

ClearCase Group Variables

In the Windows environment, there are two ClearCase environment variables that assist with managing the Windows groups that the Windows user is a member of. The environment variable names are:

`CLEARCASE_PRIMARY_GROUP`

`CLEARCASE_GROUPS`

There is sometimes confusion about the purpose of these variables and how they affect the operation of ClearCase. This paper aims to provide an explanation of the variables and how they are used.

First, it is necessary to talk a bit about the ClearCase “creds” command. The “creds” command is a utility that displays information for a logged in Windows user which relates to the groups associated with that user. Information about the user, groups, Windows domain, and Security Identifiers (SIDs) associated with the user and groups.

Since “creds” is a utility command, it will typically not be in the user’s path variable. To access it, typical install locations are:

7.0.1 And earlier: `C:\Program Files\Rational\ClearCase\etc\utils\creds.exe`

7.1 And later: `C:\Program Files\IBM\RationalSDLC\ClearCase\etc\utils\creds.exe`

One can open a Windows command prompt, change to the appropriate directory, and simply run “creds”. “creds” has a variety of parameters that can be entered to control the type of output from the utility, but that is not the focus of this document. The output from a typical command invocation can be seen in the screenshot below.

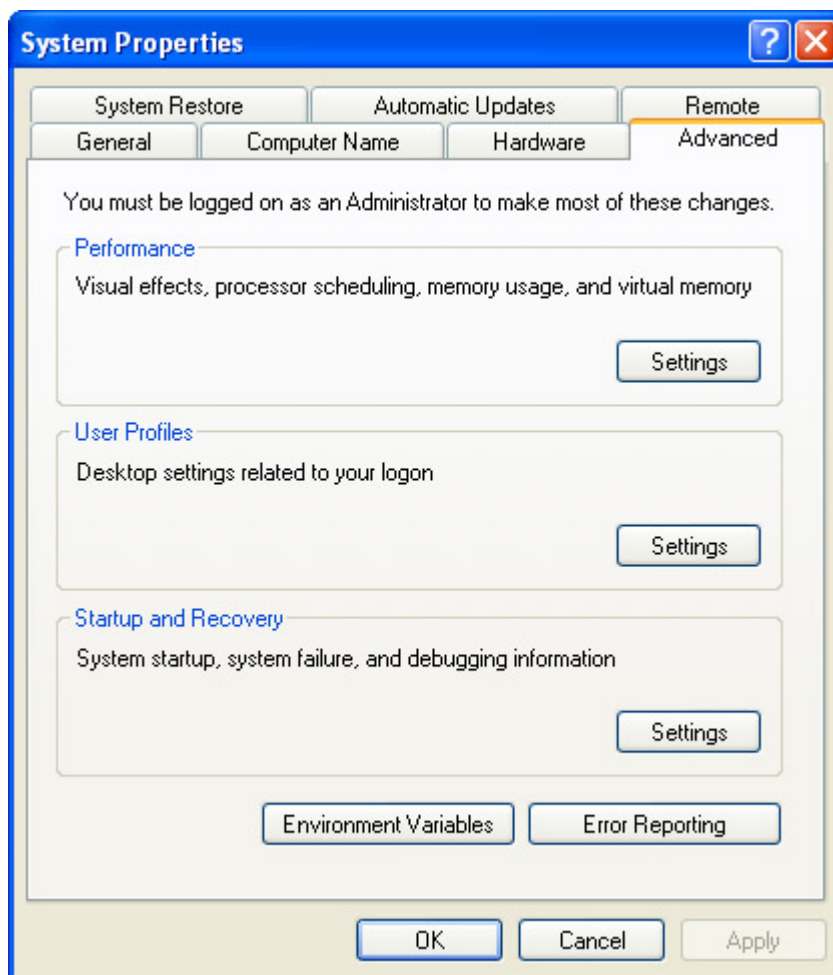
```
C:\Program Files\Rational\ClearCase\etc\utils>creds
Login name:   STRYKERNET\ross
SID:         NT:S-1-5-21-2135248159-670042095-669932061-30303
Primary group: STRYKERNET\atria_vid (NT:S-1-5-21-2135248159-670042095-669932061-15953)
Groups: (28)
STRYKERNET\Domain Users (NT:S-1-5-21-2135248159-670042095-669932061-513)
Everyone (NT:S-1-1-0)
BUILTIN\Administrators (NT:S-1-5-32-544)
BUILTIN\Users (NT:S-1-5-32-545)
NT AUTHORITY\INTERACTIVE (NT:S-1-5-4)
NT AUTHORITY\Authenticated Users (NT:S-1-5-11)
LOCAL (NT:S-1-2-0)
STRYKERNET\Endoscopy Rational Users (NT:S-1-5-21-2135248159-670042095-669932061-16032)
STRYKERNET\EngLabvian18 (NT:S-1-5-21-2135248159-670042095-669932061-37741)
STRYKERNET\atria_camera (NT:S-1-5-21-2135248159-670042095-669932061-18640)
STRYKERNET\ccusers (NT:S-1-5-21-2135248159-670042095-669932061-23953)
STRYKERNET\ACL_SCC_Operations (NT:S-1-5-21-2135248159-670042095-669932061-3043)
STRYKERNET\Endo_WiFi_Access (NT:S-1-5-21-2135248159-670042095-669932061-3331)
STRYKERNET\PLMUsers (NT:S-1-5-21-2135248159-670042095-669932061-33265)
STRYKERNET\TotalEndoscopyUPN (NT:S-1-5-21-2135248159-670042095-669932061-34837)
STRYKERNET\upninhouse (NT:S-1-5-21-2135248159-670042095-669932061-4002)
STRYKERNET\spkeng (NT:S-1-5-21-2135248159-670042095-669932061-32203)
STRYKERNET\CR_AccessPublic (NT:S-1-5-21-2135248159-670042095-669932061-33497)
STRYKERNET\Net_Access 3 (NT:S-1-5-21-2135248159-670042095-669932061-28077)
STRYKERNET\EndoEngineering (NT:S-1-5-21-2135248159-670042095-669932061-4337)
SPR\inet System Users (NT:S-1-5-21-2109753547-301993053-621696214-4434)
SPR\SPR Wireless Users (NT:S-1-5-21-2109753547-301993053-621696214-10842)
STRYKERNET\EndoscopyCAPA-R (NT:S-1-5-21-2135248159-670042095-669932061-28105)
STRYKERNET\dptOperations (NT:S-1-5-21-2135248159-670042095-669932061-2428)
STRYKERNET\CERTSUC_DCOM_ACCESS (NT:S-1-5-21-2135248159-670042095-669932061-30113)
STRYKERNET\dptVideo (NT:S-1-5-21-2135248159-670042095-669932061-2445)
STRYKERNET\Vault Users Read Only (NT:S-1-5-21-2135248159-670042095-669932061-2466)
STRYKERNET\dptUIdProd (NT:S-1-5-21-2135248159-670042095-669932061-2446)
You do not have ClearCase administrative privileges.
C:\Program Files\Rational\ClearCase\etc\utils>
```

In addition to displaying the login domain\username, with its SID, both that username's primary group, and up to 32 secondary groups are listed. Keep in mind this limitation of 32 groups; we will refer to it again later. Note the primary group shown above in red outline. This is what Windows domain controller has defined as this user's primary group.

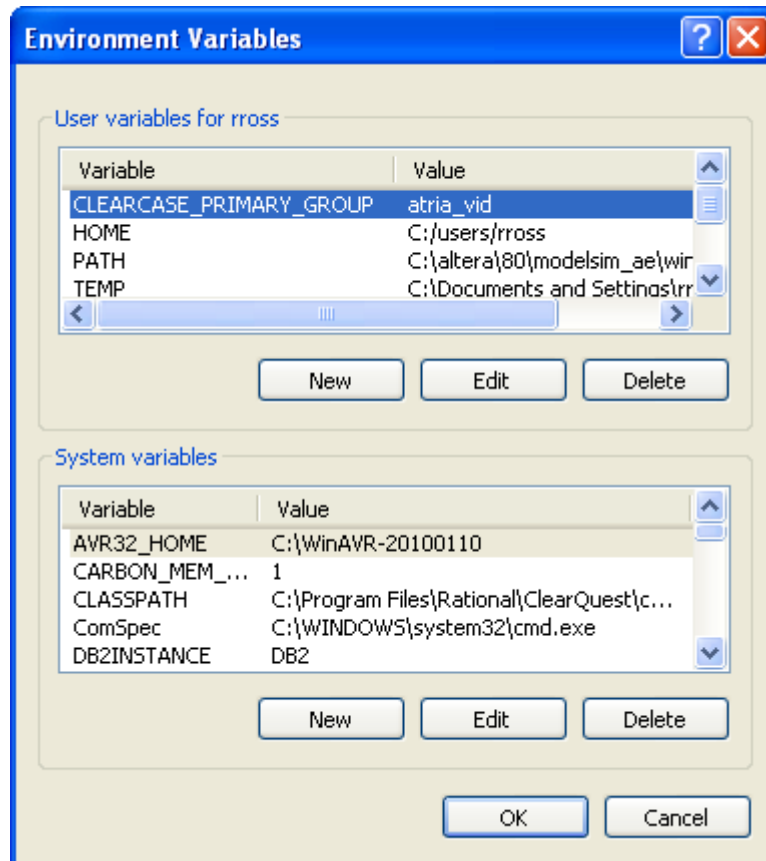
In the example to follow, we will show how we can cause ClearCase to use a different group as the primary group for the user. This is useful and important because when a file is created in ClearCase, it must be assigned a user and group. By default, the group assigned to a new file will be the Windows user primary group.

If a different group is to be used for file creation, we need to specify this group explicitly. In our example, the second group outlined in red – ccusers, is what we want newly created files to have as their group. To accomplish this, we use the CLEARCASE_PRIMARY_GROUP user environment variable.

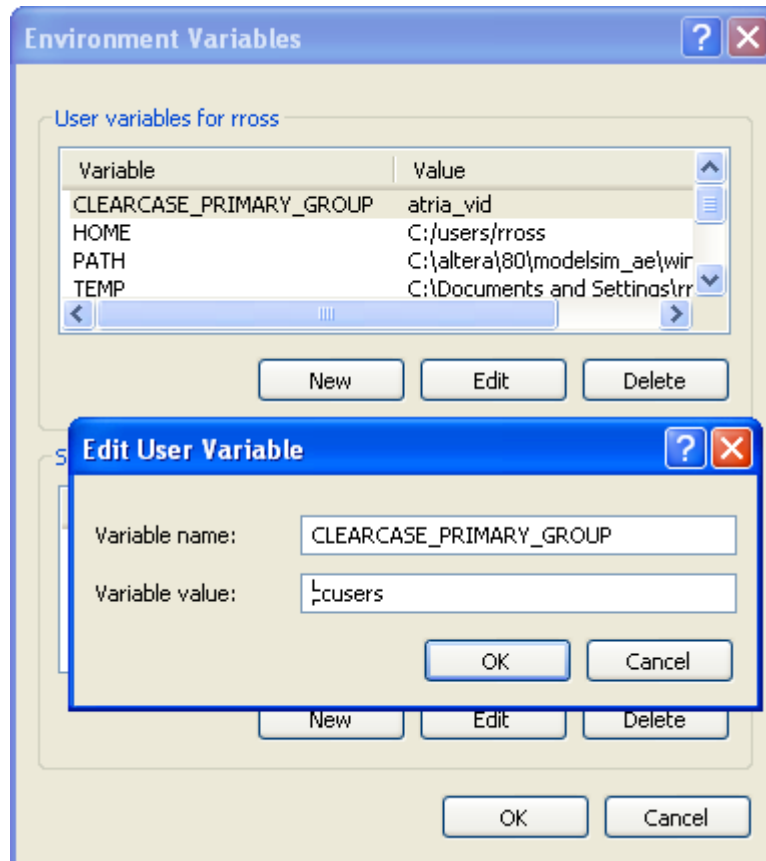
We set this variable in the System Control Panel. Open the System Control Panel, and select the Advanced tab, as shown below.



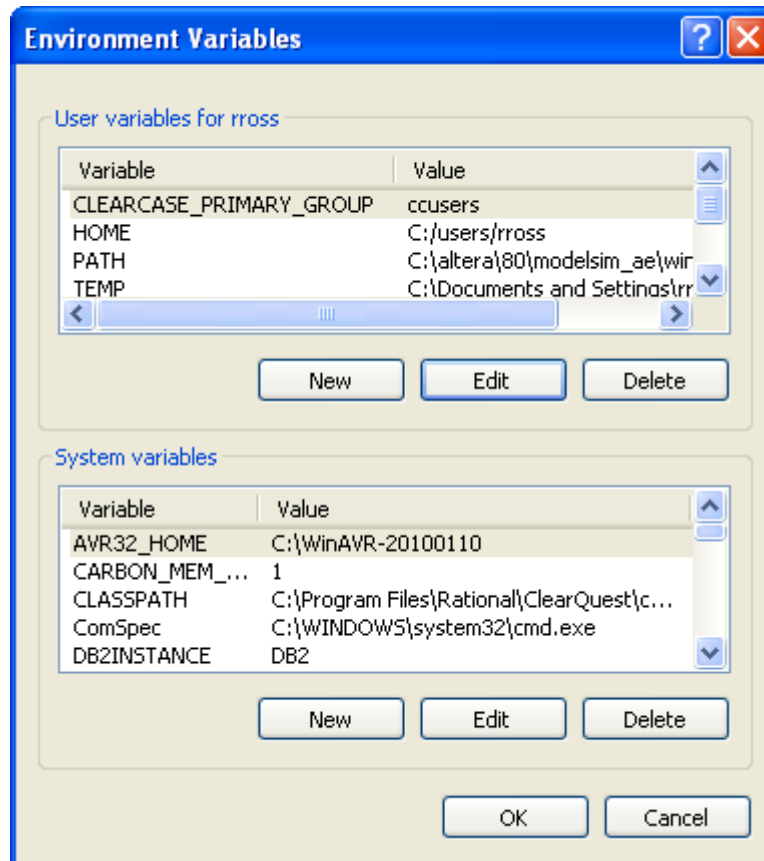
Click on Environment Variables to create an entry. The pop-up for this is shown below.



Here we see that the CLEARCASE_PRIMARY_GROUP variable has already been set to the group atria_vid. In the case of no previous variable, we would click New, but here we click Edit to change the variable. The results of this can be seen in the screenshot below.



Here we have changed the variable value to cusers (the group we mentioned above as the new effective primary group). We click OK on the edit panel, and then click OK again on the Environment Variables panel. We see the results in the next screenshot below.



We see that the CLEARCASE_PRIMARY_GROUP variable now has the value of “ccusers”. In order for the login session to recognize this change, it will be necessary to logout, and then login again. After this is done, we can see the results of running “creds” again in the screenshot below.

```
C:\Program Files\Rational\ClearCase\etc\utils>
C:\Program Files\Rational\ClearCase\etc\utils>creds
Login name:      STRYKERNET\rross
MSID:           NT:S-1-5-21-2135248159-670042095-669932061-30303
Primary group:  STRYKERNET\ccusers (NT:S-1-5-21-2135248159-670042095-669932061-23953)
Groups: (27)
STRYKERNET\Domain Users (NT:S-1-5-21-2135248159-670042095-669932061-513)
Everyone (NT:S-1-1-0)
BUILTIN\Administrators (NT:S-1-5-32-544)
BUILTIN\Users (NT:S-1-5-32-545)
NT AUTHORITY\INTERACTIVE (NT:S-1-5-4)
NT AUTHORITY\Authenticated Users (NT:S-1-5-11)
LOCAL (NT:S-1-2-0)
STRYKERNET\Endoscopy Rational Users (NT:S-1-5-21-2135248159-670042095-669932061-16032)
STRYKERNET\EngLabulan18 (NT:S-1-5-21-2135248159-670042095-669932061-37741)
STRYKERNET\atria_vid (NT:S-1-5-21-2135248159-670042095-669932061-15953)
STRYKERNET\atria_camera (NT:S-1-5-21-2135248159-670042095-669932061-18640)
STRYKERNET\ACL_SCC_Operations (NT:S-1-5-21-2135248159-670042095-669932061-30043)
STRYKERNET\Endo_WiFi_Access (NT:S-1-5-21-2135248159-670042095-669932061-33316)
STRYKERNET\PLMUsers (NT:S-1-5-21-2135248159-670042095-669932061-33265)
STRYKERNET\TotalEndoscopyUPN (NT:S-1-5-21-2135248159-670042095-669932061-34837)
STRYKERNET\uppinhouse (NT:S-1-5-21-2135248159-670042095-669932061-40002)
STRYKERNET\spkeng (NT:S-1-5-21-2135248159-670042095-669932061-32203)
STRYKERNET\Net_Access_3 (NT:S-1-5-21-2135248159-670042095-669932061-28077)
STRYKERNET\EndoEngineering (NT:S-1-5-21-2135248159-670042095-669932061-4337)

SPR\iNET System Users (NT:S-1-5-21-2109753547-301993053-621696214-4434)
SPR\SPR Wireless Users (NT:S-1-5-21-2109753547-301993053-621696214-10842)
STRYKERNET\EndoscopyCAPA-R (NT:S-1-5-21-2135248159-670042095-669932061-28105)

STRYKERNET\dptOperations (NT:S-1-5-21-2135248159-670042095-669932061-2428)
STRYKERNET\CERTSUC_DCOM_ACCESS (NT:S-1-5-21-2135248159-670042095-669932061-30113)
STRYKERNET\dptVideo (NT:S-1-5-21-2135248159-670042095-669932061-2445)
STRYKERNET\Vault Users Read Only (NT:S-1-5-21-2135248159-670042095-669932061-2466)
STRYKERNET\dptUIdProd (NT:S-1-5-21-2135248159-670042095-669932061-2446)

You do not have ClearCase administrative privileges.
C:\Program Files\Rational\ClearCase\etc\utils>
```

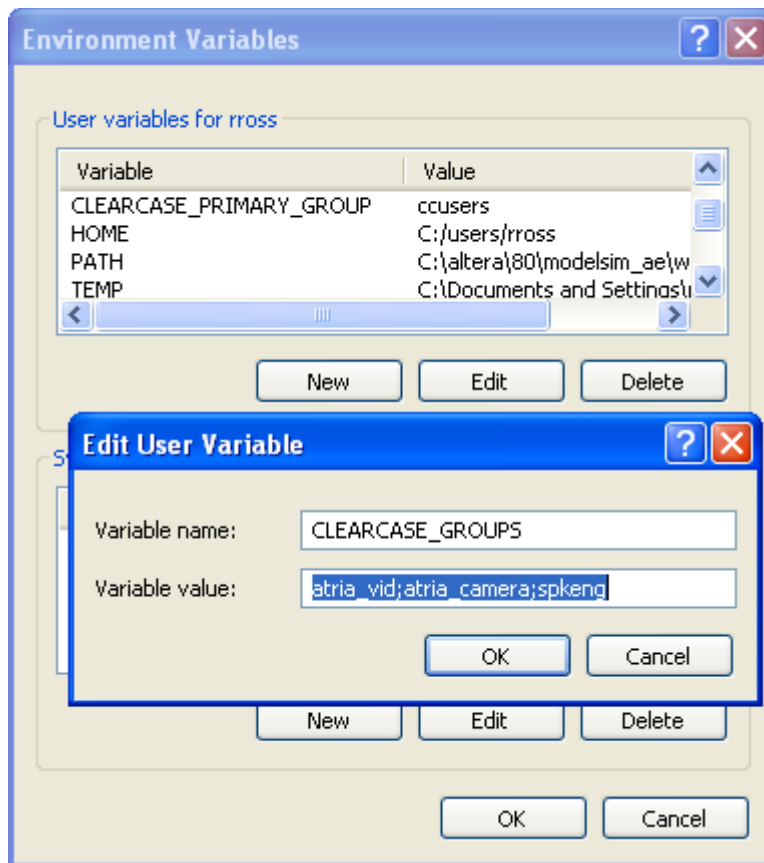
After logging in again and running creds, we see that the primary group has changed and is now shown as “ccusers”. The former primary group, atria_vid, has been relegated to secondary status. Any new files created by ClearCase will now be assigned the group “ccusers”.

We next turn to the topic of how secondary groups are used, and also how this use can be influenced by a secondary environment variable – CLEARCASE_GROUPS. First, let’s note the secondary groups outlined in red in the above screenshot. Also, let’s note the number of group (27) shown near the top of the screen.

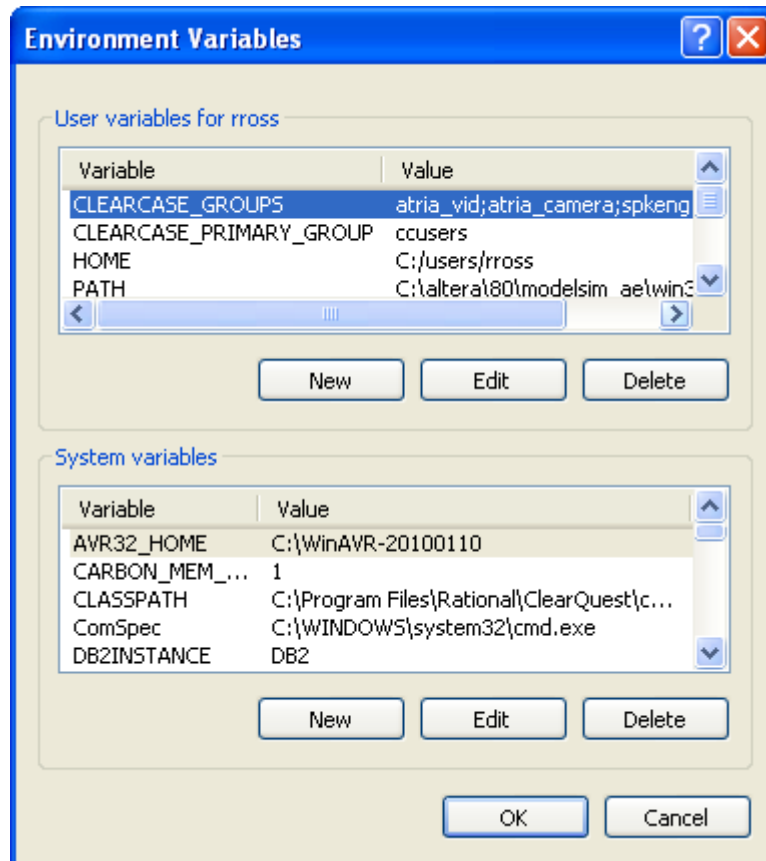
Under Windows, ClearCase has a limitation of only recognizing a maximum of 32 groups. It is not uncommon for a user to be a member of more groups than this. If some

of these groups were not included in the 32 groups seen by ClearCase, they will not be recognized and used by ClearCase. In the case above, there are 27 groups. If there were 6+ additional groups, some will not be seen by ClearCase, for example.

This matters because some VOB elements may be owned by a group other than the user's primary group. In order for these VOB elements to be visible to the user, the group must be recognized. The solution to this issue is the CLEARCASE_GROUPS variable. We set this variable to a list of secondary groups that we want ClearCase to always recognize. We again use the System Control Panel to accomplish this.



Here we have created a new user environment variable – CLEARCASE_GROUPS, with the assigned value being the desired groups, separated by semi-colons. The result can be seen below in the System Control Panel.



We now have both variables defined as User Variables. There are a few things worth noting at this point. First, these must be User Variables, and not System Variables. It might be tempting to define these as system variables so all users will inherit them, and have done with it. But this can result in system instability and crashes, not a good thing!

The next point is regarding the form of the variable values. We have shown them defined with the simple group names. It is also possible to define them as DOMAIN\group, which could be advisable in the case where a shop has multiple domains to contend with. Defining the variables in this way would explicitly specify which user domain group is being referenced. This is recommended as a best practice.

As before, it is necessary to logout, then login again to acquire the variable changes. The results of this latest variable addition can be seen in the output of the “creds” command in the next screenshot below.

```

C:\WINDOWS\system32\cmd.exe
C:\Program Files\Rational\ClearCase\etc\utils>
C:\Program Files\Rational\ClearCase\etc\utils>creds
Login name:      STRYKERNET\rross
USID:           NT:S-1-5-21-2135248159-670042095-669932061-30303
Primary group:  STRYKERNET\ccusers (NT:S-1-5-21-2135248159-670042095-669932061-23953)
Groups: (22)
STRYKERNET\atria_vid (NT:S-1-5-21-2135248159-670042095-669932061-15953)
STRYKERNET\atria_camera (NT:S-1-5-21-2135248159-670042095-669932061-18640)
STRYKERNET\spkeng (NT:S-1-5-21-2135248159-670042095-669932061-32203)
BUILTIN\Users (NT:S-1-5-32-545)
NT AUTHORITY\INTERACTIVE (NT:S-1-5-4)
NT AUTHORITY\Authenticated Users (NT:S-1-5-11)
LOCAL (NT:S-1-2-0)
STRYKERNET\Endoscopy Rational Users (NT:S-1-5-21-2135248159-670042095-669932061-16032)
STRYKERNET\EngLabvln18 (NT:S-1-5-21-2135248159-670042095-669932061-37741)
STRYKERNET\Domain Users (NT:S-1-5-21-2135248159-670042095-669932061-513)
Everyone (NT:S-1-1-0)
STRYKERNET\ACL_SCG_Operations (NT:S-1-5-21-2135248159-670042095-669932061-30043)
STRYKERNET\Endo_WiFi_Access (NT:S-1-5-21-2135248159-670042095-669932061-33316)
STRYKERNET\PLMUsers (NT:S-1-5-21-2135248159-670042095-669932061-33265)
STRYKERNET\TotalEndoscopyUPN (NT:S-1-5-21-2135248159-670042095-669932061-34837)
STRYKERNET\vpninhouse (NT:S-1-5-21-2135248159-670042095-669932061-4002)
BUILTIN\Administrators (NT:S-1-5-32-544)
STRYKERNET\Net_Access 3 (NT:S-1-5-21-2135248159-670042095-669932061-28077)
STRYKERNET\EndoEngineering (NT:S-1-5-21-2135248159-670042095-669932061-4337)
SPR\iNET System Users (NT:S-1-5-21-2109753547-301993053-621696214-4434)
SPR\SPR Wireless Users (NT:S-1-5-21-2109753547-301993053-621696214-10842)
STRYKERNET\EndoscopyCAPA-R (NT:S-1-5-21-2135248159-670042095-669932061-28105)
STRYKERNET\dptOperations (NT:S-1-5-21-2135248159-670042095-669932061-2428)
STRYKERNET\CERTSVC_DCOM_ACCESS (NT:S-1-5-21-2135248159-670042095-669932061-30113)
STRYKERNET\dptVideo (NT:S-1-5-21-2135248159-670042095-669932061-2445)
STRYKERNET\Vault Users Read Only (NT:S-1-5-21-2135248159-670042095-669932061-2466)
STRYKERNET\dptUIdProd (NT:S-1-5-21-2135248159-670042095-669932061-2446)
You do not have ClearCase administrative privileges.
C:\Program Files\Rational\ClearCase\etc\utils>

```

Here we see that the previously marked variables have now moved up to the top of the secondary group list. This would obviously be the case with any groups that had been included in with any exceeding the 32 group limit. The CLEARCASE_GROUPS variable is a handy way of insuring that groups needed for ClearCase operations never fall of the end of the list.

So, to summarize, the two variables have different but complementary purposes. CLEARCASE_PRIMARY_GROUP defines the group that will be used to create new VOB elements, not leaving this to whatever the default might be. CLEARCASE_GROUPS insures that all groups important to ClearCase operations are always visible to ClearCase. We recommend that ClearCase administrators become familiar with both groups and use them as needed!