



## Overview

Deadline is a hassle-free administration and rendering toolkit for Windows, Linux, and Mac OSX based render farms. It offers a world of flexibility and a wide-range of management options for render farms of all sizes, and supports over 60 different rendering packages out of the box.

Deadline 7 is the latest version of Thinkbox Software's scalable high-volume compute management solution. It features built-in VMX (Virtual Machine Extension) capabilities, which allow artists, architects and engineers to harness resources in both public and private clouds.

In addition to enhanced cloud support, Deadline 7 expands support for the **Jigsaw** multi-region rendering feature, which can now be accessed in 3ds Max, Maya, modo, and Rhino. Deadline 7 also includes an updated version of Draft, Thinkbox's lightweight compositing and video processing plug-in designed to automate typical post-render tasks such as image format conversion as well as the creation of animated videos and QuickTimes, contact sheets, and watermark elements on exported images. Finally, Deadline 7 introduces a wealth of new features, enhancements, and bug fixes.

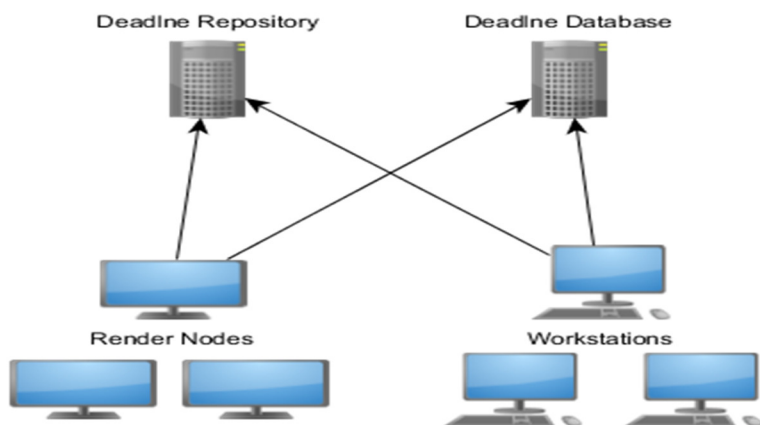
Deadline 7.1 adds many new features to Deadline 7.0, including new slave metrics, better font synchronization, and new application support. It also fixes some bugs that were discovered after Deadline 7.0 was released.

Note that a new 7.1 license is required to run this version. If you have a license for Deadline 7.0 or earlier, you will need an updated license. In addition, the version of Draft that ships with Deadline 7.1 needs a new 1.3 license. If you have a license for Draft 1.2 or earlier, you will need an updated license.

## Components

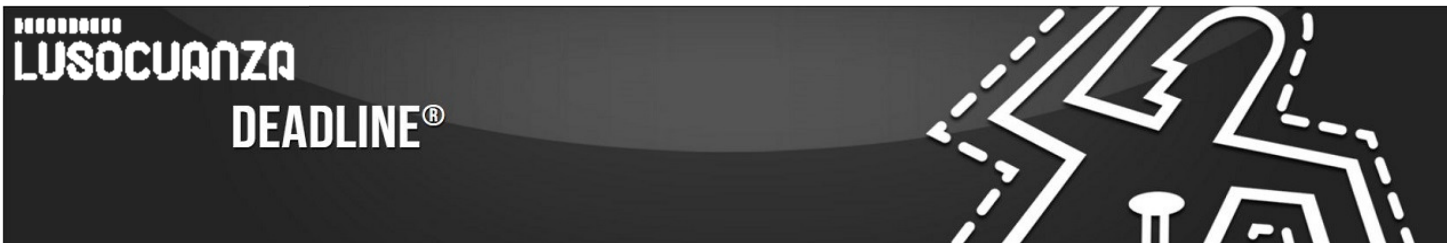
The Deadline Render Farm Management System is built up of 3 components:

- A single Deadline Database
- A single Deadline Repository
- One or more Deadline Clients



The Database and Repository together act as a global system where all of Deadline's data is stored. The Clients (workstations and render nodes) then connect to this system to submit, render, and monitor jobs. It is important to note that while the Database and Repository work together, they are still separate components, and therefore can be installed on separate machines if desired.





## Database

The Database is the global database component of the Deadline Render Farm Management System. It stores the jobs, settings, and slave configurations. The Clients access the Database via a direct socket connection over the network. It only needs to be installed on one machine (preferably a server), and does not require a license.

## Repository

The Repository is the global file system component of the Deadline Render Farm Management System. It stores the plugins, scripts, logs, and any auxiliary files (like scene files) that are submitted with the jobs. The Clients access the Repository via a shared network path. It only needs to be installed on one machine (preferably a server), and does not require a license.

## Client

The Client should be installed on your render nodes, workstations, and any other machines you wish to participate in submitting, rendering, or monitoring jobs. The Client consists of the following applications:

- **Launcher:** Acts as a launch point for the Deadline applications on workstations, and facilitates remote communication on render nodes.
- **Monitor:** An all-in-one application that artists can use to monitor their jobs and administrators can use to monitor the farm.
- **Slave:** Controls the rendering applications on the render nodes.
- **Command:** A command line tool that can submit jobs to the farm and query for information about the farm.
- **Pulse:** An optional mini server application that performs maintenance operations on the farm, and manages more advanced features like Auto Configuration, Power Management, Slave Throttling, Statistics Gathering, and the Web Service. If you choose to run Pulse, it only needs to be running on one machine.
- **Balancer:** An optional Cloud-controller application that can create and terminate Cloud instances based on things like available jobs and budget settings.

*Note that the Slaves and the Balancer applications are the only Client applications that require a license.*

## Jobs

A Deadline job typically represents one of the following:

- The rendering of an animation sequence from a 3D scene.
- The rendering of a frame sequence from a composition. It could represent a single write node, or multiple write nodes with the same frame range.
- The generation of a Quicktime movie from an existing image sequence.
- A simulation.

These are just some common cases. Since a job simply represents some form of processing, a plug-in can be created for Deadline to do almost anything you can think of.

## Job Breakdown

A job can be broken down into one or more tasks, where each task is an individual unit that can be rendered by the Slave application. Each task can then consist of a single frame or a sequence of frames. Here are some examples:

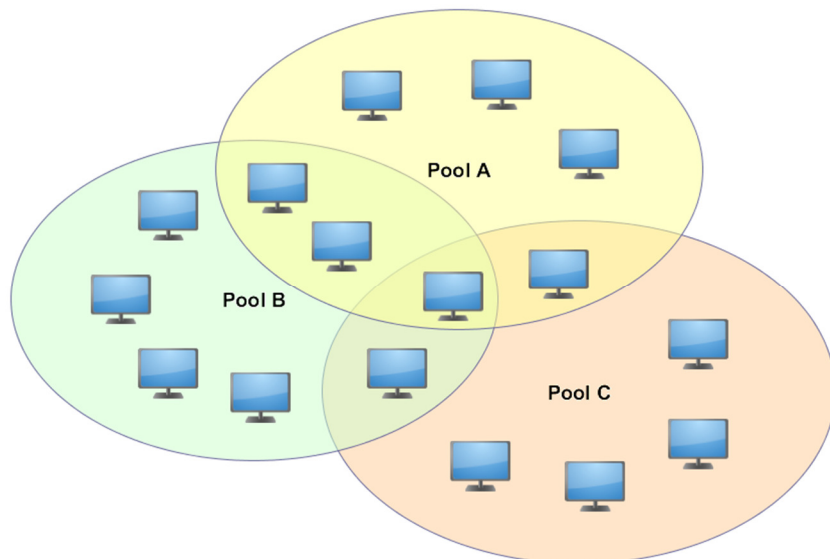
- When rendering an animation with 3ds Max where each frame can take hours to render, each frame can be rendered as a separate task.
- When rendering a compositing job with After Effects where each frame can take seconds to render, each task could consist of 20 frames.
- When rendering a Quicktime job to create a movie from an existing sequence of images, the job would consist of a single task, and that task would consist of the entire image sequence.





## Job Scheduling

Use numeric job priorities, machine groups and pools, and job-specific machine lists to explicitly control distribution of rendering resources among multiple departments. Limits allow you to handle both limited license plug-ins and render packages, while job dependencies and scheduling allow you to control when your jobs will begin rendering.



The Slave applications are fully responsible for figuring out which job they should render next, and they do this by connecting directly to the Database. In other words, there is no central server application that controls which jobs the Slaves are working on. The benefit to this is that as long as your Database and Repository are online, Deadline will be fully operational.