

How to Seize FSMO Roles in Active Directory

How can I forcibly seize FSMO Roles from one [domain controller](#) (DC) to another? Windows Server [Active Directory](#) domains utilize a Single Operation Master method called [FSMO](#) (Flexible Single Master Operation).

The five FSMO roles are:

- Schema master - Forest-wide and one per forest.
- Domain naming master - Forest-wide and one per forest.
- RID master - Domain-specific and one for each domain.
- PDC - PDC Emulator is domain-specific and one for each domain.
- Infrastructure master - Domain-specific and one for each domain.

Seize FSMO roles using PowerShell

You can seize FSMO roles using the PowerShell `Move-ADDirectoryServerOperationMasterRole` cmdlet. The syntax for the command is as follows:

```
Move-ADDirectoryServerOperationMasterRole -Identity -OperationMasterRole -Server -Force
```

-Identity sets the domain controller (DC) you want to assign the role(s) to

-OperationMasterRole specifies the role(s) you want to seize. You can specify the roles by name or number

-Force seizes the roles rather than transfer them

Warning: Seizing a role should be done only as a last resort. In the event of a seizure, you cannot ever bring the DC that previously held the role back online.

Seize the PDC Emulator role

```
Move-ADDirectoryServerOperationMasterRole -Identity "DC3" -OperationMasterRole PDCEmulator -Force
```

Seize RID Master

```
Move-ADDirectoryServerOperationMasterRole -Identity "DC3" -OperationMasterRole RIDMaster - Force
```

Seize Infrastructure Master

```
Move-ADDirectoryServerOperationMasterRole -Identity "DC3" -OperationMasterRole InfrastructureMaster -Force
```

Seize Schema Master

```
Move-ADDirectoryServerOperationMasterRole -Identity "DC3" -OperationMasterRole SchemaMaster - Force
```

Seize Domain Naming Master

```
Move-ADDirectoryServerOperationMasterRole -Identity "DC3" -OperationMasterRole DomainNamingMaster -Force
```

You can [check FSMO roles](#), and which DCs hold each role, using the GUI and command line.

Seize FSMO roles using NTDSUtil

To seize the FSMO roles by using Ntdsutil, follow these steps:

Caution: Using the Ntdsutil utility incorrectly may result in partial or complete loss of Active Directory functionality.

- On any domain controller, click Start, click Run, type **Ntdsutil** in the Open box, and then click **OK**.

```
C:WINDOWS>ntdsutil  
ntdsutil:
```

- Type **roles**, and then press **ENTER**.

```
□ntdsutil: roles
fsmo maintenance:
```

Note: To see a list of available commands at any of the prompts in the Ntdsutil tool, type `?`, and then press ENTER.

- Type ***connections***, and then press **ENTER**.

```
□fsmo maintenance: connections
server connections:
```

- Type ***connect to server <servername>***, where `<servername>` is the name of the server you want to use, and then press **ENTER**.

```
□server connections: connect to server server100
Binding to server100 ...
Connected to server100 using credentials of locally logged on user.
server connections:
```

- At the server connections: prompt, type ***q***, and then press **ENTER** again.

```
server connections: q
fsmo maintenance:
```

- Type ***seize <role>***, where `<role>` is the role you want to seize. For example, to seize the RID Master role, you would type *seize rid master*:

Options are:

```
Seize naming master
Seize infrastructure master
Seize PDC
Seize RID master
Seize schema master
```

- You will receive a warning window asking if you want to perform the seize. Click on Yes.

Seize FSMO role using NTDSUtil

Seize FSMO roles using NTDSUtil (Image Credit: Daniel Petri/Petri.com)

```
fsmo maintenance: Seize infrastructure master
Attempting safe transfer of infrastructure FSMO before seizure.
ldap_modify_sW error 0x34(52 (Unavailable)).
```

```
Ldap extended error message is 000020AF: SvcErr: DSID-03210300, problem 5002 (UNAVAILABLE)
, data 1722
Win32 error returned is 0x20af(The requested FSMO operation failed. The current FSMO holde
r could not be contacted.)
)
Depending on the error code this may indicate a connection,
ldap, or role transfer error.
Transfer of infrastructure FSMO failed, proceeding with seizure ...
Server "server100" knows about 5 roles
Schema - CN=NTDS Settings,CN=SERVER200,CN=Servers,CN=Default-First-Site-
Name,CN=Sites,CN=Configuration,DC=dpetri,DC=net
Domain - CN=NTDS Settings,CN=SERVER100,CN=Servers,CN=Default-First-Site-
Name,CN=Sites,CN=Configuration,DC=dpetri,DC=net
PDC - CN=NTDS Settings,CN=SERVER100,CN=Servers,CN=Default-First-Site-
Name,CN=Sites,CN=Configuration,DC=dpetri,DC=net
RID - CN=NTDS Settings,CN=SERVER200,CN=Servers,CN=Default-First-Site-
Name,CN=Sites,CN=Configuration,DC=dpetri,DC=net
Infrastructure - CN=NTDS Settings,CN=SERVER100,CN=Servers,CN=Default-First-Site-
Name,CN=Sites,CN=Configuration,DC=dpetri,DC=net
fsmo maintenance:
```

Note: All five roles need to be in the forest. If the first domain controller is out of the forest then seize all roles. Determine which roles are to be on which remaining domain controllers so that all five roles are not on only one server.

1. Repeat steps 6 and 7 until you've seized all the required FSMO roles.
2. After you seize or transfer the roles, type q, and then press ENTER until you quit the Ntdsutil tool.

Note: Do not put the Infrastructure Master (IM) role on the same domain controller as the Global Catalog server. If the Infrastructure Master runs on a GC server it will stop updating object information because it does not contain any references to objects that it does not hold. This is because a GC server holds a partial replica of every object in the forest.

Where should I put the seized FSMO roles?

In most cases, an administrator can keep the FSMO role holders (all 5 of them) in the same spot (or actually, on the same DC) as has been configured by the Active Directory installation process.

However, there are scenarios where an administrator would want to move one or more of the FSMO roles from the default holder DC to a different DC.

Moving the FSMO roles while both the original FSMO role holder and the future FSMO role holder are online and operational is called Transferring, and is described in the [Transferring FSMO Roles](#) article.

However, when the original FSMO role holder went offline or became non operational for a long period of time, the administrator might consider moving the FSMO role from the original, non-operational holder, to a different DC. The process of moving the FSMO role from a non-operational role holder to a different DC is called Seizing, and is described in this article.

If a DC holding a FSMO role fails, the best thing to do is to try and get the server online again. Since none of the FSMO roles are immediately critical (well, almost none, the loss of the PDC Emulator FSMO role might become a problem unless you fix it in a reasonable amount of time), so it is not a problem to them to be unavailable for hours or even days.

If a DC becomes unreliable, try to get it back on line, and transfer the FSMO roles to a reliable computer. Administrators should use extreme caution in seizing FSMO roles. This operation, in most cases, should be performed only if the original FSMO role owner will not be brought back into the environment. Only seize a FSMO role if absolutely necessary when the original role holder is not connected to the network.

What will happen if you do not perform the seize in time? This table has the info:

FSMO Role	Loss implications
Schema	The schema cannot be extended. However, in the short term no one will notice a missing Schema Master unless you plan a schema upgrade during that time.
Domain Naming	Unless you are going to run DCPROMO, then you will not miss this FSMO role.
RID	Chances are good that the existing DCs will have enough unused RIDs to last some time, unless you're building hundreds of users or computer object per week.
PDC Emulator	Will be missed soon. NT 4.0 BDCs will not be able to replicate, there will be no time synchronization in the domain, you will probably not be able to change or troubleshoot group policies and password changes will become a problem.
Infrastructure	Group memberships may be incomplete. If you only have one domain, then there will be no impact.

Important: If the RID, Schema, or Domain Naming FSMOs are seized, then the original domain controller must not be activated in the forest again. It is necessary to reinstall Windows if these servers are to be used again.

The following table summarizes the FSMO seizing restrictions:

FSMO Role	Restrictions
Schema	Original must be reinstalled
Domain Naming	
RID	
PDC Emulator	Can transfer back to original
Infrastructure	

Another consideration before performing the seize operation is the administrator's group membership, as this table lists:

FSMO Role	Administrator must be a member of
Schema	Schema Admins
Domain Naming	Enterprise Admins
RID	Domain Admins
PDC Emulator	
Infrastructure	

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