



# **GLOBALCOMSERVER CLUSTER ADMINISTRATOR'S GUIDE**

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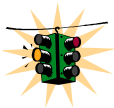
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# PRESENTATION

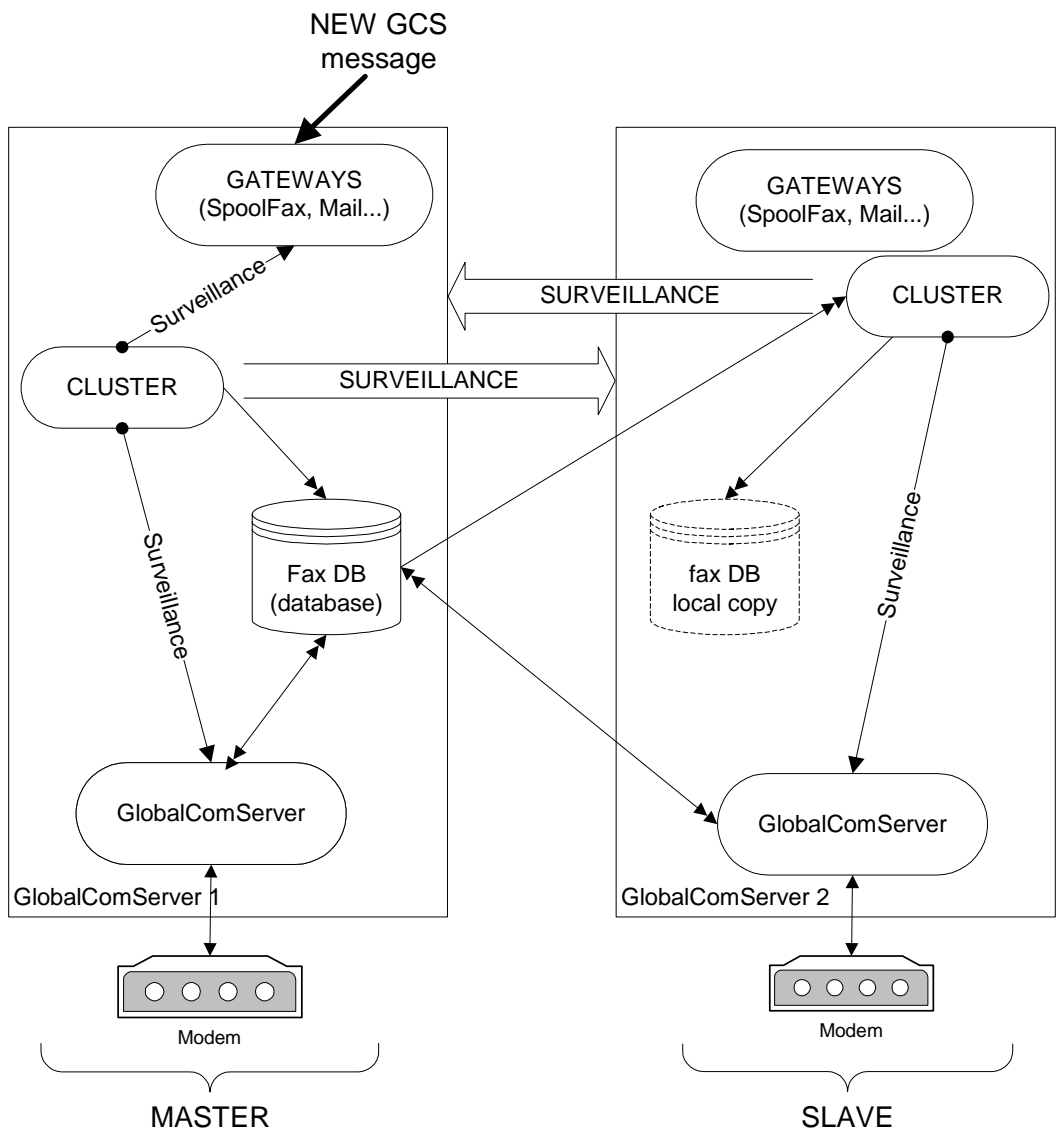


This manual is designated to the system administrator responsible for installation, configuration and maintenance of the **GCS Cluster**. Knowledge of Microsoft Windows NT® is recommended.

## Presentation

**GCS Cluster** allows several **GCS platforms** to send and receive simultaneously **GCS** messages. It is made of one master and several slaves (up to 6). **GCS Cluster** system gives load balancing.

## GCS Lotus Notes gateway architecture



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All **GCS platforms** from the network contains the current cluster system configuration in the file `..\traffic\etc\cluster.ini`.

The cluster system is controlled by a NT service called **AVM – CLUSTER**. This service is installed on every machine.

Each cluster service does the following operations:

- It looks after the other AVM NT services
- It copies locally files from the master **GCS platform**: (every minute)
- It makes sure that the other **GCS platforms** are running
- It switches from slave to master if necessary
- It retrieves sent/received **GCS** messages from a faulty machine (master or slave)
- It synchronizes time between master and slaves.

## INITIALIZING FILE

The file `..\traffic\etc\cluster.ini` on each server contains the current cluster system configuration.

It contains the following parameters:

- `service_display_name` : name of the cluster service
- `time_backup` : local copy every...
- `timeout_master` : timeout in seconds before a slave switches to master or retrieves GCS messages from a faulty machine
- `master_name` : machine master of the cluster system
- `machines` : cluster machine list
- `run_always` : priority of the system (0 = stopping priority, 1 = running priority)
- `remote_dep` : flag showing if the folder `..\TRAFFIC\DEP` is local or on a remote machine
- `dir` : slaves shared directory(UNC path without the machine name, one level subfolder)
- `serviceX` : name of the service started by the slave when switching to master
- `programX` : program started by a slave switching to master

All machines in a **GCS Cluster** configuration must have the same **GlobalComServer components** installed.

## LOAD BALANCING

When functioning normally each **GCS platform** uses the same databases (sending and receiving).

Those databases can be located on the master **GCS platform** or on any remote machine (even if this machine is not part of the cluster).

When a **GCS** message is ready to go, the first **GCS platform** that detects it, reserves it and then sends it.

All generated files will be located on the master **GCS platform** whatever machines sent those **GCS** messages

The **master GCS platform** has a precise role:

- AVM gateways (SpoolFax, mail gateways, SAP...) are running on this machine
- It retrieves new **GCS** messages and telex to add them to the database
- It contains the sending and receiving databases used by the other **GCS platforms** (Except if `..\TRAFFIC\DEP` is on a remote machine)
- It saves and purges the databases
- It looks after the **GCS slaves**

The **GCS slaves**:

- AVM gateways (SpoolFax, mail gateways, SAP...) are stopped
- Use the master's databases
- Copies locally what is in `..\trafic\dep` (except if it is located on a remote machine)
- Use the master's time
- Look after the master

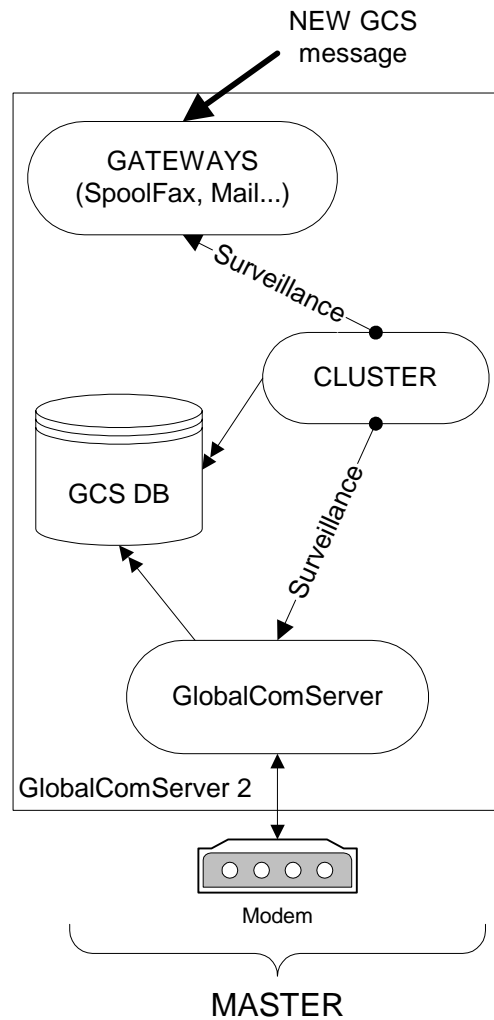
## AFTER AN INCIDENT

### Switching to master

In case of a hardware or software failure (**AVM GlobalComServer service** is stopped) of the master, the first available **GCS platform** will switch to master after a defined timeout. The choice of the first **GCS platform** is determined by the timeout settings of each machine. The slave switching to master uses its local copies as new databases.

It does the following procedure:

- It stops its **AVM GlobalComServer** service
- It looks for a master amongst the other machines
- It configures itself as a master: initialization files are updated
- It modifies automatically the databases to change the path and reservations made before the crash of the master
- It starts its **AVM GlobalComServer** service
- it starts all AVM products present on the machine.



## Changing one's master

In case of a hardware or software failure (**AVM GlobalComServer service** is stopped) of the master, the first available **GCS platform** will switch to master: the other **GCS platforms** detect the faulty machine but do not switch to master, as their timeout is higher than the first available slave.

A slave not switching to master does the following:

- It stops its **AVM GlobalComServer** service
- It looks for a new master successfully
- It configures its file showing the new configuration.
- It starts **AVM GlobalComServer** service.

## INTERVENTION PROCEDURE

If you need to work on the **GCS platforms** you must follow a procedure to avoid switching slaves to master.

### Stopping the services

- Suspend all servers to let them finish the current transmissions.
- Stop all **AVM - CLUSTER** service on all machines (starting with the slaves)
- Stop all **AVM - GlobalComServer** service on all machines (starting with the slaves)
- Stop all other **AVM – xxx** service on all machines
- Do the maintenance

### Starting the services

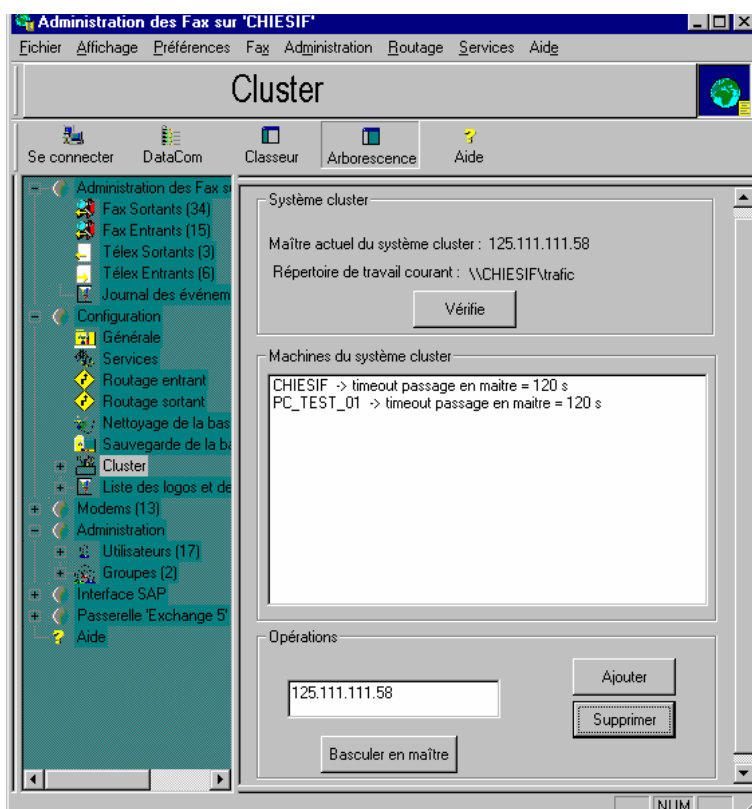
- Start the master's **AVM - CLUSTER** service
- Wait for all other AVM services to run on the master
- Start the **AVM - CLUSTER** service on each slave

### Stopping totally the GCS platforms

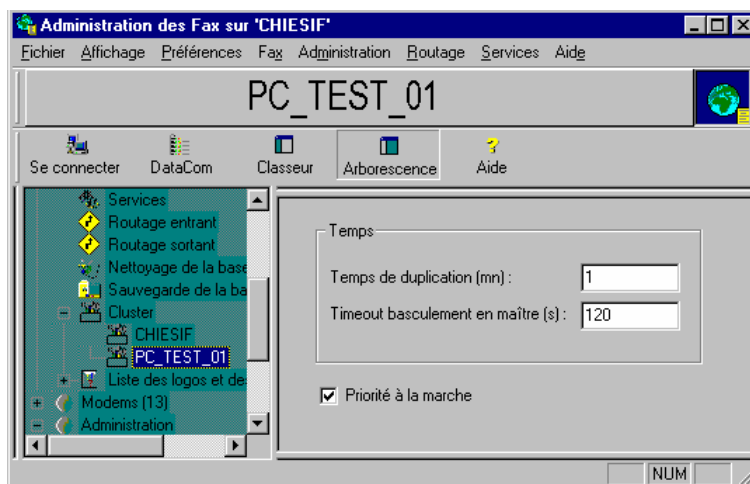
- Stop and restart all **GCS platforms** at the same time

## CLUSTER ADMINISTRATION

### General view



- a) The upper box shows:
  - The current master
  - The path of ..\trafic\dep used to store the databases.
- b) The list of all machines part of the cluster system and its timeout
- c) The lower box allows you to:
  - Add a new machine to the cluster
  - Remove a machine from the system
  - Switch a machine from slave to master

**Cluster member view**

For each **GCS platform** you can modify 3 parameters:

- Duplicating time: delay before local copy
- Time-out: time before a slave switches to master
- Running priority: choose whether a slave switches to master or not if the master is not accessible.

## DUPLICATED FOLDERS LIST

Each slave duplicates folders.

Locally copied folders are:

- ..\TRAFIC\DEP (emission)
- ..\TRAFIC\ARRI (reception)
- ..\TRAFIC\GATEWAYS (mail gateways)
- ..\TRAFIC admin.pwd and groupe.pwd (users and groups)
- ..\TRAFIC\LOGO (overlays and cover page files)
- ..\TRAFIC\DIR (TOPFAX phonebooks)
- ..\TRAFIC\ARC (emission/reception notification)
- Tree defined in the CLUSTER.INI file with the DIR parameter

The above folders and files are copied entirely at slave boot time (startup) if they are different from slave to master.

Then copies are made in real time or periodically:

Real time copies:

- ..\TRAFIC\DIR : all files
- ..\TRAFIC\DEP : TIF and TLX files, files without extension
- ..\TRAFIC\GATEWAYS : all files
- ..\TRAFIC\ARRI : all files
- Tree defined in the CLUSTER.INI file with the DIR parameter

Periodical copies:

- ..\TRAFIC : ADMIN.PWD and GROUPE.PWD files
- ..\TRAFIC\LOGO : PCL extension files
- ..\TRAFIC\DIR : DIR extension files
- ..\TRAFIC\ARC : CSV extension files
- ..\TRAFIC\DEP : fax\_em.mdb and fax\_rec.mdb (GCS message databases)