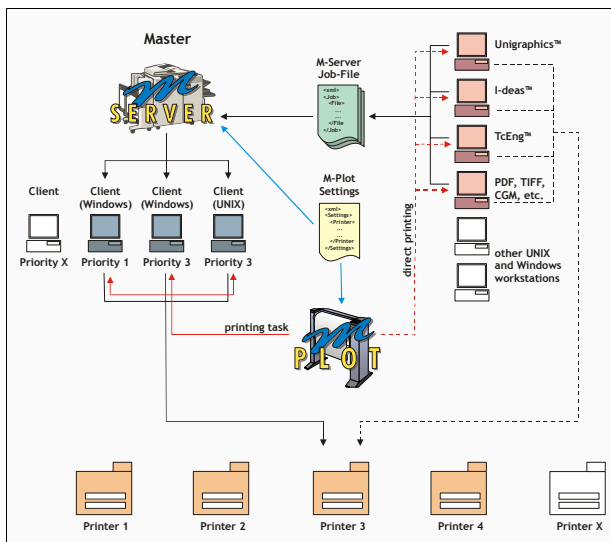




## Version 2005

HP-UX™, SUN-Solaris™, IBM-Aix™, Linux™ and  
Windows XP™ / Windows Vista™ / Windows 7™

M-Server is the ideal tool for the mastering of enormous amounts of data. These occur there where a product data management system (PDM), like TcEngineering™ of Siemens PLM Software, creates information for the output. M-Server can also work off all regular print jobs of the CAD systems in-house and therefore relieves the workstations of this work. The user can immediately continue with the design process again.



## Requirements

Imagine a company which uses 200 workstations. Every of this user prints 10 drawings in the photogravure. 2000 drawings must be produced within shortest time. Are this mainly A4 or A3 formats, this can be care of with many laser printers, standard ink jet printers does not a good job for larger formats.

Modern large size plotters can do a good service here. If the photogravure is already mentioned, then the documents should be appropriately sorted and folded. A cost calculation on the respective division can absolutely be further requirement.

Certain enterprises have projects in the whole world and must create the documents in different languages. What seems more reasonable to determine the language when printing? If the language changes the symbols must change too. Why not simply put the whole drawing layout as a layer between the original drawing when printing and creating the stamps dynamically?

## Printing performance

The speed is a central topic. A computer alone cannot work off these amounts of data in the demanded time. An open scaling must be possible any time. Workstations which are not in use in a large enterprise because of time lag should be in the position to be consulted for calculating tasks like special dedicated computers for special tasks. The administrator must be able at any time to simply distribute the load of the computers.

## Raw data

How shall the information reach the print processor? Who edits the raw data in a way that these can be processed? The answer is actually very simple here: It cannot be the product data management system. This has other tasks. So only the print processor is left.

## Communication

If a print job is finished, the leading system must get a return message about the process status. The user who has given up the job should be informed on request.

## Administration

The printer administration must be done centrally. Local printers at the workstations should also be includable like central floor printers or photogravures. Print jobs must have priorities and must be editable by the administrator any time. So a maximum process security is achievable. The whole system must take itself to a defined status at a system failure.

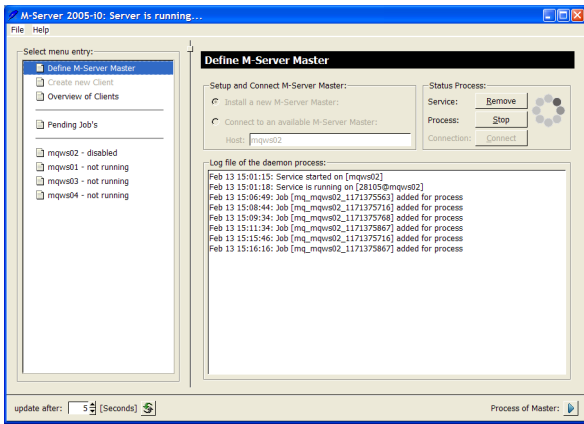
## Result

A central print solution has many advantages, but on the other hand, the requirements to the system are very high. M-Server is the tool which does justice to these requirements.

## Structure

M-Server is constructed in two layers: The first layer (M-Server Master) coordinates the enquiries, supervises the sub-processes (client) and activates the confirmation if the job was carried out successfully or creates an error protocol.

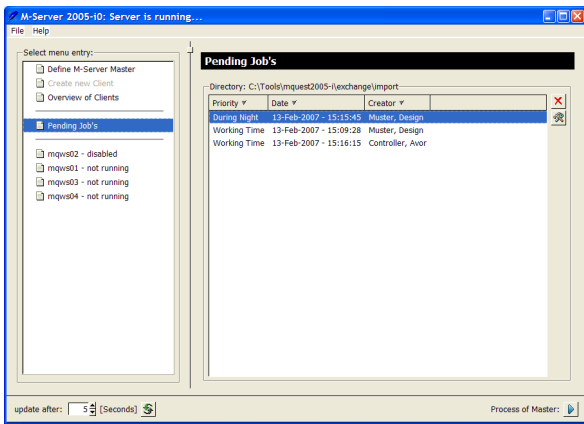
The second layer (M-Server Client) executes always only one job. If the client does not react any more because the process was ended, or an exception arose, then the M-Server Masters notice that and removes the client from the possible process list.



The supervise tool can be invoked of every station which has access to M-Servers Master.

## Data submitting

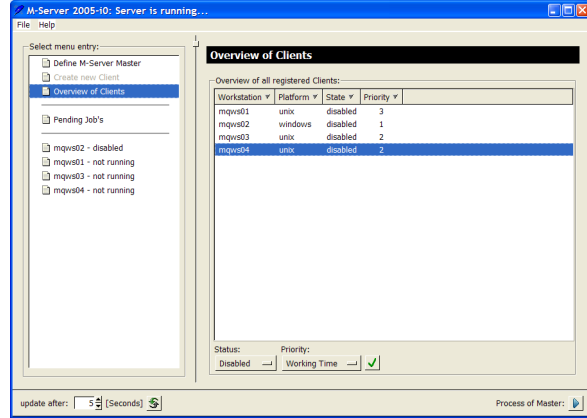
The information is submitted in form of a job file into a central folder. The job file is formatted as a XML file and contains all references to the original files. Local files are also copied into the folder, Unigraphics components are submitted as DB names. M-Server Clients checks out these files from TcEngineering™ automatically.



All jobs have corresponding priorities. The creator can be every M-Plot Suite application. From Unigraphics™ or I-deas™ it can be printed directly with the help of M-Plot Suite or a print job is created and sent to the M-Server.

## Data processing

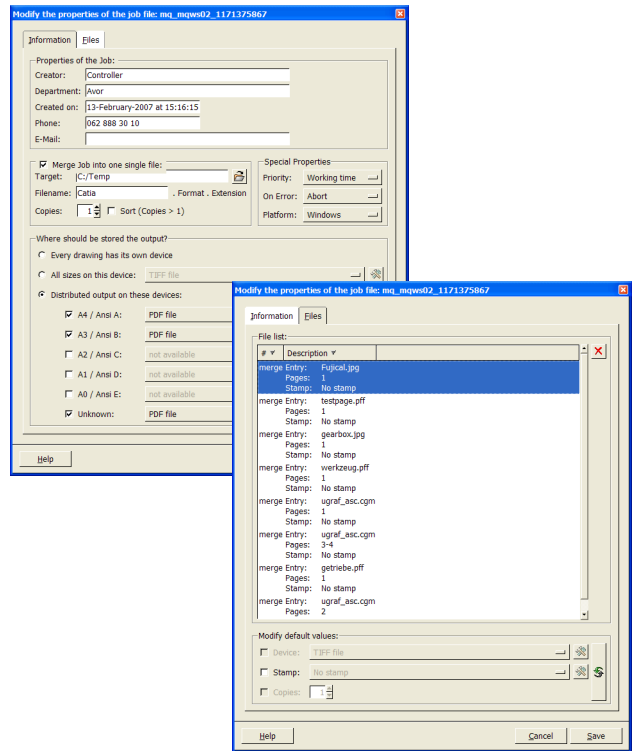
M-Server Master knows all available M-Server Clients. This can be workstations special for this task, or existing workstations in the network integration.



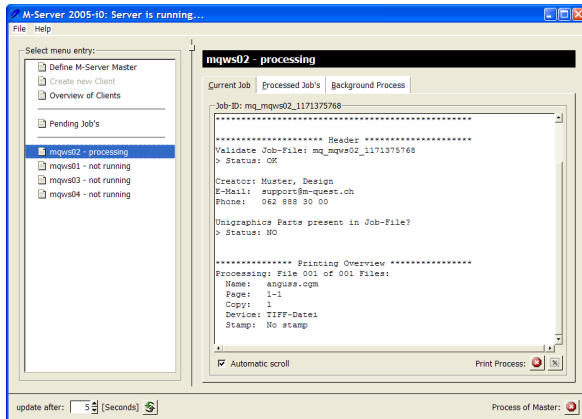
The client can be created with a click. Simply starting the administration tool on the workstation and establishing the client. Always only one client can be available per computer, otherwise we would have performance problems again.

## M-Server Client

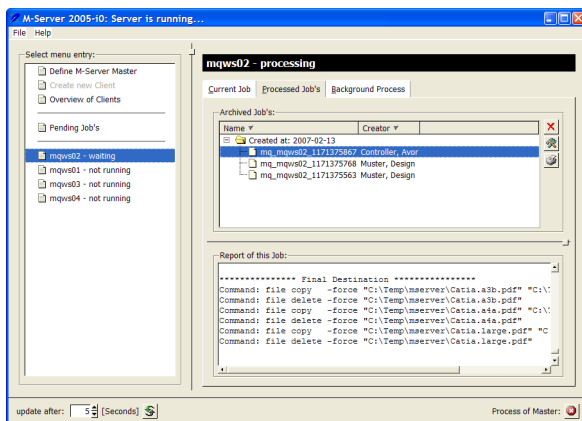
The client receives the job from the M-Server Master with all information. The M-Server Client audits the details now, fetches all files also from TcEngineering™ first and then creates the desired output with M-Plot Suite.



M-Server Client writes all important information during the process run into a protocol file. This file can be checked by the administrator any time.



Completed jobs are archived a predefined number of days. These jobs can be printed or changed again by the administrator afterwards.



If an e-mail address is indicated in the job, the user is informed about the status of the process.

### Return message

M-Server Master audits all registered M-Server Clients and recognizes automatically if a job was finished. This client is then ready for next task. The finished job is provided with all protocol files into a new output folder and is for M-Server finished. The leading application must take care of this information to retrieve this sporadically otherwise the data will fill the disk space.

### Heterogeneous platform environment

In large enterprises it is possible that the communication is done over different platform environments. M-Server can create UNIX and Windows M-Server Clients of his own. This makes sure that this information's can be processed correctly too.

### Stamp

M-Servers use M-Plot Suite as a print processor. Therefore the complete performance range is at your disposal. The stamp technique leaves almost no more wishes left.

Dynamic stamps are possible, however, must be created by the leading application and are deposited in the job file.

### Process security

M-Server is built in a simple way. A goal was not to produce too much network broadcast. The M-Server Clients register themselves at the M-Server Master and this audit the clients. The system is very simple and the service can be done also without an administration tool.

At a main crash the individual M-Server Clients deletes all local job information's and log in at the M-Server Master again. The master submits the still not created job to a client again. If only a client is ended (service task) in the production, M-Server Master removes this from the client list automatically. If no more clients are available, all jobs are collected from the master until a client is available again.

### Leading application

Every M-Plot Suite application, like M-Plot Print, M-Plot Batch, M-Plot Preview and M-Plot Stand-alone can create job files for M-Server. This releases the workstation in seconds for the daily work again.

Jobs can also be created for M-Server within TcEngineering™ now: PriMan (print Manager) is a very powerful tool from UGS Switzerland. Complete assemblies, projects and much more can be submitted so directly to M-Servers without impairing the performance of PriMan. Please consult UGS Switzerland for further information.

### Installation

M-Server should run on a dedicated server. The supervision process must always be guaranteed, in order to serve all parties quickly.

One M-Server Client can be installed on the same M-Server Master machine. On a multi processor machine, virtual workstations can offer their services for M-Server Clients. Every M-Server Client must have the same environment like the leading application.

For example, you use Unigraphics™ components and want to have these printed of M-Server directly a Unigraphics™ environment must be installed correspondingly on the M-Server Client. Delivering a Unigraphics™ component from TcEngineering™ also requires local Unigraphics™ environment. Please remind that in this case a license of Unigraphics™ is also necessary.

M-Server Clients can be regular workstations of users. So that this works the M-Server structure must be visibly to the user workstation as well as the M-Server and M-Plot Suite software must be installed on this machine.

### Administration of the settings

The printers, stamps and all filters are managed about the standard tool M-Plot Setup. Every leading party is responsible that the settings of M-Plot Suite can be read. These settings are also freely accessible as a XML file. If modifications are processed in the time a different process is executed, an error occurs and the printing job is terminated as error. The user can issue this later again or the administrator can print the faulty jobs from the archive again. These proceedings are simple and sure.

### Licensing

M-Server is needed per site only once. The M-Server Clients are free of charge and the number of clients unrestricted. If no license is available, the M-Server Masters service cannot be started. A corresponding entry in the log file points to this error. **The license is not floating.**

So that an M-Server Client can print, the leading application must have an M-Plot Suite 2005 license. In this situation it's not possible to differentiate between an M-Plot Device and M-Plot Exchange license.

If no license is available it can be distinguished between two scenarios: 1) A demo stroke is printed on the output, the error written into the log file and the job is finished or 2) The job is cancelled immediately. The setting can be defined by the administrator.

The M-Plot Suite license remains locked on the registered workstation for 4 hours. Another workstation can deliver the same license after this time.

### Operating system request

M-Server can be used on the following operating systems:

HP-UX™ 11.11, SUN-Solaris™ 10, IBM-Aix™ 5.3, Windows™ XP/Vista/7 and Linux™ (Intel™ and AMD™ Processor).

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