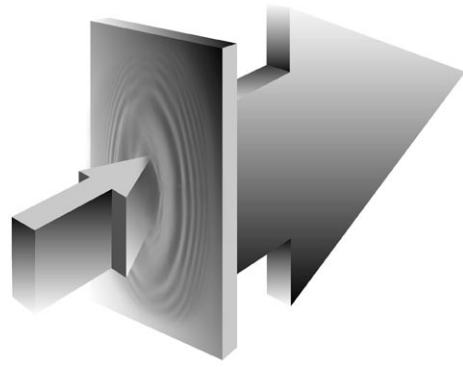


# S C R I P T I N G F O R N E T W A R E



## Using Scripts

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## Overview of ServerMagic Scripting

You can create script files to automate standard ServerMagic tasks. ServerMagic has a number of command line options that support the use of script files.

A script file is an ASCII file you can create with any text editor. ServerMagic executes each command in a script file in order. If ServerMagic encounters an error while processing a script file, it immediately terminates the script file without further processing and logs the error if a log file was specified in the command line.

You can also use ServerMagic scripting to configure remote systems. To do so, you must be able to:

- Load ServerMagic on a remote system
- Launch ServerMagic on a remote system
- Get feedback as necessary from a log file on the remote system

It is your responsibility to set up remote access.

## Command Line Options

ServerMagic has the following command line options. The order of the options in the command line is not significant. Commands can be up to 180 characters and must be contained on one line. They cannot begin on one line and end on the next (even if the examples in this user guide wrap to a second line).

Switch	Function
/?	Displays all the available command line switches and the syntax and a short description of each. (The /HELP switch does the same thing.)
/CMD	Passes the name of the script file.  LOAD SMAGIC.NLM /CMD=SCRIPT.TXT

Switch	Function
/ERR	<p>Specifies the file to create if the script file terminates with an error. If the script file completes successfully, the specified file is deleted. An error log is helpful because it is not possible to return the error to the process that invoked ServerMagic if a reboot is necessary. If you include this switch in a command line, you can write a program to verify that the script was completed successfully by checking for the existence of the error log.</p> <p>Even if this parameter is not used, the error number will appear in the log file (if specified by /LOG) along with a text description of the error that occurred. To use the error parameter with the above parameters, the syntax would be:</p> <pre>LOAD SMAGIC.NLM /CMD=SCRIPT.TXT /LOG=RESULTS.LOG /ERR=ERROR.LOG</pre>
/LOG	<p>Specifies the file in which to store output. The output stored in the file includes each script command and all that transpired because of that command. To specify a log file RESULTS.LOG, the syntax would be:</p> <pre>LOAD SMAGIC.NLM /CMD=SCRIPT.TXT /LOG=RESULTS.LOG</pre> <p>The /LOG switch only works in conjunction with the /CMD switch. PowerQuest recommends that you create a log file whenever you run ServerMagic from a script.</p> <p><b>IMPORTANT!</b> Do not create a log file if you are modifying the partition containing the log file. The log file is created on the partition from which you run ServerMagic. Modifying the partition containing the log file will damage the partition. If you need to modify this partition, omit the /LOG switch from the command line.</p>
/NBS	<p>Turns off bad sector checking. This replaces the Set Default Bad Sector Test State script command in that the default is always ON unless you specify with this parameter.</p> <pre>LOAD SMAGIC /CMD=SCRIPT.TXT /NBS</pre>

Switch	Function
/NRF	<p>(<i>No Run File</i>) Specifies the name of a file that, if it exists, prevents the script from executing. A command line can contain more than one /NRF switch if it makes sense to check for more than one file. If you specify a /LOG file or a /ERR file, the /NRF switch can check for the existence of these files and prevent the program from running if either exist. This switch is helpful to prevent ServerMagic from running more than one time.</p> <pre>LOAD SMAGIC.NLM /CMD=SCRIPT.TXT /LOG=RESULTS.LOG /ERR=ERROR.LOG /NRF=RESULTS.LOG</pre>
/SCO	<p>(<i>Syntax Check Only</i>) Checks the syntax of a script without executing the script. Confirms a partition is selected before executing an operation, checks the syntax of all the script commands, and ensures that volume labels specified in a select partition statement are unique. The syntax check cannot detect errors such as trying to move the partition without adjacent free space. If the command line defines a /LOG file, a successful syntax check posts a statement that the script was successful.</p> <pre>LOAD SMAGIC /CMD=SCRIPT.TXT /SCO /LOG=RESULTS.LOG</pre>

## Syntax of Script Statements

Many script operators are followed by parameters. In presenting the syntax for a command statement, the following characters denote how to include the parameters in a statement. Do not include the special characters when typing the statement.

Character	Description
{ }	Surrounds required parameters
[ ]	Surrounds optional parameters
	Separates alternate parameters; choose only one

The case of the statements is not significant.

The maximum length of a line is 180 characters terminated with a carriage return. A line can contain only one statement, and statements must be completed within one line. The script text file allows comments in the C++ form (//). These can be included on a full line or after a valid statement.

Each operation in the script executes on the currently specified partitions. You must specify all partitions affected by an operation before executing the operation.

### ***List of Statements with Syntax***

Allow Manual Reboot

Check

Copy

Delete {Volume Name | "No Name" | "UNKNOWN"}

Hide

Move NetWare Partition to Another Disk

Resize {Max | Min | Value} [/Clustersize={512 | 1 | 2 | 4 | 8 | 16 | 32}]

Resize Larger {Max | Min | Value} [/Clustersize={512 | 1 | 2 | 4 | 8 | 16 | 32}]

Resize Left Boundary {Max | Min | Value}

Resize Left Boundary Larger {Max | Min | Value}

Resize Left Boundary Smaller {Max | Min | Value}

Resize Smaller {Max | Min | Value} [/Clustersize={512 | 1 | 2 | 4 | 8 | 16 | 32}]

Resize Space After {Max | Min | Value} [/Clustersize={512 | 1 | 2 | 4 | 8 | 16 | 32}]

Resize Space Before {Max | Min | Value}

Select Copy Drive {Num}

Select Copy Partition {PartitionLetter | "Volume Label" | Next | Previous | Num}

Select Drive {Num}

Select Move Drive {Num}

Select Move Partition {Num | Next | Previous}

Select Partition {PartitionLetter | "Volume Label" | Next | Previous | Num}

Set Active

Set Default Bad Sector Test State {ON | OFF} (See also /NBS)

Show Copy Partitions

Show Partitions

Unhide

## **Script File Statements**

This section is an alphabetical list of all the script file statements with their syntax and descriptions.

### ***Allow Manual Reboot***

This command allows the script to run even if ServerMagic cannot remotely reboot the machine after making changes. If you plan to use this command, it should be the first statement in the script file.

If this command is omitted, ServerMagic terminates the script if it contains a command requiring a reboot that ServerMagic cannot perform remotely.

Allow Manual Reboot

## **Check**

This command checks the current partition for errors.

**IMPORTANT!** You should include **Check** commands for each partition to be modified at the beginning of the script. Since the script file terminates when a check error is detected, you can prevent ServerMagic from starting to make changes that it could not complete.

Check

## **Copy**

The Copy command should be preceded by the following commands:

- Select Drive {Num}
- Select Partition {PartitionLetter | "Volume Label" | Extended | Next | Previous | Num }
- Select Copy Drive {Num}
- Select Copy Partition {PartitionLetter | "Volume Label" | Next | Previous | Num }

For the Copy command to work correctly, a drive and partition need to be selected and a copy drive and copy partition need to be selected. If the selected partition is free space and the partition specified by the copy partition is a partition smaller than the free space, this operation will copy the specified partition to the free space.

If the selected partition is a valid partition and the partition specified by the copy partition is a block of free space large enough to hold the partition, the copy operation will copy the selected partition to the specified free space.

Copy

## **Delete**

This command deletes the currently selected partition. To prevent accidental deletion of partitions containing data, the command must contain the name assigned to the partition. This requirement does not apply to extended and unformatted partitions.

Delete { Volume Name | "NO NAME" | "UNKNOWN" | All }

Parameter	Description
Volume Name	The volume name is required to delete a partition unless the partition is either an extended partition or an unformatted partition. This is a check to ensure that you are destroying data in the proper partition only.
"NO NAME"	Required if the partition label is blank and the partition is FAT or HPFS.
"UNKNOWN"	Required if the partition is not FAT or HPFS.
All	All partitions on the currently selected drive and partition will be deleted

## **Hide**

This command hides the currently selected partition.

Hide

## **Move NetWare Partition to Another Disk**

This command moves a NetWare partition from one physical disk to another. Before executing this command, you must define the target drive and free space to receive the moved partition (**Select Move Drive** and **Select Move Partition**).

You cannot move a mirrored partition with a ServerMagic script.

## **Resize**

This command resizes a non-NetWare partition.

Resize {Max | Min | Value } [/Clustersize={512 | 1 | 2 | 4 | 8 | 16 | 32 }]

Parameter	Description
Max	Resizes the partition to the maximum possible size, that is, incorporates all adjacent free space to the left and right of the partition.

Parameter	Description
Min	Resizes the partition the smallest possible size, that is, the smallest number of cylinders that holds the used space within the partition.  Using this option can reduce the unused space in the partition to the point that programs fail for lack of memory. Under most circumstances you should leave at least several megabytes of unused space within a partition to allow for swap files and other temporary files.
Value	Resizes the partition to the value specified (in megabytes).
/Clustersize=	Sets the cluster size for a FAT partition. If omitted, ServerMagic uses the smallest possible cluster size. Values include 512 (bytes) and 1, 2, 4, 8, 16, and 32 kilobytes.

### ***Resize Larger***

This command increases the size of a non-NetWare partition by specifying an incremental change in size.

```
Resize Larger { Max | Min | Value} [ /Clustersize= { 512 | 1
| 2 | 4 | 8 | 16 | 32 } ]
```

Parameter	Description
Max	Resizes the partition to the maximum possible size, i.e., incorporates all adjacent free space to the left and right of the partition
Min	Resizes the minimum possible, that is, adds one cylinder of data
Value	Increases the partition by the value specified (in megabytes).
/Clustersize=	Sets the cluster size for a FAT partition. If omitted, ServerMagic uses the smallest possible cluster size. Values include 512 (bytes) and 1, 2, 4, 8, 16, and 32 (kilobytes).

### ***Resize Left Boundary***

This command moves the left boundary of the extended partition.

Resize Left Boundary {Max | Min | Value}

Parameter	Description
Max	Moves the boundary of the extended partition as far to the left as possible (flush with the next partition or the beginning of the drive).
Min	Moves the left boundary of the extended partition as far to the right as possible (flush with the first logical partition).
Value	Moves the boundary of the extended partition left by the amount of the value specified (in megabytes).

### ***Resize Left Boundary Larger***

Resize an extended partition larger by specifying the change in position of the left boundary. This operation is for extended partitions only.

Resize Left Boundary Larger { Max | Min | Value }

Parameter	Description
Max	Moves the boundary of the extended partition as far to the left as possible (flush with the next partition or the beginning of the drive).
Min	Moves the boundary of the extended partition to the left, the minimum amount possible (1 cylinder).
Value	Moves the boundary of the extended partition left by the amount of the value specified (in megabytes).

### ***Resize Left Boundary Smaller***

Resize an extended partition smaller by specifying the change in position of the left boundary. This operation is for extended partitions only.

Resize Left Boundary Smaller {Max | Min | Value}

Parameter	Description
Max	Moves the left boundary of the extended partition as far to the right as possible (flush with the first logical partition).
Min	Moves the left boundary of the extended partition to the right, the minimum amount possible (1 cylinder).

Parameter	Description
Value	Moves the left boundary of the extended partition right by the amount of the value specified (in megabytes).

### ***Resize Smaller***

This command reduces the size of a non-NetWare partition by specifying the incremental change in size.

```
Resize Smaller {Max | Min | Value}    [/Clustersize={512 | 1 | 2 | 4 | 8 | 16 | 32 }]
```

Parameter	Description
Max	Reduces the partition to the smallest possible size, i.e., removes virtually all unused space from the partition and returns it to free space
Min	Resizes the minimum possible (subtracts one cylinder of data)
Value	Decreases the partition by the value specified (in megabytes).
/Clustersize=	Sets the cluster size for a FAT partition. If omitted, ServerMagic uses the smallest possible cluster size. Values include 512 (bytes) and 1, 2, 4, 8, 16, and 32 (kilobytes).

### ***Resize Space After***

This command resizes an extended partition by specifying the amount of free space after the partition following the resize.

```
Resize Space After {Max | Min | Value}    [/Clustersize={512 | 1 | 2 | 4 | 8 | 16 | 32 }]
```

Parameter	Description
Max	Resizes the right boundary of the partition to leave the most possible space after the partition, that is, reduces the boundary to the rightmost logical partition
Min	Resizes the right boundary of the partition to leave the minimum possible space following it, that is, flush with the next primary partition or the end of the hard disk

Parameter	Description
Value	Resizes the right boundary of the partition to leave the amount of space specified (in megabytes)
/Clustersize=	Sets the cluster size for a FAT partition. If omitted, ServerMagic uses the smallest possible cluster size. Values include 512 (bytes) and 1, 2, 4, 8, 16, and 32 (kilobytes)

### ***Resize Space Before***

Resize an extended partition by specifying the amount of free space before the partition after the resize is completed.

Resize Space Before {Max | Min | Value}

Parameter	Description
Max	Resizes the left boundary of the extended partition so that the space before is as large as possible, that is, moves the boundary to the beginning of the first logical partition
Min	Resizes the left boundary of the extended partition to eliminate space preceding the extended partition, that is, flush with the preceding primary partition or the beginning of the hard disk
Value	Resizes the extended partition to leave the amount of space specified (in megabytes)

### ***Select Copy Drive***

This command selects the drive that is the target of a copy command.

Select Copy Drive {Num}

Parameter	Description
Num	Number of the drive to select starting at 1.

### ***Select Copy Partition***

This command selects the partition or free space on the copy drive that is the target of a copy command.

```
Select Copy Partition {DriveLetter | "Label" | Next |  
Previous | Num}
```

Parameter	Description
DriveLetter	Selects the partition by drive letter
"Label"	Selects the partition by label
Next	Selects the partition that is numerically one higher than the previously selected partition; cannot be the first <b>select copy partition</b> statement in the script file
Previous	Selects the partition that is numerically one lower than the previously selected partition; cannot be the first <b>select copy partition</b> statement in the script file
Num	Selects the partition by partition number

### **Select Drive**

This command selects the physical drive.

```
Select Drive {Num}
```

Parameter	Description
Num	Number of the drive to select starting at 1.

### **Select Move Drive**

This command selects the hard disk that is the target of a **Move NetWare Partition to Another Disk** command.

```
Select Move Drive {Num}
```

Parameter	Description
Num	Number of the drive to select starting at 1.

### **Select Move Partition**

This command selects the target free space partition on the hard disk that is the target of a **Move NetWare Partition to Another Disk** command. Refer to "Unhide" on page 15 for additional information.

Select Move Partition {Num | Next | Previous}

Parameter	Description
Num	Number of the free space partition on the selected move drive
Next	Selects the partition that is numerically one higher than the previously selected move partition; cannot be the last <b>select move partition</b> statement in the script file
Previous	Selects the partition that is numerically one lower than the previously selected move partition; cannot be the first <b>select move partition</b> statement in the script file

### **Select Partition**

This command designates which partition on the selected drive is the current partition. You can identify partitions in a number of ways. It is usually best to use a method that positively identifies a partition, such as the drive letter or label assigned to a partition. Since this is not always possible, you can also select a partition by its number or its relationship to a known partition.

**IMPORTANT!** Use caution when selecting a partition by its number, since partition numbers can change as a script executes. It is often preferable to use **Select Partition Next** or **Select Partition Previous** to select unlabeled partitions. However, you must select free space and partitions without drive letters or labels by number. If you question which partition will be selected after an operation, you can use the TTY version of the program (without scripting) and perform the same operation on a test machine and observe which partition is selected after the operation. You can also use the Show Partitions command to show the current status of partitions.

Select Partition {DriveLetter | "Label" | Extended | Next | Previous | Num}

Parameter	Description
DriveLetter	Selects the partition by drive letter
"Label"	Selects the partition by label. The label must be in quotes.
Extended	Selects the extended partition on the drive

Parameter	Description
Next	Selects the partition that is numerically one higher than the previously selected partition; cannot be the first <b>select partition</b> statement in the script file
Previous	Selects the partition that is numerically one lower than the previously selected partition; cannot be the first <b>select partition</b> statement in the script file
Num	Selects the partition by partition number

### ***Set Active***

This command marks the selected primary partition as the active, or bootable, partition.

```
Set Active
```

### ***Set Default Bad Sector Test State***

This command sets the bad sector testing on or off for all partitions on the currently selected drive. The “/NBS” option overrides this setting. In the absence of this command in a script file, ServerMagic tests for bad sectors even on newer hard disks that do not need such testing.

```
Set Default Bad Sector Test State { On | Off }
```

### ***Show Copy Partitions***

This command displays the copy partitions on the currently selected drive. This command must be preceded by **Select Drive**, **Select Partition**, and **Select Copy Drive**.

```
Show Copy Partitions
```

### ***Show Partitions***

This command displays the partitions on the currently selected copy drive, much like the PARTINFO PowerQuest utility program.

```
Show Partitions
```

### ***Show Preferences***

This command shows the current ServerMagic preferences.

Show Preferences

## **Unhide**

This command unhides the currently selected partition. See also “Hide.”

Unhide

## **Script Suggestions and Notes**

PowerQuest recommends that you check each partition before you modify it. A script file terminates as soon as an error occurs, so it is best to find errors before a script makes any changes to partitions.

Since partitions must start on cylinder boundaries, ServerMagic may modify a specified number to fit the geometry of the hard disk. ServerMagic allows a margin of error of 1 cylinder above or below the size specified in a statement. For example, on a hard disk with 0.5-MB cylinders, a statement to resize a partition to 10 MB is successful as long as ServerMagic can resize the partition to at least 9.5 MB.

Under normal operation, if a script determines that it will not be able to reboot the machine after making the changes specified in a script, the script will terminate with an error. One situation where this is known to happen is under OS/2 if the DOS.SYS file is not in the CONFIG.SYS (such as when you boot from utility diskettes). You should use the `ALLOW MANUAL REBOOT` script statement at the beginning of the script if it is not a problem to reboot from the keyboard.

## **Selecting Drives and Partitions**

Virtually all commands perform actions on specific partitions. Before a ServerMagic can execute a command from a script file, you must have defined the partition that the command affects. A few commands affect more than one partition. For example, the copy command moves a defined partition to a defined free space. For these commands, you must define all partitions affected by the command before ServerMagic can execute the command.

When most commands are executed, the partition affected by the command is still selected afterwards. For example, **Resize** and **Move** leave the partition operated on as the selected partition. **Create** leaves the partition created as the selected partition. **Delete** leaves the free space created by deleting the partition as the selected partition.

## Sample Scripts

### ***Resizing a NetWare Partition***

You have a 4 GB drive that contains a 50 MB, primary DOS partition. The hard disk also has a 2 GB NetWare partition. You need to increase the NetWare partition to 3 GB.

```
//Select drive and NetWare partition, then Enlarge the
//selected partition
Select Drive 1
Select Partition 2
Enlarge NetWare Partition 3000
```

### ***Moving a NetWare Partition to Another Disk***

Your NetWare partition is on a 2 GB hard disk, and you want to move the DOS and NetWare partitions to a new 4 GB drive.

```
//Select the source drive and partition of the DOS partition
Select Drive 1
Select Partition 1

//Select the copy destination for the DOS partition on the
new disk
Select Copy Drive 2
Select Copy Partition 1

//Copy the DOS partition
Copy

//Select the NetWare source drive and partition
Select Drive 1
Select Partition 2

//Select the NetWare source drive and partition
Select Move Drive 2
Select Move Partition 2

//Perform the actual move
Move NetWare Partition to Another Disk
```