

BEHIND THE SCENES OF ZENWORKS TREE WALKING

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Before getting into the steps of how ZEN “tree walks”, let’s take a look at what NWAdmin32 fields are associated to what NDS schema attributes to better understand what is involved.

Container Policy Package (Search Policy)	
NWAdmin32 Property/Field	NDS Attribute
Search For Policies Up To	DM:Search Type Valid Values: 0 = [Root] 1 = Object Container 2 = Partition 3 = Selected Container If 3 is chosen, value will be that of the container specified. The NDS attribute used is DM:Search DN
Search Level	DM:Search Levels Valid Values: number specified The number specified anchors on the value specified for DM:Search Type or DM:Search DN
Policy Search Order	DM:Search Order Valid Values: 0 = Object 1 = Group 2 = Container Can be in any order or matching or all.

=> When any Policy Package is associated to a valid object, that association populates the [DM:Policy](#) attribute of that object.

The following is based on the default settings of the client (Workstation Manager installed); the default settings of a Container Policy Package (Search Policy) and that the workstation has been imported. These steps only reflect client tree walking and not NAL tree walking.

Step #:

1. PC boots to a login prompt
2. The Workstation Manager checks the Workstation object’s [DM:Policy](#) attribute to see if it has an association to it. It will then continue its search based on the Container Policy Package’s Search Policy. The default is Object, Group, then Container. The container search will go all the way up to [Root] by default. If any policies are scheduled to run at this time, they will.
3. User logs in: Pre-login script
4. Workstation Manager checks the User and Workstation object’s [DM:Policy](#) attribute to see if has an association to it. It will continue its search based on the Container Policy Package’s Search Policy. The default is Object, Group, and Container. The container search will go all the way up to [Root] by default. If any policies are scheduled to run at this time, they will.
 Examples of policies that are executed normally at this time: Dynamic Local User (user), 9x/NT User System Policy (user), Restrict Login (workstation), 9x/NT Desktop Preferences (user).
5. Login script is executed.
6. Post login script/desktop initialization occurs.

7. Workstation Manager checks the User and Workstation object's **DM:Policy** attribute to see if has an association to it. It will continue its search based on the Container Policy Package's Search Policy. The default is Object, Group, and Container. The container search will go all the way up to [Root] by default. If any policies are scheduled to run at this time, they will. Examples of policies that are executed normally at this time: Inventory (workstation), Client Configuration (workstation), Import Policy (user).

NOTES:

- If a group or container is located outside that object's partition, the Workstation Manager must locate and connect to a server that holds a replica of this partition.
- Although Novell acknowledges at least 4 walks to the [Root] by default, using a packet sniffer has revealed that this tree walking can occur quite a bit more than this.

SUMMARY:

As you can see, the Workstation Manager's search process is quite intensive and does quite a bit of tree walking to apply policies. Having a Container Search Policy correctly created can reduce a great deal of this traffic and avoid major problems associated with it, especially in a large WAN environment.