**AGSI Axis Load Balancer Service <version>**". Windows Services are special applications that are allowed to run under a designated user account, have no user interface and can stay running when users are logged off of the computer. The load balancer service is required in order to proccess tasks created by Map Publisher Desktop and can be installed on the same computer as Map Publisher Desktop or on a seperate computer that can be shared by many installations of Map Publisher Desktop. See the topics that start with "**Deploy**" in the [How To](#) section of this help documentation to learn more about Parallel Processing Server deployment strategies. The Load Balancer Service is installed as part of the Parallel Processing Server in the installer package as shown in the screenshot below:

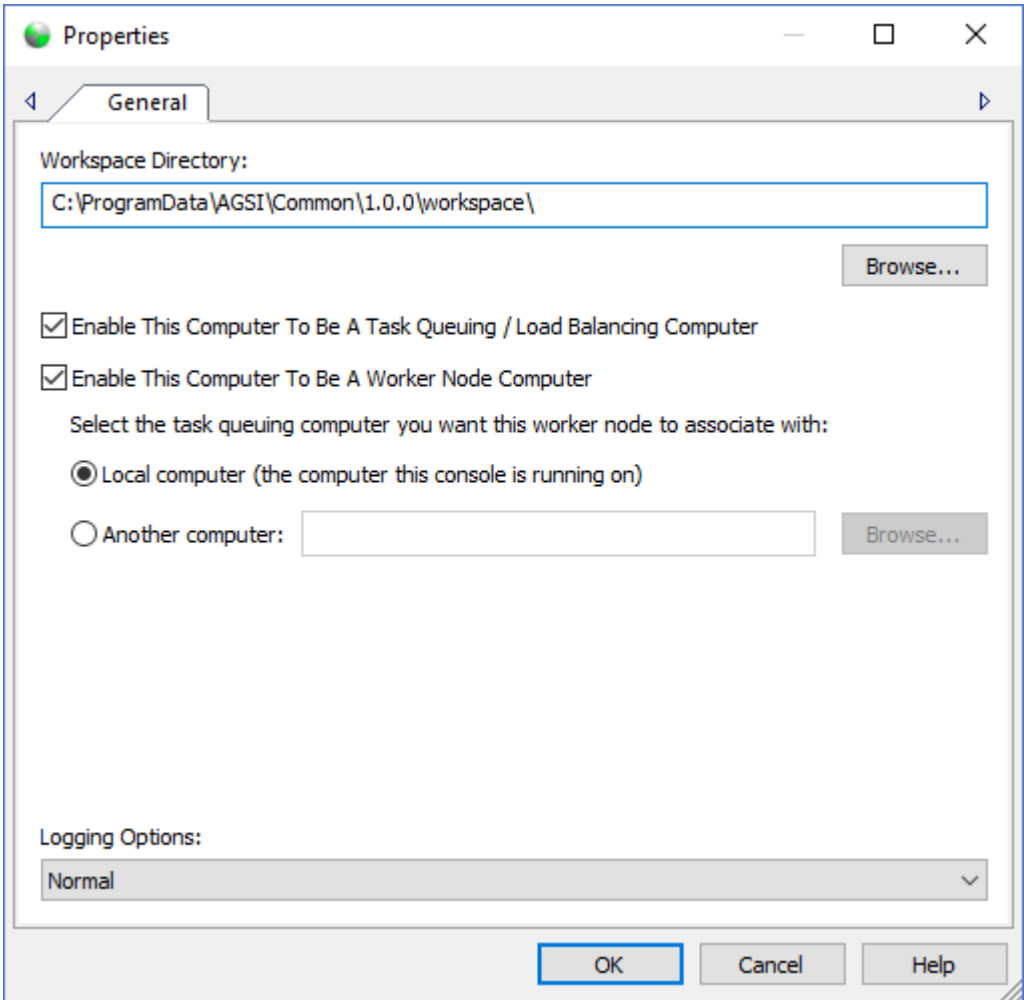


Load Balancer Service Licensing

Parallel Processing Server is feature of Map Publisher and requires one license per installation. To learn more please visit <https://www.lcic.xyz/axis/licensing.html> for more information.

Load Balancer Service Configuration

Users can configure the Load Balancer Service using the [Parallel Desktop Properties Dialog](#). Users can manage additional Windows Services properties using the Microsoft Services MMC console application. To use the MMC console go to *Control Panel->Administrative Services->Services* and double click the service named "**AGSI Axis Load Balancer Service <version>**" to see a list of Windows Service properties. The Load Balancer Service can be enabled or disabled using either the [Parallel Desktop](#) application or Microsoft Services MMC console application. The screenshot below shows the option named " **Enable This Computer To Be A Task Queuing / Load Balancing Computer** " that enables or disables the Queue and Load Balancer services:



Load Balancer Service Event Log

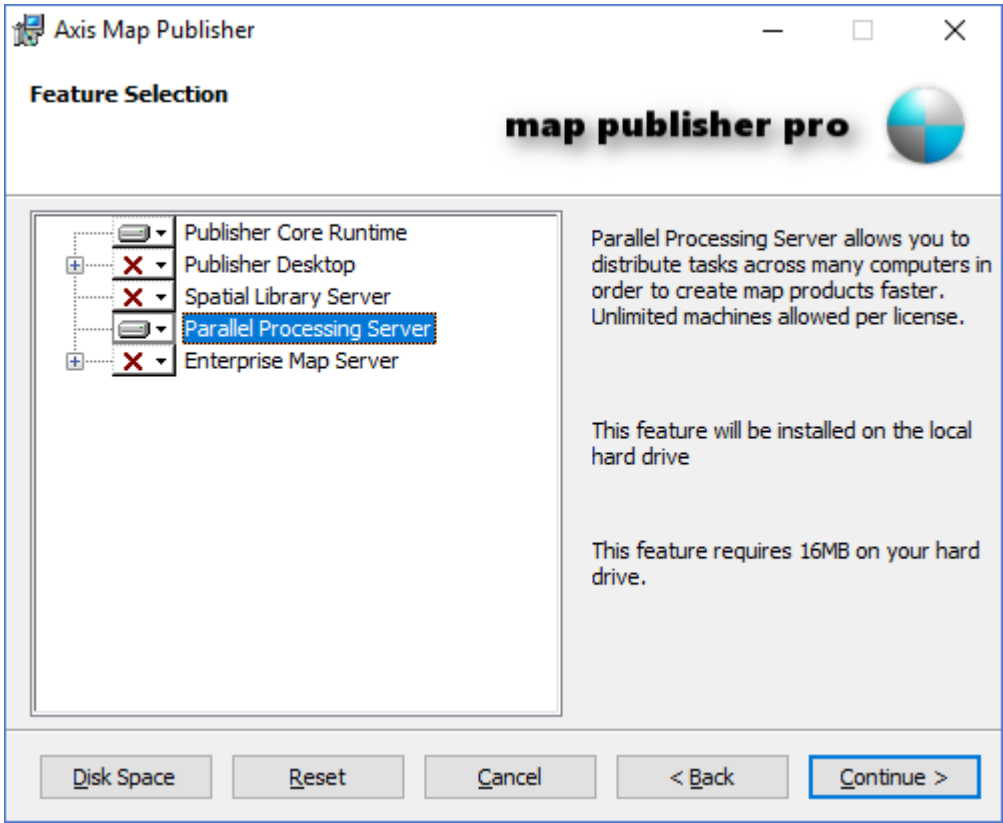
The Load Balancer Service writes all system messages to the Windows Event Log and can be accessed using the [Parallel Desktop Log Entry List](#) or the Microsoft Event Log MMC console application. To use the MMC console go to *Control Panel->Administrative Services->Event Viewer* and navigate the tree control to **"Applications and Service Logs"** and look for the log file named **"AxisParallelServer "**. Please note that the messages in this log are system messages for the service and usually do not contain information about the details of a task. Task details should be accessed using the Task Docking Window in Map Publisher Desktop.

3.2.4 Node Service

The node service requests tasks from the Load Balancer Service and ensures that every logical core on the computer is always busy processing tasks as long as tasks are available.

Server Node Service

The Node Service is a Windows Service named" **AGSI Axis Node Service <version>**". Windows Services are special applications that are allowed to run under a designated user account, have no user interface and can stay running when users are logged off of the computer. The node service is required in order to proccess tasks created by Map Publisher Desktop and can be installed on the same computer as Map Publisher Desktop or on a seperate computer that can be shared by many installations of Map Publisher Desktop. See the topics that start with **"Deploy "** in the [How To](#) section of this help documentation to learn more about Parallel Processing Server deployment strategies. The Node Service is installed as part of the Parallel Processing Server in the installer package as shown in the screenshot below:

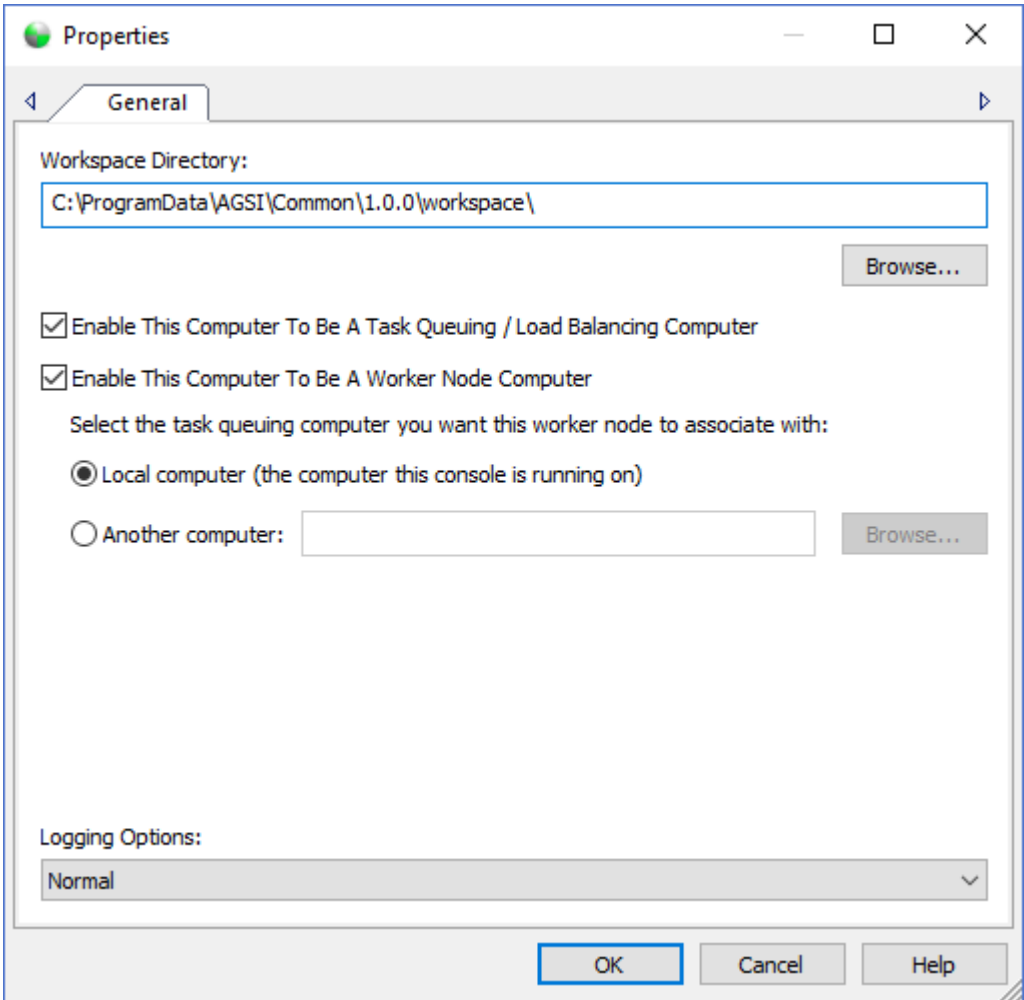


Node Service Licensing

Parallel Processing Server is feature of Map Publisher and requires one license per installation. To learn more please visit <https://www.lcic.xyz/axis/licensing.html>for more information.

Node Service Configuration

Users can configure the Node Service using the [Parallel Desktop Properties Dialog](#). Users can manage additional Windows Services properties using the Microsoft Services MMC console application. To use the MMC console go to *Control Panel->Administrative Services->Services* and double click the service named " **AGSI Axis Node Service <version>**" to see a list of Windows Service properties. The Node Service can be enabled or disabled using either the [Parallel Desktop](#) application or Microsoft Services MMC console application. The screenshot below shows the option named " **Enable This Computer To Be A Worker Node Computer** " that enables or disables the Node service and the "**Another computer**" text box that is used to associate the node service with a load balancer service on another machine in your network:



Node Service Event Log

The Node Service writes all system messages to the Windows Event Log and can be accessed using the [Parallel Desktop Log Entry List](#) or the Microsoft Event Log MMC console application. To use the MMC console go to *Control Panel->Administrative Services->Event Viewer* and navigate the tree control to "**Applications and Service Logs**" and look for the log file named "**AxisParallelServer**". Please note that the messages in this log are system messages for the service and usually do not contain information about the details of a task. Task details should be accessed using the Task Docking Window in Map Publisher Desktop.

4. How To

4.1 Overview

- [Deploy on a Single Computer](#)
How to install and configure Parallel Processing Server on a single computer.
- [Deploy on Two Computers](#)
How to install and configure Parallel Processing Server across two computers.
- [Deploy on Many Computers](#)
How to install and configure Parallel Processing Server across multiple computers.
- [Submitting Tasks](#)
How to submit tasks to Parallel Processing Server using the Map Publisher Desktop application.

4.2 Deploy on a Single Computer



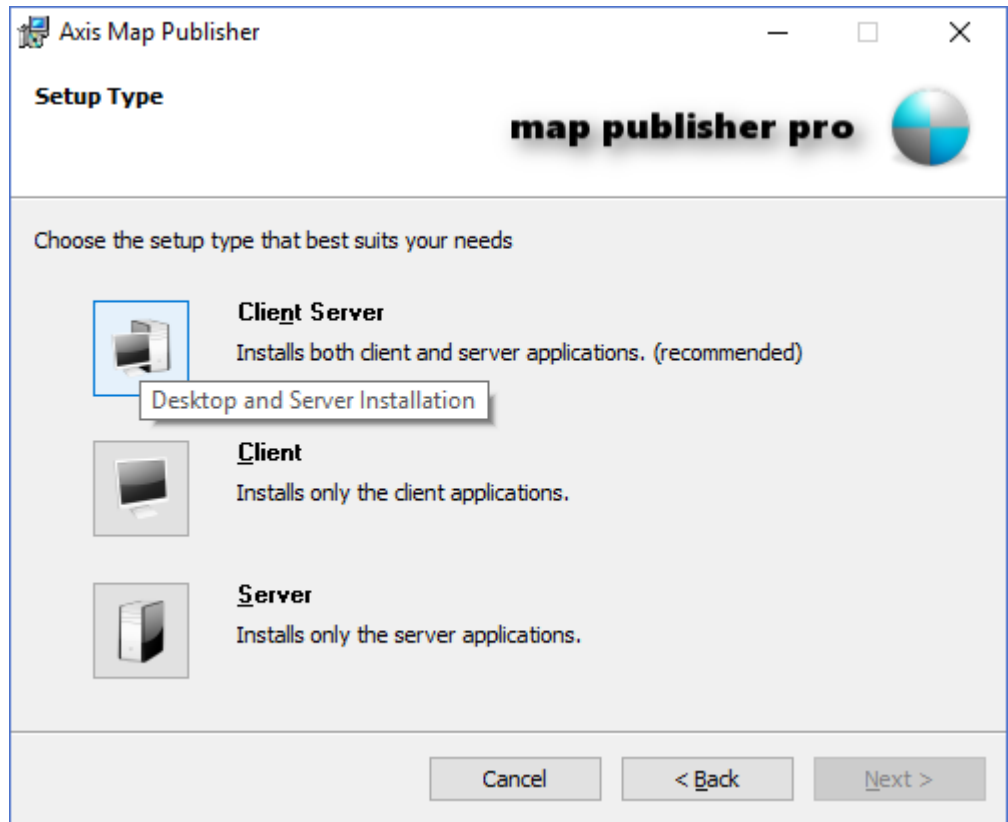
Map Publisher Desktop
Parallel Processing Server

Deploying Parallel Processing Server on a single computer is straight forward and simple because all application services are on the same machine and don't require any post installation configuration. This how to documentation assumes the user wants to install Map Publisher Desktop for a single computer and does not want to distribute any applications on other machines.

Download the installer package (MSI) for Map Publisher Professional from <https://www.lcic.xyz/> if you don;t already have it. The installer package for 64 bit computers it is named **axis-pro-map-publisher-100-x64.msi** .

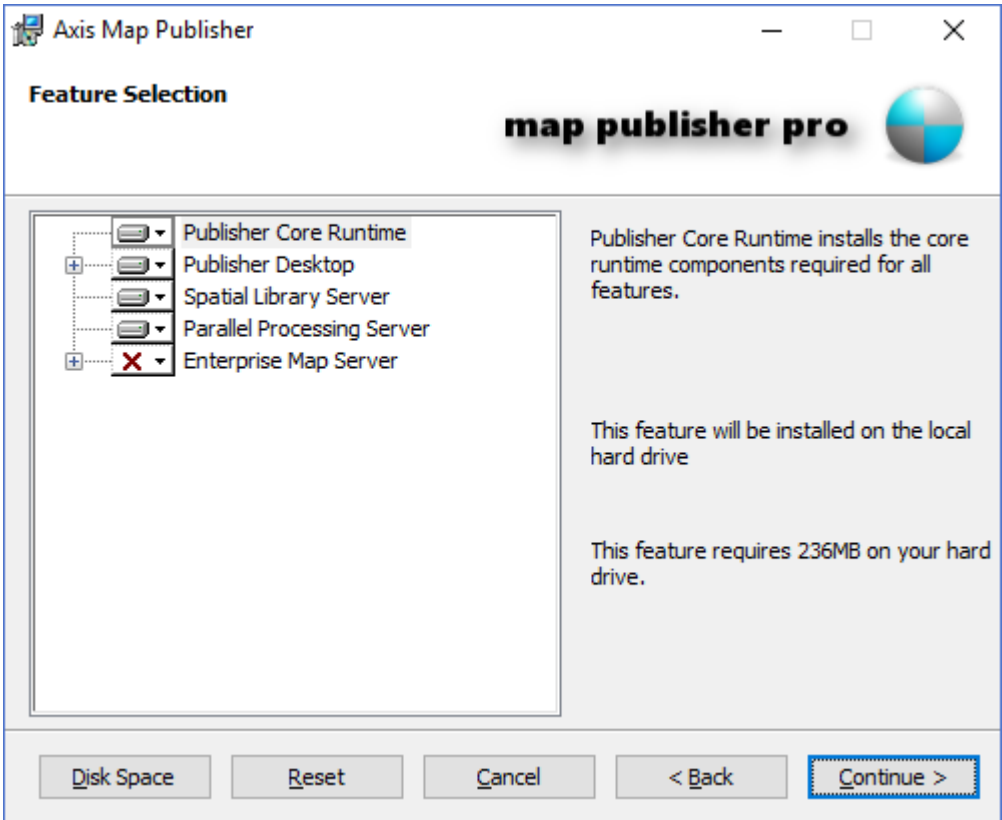
Step 1

Run the installer package and select the "**Client Server**" option in the "**Setup Type**" wizard page as shown below. This option selects the most commonly used application components for single computer use.



Step 2

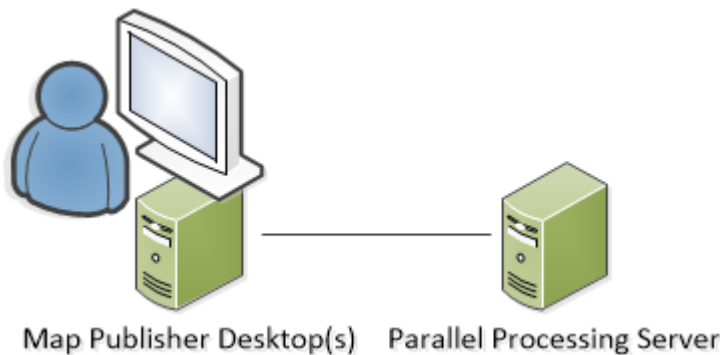
Keep the default selection on the "**Feature Selection**" page as shown below. Only select the "**Enterprise Map Server**" if you want to publish maps using Microsoft IIS Server from your machine. Publisher Desktop comes standard with a Personal Map Server that can also publish maps on the web but is more lightweight than installing IIS. To learn more about Publisher Desktop and Personal Map Server please refer to the documentation that comes with Publisher Desktop and Personal Map Server.



Step 3

Finish the installation. After installation you can run Map Publisher Desktop and submit tasks to the Parallel Processing Server without further configuration. For more information on how to submit tasks using Map Publisher Professional please see [Submitting Tasks](#) .

4.3 Deploy on Two Computers



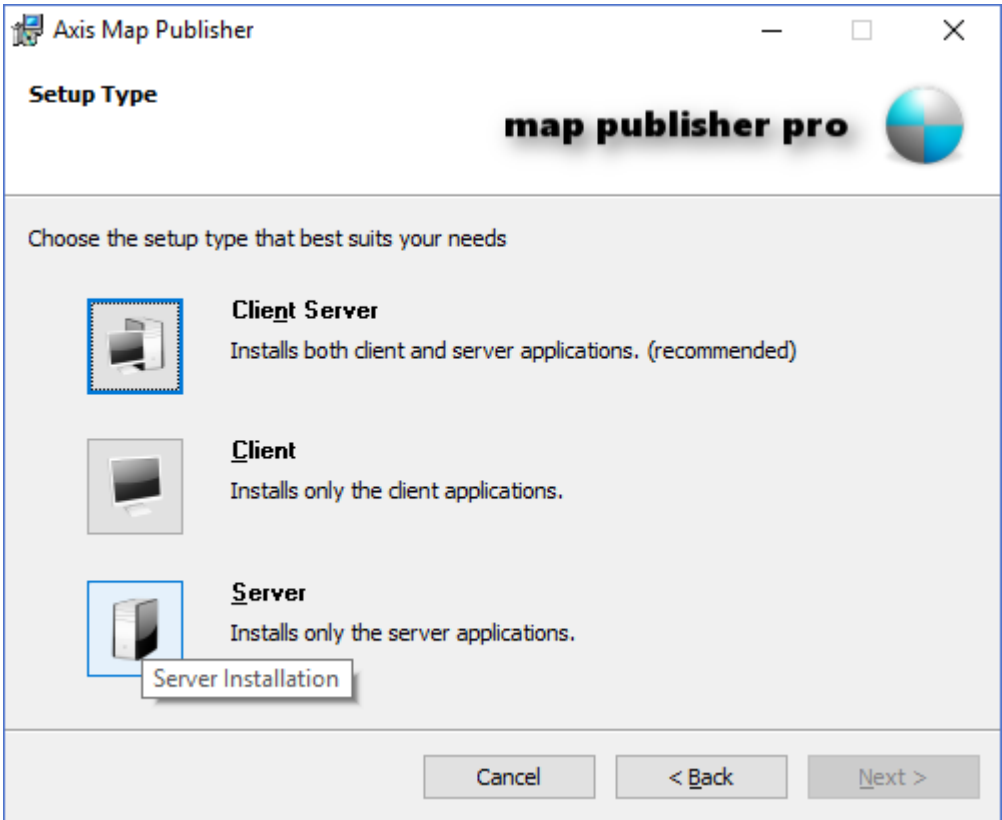
Deploying Parallel Processing Server on two computers assumes you want to run Map Publisher Desktop on one or more machines and the Parallel Processing Server on a single machine. This is a good strategy if you don't have a lot of hardware resources but don't want the Parallel Processing tasks to compete for CPU and Disk IO on your client workstation(s) while processing tasks. Multiple Map Publisher Desktop computers can also share one Parallel Processing Server computer.

Download the installer package (MSI) for Map Publisher Professional from <https://www.lcic.xyz/> if you don;t already have it. The installer package for 64 bit computers it is named **axis-pro-map-publisher-100-x64.msi** .

Parallel Processing Server Computer Installation

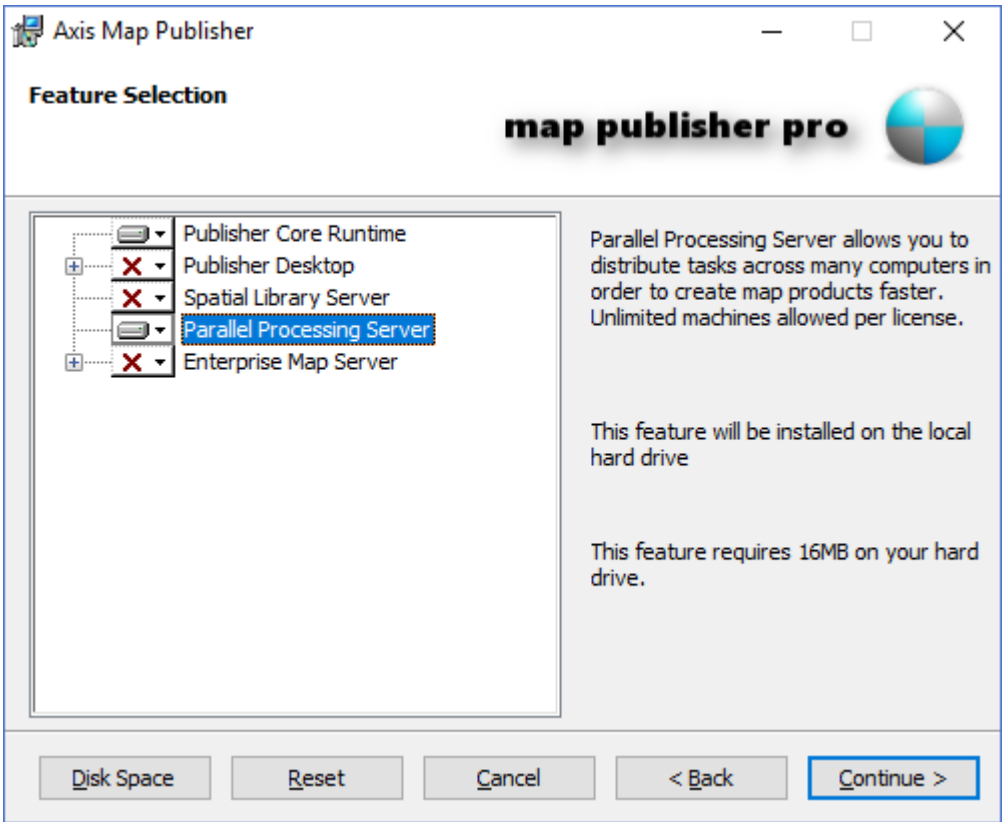
Step 1

Run the installer package and select the "**Server**" option in the "**Setup Type** " wizard page as shown below. This option selects the most commonly used application components for server computer use.



Step 2

On the " **Feature Selection** " page unselect the " **Spatial Library Server**" and " **Enterprise Map Server** " options as shown below.



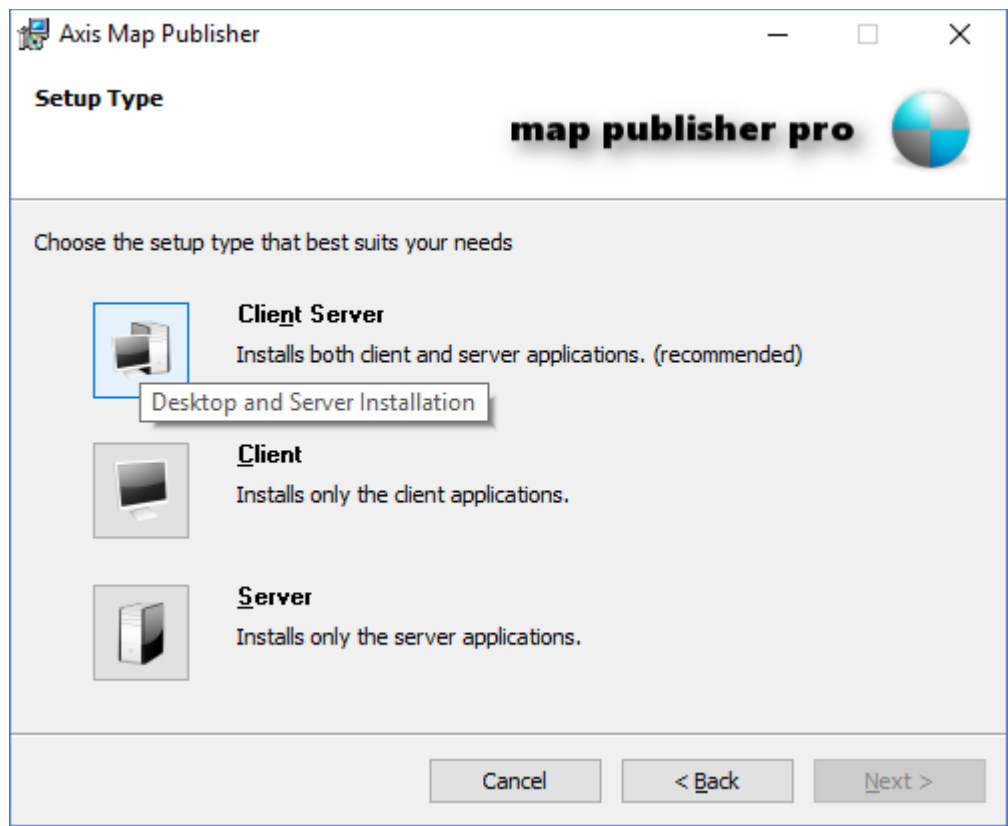
Step 3

Finish the installation.

Map Publisher Desktop Computer Installation

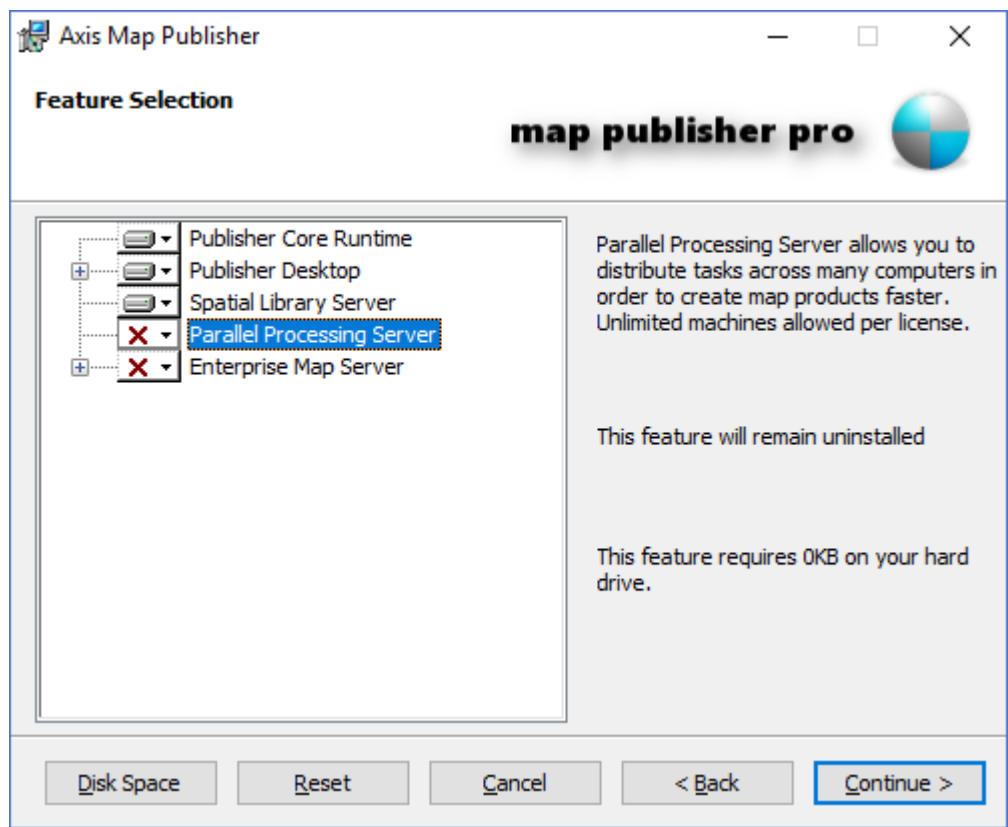
Step 1

Run the installer package and select the **"Client Server"** option in the **"Setup Type"** wizard page as shown below. This option selects the most commonly used application components for single computer use.



Step 2

On the **"Feature Selection"** page unselect the **"Parallel Processing Server "** option as shown below.

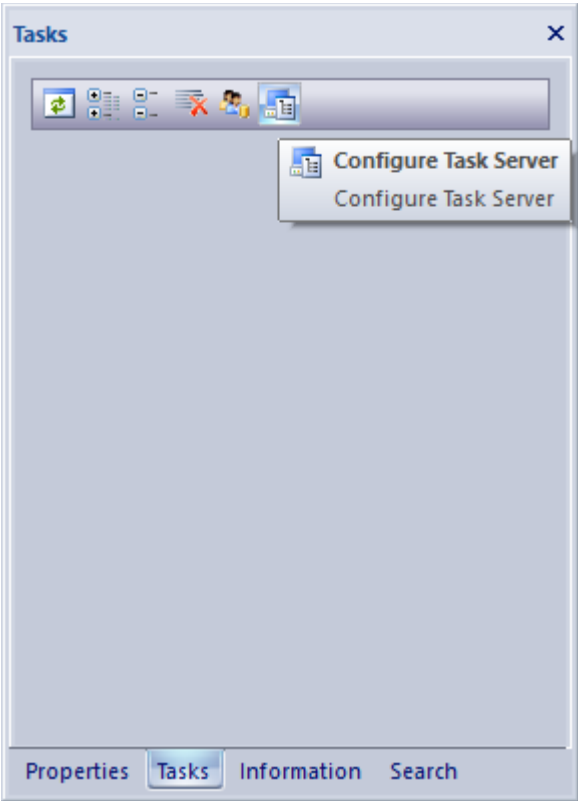


Step 3

Finish the installation.

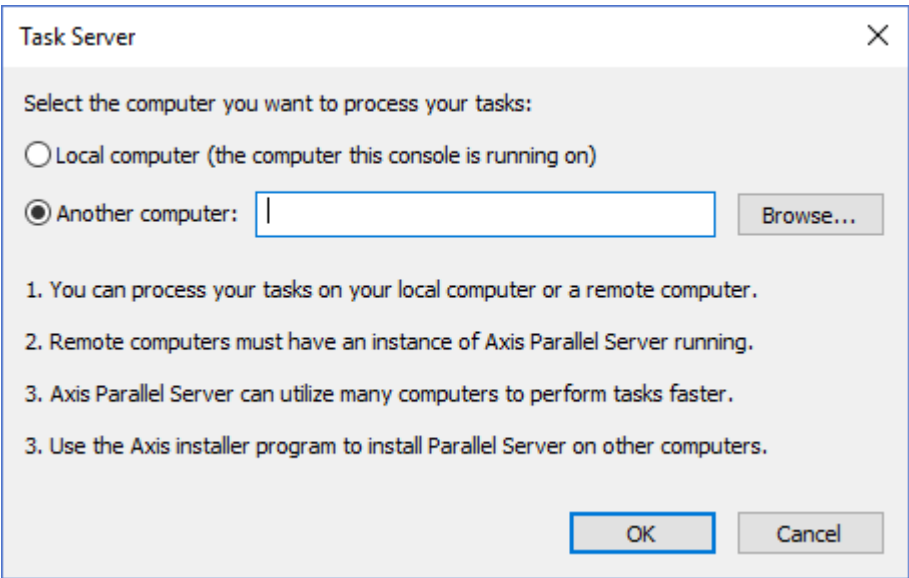
Step 4

Run the Map Publisher Desktop application that was just installed in the last step and click the **"Configure Task Server "** toolbar button in the Tasks Docking Window to display the Task Server Dialog as shown below.



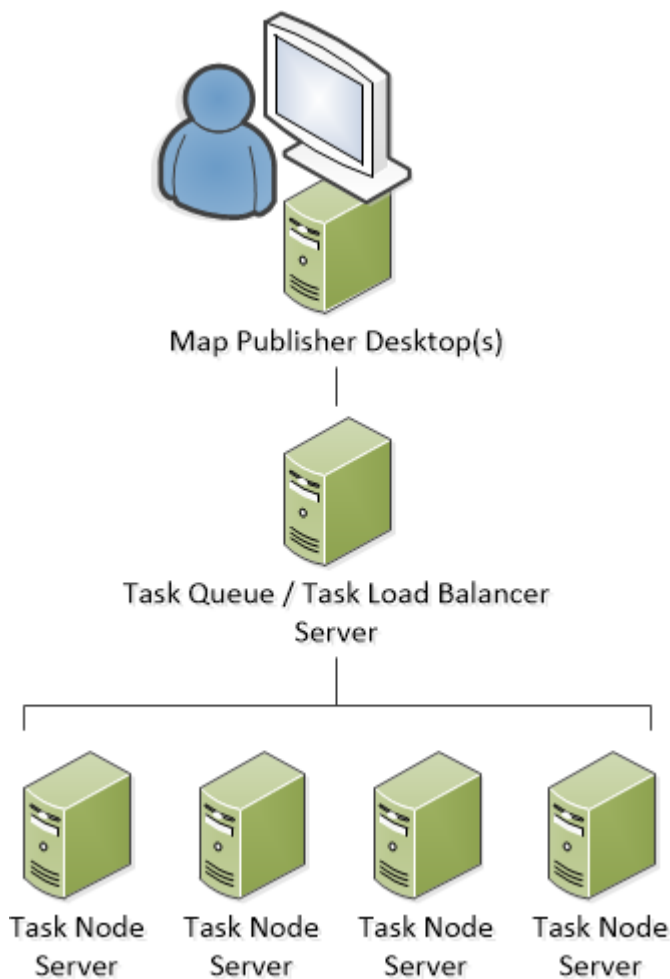
Step 5

In the Task Server Dialog window select the **"Another computer"** radio button and then use the **"Browse"** button or type in the text box the name of the computer where you installed Parallel Processing Server and then click the **"OK "** button. The Task Server dialog will attempt to connect to the Parallel Processing Server on the machine specified. If the dialog fails to connect to the remote server, go to the remote computer and validate that the Parallel Processing Server installation succeeded and that all the services are running.



If the connection succeeded you are ready to start creating tasks with Map Publisher Desktop. For more information on how to submit tasks using Map Publisher Desktop please see [Submitting Tasks](#) .

4.4 Deploy on Many Computers



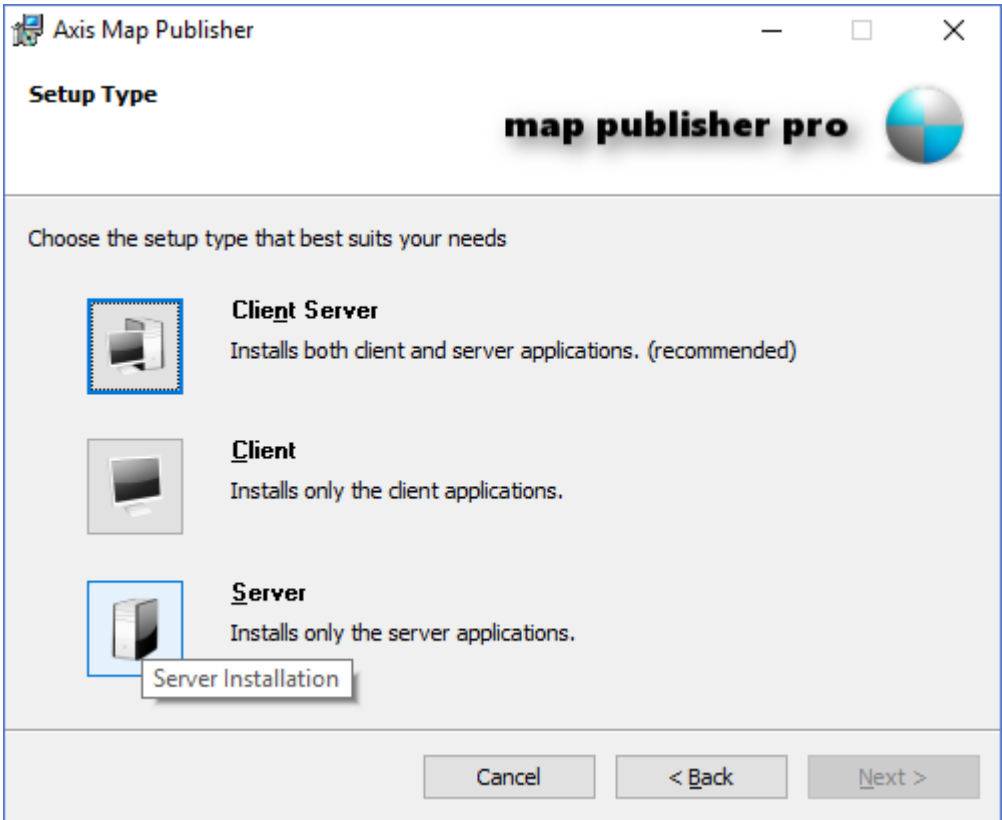
Deploying Parallel Processing Server across many computers assumes you want to run Map Publisher Desktop on one or more desktop computers and the Parallel Processing Server on one more server computers. This is a good strategy if you have the hardware resources and want to process a lot of tasks as quickly as possible. Multiple Map Publisher Desktop computers can also share the Parallel Processing Server computers.

Download the installer package (MSI) for Map Publisher Professional from <https://www.lcic.xyz/> if you don;t already have it. The installer package for 64 bit computers it is named **axis-pro-map-publisher-100-x64.msi** .

Parallel Processing Server Task Queue / Load Balancer Computer Installation

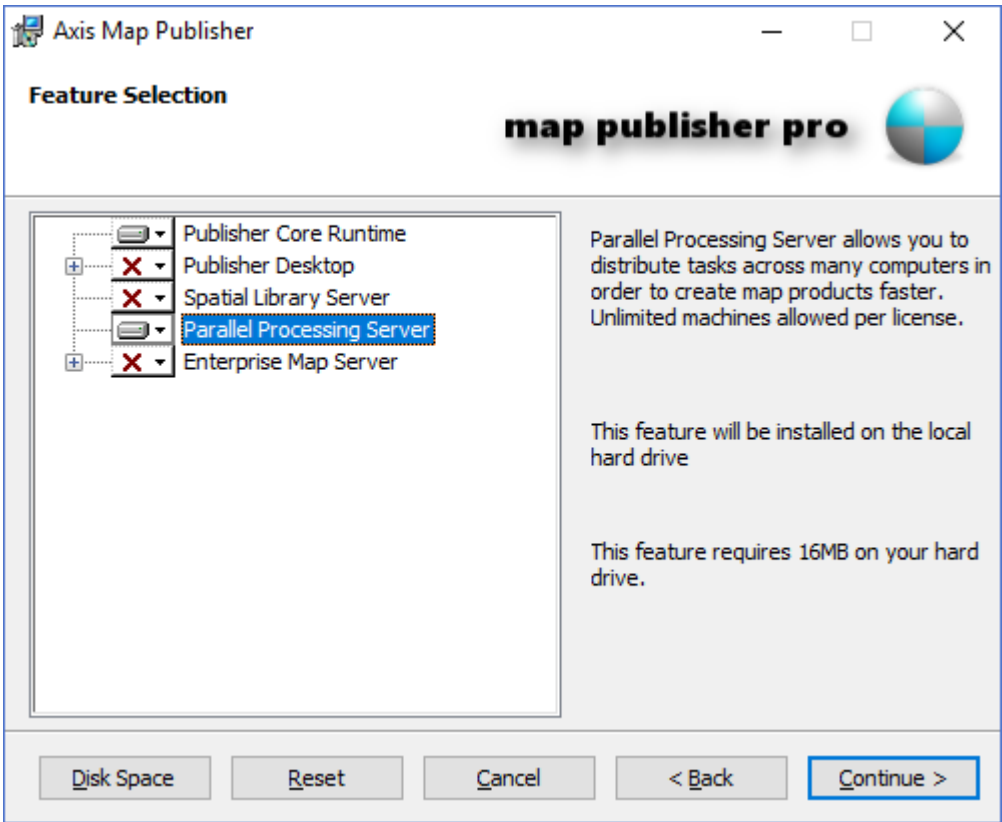
Step 1

Run the installer package and select the "**Server** " option in the "**Setup Type** " wizard page as shown below. This option selects the most commonly used application components for server computer use.



Step 2

On the "Feature Selection" page unselect the "Spatial Library Server" and "Enterprise Map Server " options as shown below.

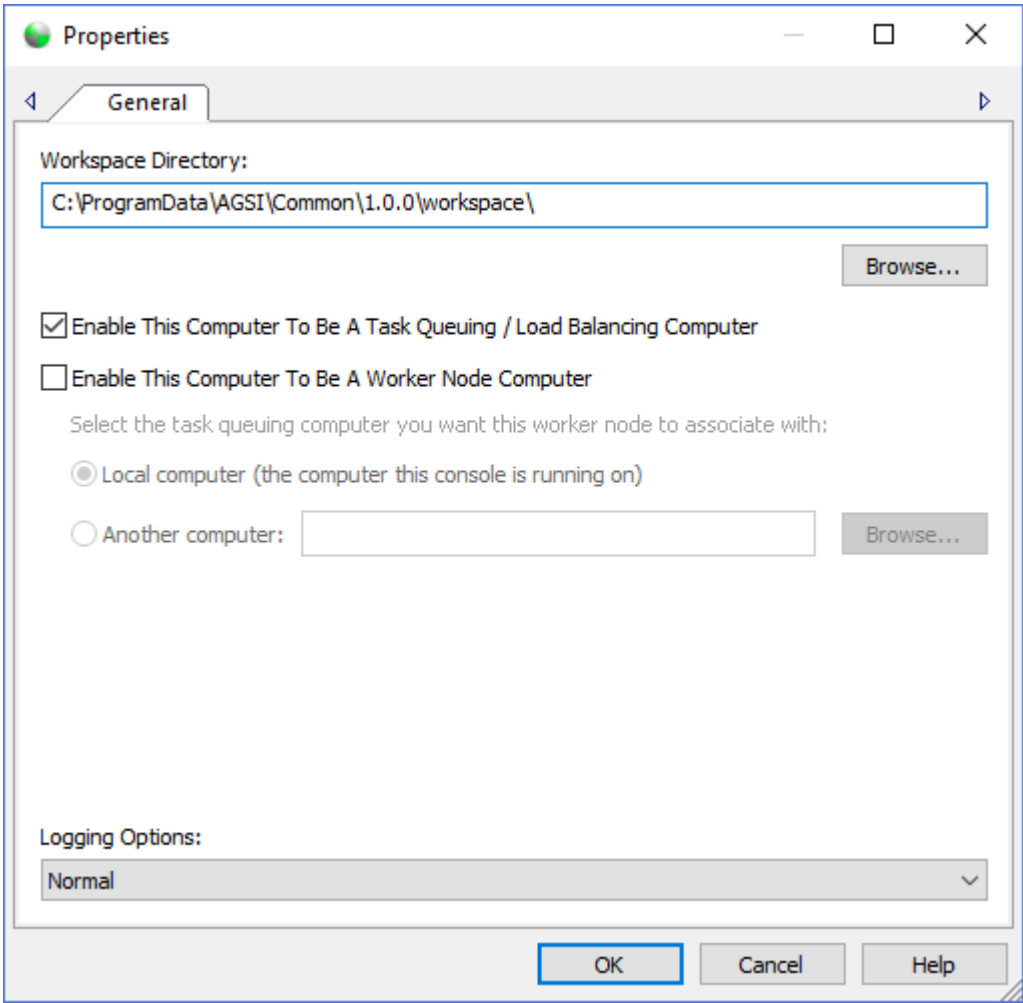


Step 3

Finish the installation.

Step 4

Launch the [Parallel Desktop](#) application that is installed as part of Parallel Processing Server. Open the [Properties Dialog](#) window using the application [Menu](#) or [Toolbar](#) to display the window shown below:

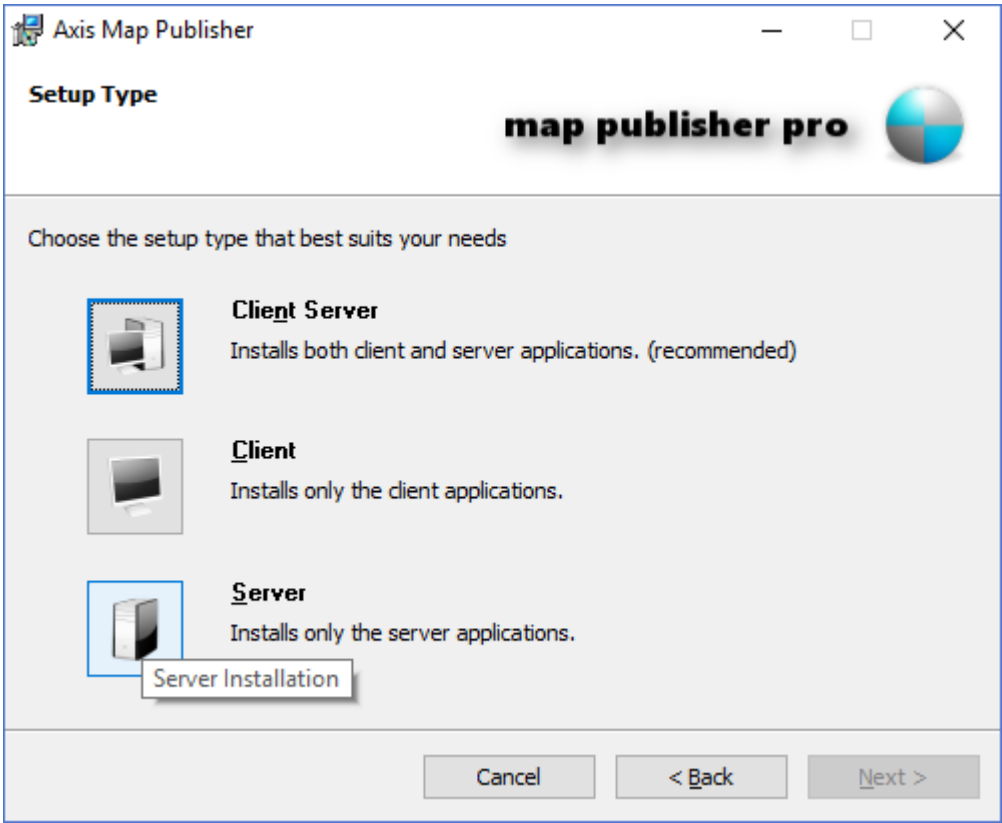


Uncheck the option labelled " **Enable This Computer To be A Worker Node Computer** ". Click the "OK " button and save your changes.

Parallel Processing Server Node Computer Installation

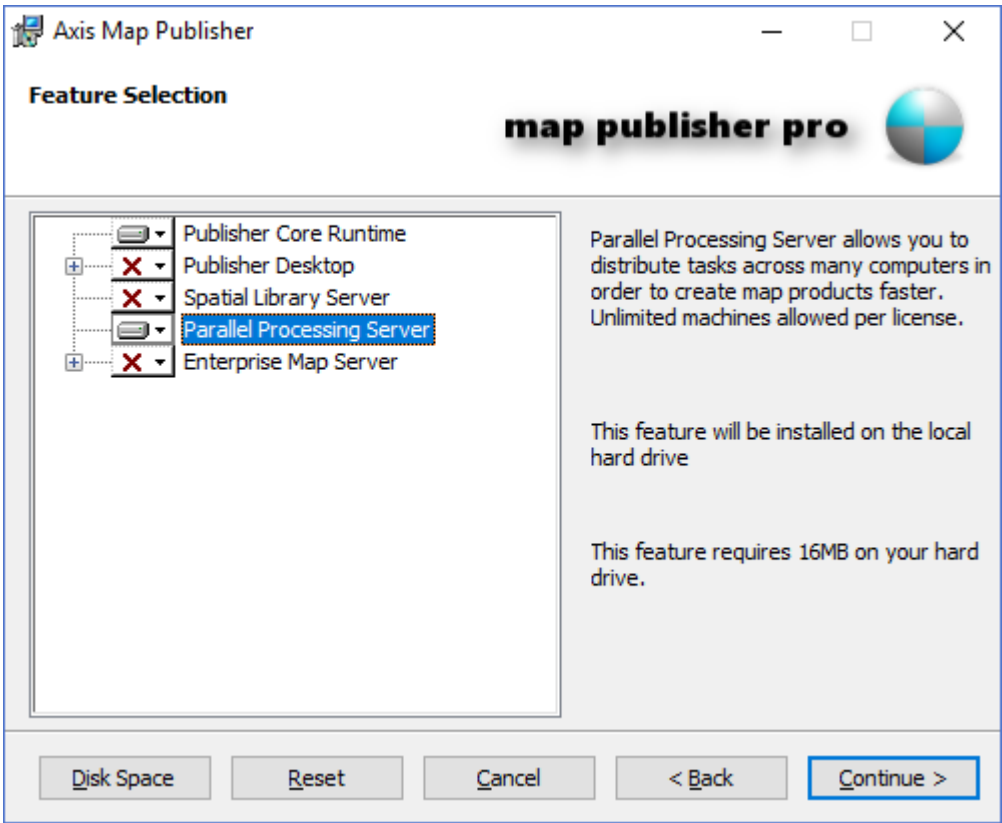
Step 1

Run the installer package and select the "**Server**" option in the "**Setup Type** " wizard page as shown below. This option selects the most commonly used application components for server computer use.



Step 2

On the "Feature Selection" page unselect the "Spatial Library Server" and "Enterprise Map Server " options as shown below.

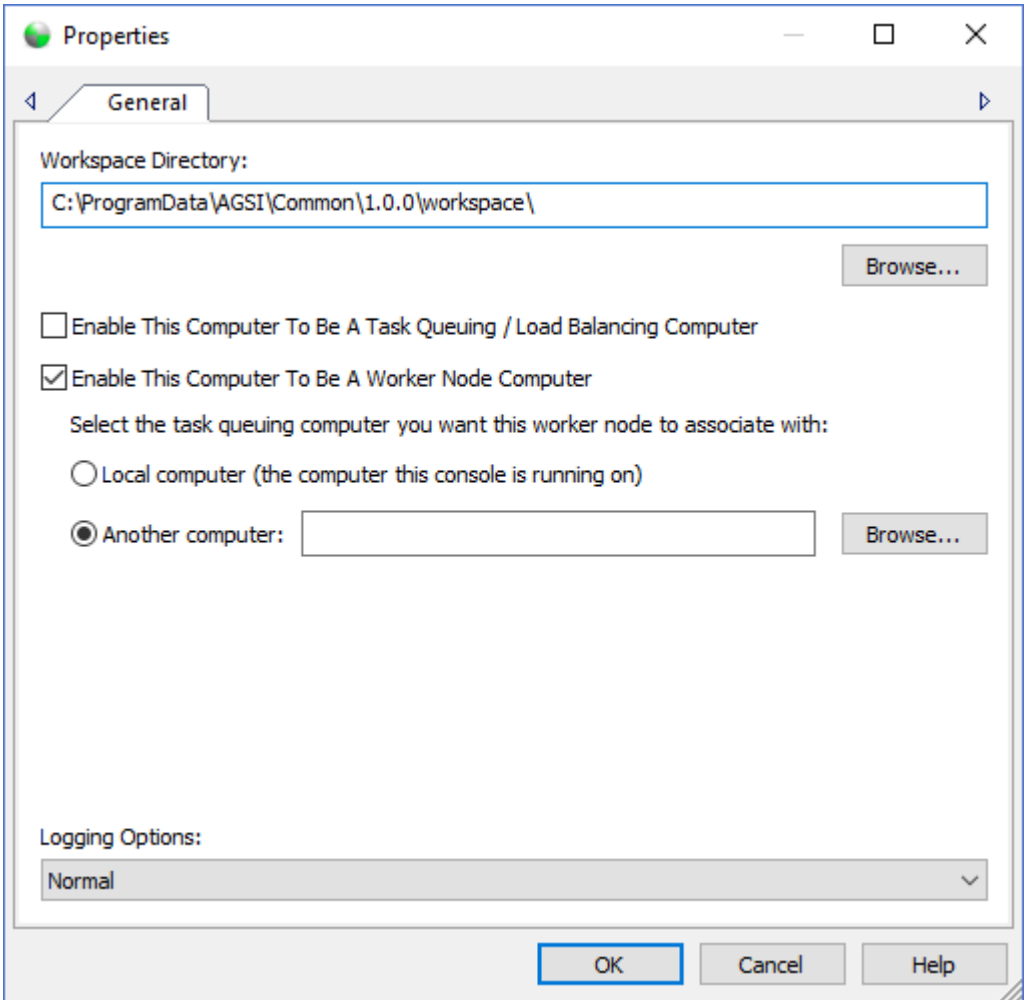


Step 3

Finish the installation.

Step 4

Launch the [Parallel Desktop](#) application that is installed as part of Parallel Processing Server. Open the [Properties Dialog](#) window using the application [Menu](#) or [Toolbar](#) to display the window shown below:



Uncheck the option labelled "**Enable This Computer To be A Task Queuing / Load Balancing Computer**" and click the radio control labelled "**Another computer**". Enter the name of the computer where you installed the Task Queuing / Load Balancing server or use the "**Browse**" button to search for the computer name. Click the "**OK** " button and save your changes.

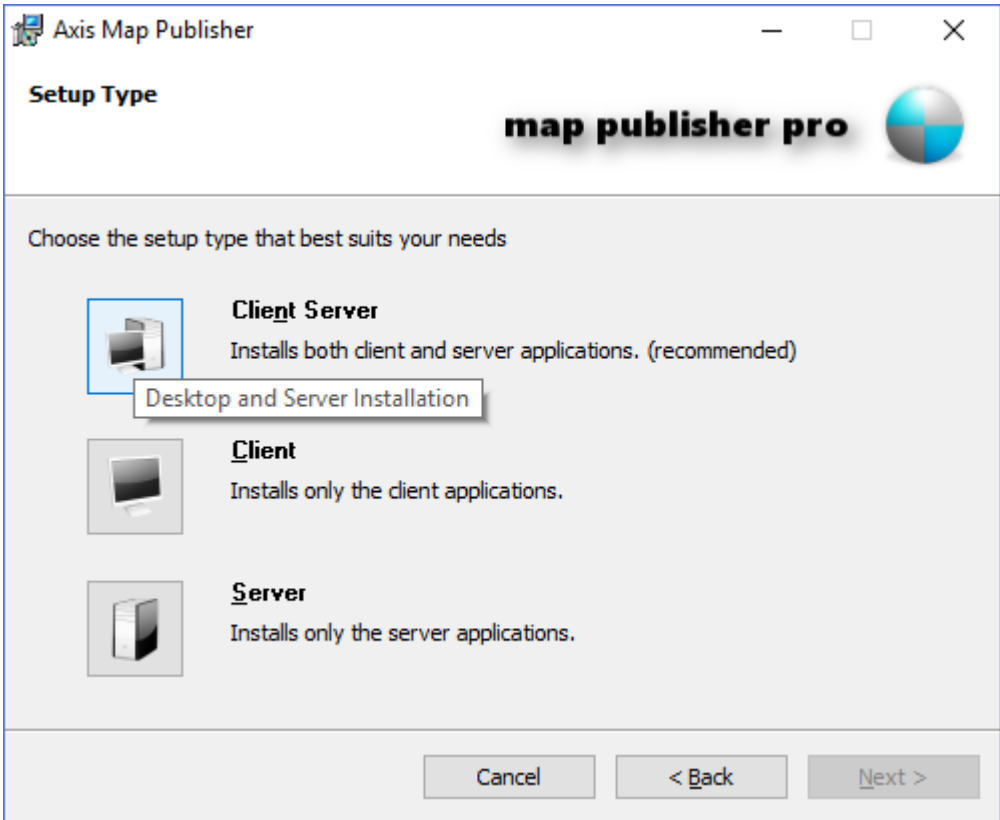
Step 5

Repeat this process on every Worker Node computer.

Map Publisher Desktop Computer Installation

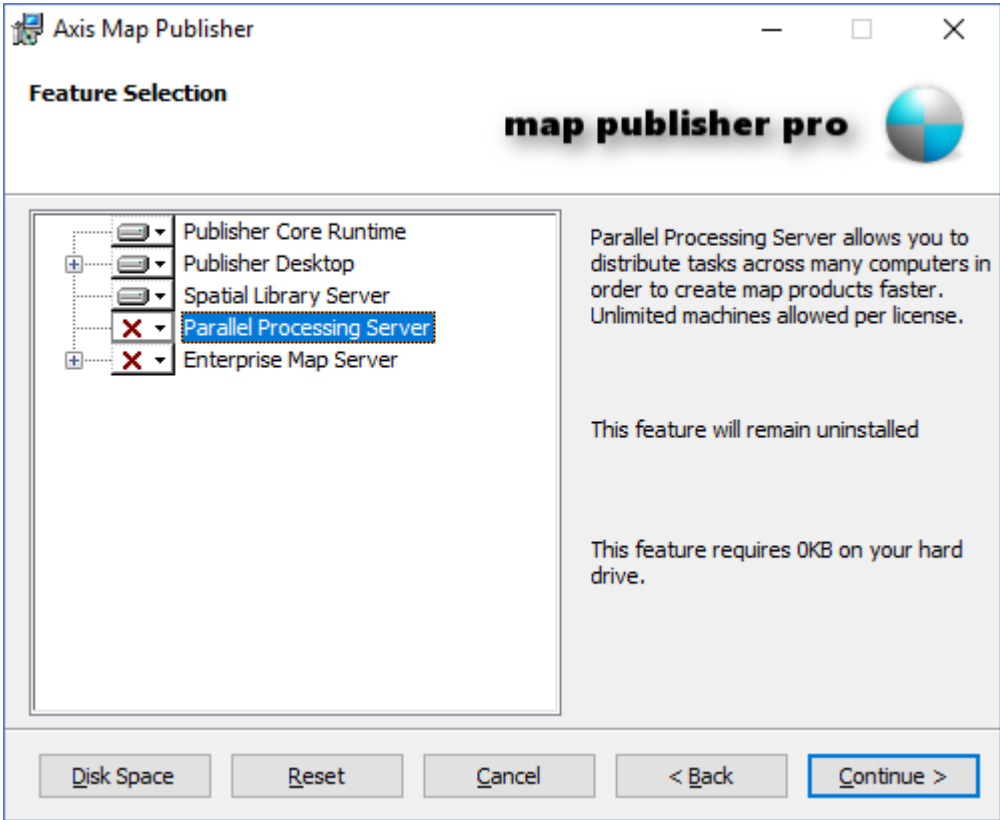
Step 1

Run the installer package and select the "**Client Server**" option in the "**Setup Type** " wizard page as shown below. This option selects the most commonly used application components for single computer use.



Step 2

On the "Feature Selection" page unselect the "Parallel Processing Server " option as shown below.

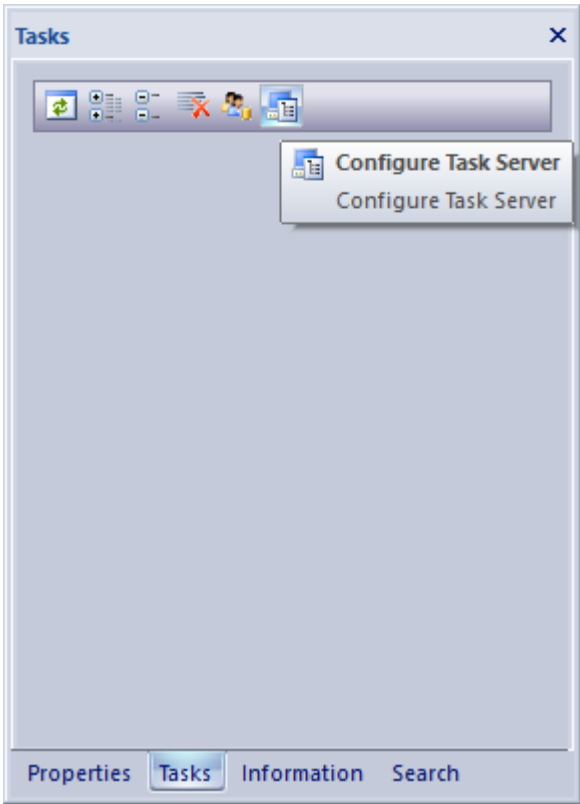


Step 3

Finish the installation.

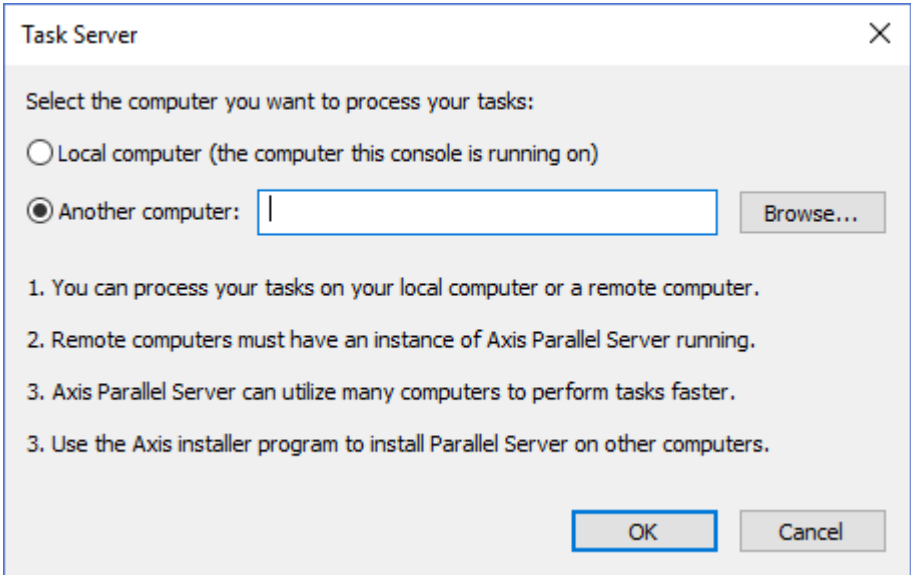
Step 4

Run the Map Publisher Desktop application that was just installed in the last step and click the "Configure Task Server " toolbar button in the Tasks Docking Window to display the Task Server Dialog as shown below.



Step 5

In the Task Server Dialog window select the **"Another computer"** radio button and then use the **"Browse "** button or type in the text box the name of the computer where you installed Parallel Processing Server **Task Queue / Load Balancer** and then click the **"OK "** button. The Task Server dialog will attempt to connect to the Task Queue service on the machine specified. If the dialog fails to connect to the remote server, go to the remote computer and validate that the Parallel Processing Server installation succeeded and that the Queue and Load Balancer services are running.



If the connection succeeded you are ready to start creating tasks with Map Publisher Desktop. For more information on how to submit tasks using Map Publisher Professional please see [Submitting Tasks](#) .

4.5 Submitting Tasks

The Map Publisher Desktop application has many capabilities for processing geospatial data. Many of those tasks are long running operations that would prevent the user from using the GUI until the tasks are completed if they were part of the GUI. Parallel Processing Server works as a surrogate to offload long running tasks so the GUI application can still do work for the user. Tasks are generated by using one or more of the dialogs that are located in the Map Publisher Desktop application. Tasks are queued with

the server in the order they are received and the server communicates back and forth with the GUI to inform the user of task progress. Listed below are some possible tasks you can create from Map Publisher Desktop. For more information on submitting tasks please refer to the help guide for Map Publisher Desktop.

Raster Tasks

- Convert Coordinate System
- Convert File Format
- Convert Palette To RGB
- Convert RGB To Palette
- Create Contour Lines
- Create Outline
- Create Histograms
- Create Mask
- Create Mosaic
- Create Pyramids
- Create Relief Map
- Create Virtual Mosaic
- Create Tiles From Files
- Create Tiles From GeoPackage
- Create Tiles From MBTiles
- Create Tiles From WMS
- Create Tiles From WMTS
- Create Tiles From XYZ

Vector Tasks

- Contains
- Crosses
- Disjoint
- Equals
- Intersects
- Overlaps
- Touches
- Within
- Buffer Distance
- Convex Hull
- Difference
- Envelope
- Intersection
- Symmetric Difference
- Union

Cloud Tasks

- Download
- Upload
- Delete

Library Tasks

- Import

Listed below is a screenshot of one of the task dialogs listed above that resides in the Map Publisher Desktop application:

Raster Operation - Create Mosaic

Raster create mosaic will mosaic the selected files into the specified output file. The application will reproject each of the input files into the output file coordinate system and apply the outline geometry if desired. Select one or more files to create the mosaic.

Files To Process:

F:\Data\Raster\DRG\29090a2.tif

F:\Data\Raster\DRG\29090a3.tif

F:\Data\Raster\DRG\29090a4.tif

F:\Data\Raster\DRG\29090a5.tif

F:\Data\Raster\DRG\29090a6.tif

F:\Data\Raster\DRG\29090a7.tif

F:\Data\Raster\DRG\29090a8.tif

F:\Data\Raster\DRG\29090b1.tif

Remove All

Browse...

Please Select The Output File Format:

Geotiff File Format (.tif)

Please Specify The Output File Path:

F:\Data\Raster\DRG\drg_mosaic.tif

Browse...

Please Select The Target Coordinate System:

WGS 84

Browse...

Clip Extent To:

Extent Of Source Images

Browse...

☒ Apply Outline

The Layer To Use For The Outline:

Countries

The Features To Use For The Outline:

Use All The Features

☒ Clip To Extent Of Outline

☒ Include All Pixels That Touch The Outline Edge

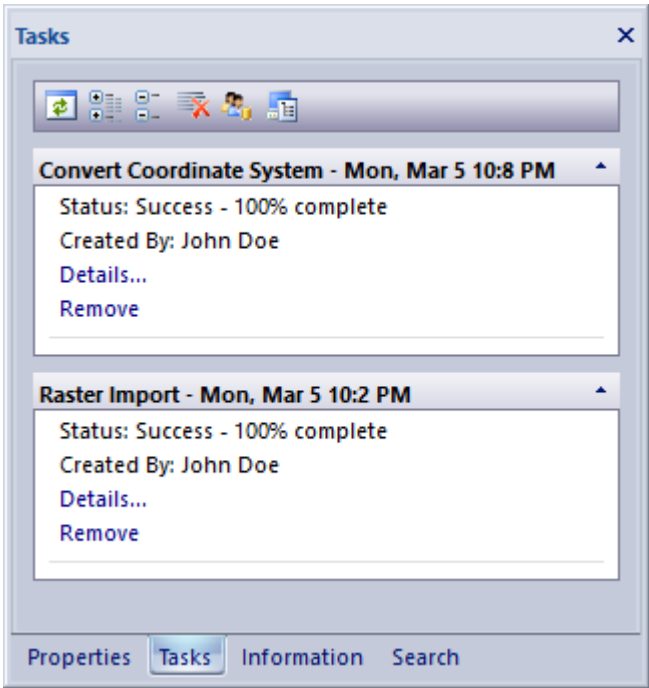
☒ Replace Existing

Advanced...

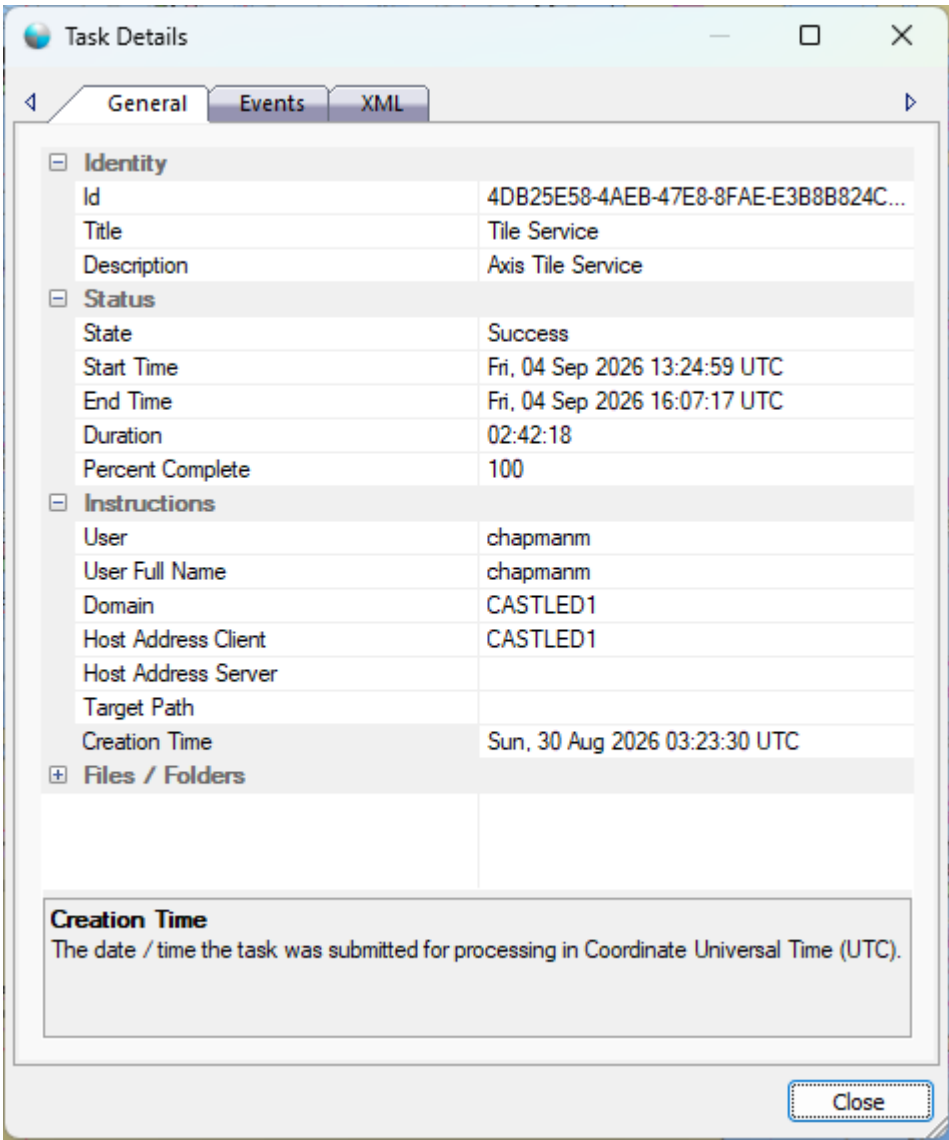
OK

Cancel

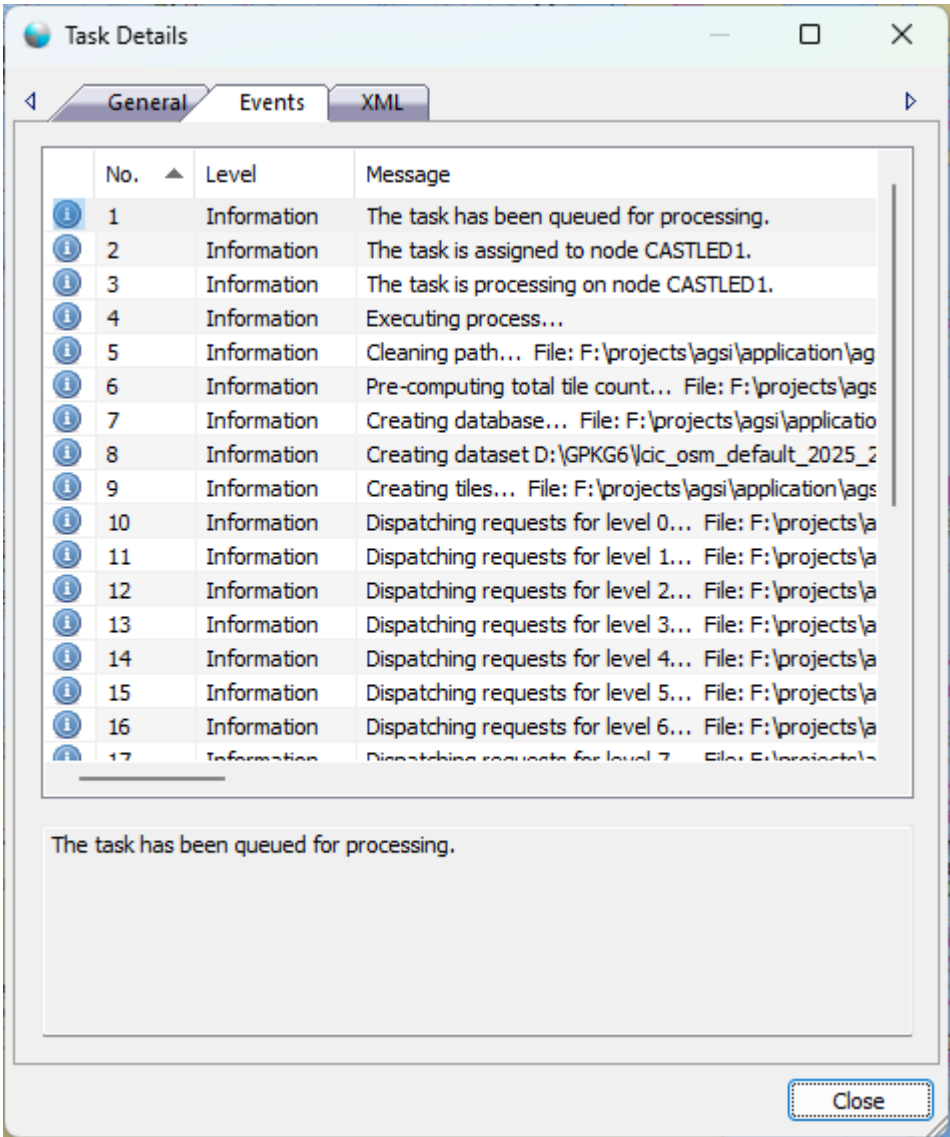
Access the dialog above by using the Map Publisher Desktop Raster menu or the Raster toolbar. Fill in the required information and click the OK button. The task will be transmitted to the Parallel Processing Server for execution. Use the Tasks Docking Window shown below to monitor the progress of the task.



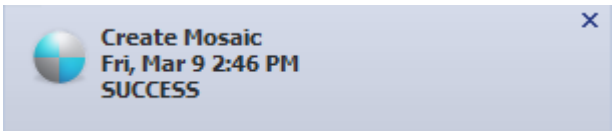
Click the "Details..." link in the task panel shown above to display the Task Details dialog window as shown below.



Click the "Event" tab in the Task Dialog window as shown above to view the task log messages as shown below.



When the job is complete the task status will reflect the change in status and a balloon window will briefly appear as shown below.



For a more detailed explanation of all the parallel processing workflows supported by Map Publisher Desktop and how to monitor and manage tasks, please see the help documentation for Map Publisher Desktop that is accessible via the Map Publisher Desktop application using the Help menu or F1.