MFP

TT-20352

TECHNICAL TIP

Models: MX-M283N/MX-M363N/MX-M453N/MX-M503N
MX-M623N/MX-M753N
MX-4100N/MX-4101N/MX-5001N
MX-2610N/MX-3110N/MX-3610N
MX-4110N/MX-4111N/MX-5110N/MX-5111N

Priority: Medium

Date: September 2011

Subject: **How to Integrate User Control with Active Directory**

Description: This document shows how to integrate User Control with Active Directory Attributes

Details: Follow the steps in this document to get User Control to use Active Directory to set up the MFP so that the Page Limit, Authority and Favorite Operation Groups can each be applied to network users when they log into the MFP.

Note: The procedure is shown below; the rest of the document shows the steps and examples in more detail.

The following procedure can be used to successfully integrate MFP User Control with Windows Active Directory by using LDAP Server Access Control on the supported models:

Procedure

1. Determine Active Directory User Attributes to be used as field values in a custom LDAP server setup for authenticating network users.
2. Create Page Limit, Authority and Favorite Operation Groups on the MFP to meet the customer's requirements.
3. Create a new Global Address Book with a Custom LDAP Server setup on the MFP using the desired active directory user attributes for the group field names from Step 1 under the Linkage with User Control Function.
4. Enable User Control with login name and password on the MFP using the custom LDAP server as the Default Network Authentication Server and enable LDAP Server Access Control.
5. Update user attributes in Active Directory for each user to reflect the Page Limit, Authority and Favorite Operation Groups created on the MFP.
6. Use Device Cloning to save the appropriate settings to the other MFPs if multiple MFPs of the same type will be used in the same network.

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Integrating Sharp MFP User Control with Active Directory User Attributes

A feature has been added to the newest Sharp products that allow the MFP User Control Function to integrate with Windows Active Directory User Attributes. This feature is called LDAP Server Access Control and it permits controlling network users in the same manner as users created locally on the MFP. The Page Limit Group, Authority Group and Favorite Operation Group can each be applied to network users when they log into the MFP.

Page Limit Group - Limits the number of prints, scans and copies the user can make.

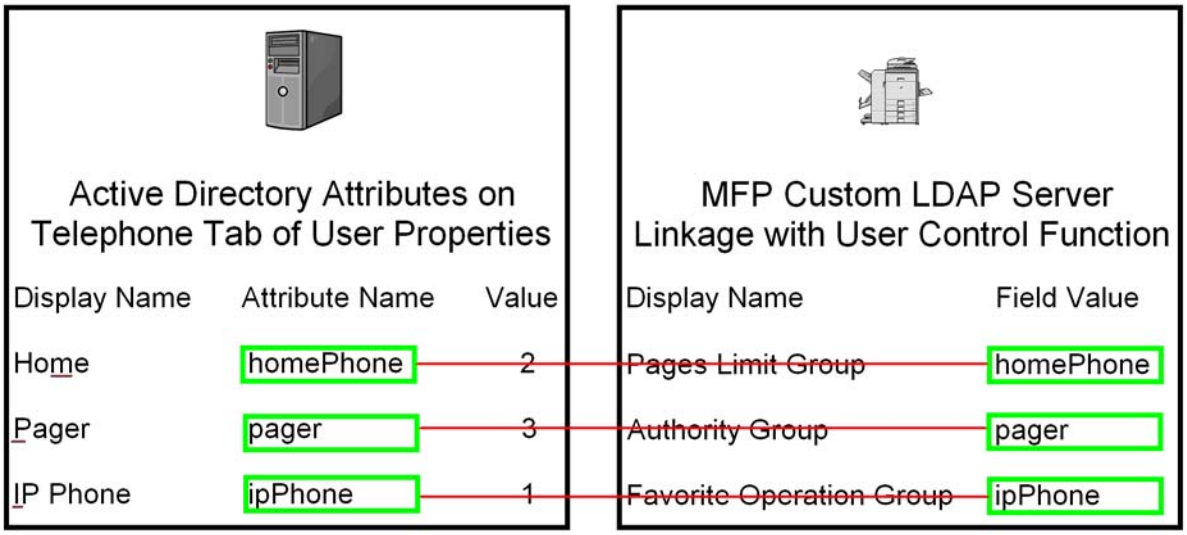
Authority Group – Controls what functions the user can access on the MFP.

Favorite Operation Group – Customizes the MFP display presented to the user on login.

Currently, the Sharp MX-4100/4101/5001, MX-M283/363/453/503, MX-M623/753, MX-3110/3610 and MX-4110/5111 series support the LDAP Server Access Control feature.

The following diagram shows the relationship between active directory user attributes and the MFP custom LDAP server Linkage with User Control Function field values. The default values of these fields on the MFP are: Page Limit Group = pagelimit; Authority Group = authority and Favorite Operation Group = favorite.

If these default values were used, new attributes with corresponding names would have to be created in Active Directory by the domain administrator by extending the schema. This is a complex procedure rarely undertaken even by domain administrators. However, by utilizing unused user attributes with a custom LDAP server setup on the MFP, no additional effort is required by the administrator to incorporate this feature. Changes would only need to be made on the MFP where the default values of the fields are replaced by the desired unused attributes of the user in active directory as shown below.



In the above case, attributes from the Telephones tab of the user properties are used as links to the MFP user control function fields. The Page Limit Group field is set to homePhone, Authority Group is set to pager and Favorite Operation Group is set to ipPhone on the MFP.

(Note: The attribute names are case sensitive and are not the same as the displayed names.)

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To apply these groups for user control at the MFP only requires the administrator to assign numeric values to the user attributes. These values correspond to the index number of the groups when they are created on the MFP. In the above example, the value of 2 for the homePhone corresponds to the second Page Limit Group created; the value of 3 for pager corresponds to the third Authority Group created; and a value of 1 for ipPhone corresponds to the first Favorite Operation Group created.

Each network users experience after logging into the MFP can be varied by changing the values of the user's attributes in active directory. Windows Script Host programming can be used to perform batch updates to user attributes based on the customer's criteria. The following screens show some of the possible logins based on LDAP Server Access Control.

1. Network user attempting to copy in color but restricted to black and white copies only.

Figure 1

2. Network user who has requested that the display language and keyboard be in Russian.

Figure 2

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3. Network user who has requested that MFP display language be in Spanish.

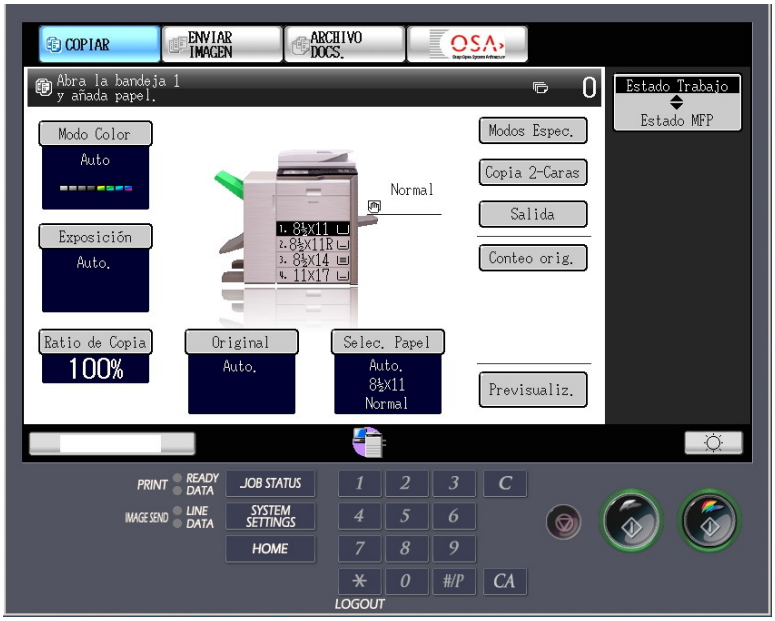

Figure 3

4. Network user who is not allowed to use any function on the MFP.

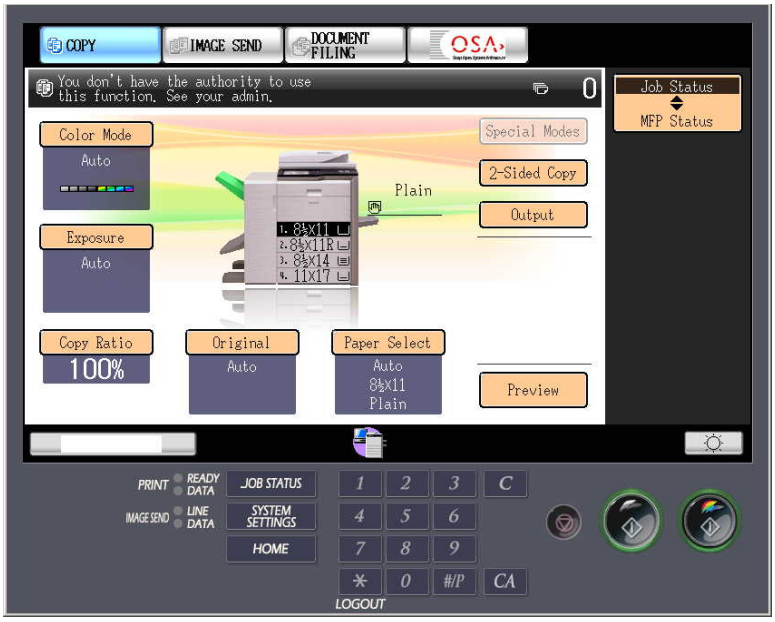

Figure 4

The above login screens are based on the following tutorial using a simplistic scenario and a small number of users for the sake of clarity. All selections made for the various users and groups were arbitrary and used for illustration purposes only.

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The following tutorial details these procedures using two different examples and demonstrates how to fully leverage the built in features of Sharp MFPs without the need of additional software or hardware.

Example Setups of MFP User Control Integrated with Active Directory

Example 1 – Using Attributes from the Telephone Tab of the AD User

In this scenario, a fictitious company (Testers Inc.) is hosted by a single domain controller (Exch2010) with a domain name of TESTDOMAIN.COM. All users except the administrator are members of the TESTUSERS organizational unit within the domain. A new Sharp MX-5001N has been placed and the company has certain requirements for its employees to use it.

The company wants to have all users log into MFP with their network credentials to restrict usage of the MFP. Each user in the organization has a department and job title assigned within active directory. Currently, there are 3 departments (Advertising, Production and Temporary Workers) and 3 job titles (Manger, Staff and Temporary). Department Managers are to have full and unrestricted access to all features of the MFP. Staff members in the Advertising department will have full access to the features of the MFP but color output for printing and copying will be limited. Staff members in the Production department will be restricted to black and white printing and copying but can scan in color. For security purposes, temporary workers are not allowed to use any functions of the MFP even though they have network accounts. Users not assigned a job title or department are also denied access to the MFP.

In addition, some employees speak Russian and others speak Spanish as their first languages. The company wants these employees to be able to see the MFP display instructions in their native languages if they request it.

In this example, unique user rather than organizational attributes are used as these are private values rarely assigned by domain administrators to users. Follow the instructions in the example below to obtain the company's goal.

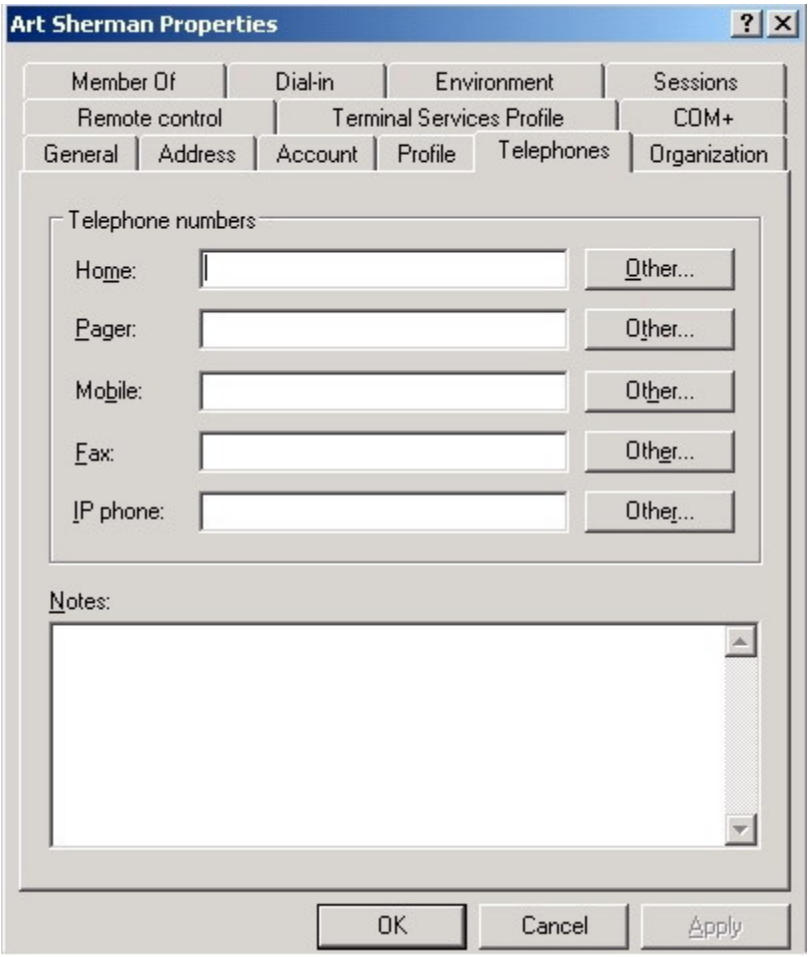
1. Determine Active Directory User Attributes to use as field values.

   NOTE: This step should be completed by the network administrator

   Each user object in Windows Active Directory has a number of attributes contained in it such as login name and password. Many (but not all) of these attributes can be viewed using the Windows Active Directory Computer and User administrative tool on a domain server. All attributes can be viewed and edited by the ADSIEdit.mcs (Active Directory Services Interface Editor) Snapin tool available for download from Microsoft®.

   In this example, commonly unused attributes that can be viewed and edited with the Windows Active Directory Computer and User administrative tool are shown below for the Telephones tab.

   NOTE: Not all attributes need to be on the same tab but it is more convenient for editing.



The actual names of the attributes are different than the names that are shown on the Telephones tab.

Display Name	Attribute Name	Normally Unused
Home	homePhone	Yes
Pager	pager	Yes
Mobile	mobile	No
FAX	facsimileTelephoneNumber	No
IP Phone	ipPhone	Yes

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The following attributes are accessed using the Other button for the individual attributes shown above on the Telephones tab. These particular attributes can contain more than one value. If they are used for field values for the MFP's Custom LDAP Server setup, they can contain only a single value.

otherHomePhone

otherPager

otherMobile

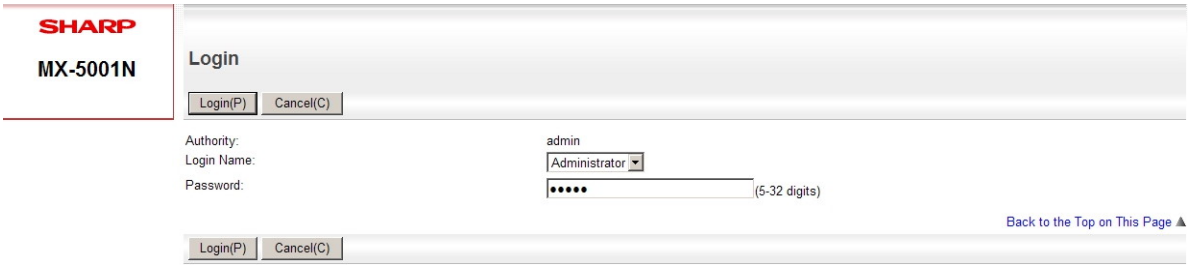
otherFacsimileTelephoneNumber

otherIpPhone

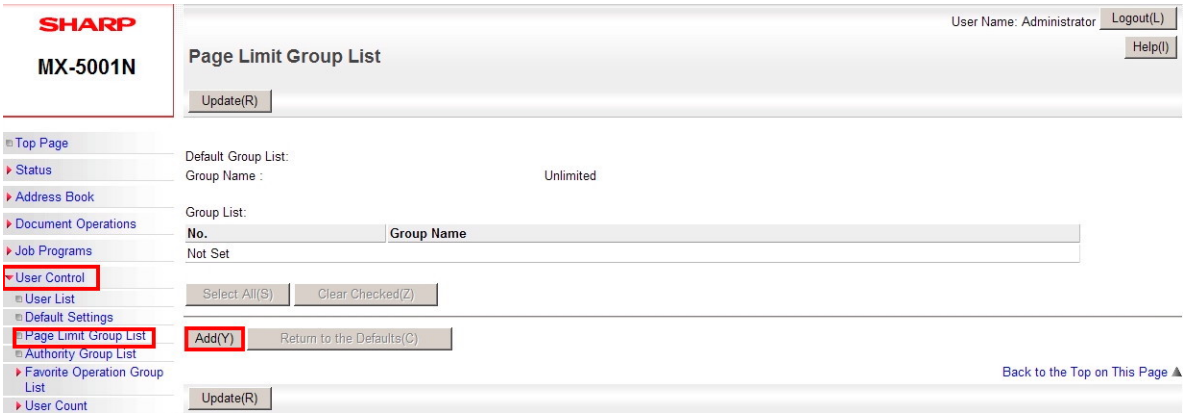
For ease of viewing and editing by the network administrator, the homePhone, pager and ipPhone attributes on the Telephones tab will be used in the MFP Custom LDAP Server setup in a later step.

2. Create Page Limit, Authority and Favorite Operation Groups on the MFP.

   a. Browse to the main web page of the MFP and log in as the Administrator (default password admin).



   b. Click on the User Control, click on Page Limit Group List and then click on the Add button when the page below appears.



   c. Type in a descriptive name for the group in the Group Name field. In this case, type in Unlimited_Group as this group has no restrictions on page limits. As this is the first group being created, the Registration Model drop down box will be at the default value of Unlimited. Leave all page values at Unlimited and click on the Submit button.

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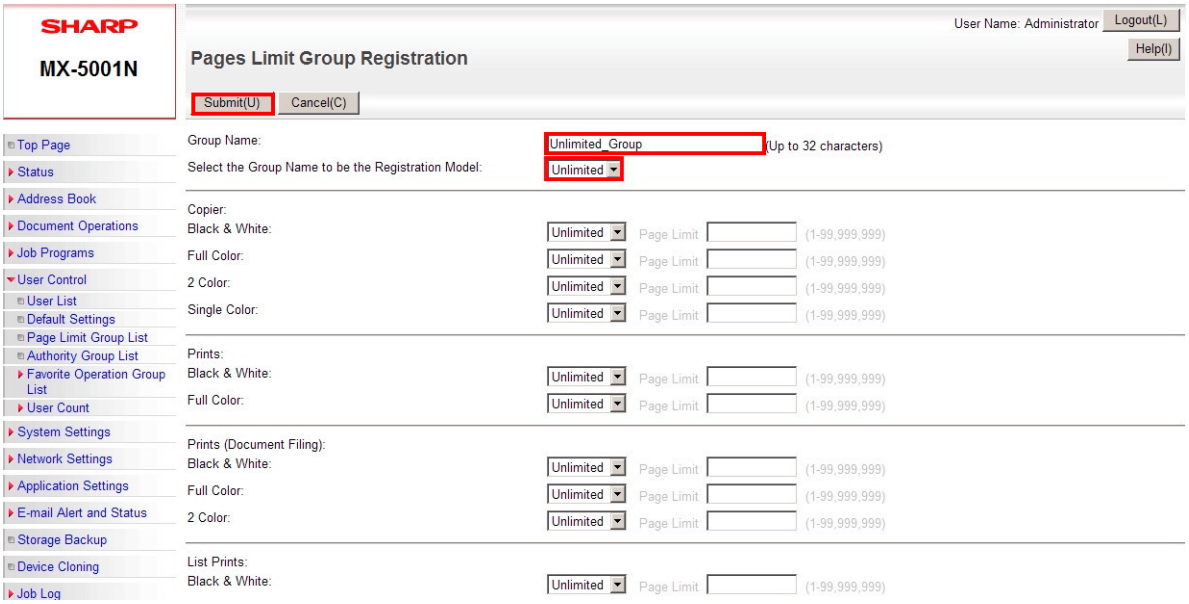
NOTE: Creating an Unlimited_Group is not really required. However, it is done here to make the exercise easier to follow.



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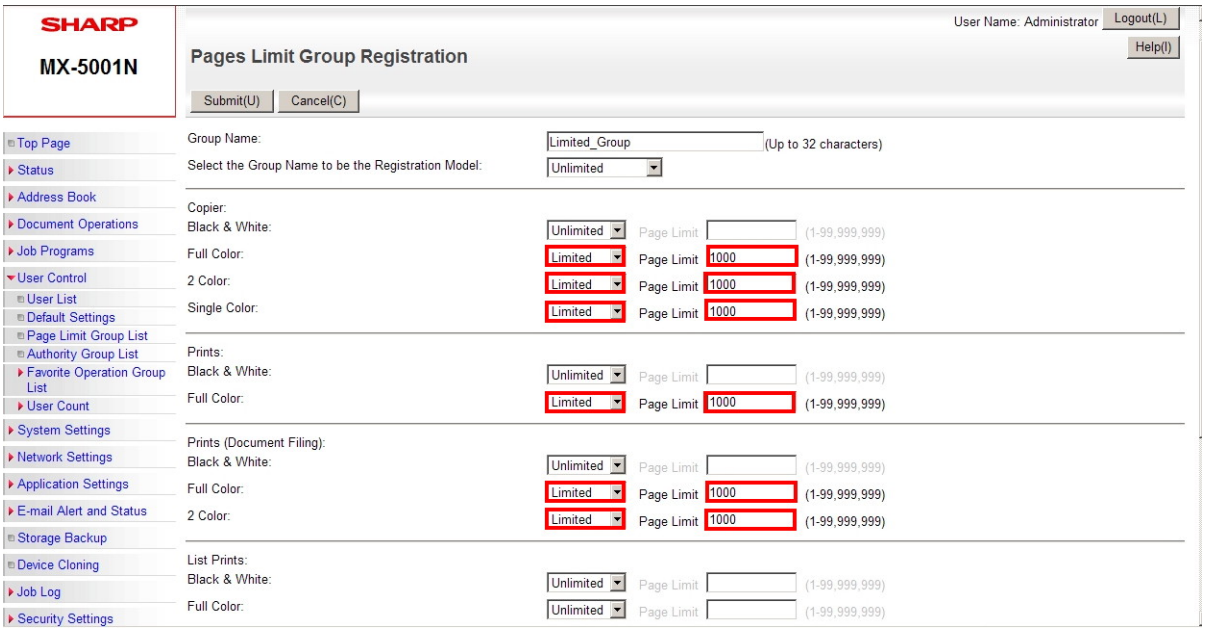
d. At the Page Limit Group List page, click on the Add button to create another group. Next, type Limited_Group for the name of this group. Leave all Black and White Copier, Prints and Prints (Document Filing) as Unlimited. Select Limited for all color modes for printing and copying and set the limit to 1000. Leave List Prints and Scanning at Unlimited. Click on the Submit button when done.



Note that each group is assigned a group number. These numbers will be used for active directory user attributes to assign page limit restrictions to network users.

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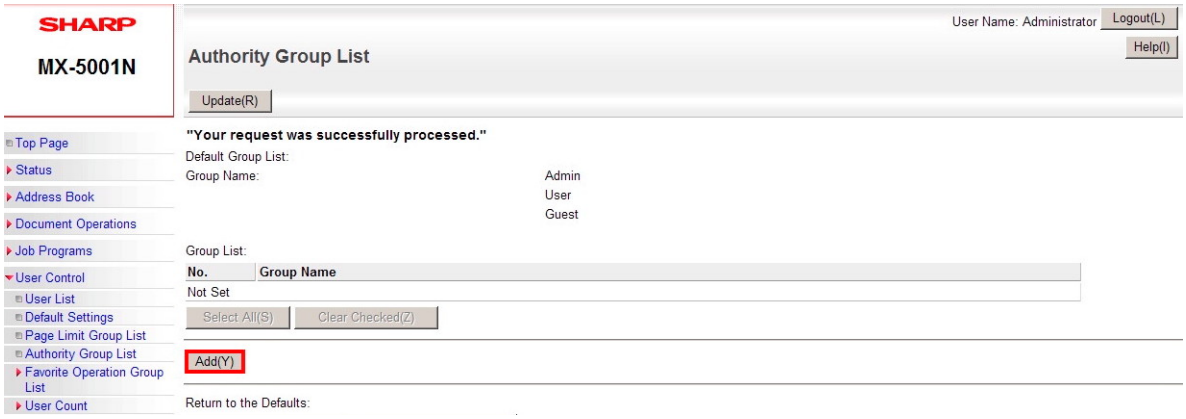
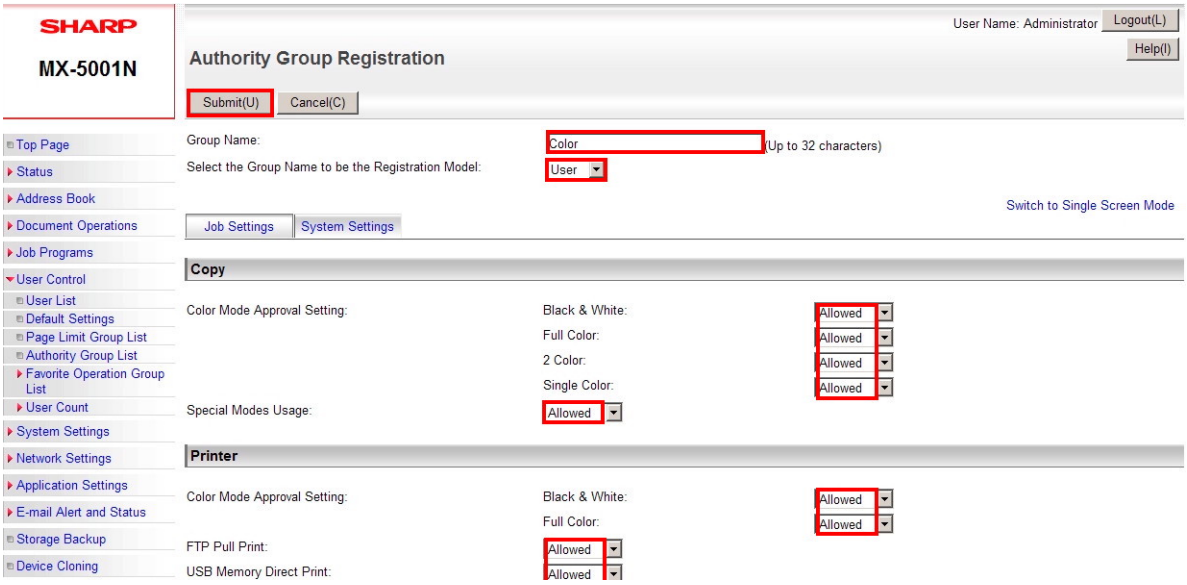
e. Next, click on the Authority Group List and click on the Add button to create the first authority group.



f. Type in Color for the Group Name and select User as the Registration Model. Leave all selections for all modes to Approved and click on the Submit button when done.



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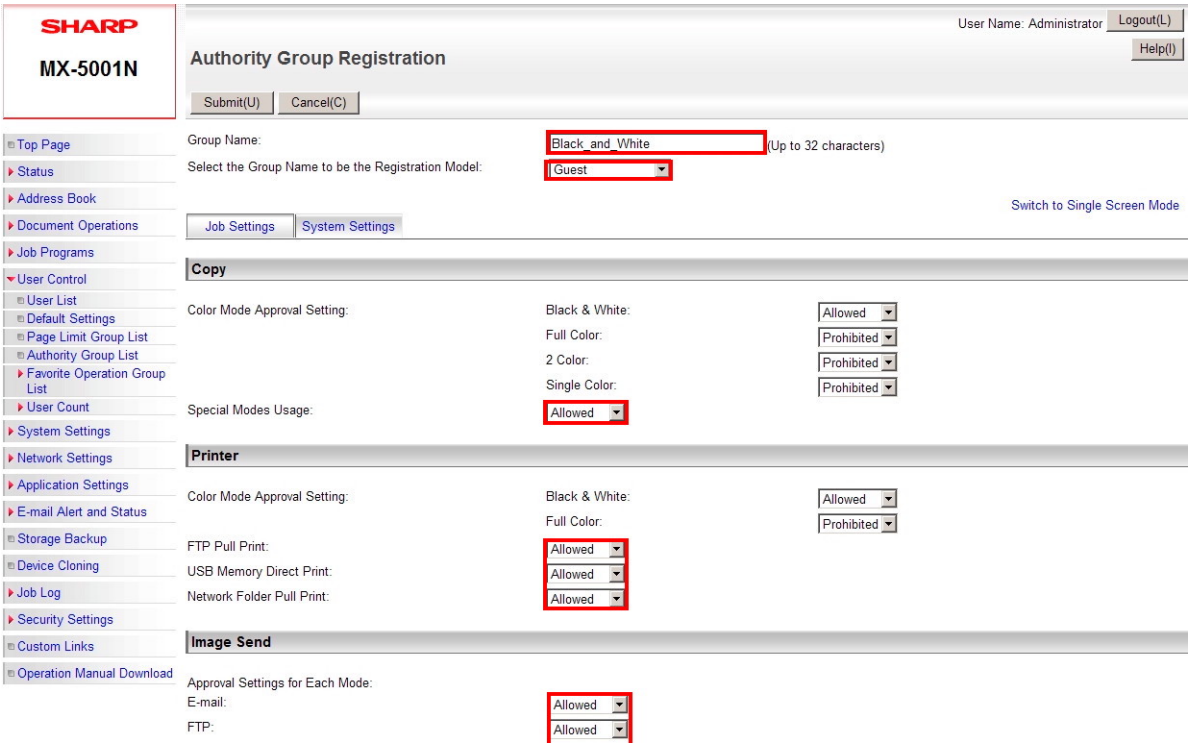
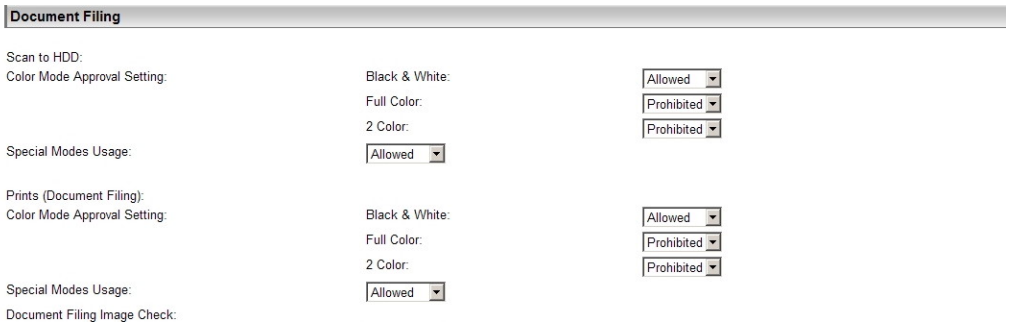
g. Click on the Add button at the Authority Group List page to add the next authority group. Type in Black_and_White as the group name and select Guest as the Registration Model. Ensure that all color modes for copying and printing are set to Prohibited.



h. Under the Document Filing section, select Prohibited for Scan to HDD Color Mode Approval Setting and Prints (Document Filing) Color Mode Approval Setting. Set all other selections on this page to Allowed as this group has access to all MFP functions except printing and copying in color. Click on the Submit button when done.



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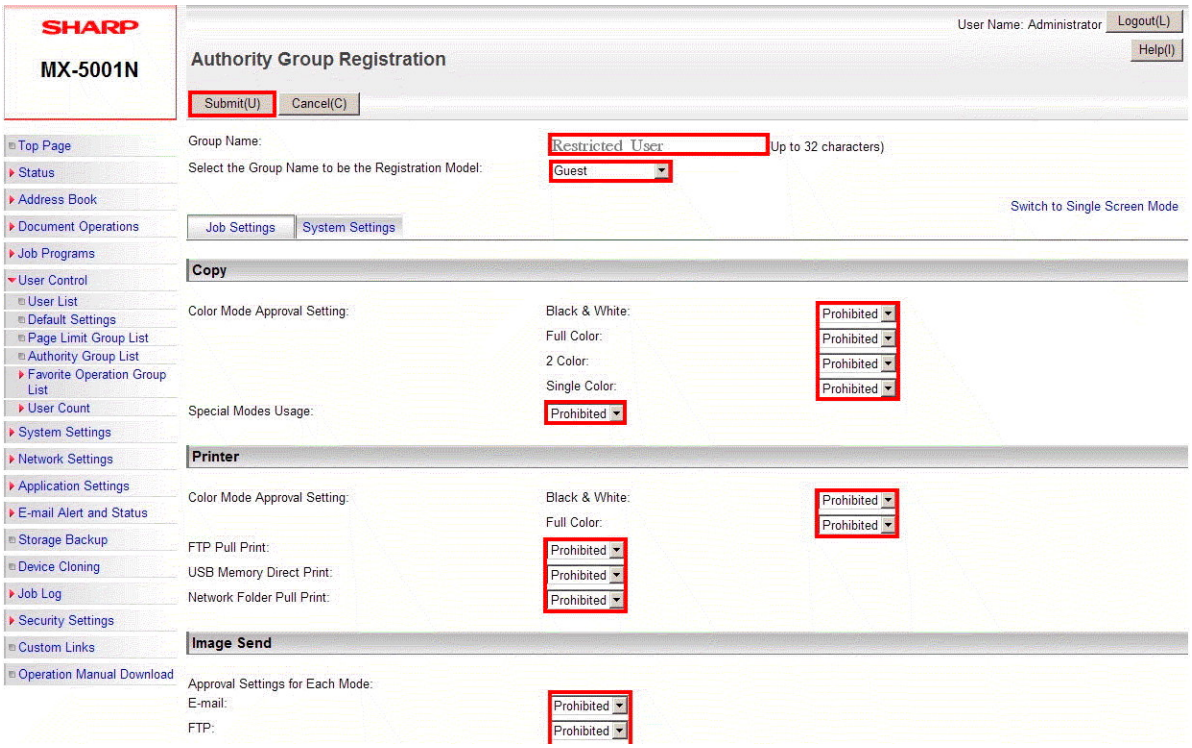
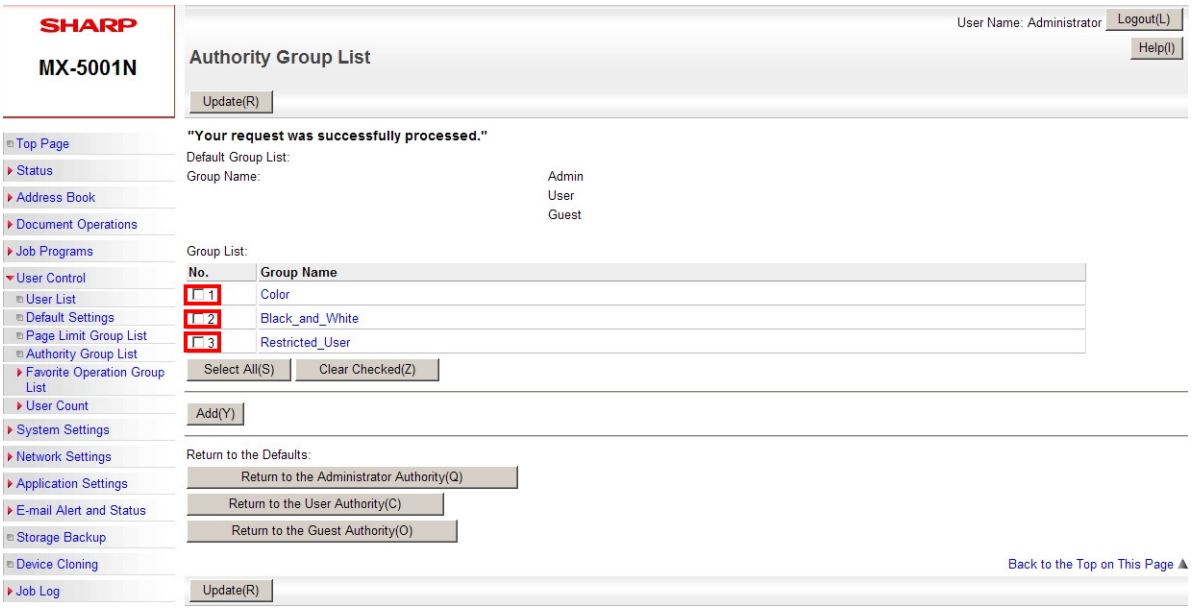
i. Click on the Add button at the Authority Group List page to add the last authority group. Type in Restricted_User as the group name and select Guest as the Registration Model. As this group will be used to prevent unauthorized access to the MFP, set all modes to Prohibited. Click on the Submit button when done.



j. Each authority group name is assigned a group number when created. These numbers will be used with active directory user attributes to control MFP features available to network users.



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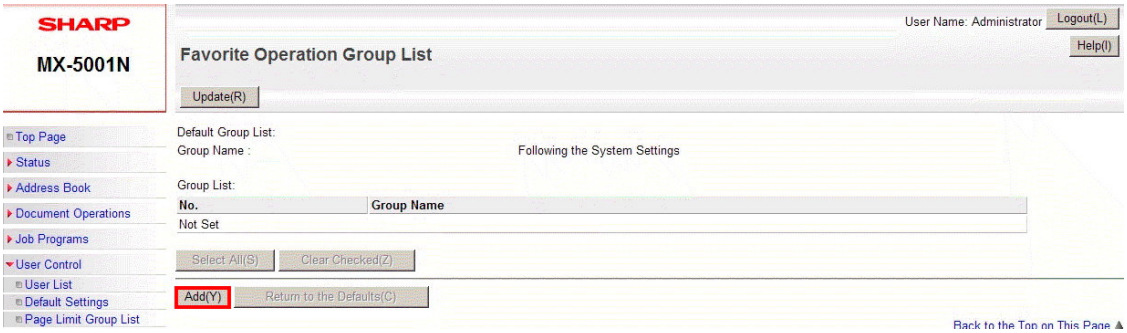
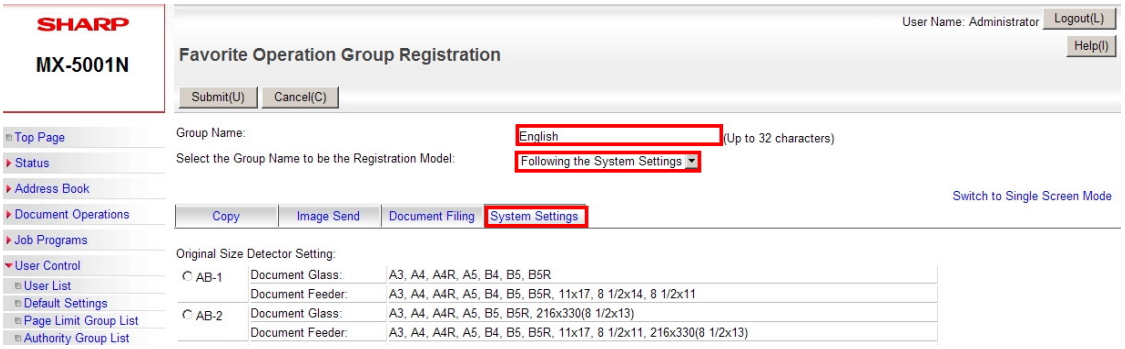
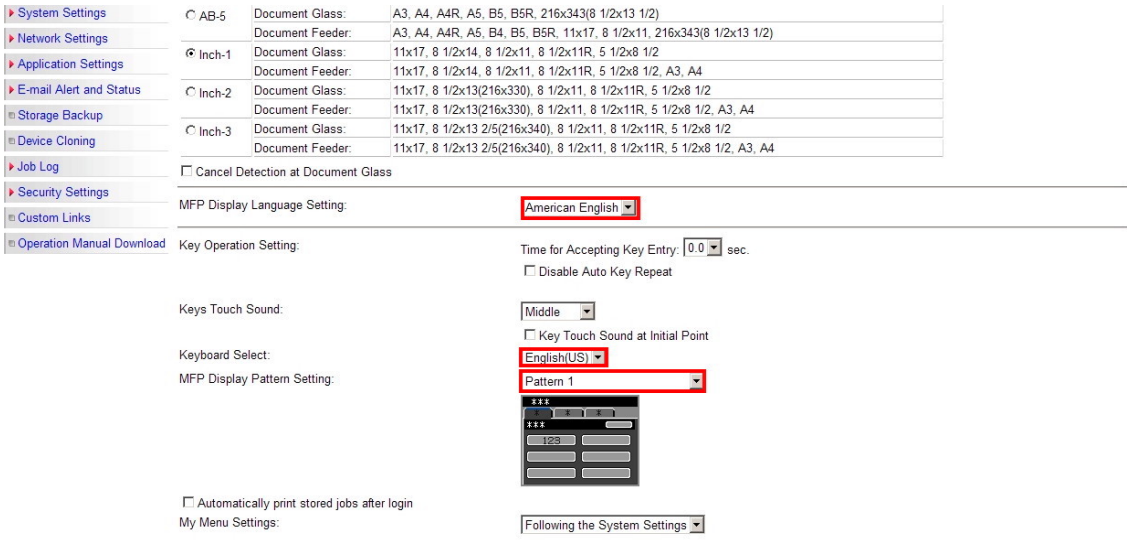
k. Click on the Favorite Operation Group List menu and then click on the Add button to create the first operation group.



l. Type in English for the group name, select Follow the System Settings for the Registration Model and click on the System Settings tab. (As English is the default language used by the MFP, this group does not have to be created but it is included to make the exercise easier to follow.)



m. Scroll down the page until the MFP Display Language Setting selection is seen and ensure American English is selected. For Keyboard Select, select English(US) and set the MFP Display Pattern Setting to Pattern 1. (NOTE: For purposes of this exercise, these are the only changes that will be made although numerous items can be configured for a favorite operation group.) Click on the Submit button when done.



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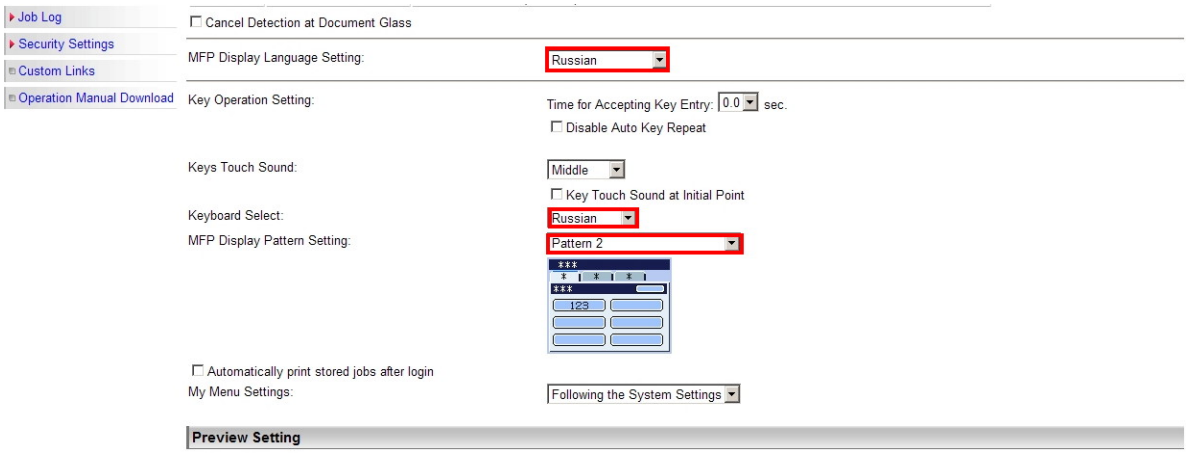
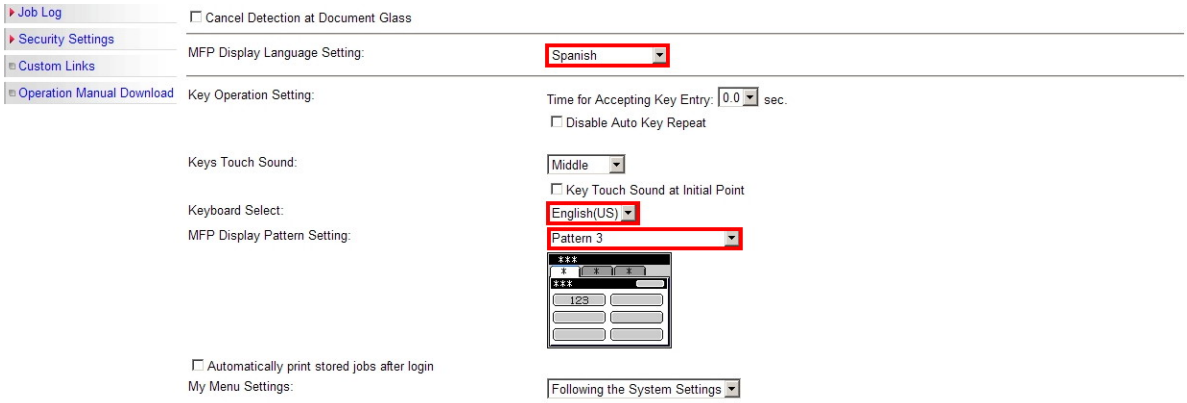
n. Click on the Add button at the Favorite Operation Group List page to create the next operation group. Type in Russian for the group name, select Follow the System Settings for the Registration Model and click on the System Settings tab. Scroll down the page until the MFP Display Language Setting selection is seen and select Russian. For Keyboard Select, select Russian and set the MFP Display Pattern Setting to Pattern 2.Click on the Submit button when done.



o. Click on the Add button at the Favorite Operation Group List page to create the next operation group. Type in Spanish for the group name, select Follow the System Settings for the Registration Model and click on the System Settings tab. Scroll down the page until the MFP Display Language Setting selection is seen and select Spanish. For Keyboard Select, select English(US) and set the MFP Display Pattern Setting to Pattern 3.Click on the Submit button when done.



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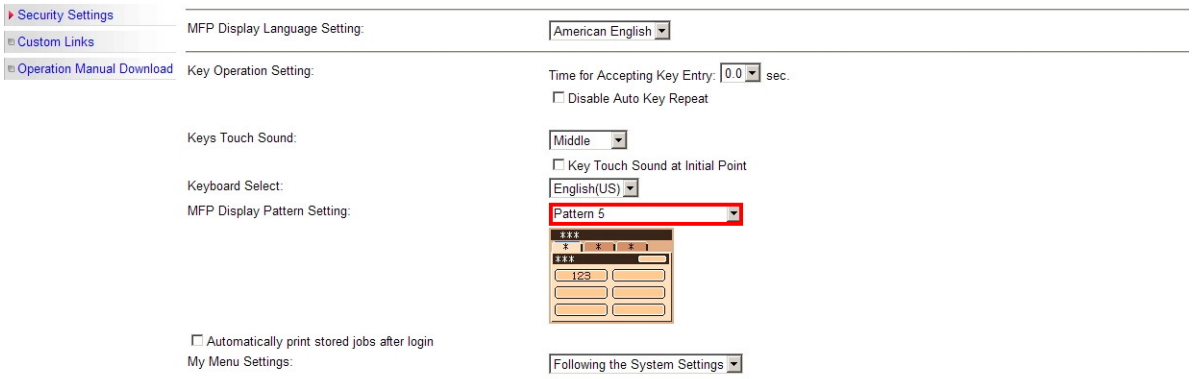
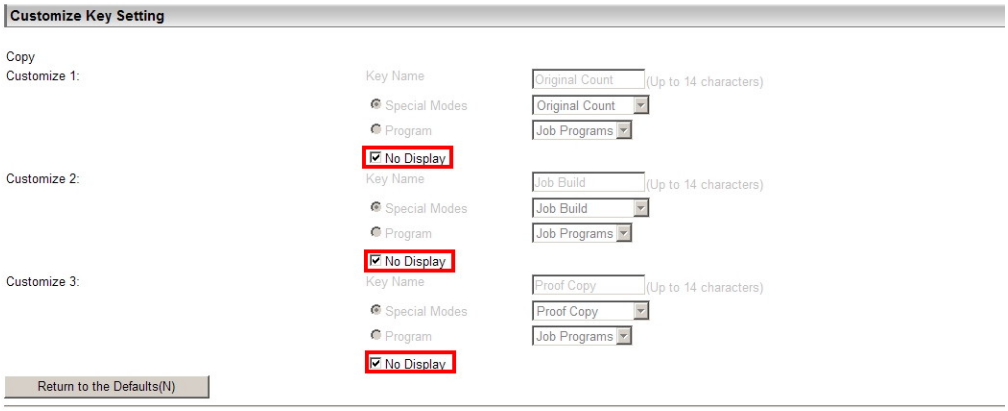
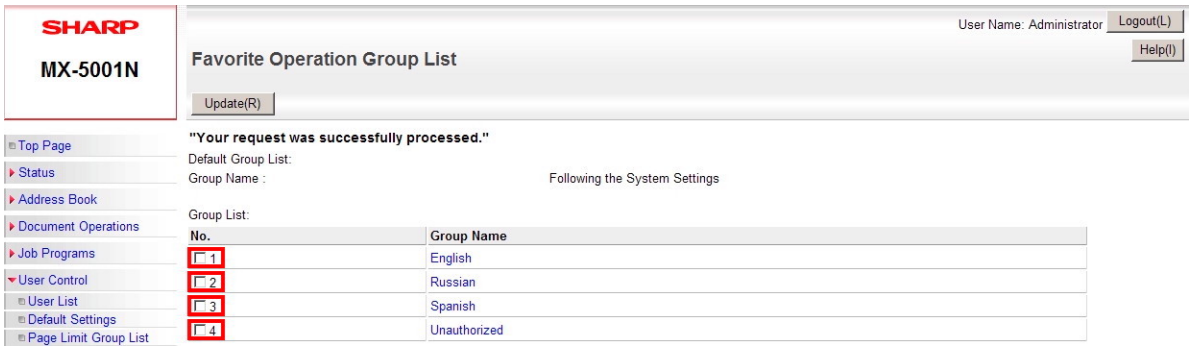
p. Finally, click on the Add button at the Favorite Operation Group List page to create the last operation group. Type in Unauthorized for the group name, select English for the Registration Model and click on the System Settings tab. Scroll down the page and set the MFP Display Pattern Setting to Pattern 5. (This is to provide a visual cue when an unauthorized user logs into the MFP.)



q. Enable the check boxes next to No Display for all custom keys on this page. Click on the Submit button when done.



r. As with all other groups, numbers are assigned to the favorite operations groups. These numbers will be used for active directory user attributes to assign custom display panels to network users.



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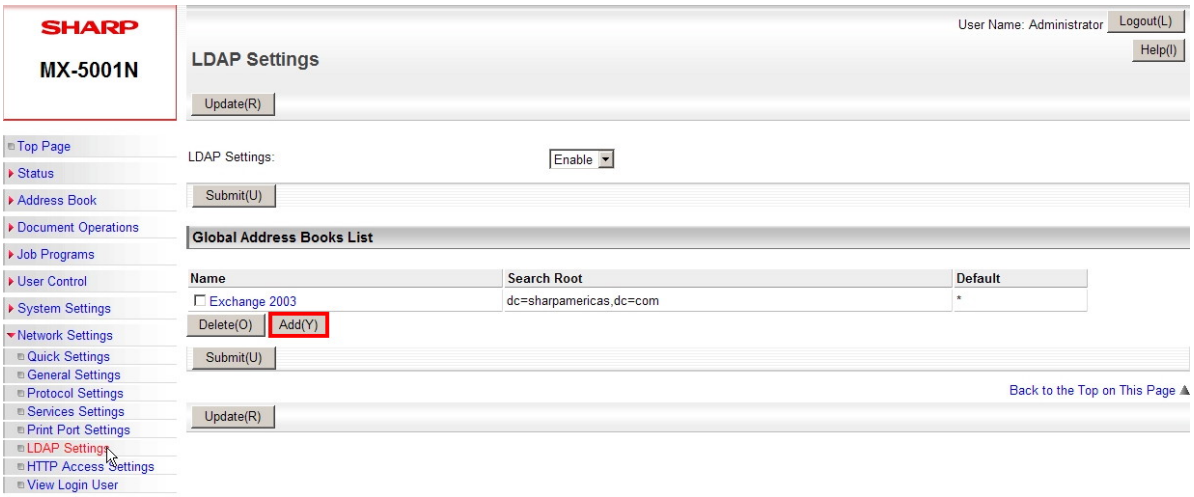
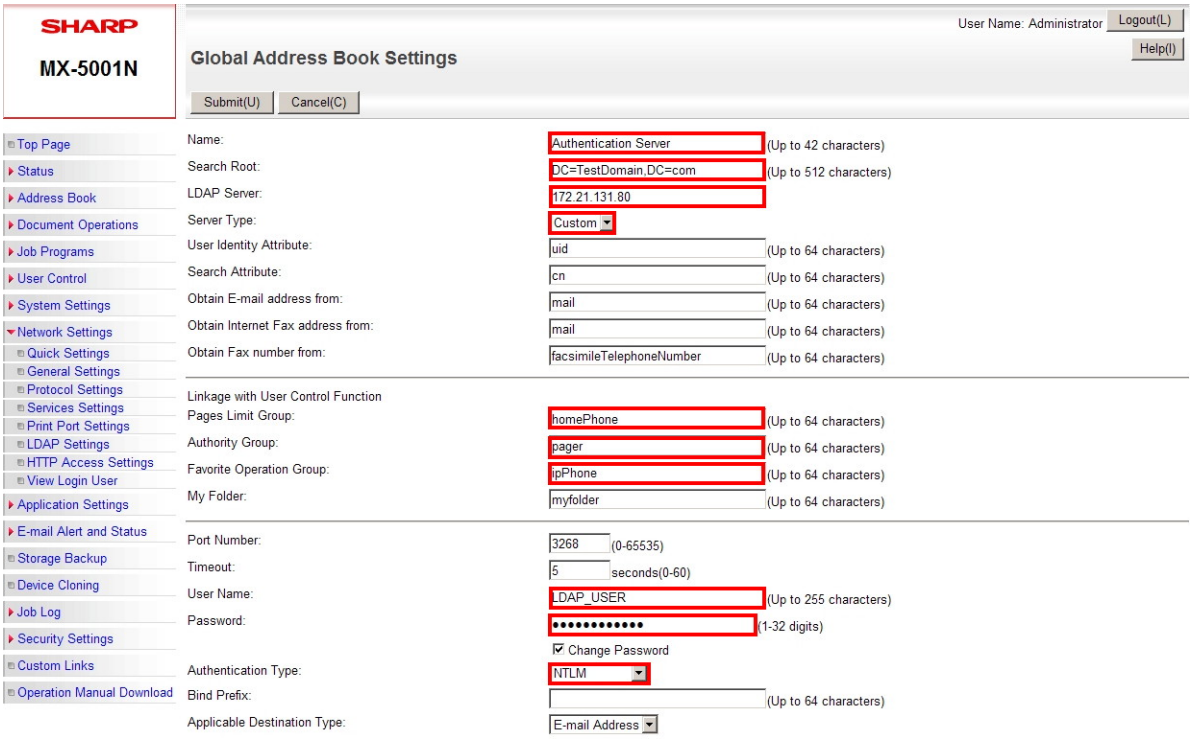
3. Create a new Global Address Book with a Custom LDAP Server on the MFP and link it with the User Control Function.

   a. On the main Web page of the MFP, click on Network Settings, click on LDAP Settings and then click the Add button to create a new Global Address Book.



   b. Fill in the appropriate values for the LDAP server being connected to, select Custom for the Server Type drop down box and enter the attribute names that will be used for Linkage with User Control Function. In this example, the Page Limit Group field is set to homePhone, the Authority Group field is set to pager and the Favorite Operations Group field is set to ipPhone. Complete the rest of the required LDAP settings and click on the Submit button when done.



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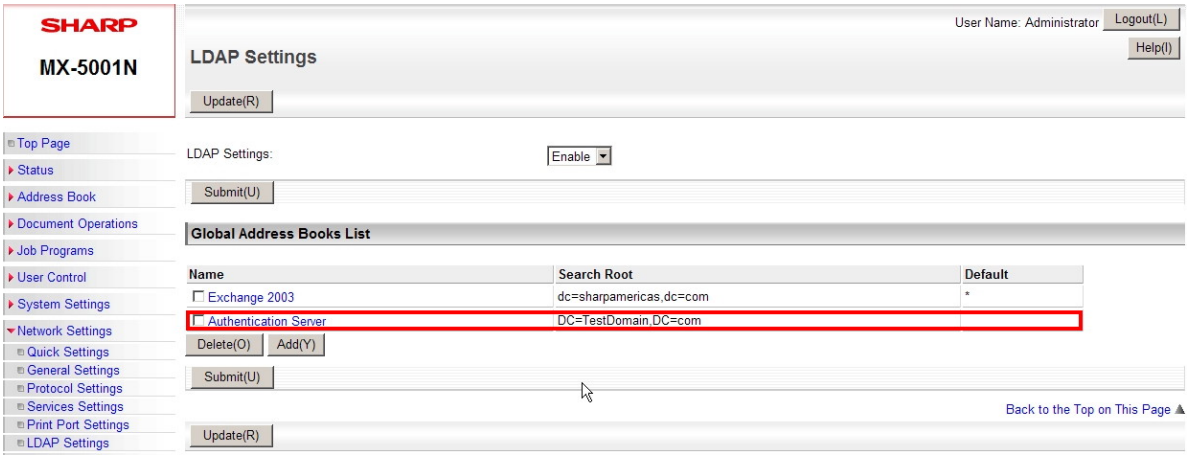
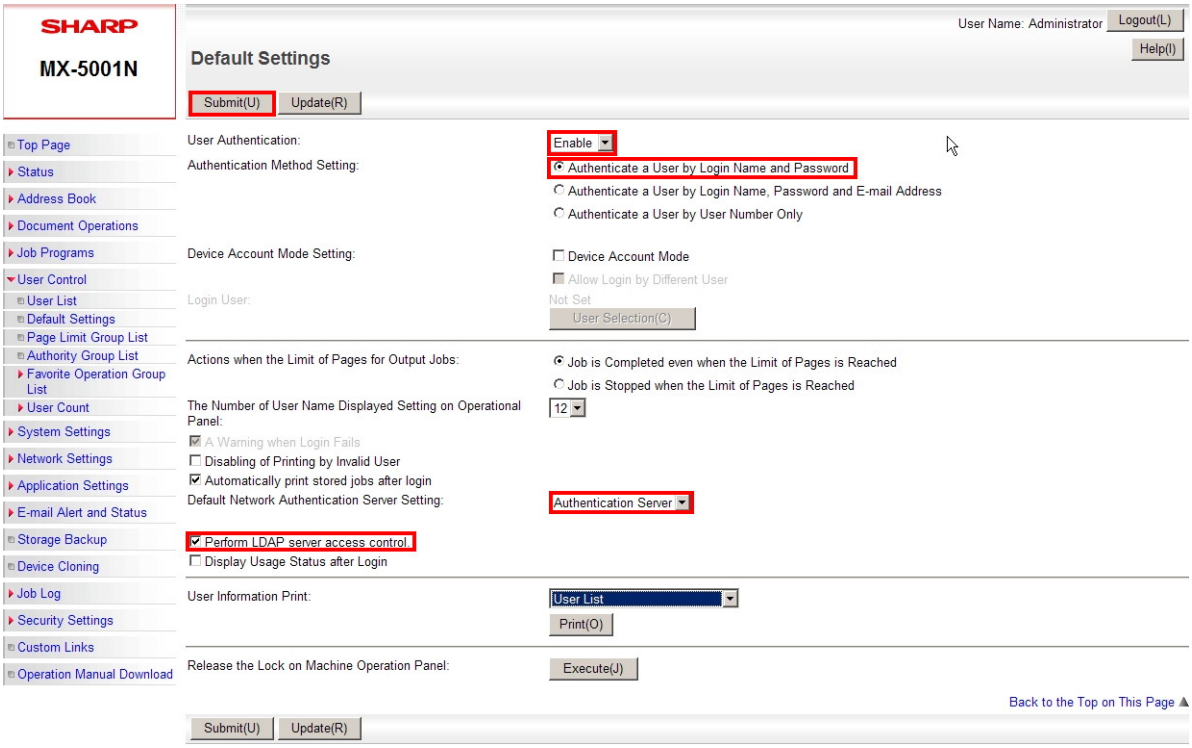
c. The newly created Custom LDAP Server (in this case named Authority Server) is added to the Global Address Book List.



4. Enable User Control on the MFP.

a. On the main Web page of the MFP, click on User Control and then click on Default Settings. Select Enable from the drop down list and click the radio button next to Authenticate a User by Login Name and Password. For the Default Network Authentication Server, select the newly created Global Address Book (in this example Authority Server. Click on the checkbox next to Perform LDAP server access control. Click on the Submit button when done.

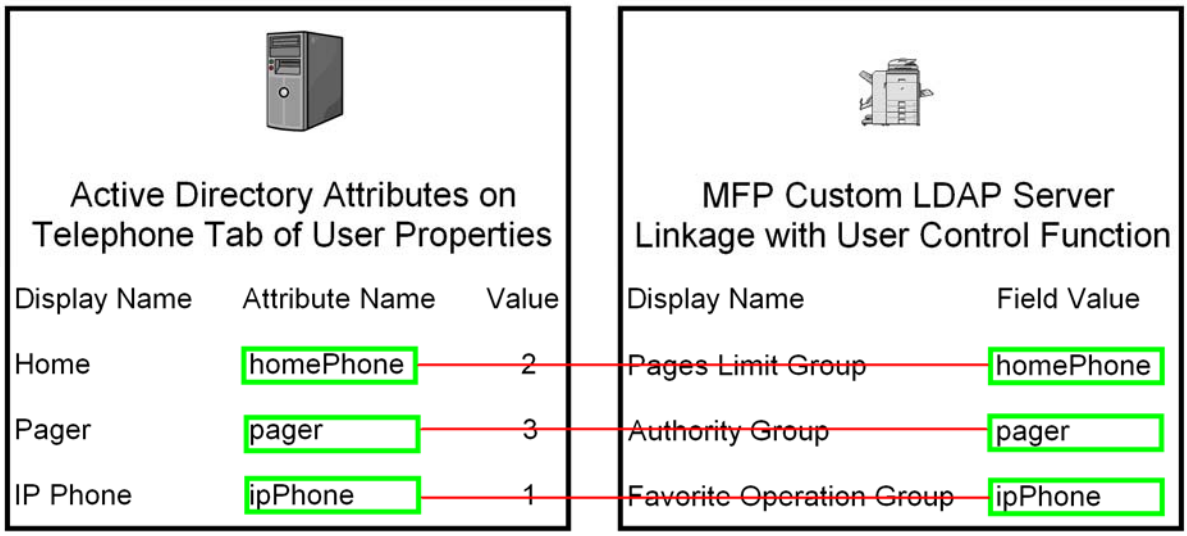


b. While the MFP is now setup for network user authentication, the Page Limit, Authority and Favorite Operation Groups settings will not be applied to the user until the user attributes are updated in Active Directory in the next step.

5. Update user attributes in Active Directory

NOTE: This step should be completed by the network administrator.

In this example, the Page Limit and Authority Groups are applied to users based on their job title and department stored on their Organization tab in Active Directory. By default, all users are assigned a Favorite Operation Group with the MFP display in English. If the user wants the MFP display to be in Spanish or Russian, they must make a request to the network administrator. The relationships of the Active Directory attributes to the various groups created on the MFP in this example are shown below.



The various group names and index values for the corresponding attributes are shown in the following tables.

Page Limit Groups	
Group Name	Index values to enter into the Home field
Unlimited_Group	1
Limited_Group	2

Authority Groups	
Group Name	Index values to enter into the Pager field
Color	1
Black_and_White	2
Restricted_User	3

Favorite Operation Groups	
Group Name	Index values to enter into the IP Phone field
English	1
Russian	2
Spanish	3
Unauthorized	4

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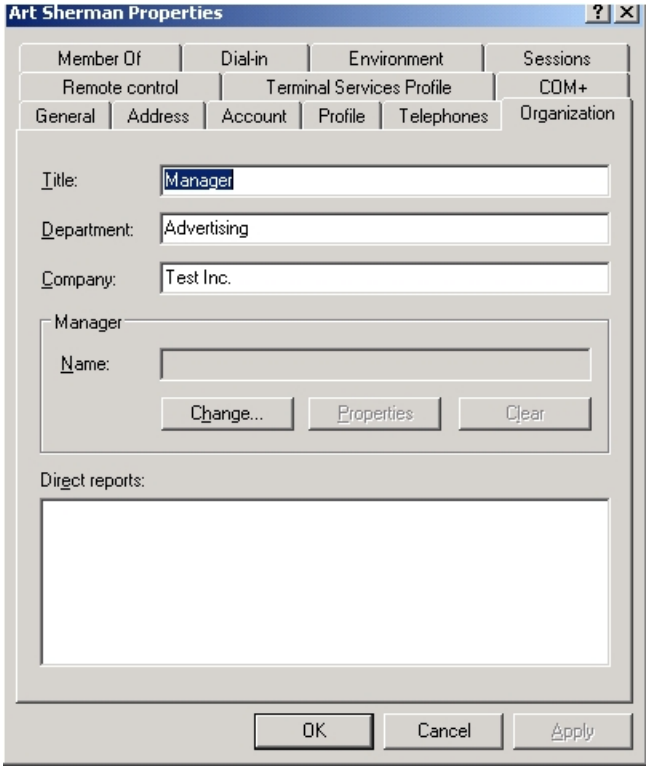
The user attributes in this example can be edited manually by using the Active Directory Computer and User administrative tool on the LDAP server.

a. On the LDAP server, start the Active Directory Computer and User administrative tool and open the container or organizational unit where the users are located (in this example, it is the TestUsers organizational unit). Highlight the first user, right click, select Properties and click on the Organization tab.



b. This individual has a job title of Manager and heads up the Advertising department. As a manager, he is to have access to all features of the MFP. Based on this, he is to be assigned to the Unlimited_Group Page Limit Group and the Color Authority Group. Unless otherwise requested by the user, he will be assigned to the English Favorite Operations Group.

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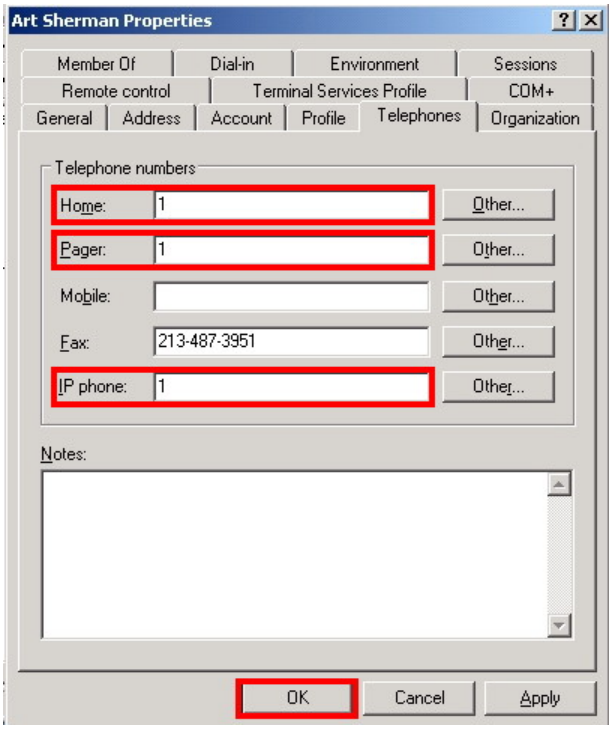
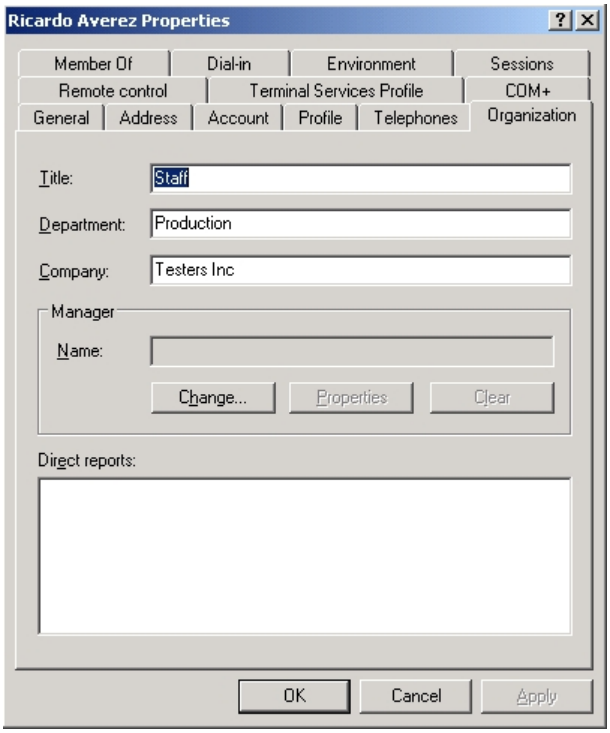
c. Click on the Telephones tab and enter the following values for this user: In the Home field, enter a value of 1 (Unlimited_Group); In the Pager field, enter a value of 1 (Color); In the IP Phone field, enter a value of 1 (English.). Click on the OK button when done.



d. Highlight the next user, right click, select Properties and click on the Organization tab to determine what groups should be assigned to him.



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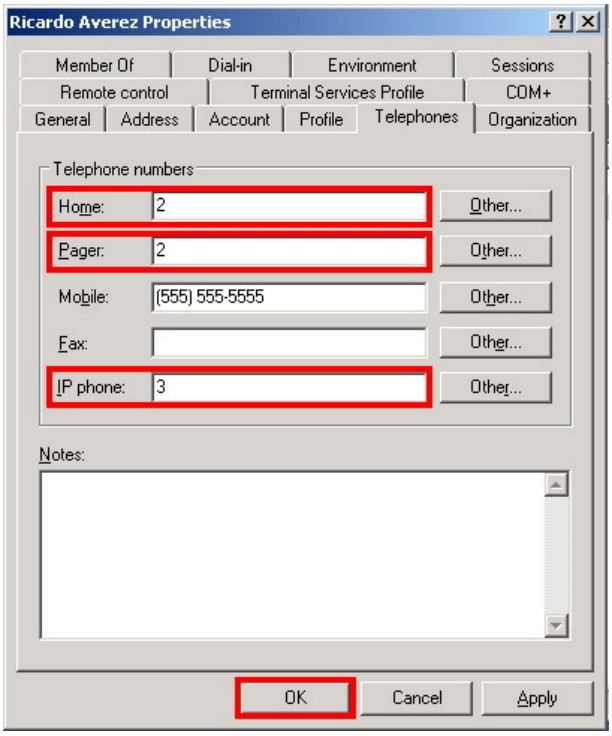
e. This individual has a job title of Staff and is part of the Production department. As a staff member in this department, he is not allowed any color functions and his output of copies and prints are limited. As a result, he is to be assigned to the Limited_Group Page Limit Group and the Black_and_White Authority Group. He has requested that the MFP display language be in his native language of Spanish so he will be assigned to the Spanish Favorite Operations Group.

f. Click on the Telephones tab and enter the following values for this user: In the Home field, enter a value of 2 (Limited_Group); in the Pager field, enter a value of 2 (Black_and_White); in the IP Phone field, enter a value of 3 (Spanish). Click on the OK button when done.



g. Continue the above steps until all users have been assigned the correct values based on the customer's requirements.

NOTE: Users without a job title or not assigned to a department should have their appropriate attributes set to the Limited_Group and Restricted_Group for security purposes. These individuals would have to request access from their department head to the domain administrator.

NOTE: This process could be automated by using a Windows Script Host file to batch update the LDAP attributes but that is outside of the scope of this document.

Now when network users log into the MFP, they will have their access to the MFP functions restricted by their job title and department. The MFP display will also be in the language requested by that user as shown in Figures 2 – 4 on Pages 2 and 3.

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6. Clone User Control, LDAP and Network Settings with Device Cloning.

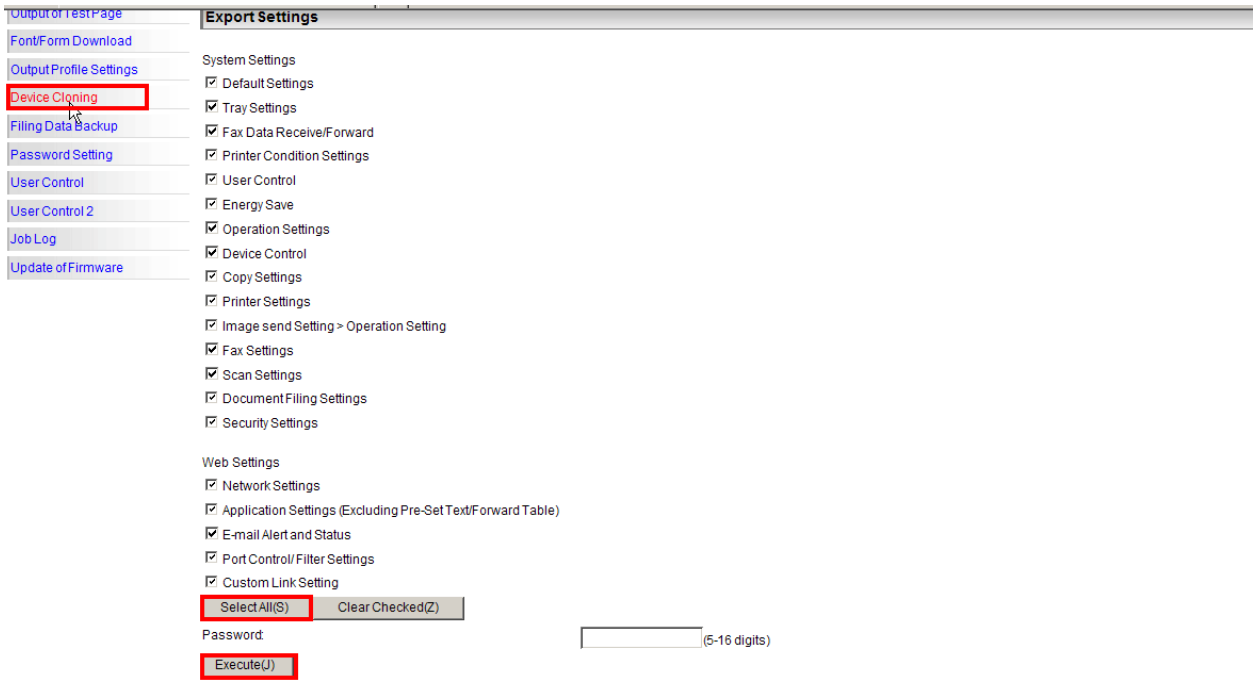
   If additional MFPs in the same network will be using LDAP Server Access Control, use the following procedure to clone the settings required after testing the original unit.

   a. Open the Service Web page of the MFP just configured using the following URL in Windows Internet Explorer:

   http://{IP_Address_of MFP}/service_testpage.html

   b. Enter the default password service in the password field and click on the Submit button.

   c. Click on the Device Cloning menu item, click on the Select All button and then the Execute button.



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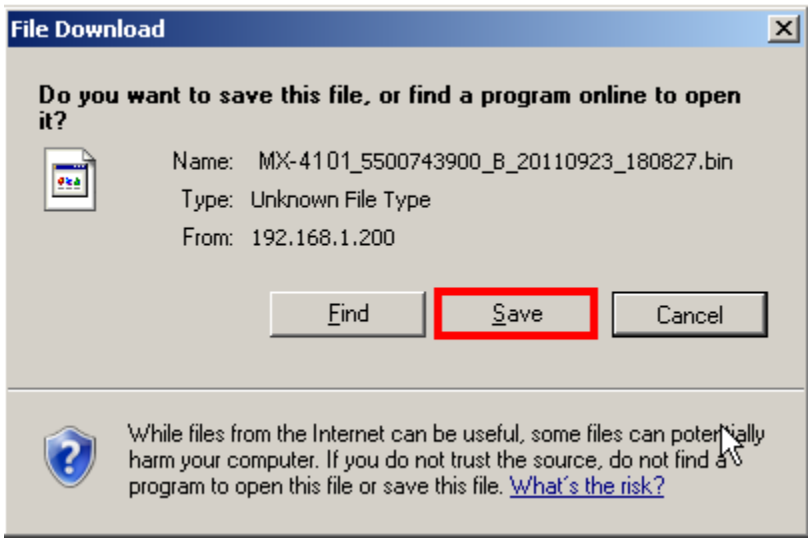
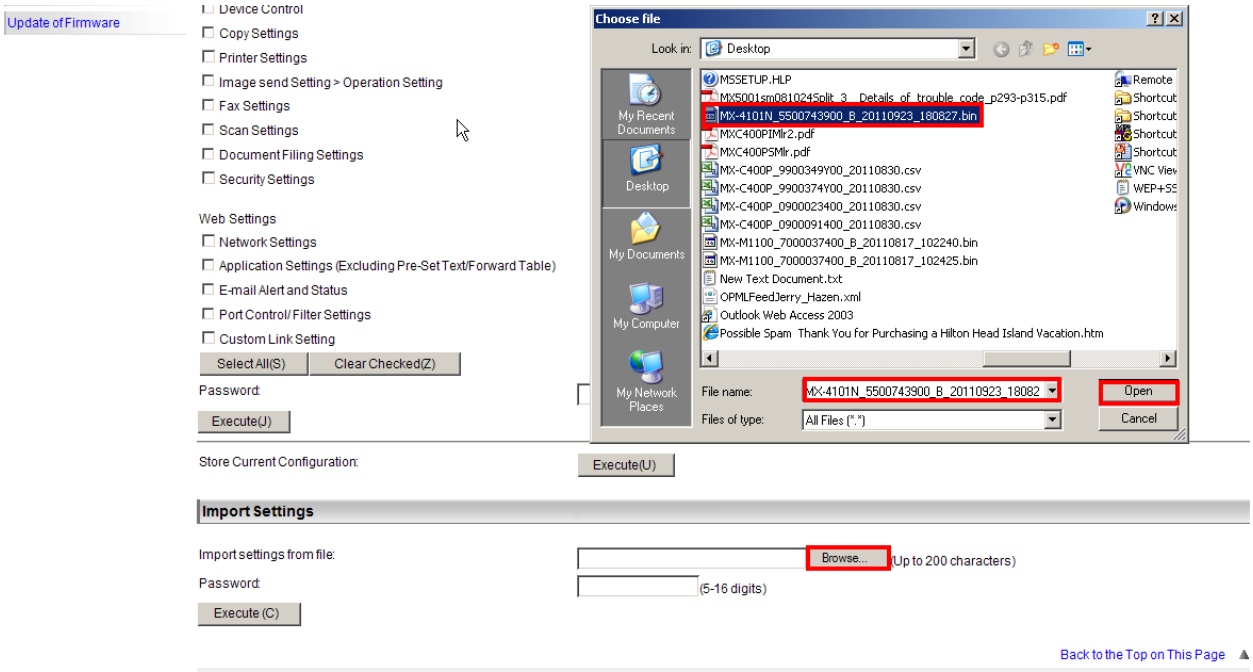
d. Click on the Save button to save the exported *.bin file in a known location on your computer.



e. Next, log into the Service Web page of the target MFP from the same computer where you saved the *.bin file. Click on the Device Cloning menu item and the click on the Browse button in the Import Settings area. Navigate to the saved *.bin file and click on the Open button.



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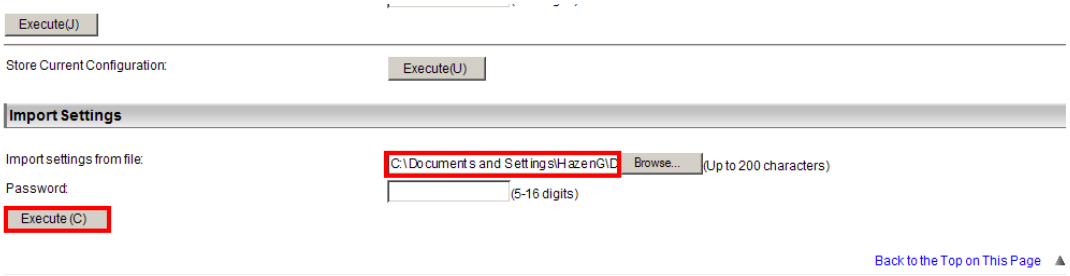
f. Click on the Execute button in the Import Settings section to import the clone file into the target MFP.



g. Repeat the above steps until all MFPs have the same clone file imported. Now network users will be have the same user experience regardless of which MFP they use in their network.

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Example 2 – Using Attributes Common to all Users

The domain in this scenario (Sharpshow.com) uses a different Active Directory organizational structure but it has the same requirements as the previous example. The domain administrator has created users in organizational units based on user roles as well as departments.

The company wants to have all users log into MFP with their network credentials to restrict usage of the MFP. Each user in the company has a department and job title assigned within active directory. Currently, there are 3 departments (Advertising, Production and Temporary Workers) and 3 job titles (Manger, Staff and Temporary). Department Managers are to have full and unrestricted access to all features of the MFP. Staff members in the Advertising department will have full access to the features of the MFP but color output for printing and copying will be limited. Staff members in the Production department will be restricted to black and white printing and copying but can scan in color. For security purposes, temporary workers are not allowed to use any functions of the MFP even though they have network accounts.

In addition, some employees speak Russian and others speak Spanish as their first languages. The company wants these employees to be able to see the MFP display instructions in their native languages if they request it.

In this example, attributes common to all users are used as opposed to private attributes – that is, attributes that describe things related to more than one user such as company name and location. These attributes have an advantage in that multiple users can be selected in the Active Directory Computer and User administrative tool and the same attribute values can be applied to all users in one step. The disadvantage is often these attributes are filled in when user accounts are created. Careful review of all user accounts will be required to ensure that empty attribute fields are available for all users.

Follow the instructions in the example below to obtain the company's goal.

1. Determine Active Directory User Attributes to use as field values.

   NOTE: This step should be completed by the network administrator

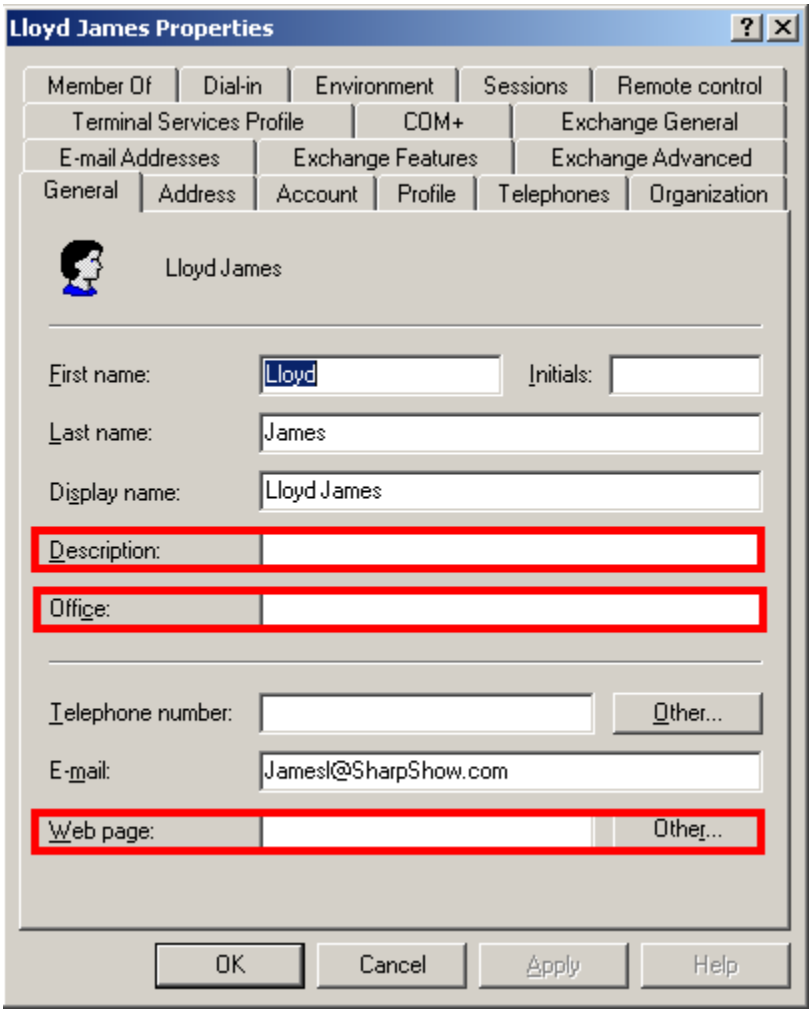
   In this example, the following common attributes were found to be unused on the General tab for all users in the Active Directory structure of the company

   Description:

   Office:

   Web page:

   When a single user's properties are displayed in the Windows Active Directory Computer and User administrative tool, the General tab is displayed as shown below:



However, when multiple users are selected, only the tabs and attributes common to all selected users are displayed as shown below. Clicking on the check box next to the attribute name allows values to be filled in that will be stored for all selected users.

NOTE: Even though it would be possible to apply the same Telephone number, Fax and E-mail address to all of the selected users, it would be a poor practice to do so.

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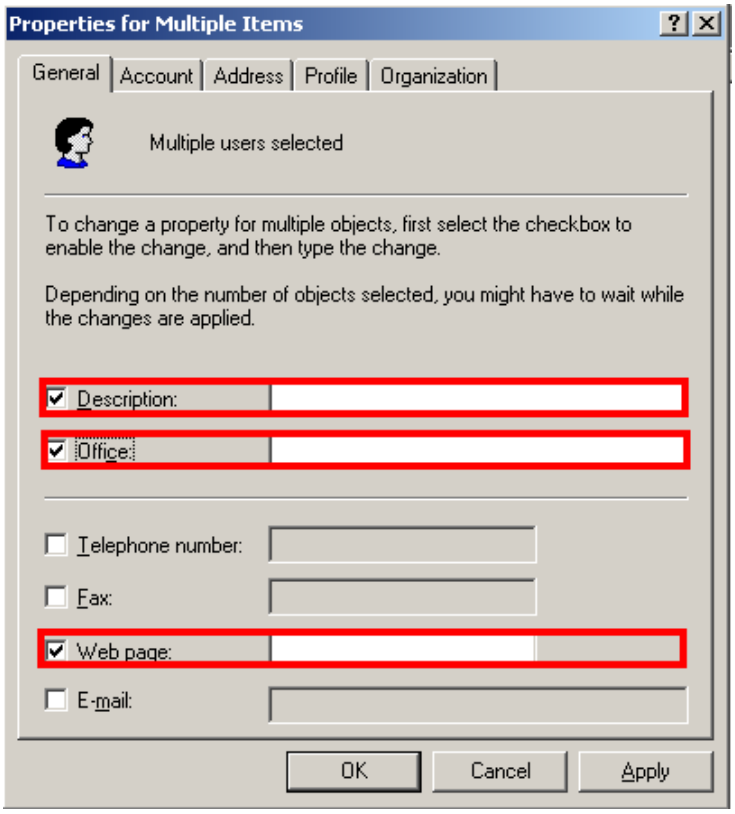

As discussed before, the actual names of the attributes are different than the names that are displayed on the tabs.

Display Name	Attribute Name	Normally Unused
Description	description	Yes
Office	physicalDeliveryOfficeName	Yes
Telephone number	telephoneNumber	No
FAX	facsimileTelephoneNumber	No
Web page	wWWHomePage	Yes
E-mail	mail	No

2. Create Page Limit, Authority and Favorite Operation Groups on the MFP.
   a. Browse to the main web page of the MFP and log in as the Administrator (default password admin).

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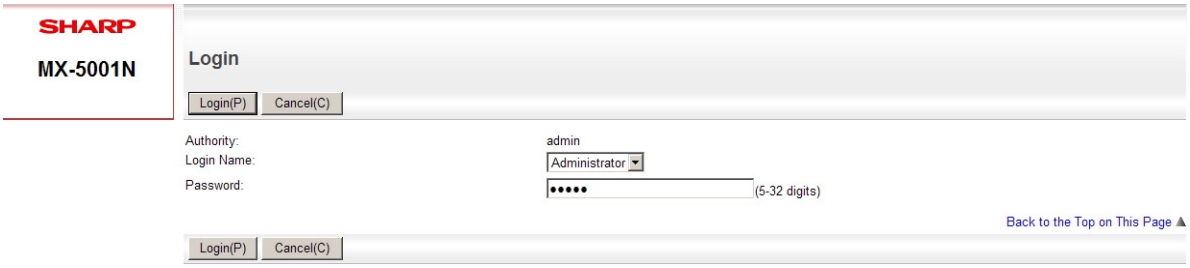
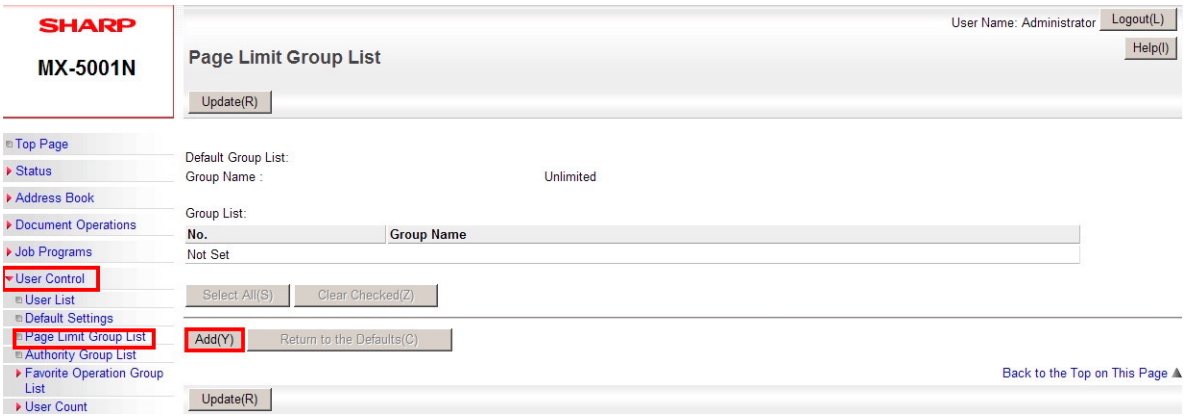
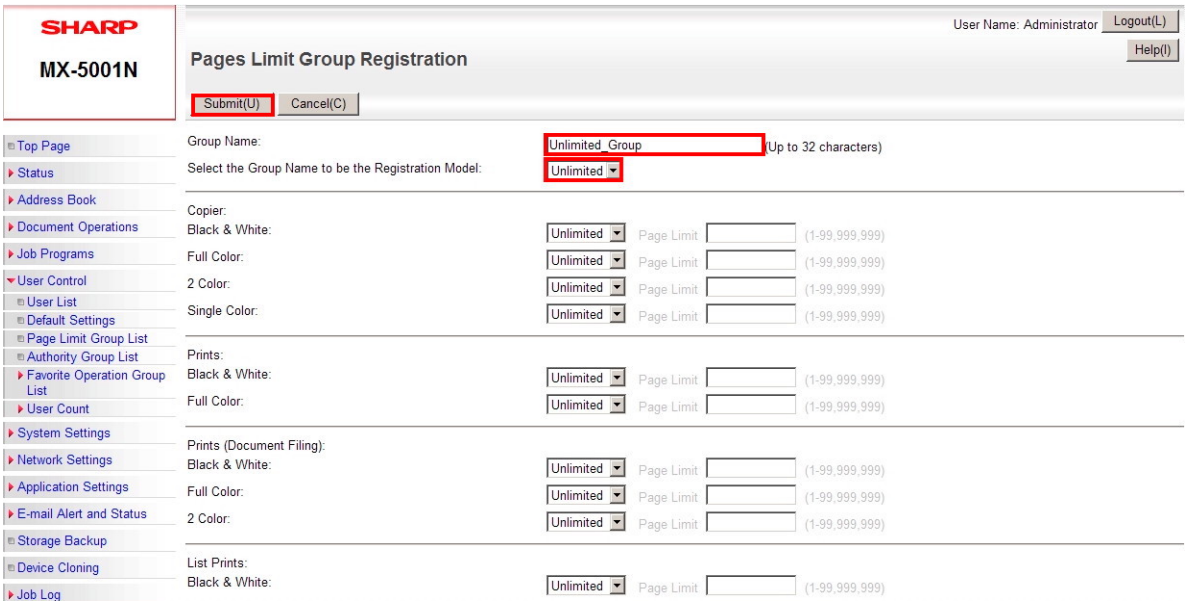


b. Click on the User Control, click on Page Limit Groups List and then click on the Add button when the page below appears.



c. Type in a descriptive name for the group in the Group Name field. In this case, type in Unlimited_Group as this group has no restrictions on page limits. As this is the first group being created, the Registration Model drop down box will be at the default value of Unlimited. Leave all page values at Unlimited and click on the Submit button.

NOTE: Creating an Unlimited_Group is not really required. However, it is done here to make the exercise easier to follow.



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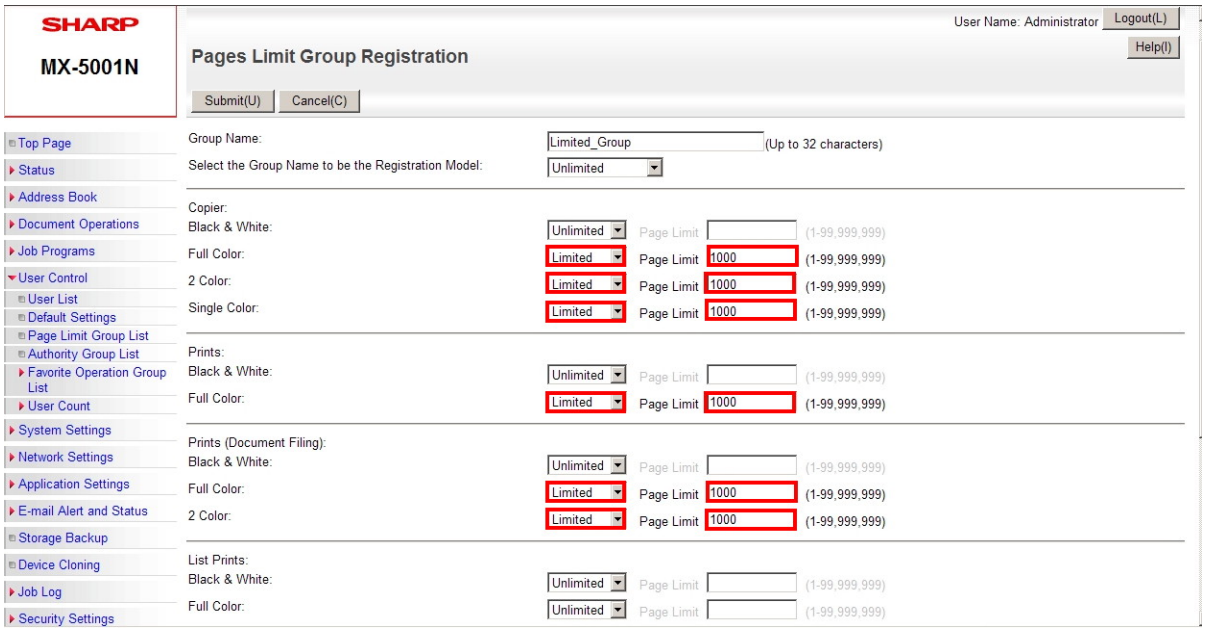
d. At the Page Limit Group List page, click on the Add button to create another group. Next, type Limited_Group for the name of this group. Leave all Black and White Copier, Prints and Prints (Document Filing) as Unlimited. Select Limited for all color modes for printing and copying and set the limit to 1000. Leave List Prints and Scanning at Unlimited. Click on the Submit button when done.



Note that each group name is assigned a group number. These numbers will be used for active directory user attributes to assign page limit restrictions to network users.

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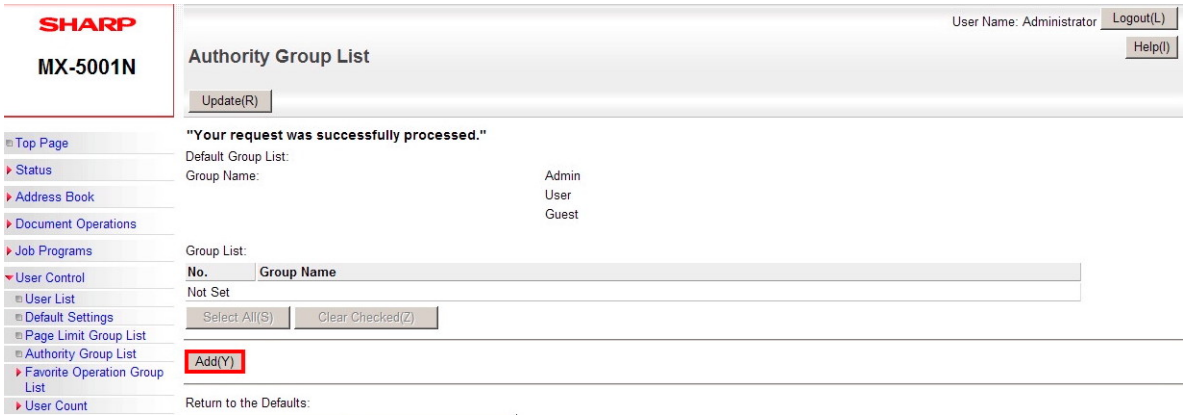
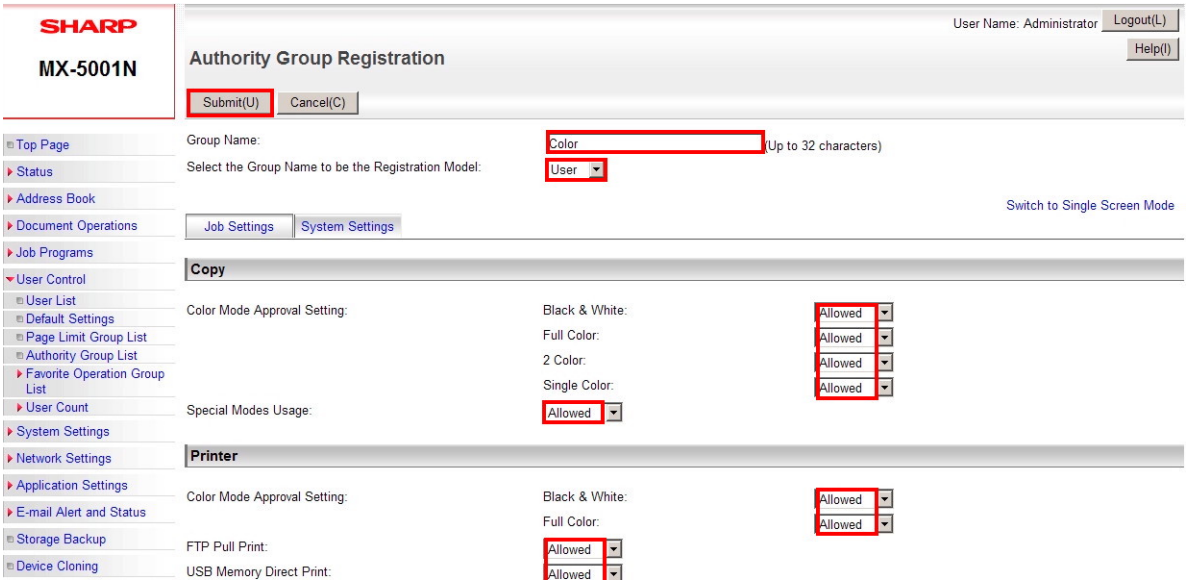
e. Next, click on the Authority Group List and click on the Add button to create the first authority group.



f. Type in Color for the Group Name and select User as the Registration Model. Leave all selections for all modes to Approved and click on the Submit button when done.



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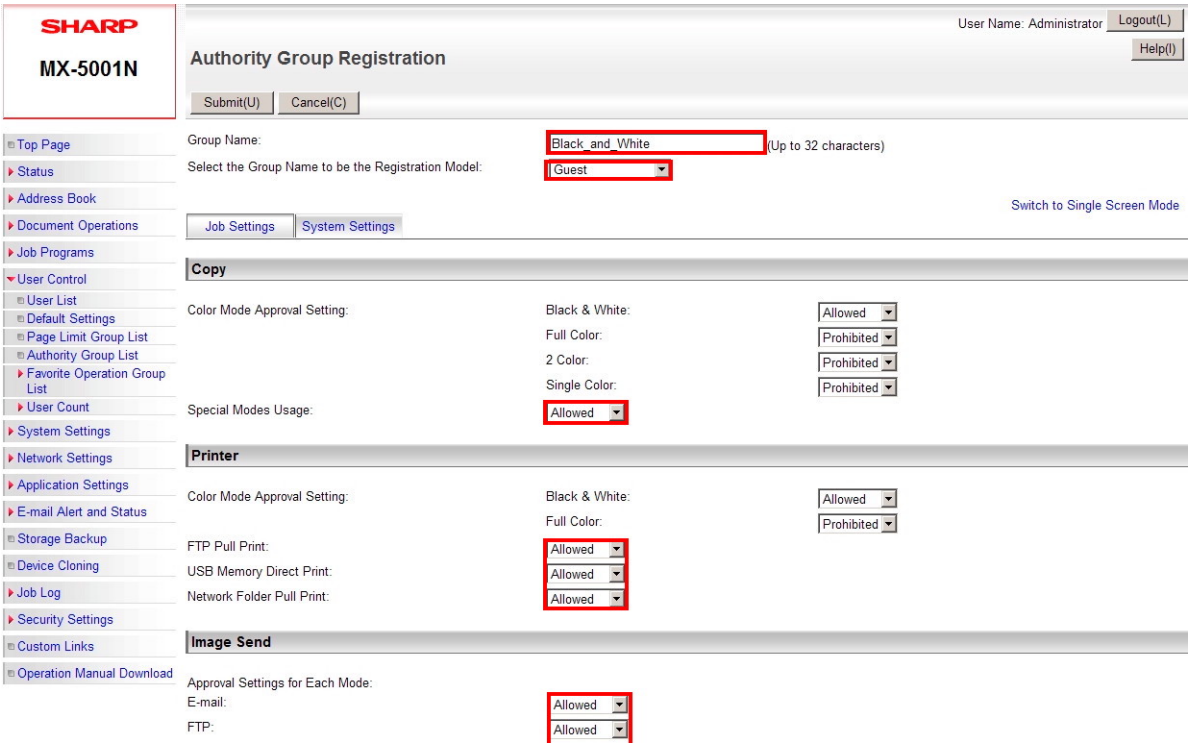
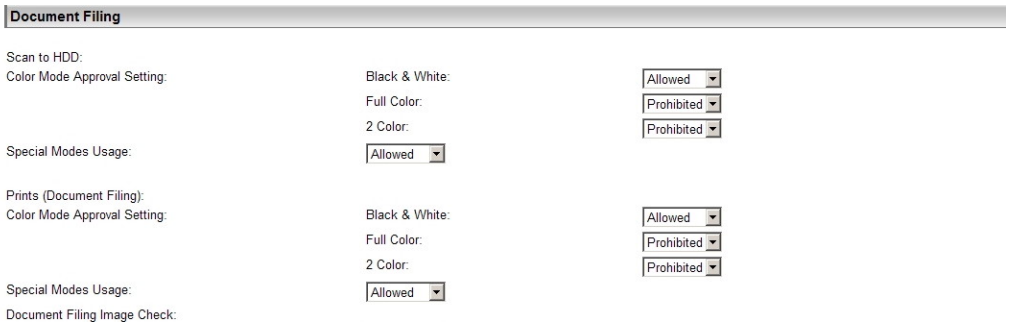
g. Click on the Add button at the Authority Group List page to add the next authority group. Type in Black_and_White as the group name and select Guest as the Registration Model. Ensure that all color modes for copying and printing are set to Prohibited.



h. Under the Document Filing section, select Prohibited for Scan to HDD Color Mode Approval Setting and Prints (Document Filing) Color Mode Approval Setting. Set all other selections on this page to Allowed as this group has access to all MFP functions except printing and copying in color. Click on the Submit button when done.



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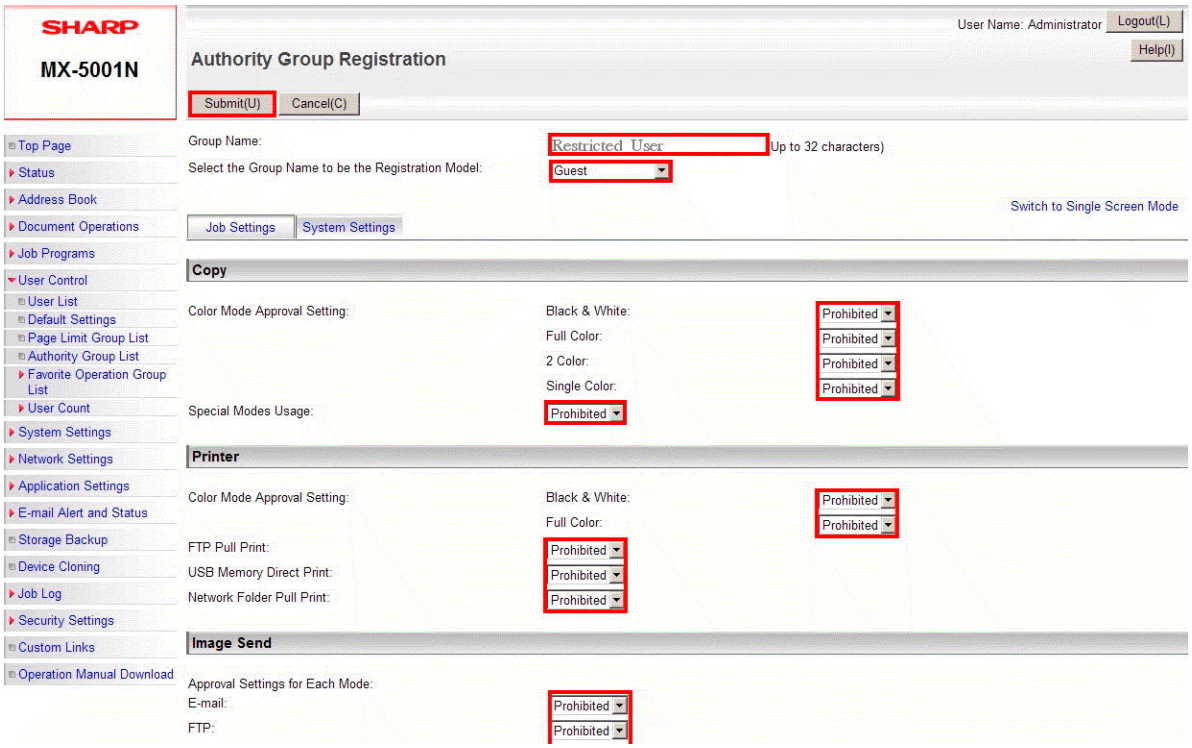
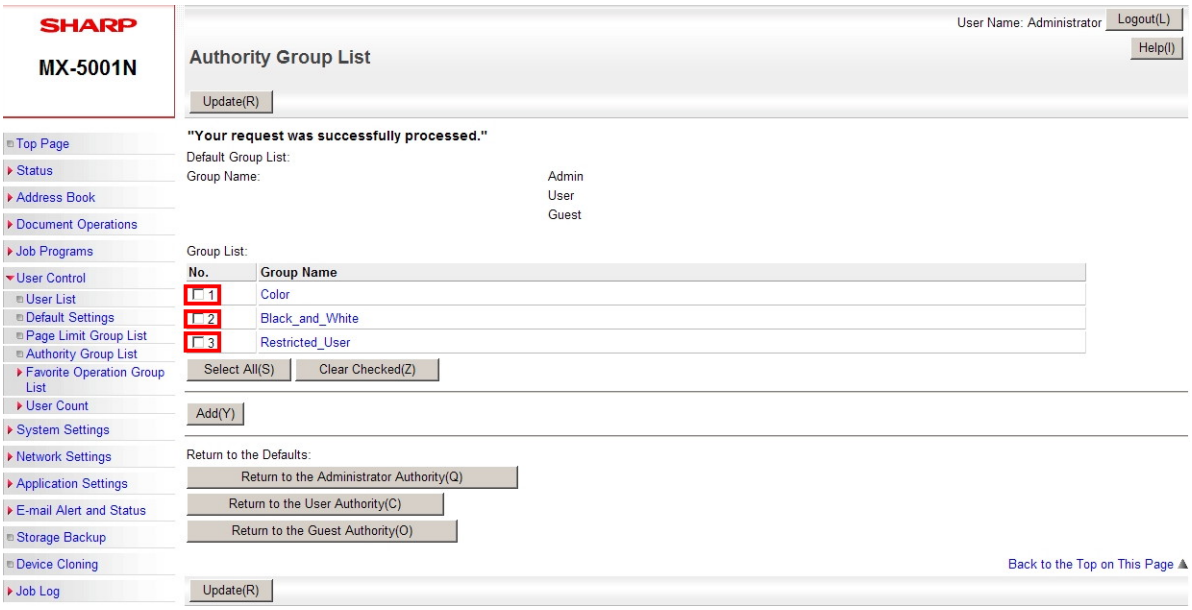
i. Click on the Add button at the Authority Group List page to add the last authority group. Type in Restricted_User as the group name and select Guest as the Registration Model. As this group will be used to prevent unauthorized access to the MFP, set all modes to Prohibited. Click on the Submit button when done.



j. Each authority group name is assigned a group number when created. These numbers will be used with active directory user attributes to control MFP features available to network users.



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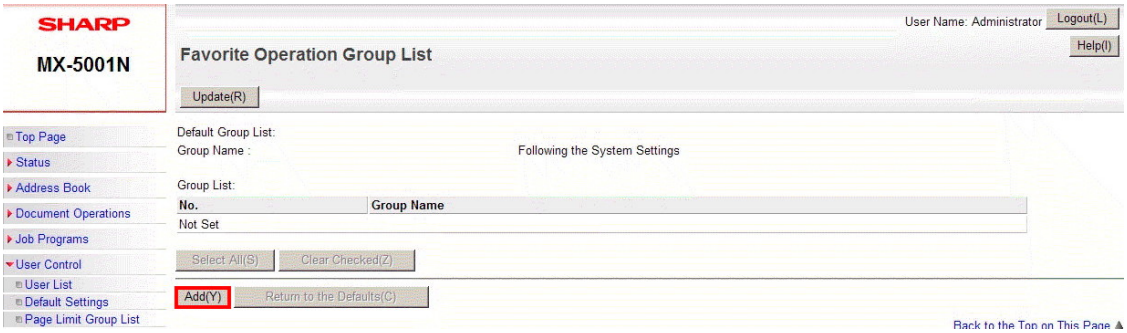
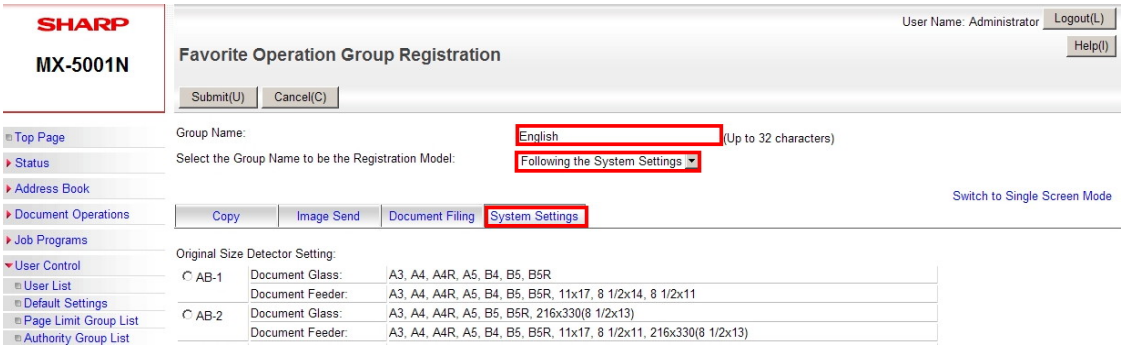
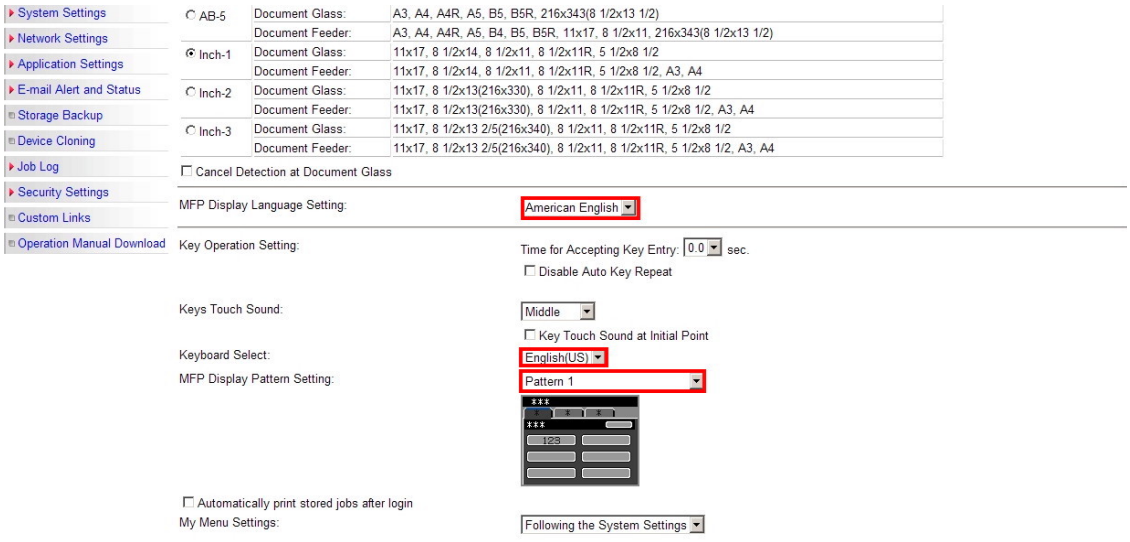
k. Click on the Favorite Operation Group List menu and then click on the Add button to create the first operation group.



l. Type in English for the group name, select Follow the System Settings for the Registration Model and click on the System Settings tab. (As English is the default language used by the MFP, this group does not have to be created but it is included to make the exercise easier to follow.)



m. Scroll down the page until the MFP Display Language Setting selection is seen and ensure American English is selected. For Keyboard Select, select English(US) and set the MFP Display Pattern Setting to Pattern 1. (NOTE: For purposes of this exercise, these are the only changes that will be made although numerous items can be configured for a favorite operation group.) Click on the Submit button when done.



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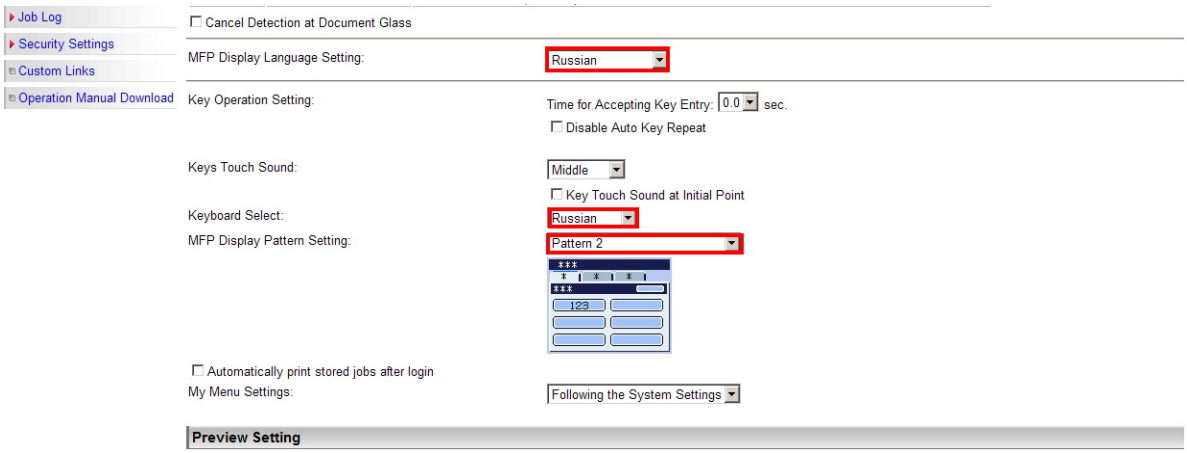
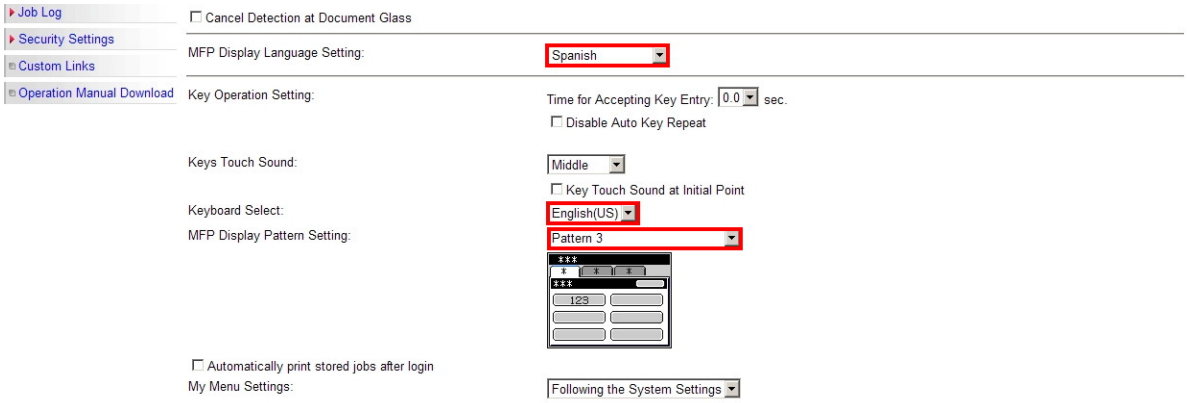
n. Click on the Add button at the Favorite Operation Group List page to create the next operation group. Type in Russian for the group name, select Follow the System Settings for the Registration Model and click on the System Settings tab. Scroll down the page until the MFP Display Language Setting selection is seen and select Russian. For Keyboard Select, select Russian and set the MFP Display Pattern Setting to Pattern 2.Click on the Submit button when done.



o. Click on the Add button at the Favorite Operation Group List page to create the next operation group. Type in Spanish for the group name, select Follow the System Settings for the Registration Model and click on the System Settings tab. Scroll down the page until the MFP Display Language Setting selection is seen and select Spanish. For Keyboard Select, select English(US) and set the MFP Display Pattern Setting to Pattern 3.Click on the Submit button when done.



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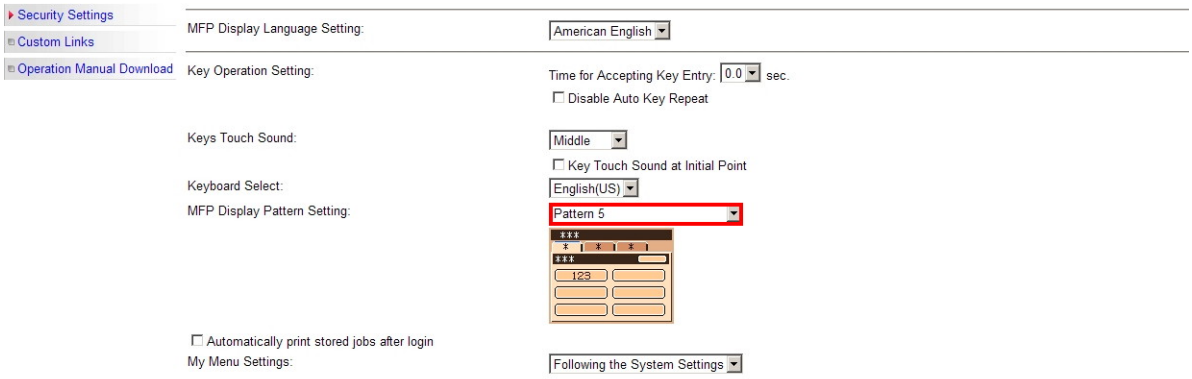
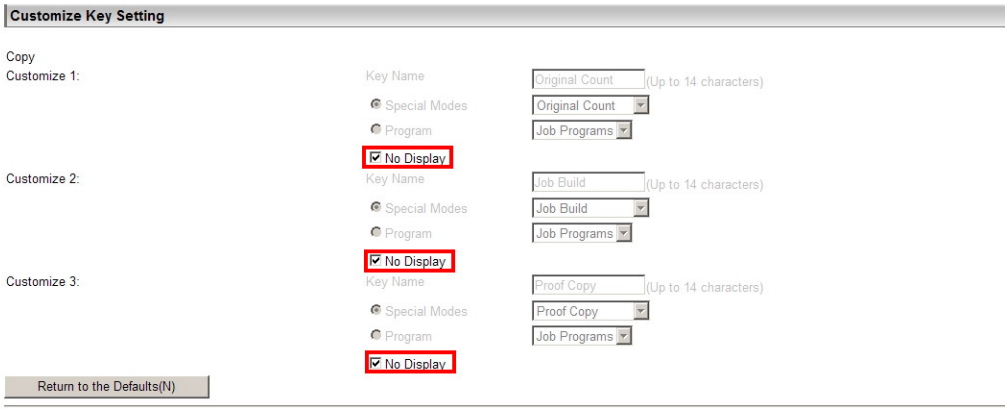
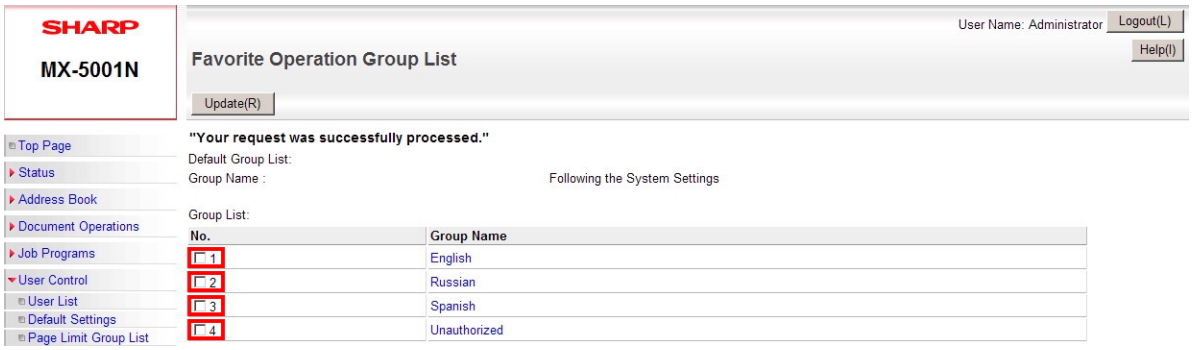
p. Finally, click on the Add button at the Favorite Operation Group List page to create the last operation group. Type in Unauthorized for the group name, select English for the Registration Model and click on the System Settings tab. Scroll down the page and set the MFP Display Pattern Setting to Pattern 5. (This is to provide a visual cue when an unauthorized user logs into the MFP.)



q. Enable the check boxes next to No Display for all custom keys on this page. Click on the Submit button when done.



r. As with all other groups, numbers are assigned to the favorite operations groups. These numbers will be used for active directory user attributes to assign custom display panels to network users.



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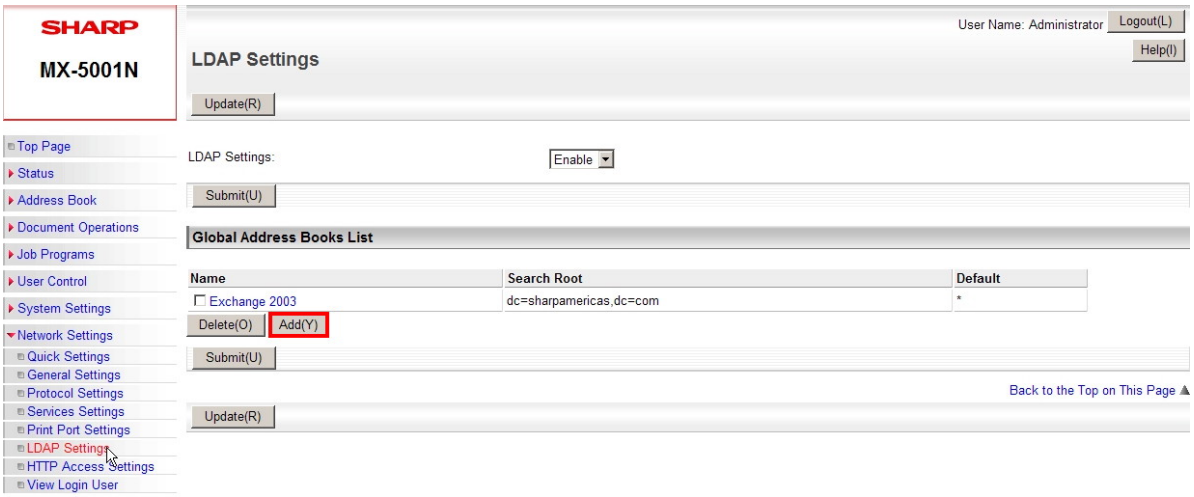
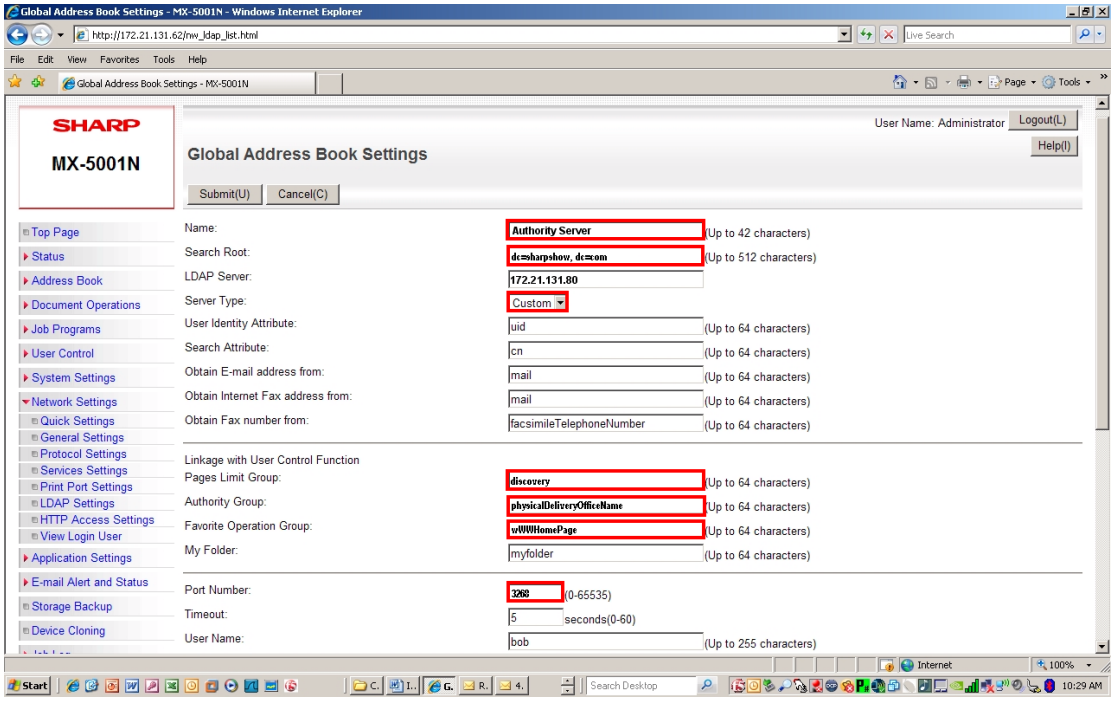
3. Create a new Global Address Book with a Custom LDAP Server on the MFP and link it with User Control Function.

   a. On the main Web page of the MFP, click on Network Settings, click on LDAP Settings and then click on the Add button to create a new Global Address Book.



   b. Fill in the appropriate values for the LDAP server being connected to, select Custom for the Server Type drop down box and enter the attribute names that will be used for Linkage with User Control Function. In this example, the Page Limit Group field is set to discovery, the Authority Group field is set to physicalDeliveryOfficeName and the Favorite Operations Group field is set to wWWHomePage. Complete the rest of the required LDAP settings and click on the Submit button when done.



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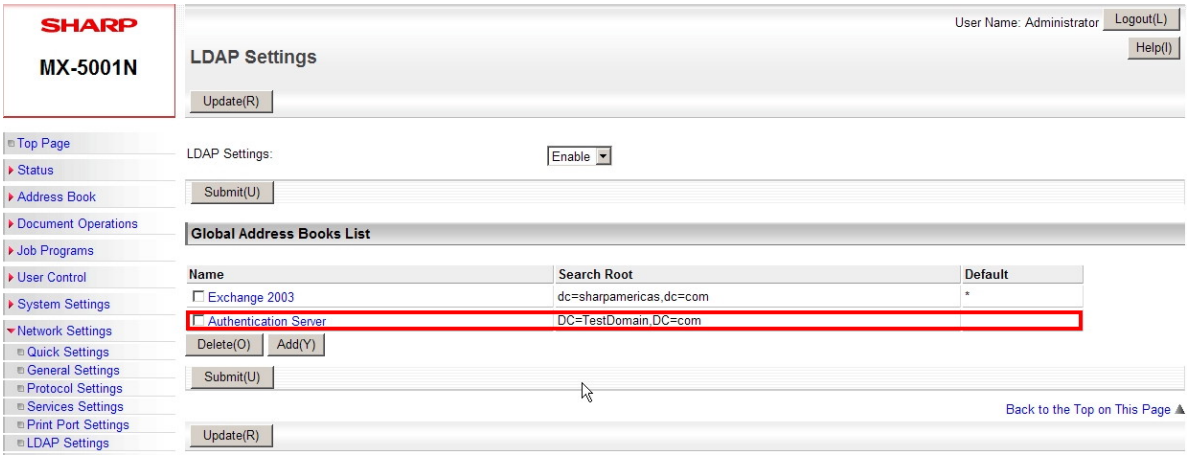
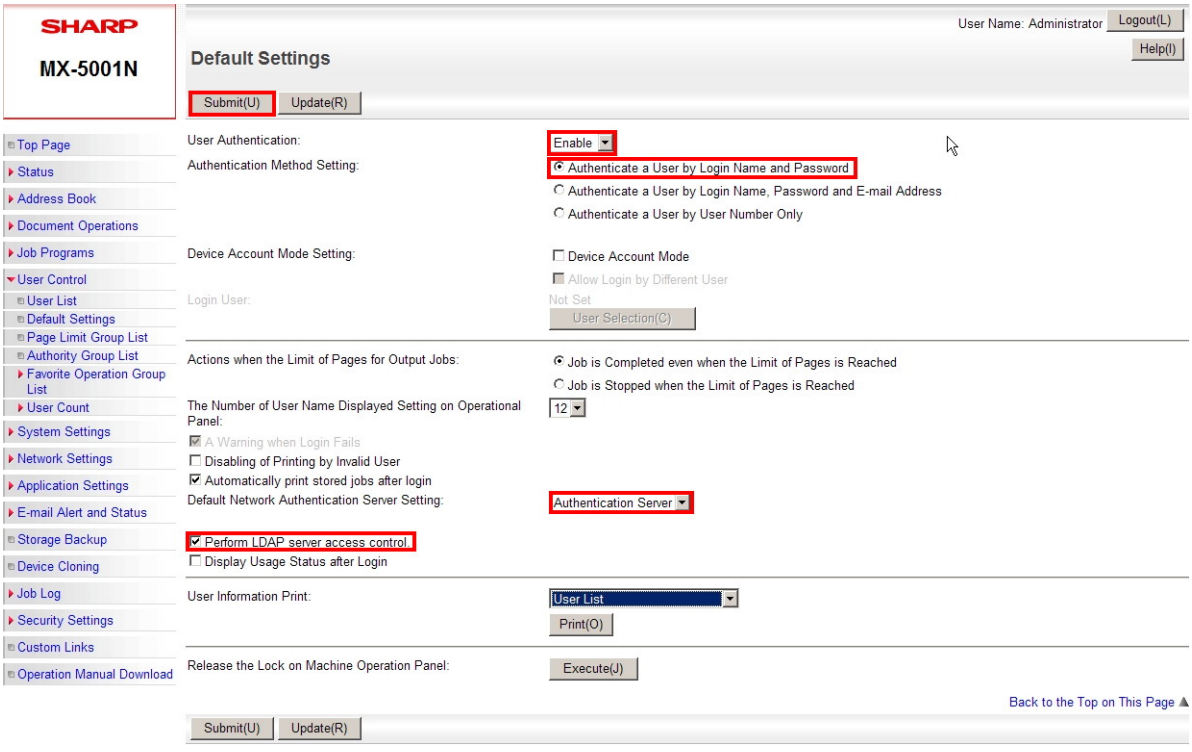
c. The newly created Custom LDAP Server (in this case named Authority Server) is added to the Global Address Book List.



4. Enable User Control on the MFP.

a. On the main Web page of the MFP, click on User Control and then click on Default Settings. Select Enable from the drop down list and click the radio button next to Authenticate a User by Login Name and Password. For the Default Network Authentication Server, select the newly created Global Address Book (in this example Authority Server. Click on the checkbox next to Perform LDAP server access control. Click on the Submit button when done.



b. While the MFP is now setup for network user authentication, the Page Limit, Authority and Favorite Operation Groups settings will not be applied to the user until the user attributes are updated in Active Directory in the next step.

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5. Update user attributes in Active Directory

NOTE: This step should be completed by the network administrator.

In this example, the Page Limit and Authority Groups are applied to users based on their accounts created in the Organizational Unit that corresponds to the department they work in. However, all managers, regardless of department are placed in the Managers organizational unit in Active Directory.

By default, all users are assigned a Favorite Operation Group with the MFP display in English. If the user wants the MFP display to be in Spanish or Russian, they must make a request to the network administrator.

The various group names and index values for the corresponding attributes are shown in the following tables.

Page Limit Groups	
Group Name	Index values to enter into the Description field
Unlimited_Group	1
Limited_Group	2

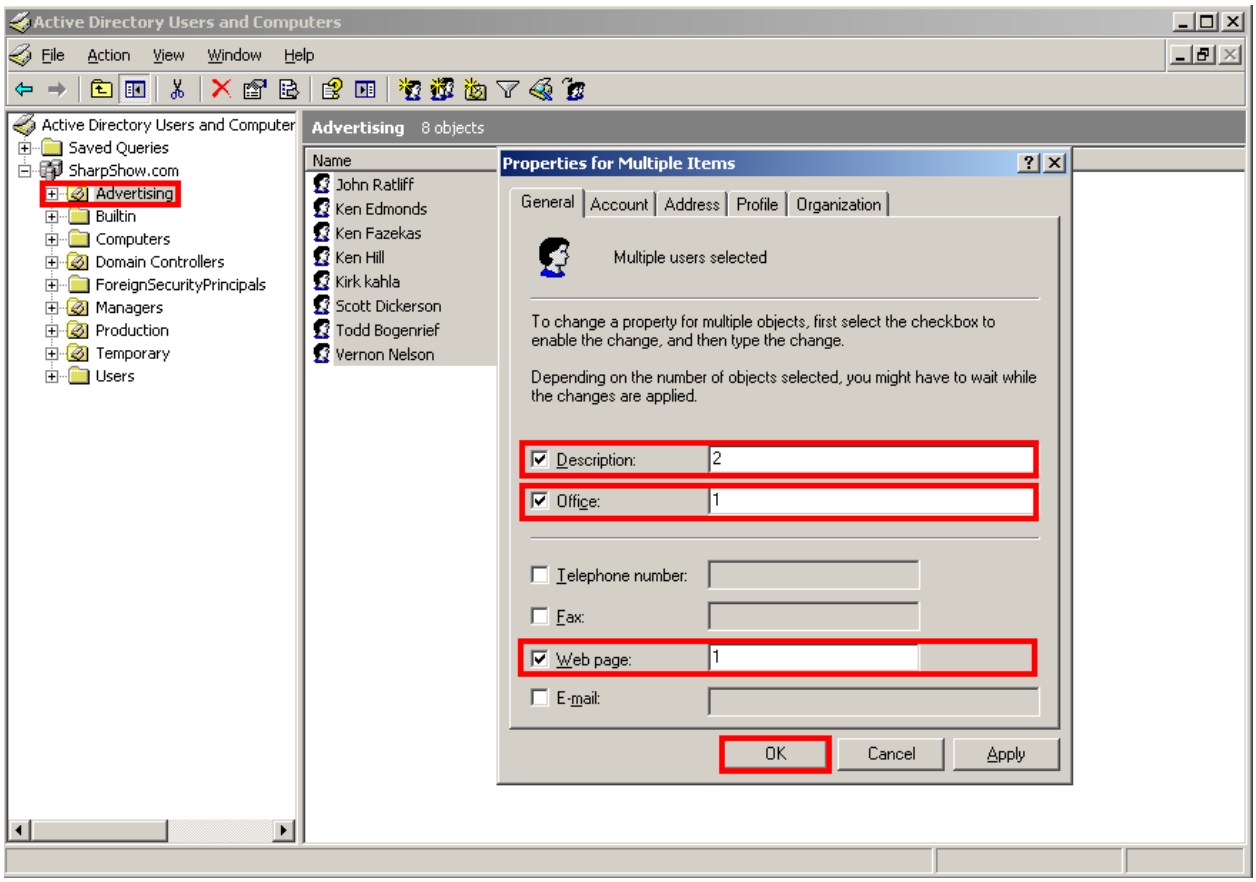
Authority Groups	
Group Name	Index values to enter into the Office field
Color	1
Black_and_White	2
Restricted_User	3

Favorite Operation Groups	
Group Name	Index values to enter into the Web page field
English	1
Russian	2
Spanish	3
Unauthorized	4

Due to the layout of the Active Directory structure and the use of attributes common to all users, rights to the Sharp MFP can be quickly assigned to all users in the network as desired by the company.

a. On the LDAP server, start the Active Directory Computer and User administrative tool and open the first organizational unit where the users are located (in this example, it is the Advertisers organizational unit). Highlight all the users in the organizational unit, right click and select Properties. On the General tab, click on the checkboxes for Description, Office and Web page. Fill in the attribute values appropriate for this group. Click on the OK button when done.

Users in Advertising Organizational Unit		
Display Name	Group Assigned	Value
Description	Limited_Group	2
Office	Color	1
Web page	English	1



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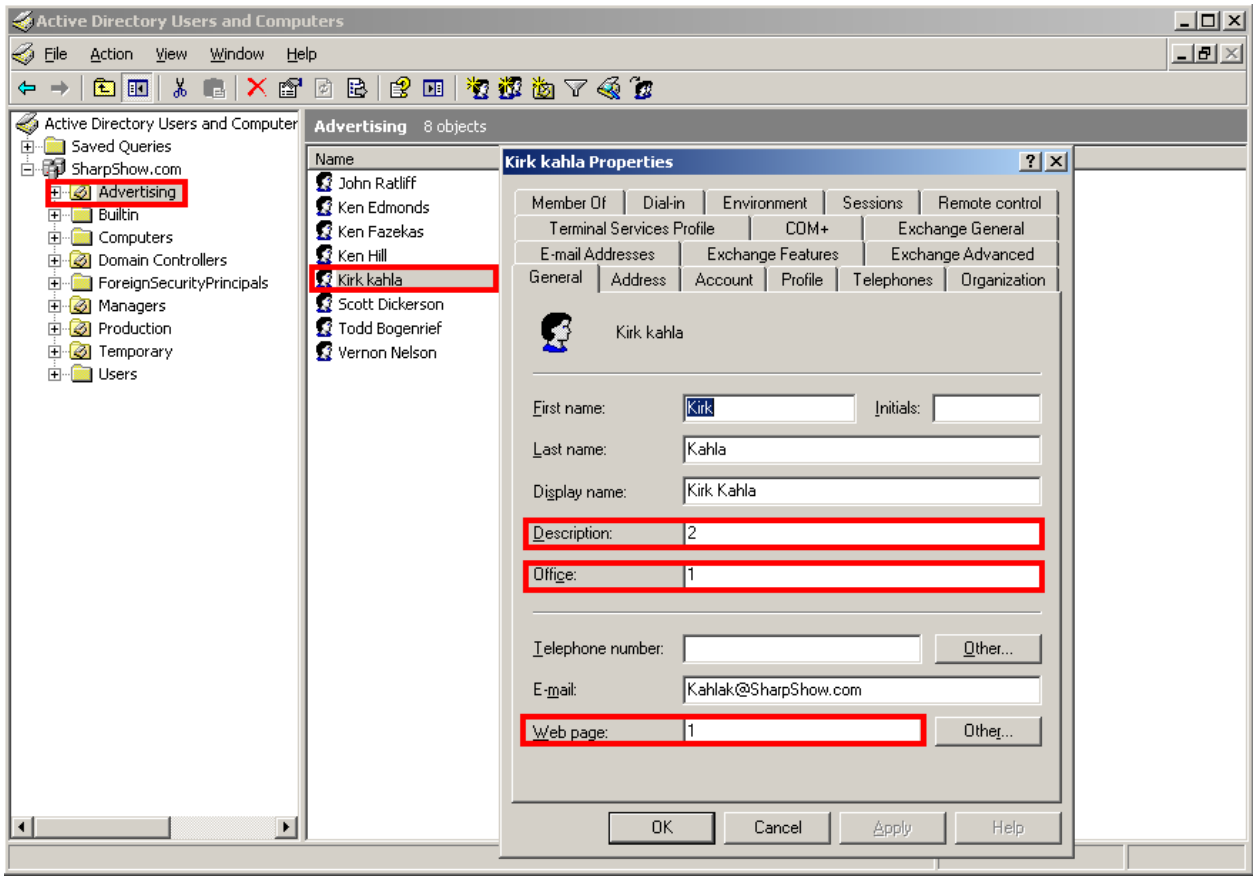
b. All users in the Advertiser organization will be assigned the attribute values just submitted. To verify this, highlight a single user, right click and select Properties. Ensure that the Description, Office and Web page attributes are correct on the General tab. Click on OK when done.



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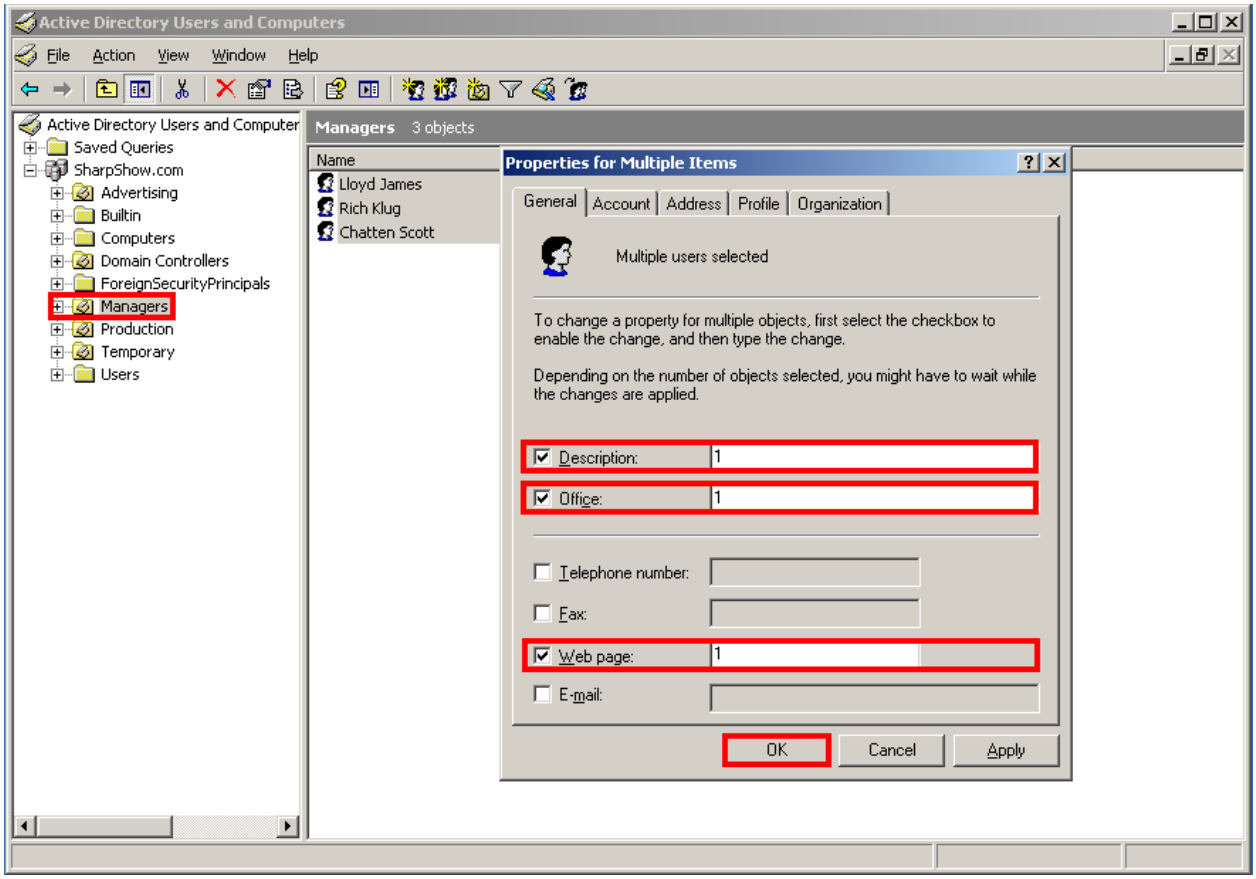
c. Next, open the Managers organization unit. Highlight all the users in this unit, right click and select Properties. On the General tab, click on the checkboxes for Description, Office and Web page. Fill in the attribute values appropriate for the managers as shown below. Click on the OK button when done.

Users in Managers Organizational Unit		
Display Name	Group Assigned	Value
Description	Unlimited_Group	1
Office	Color	1
Web page	English	1



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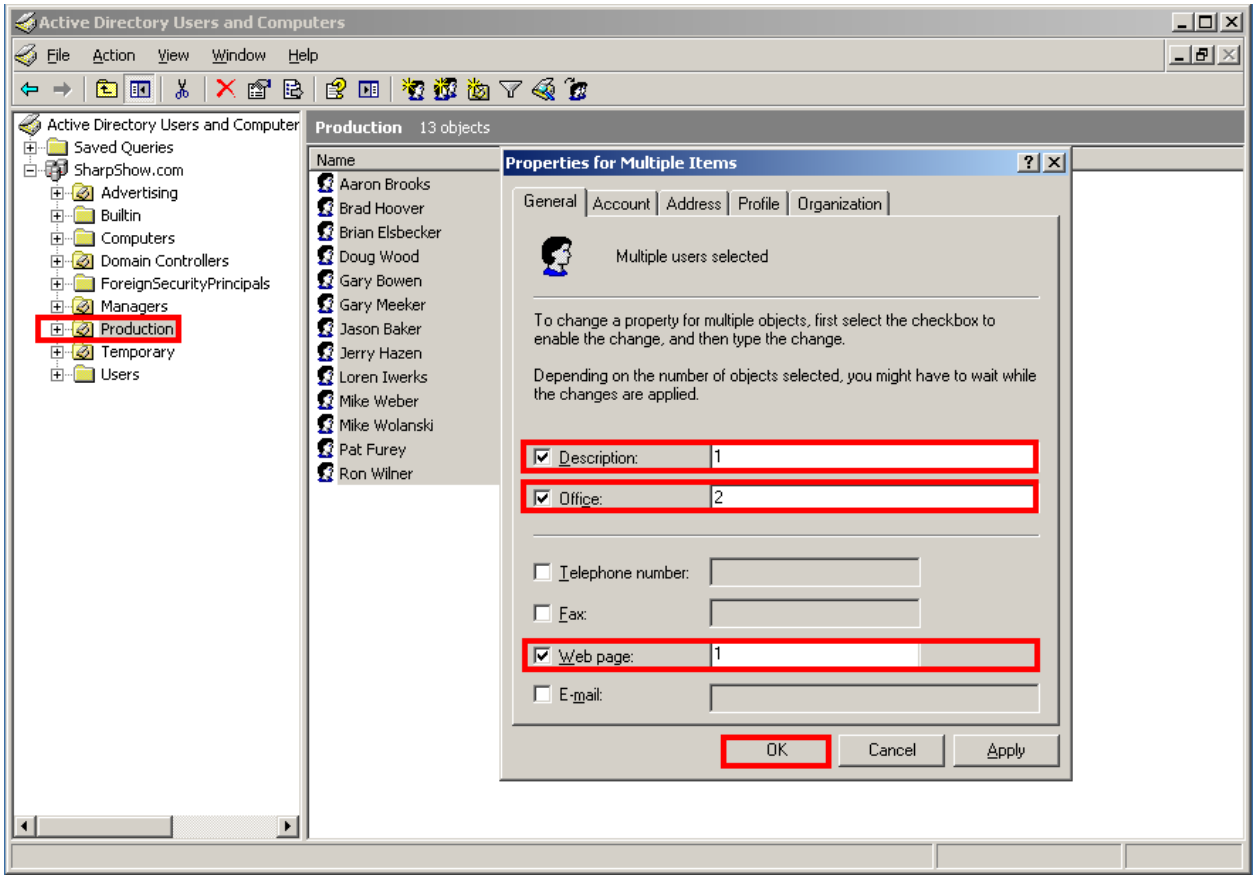
d. Next, open the Production organization unit. Highlight all the users in this unit, right click and select Properties. On the General tab, click on the checkboxes for Description, Office and Web page. Fill in the attribute values appropriate for the staff in the Production unit as shown. Click on the OK button when done.

Users in Production Organizational Unit		
Display Name	Group Assigned	Value
Description	Unlimited_Group	1
Office	Black_and_White	2
Web page	English	1



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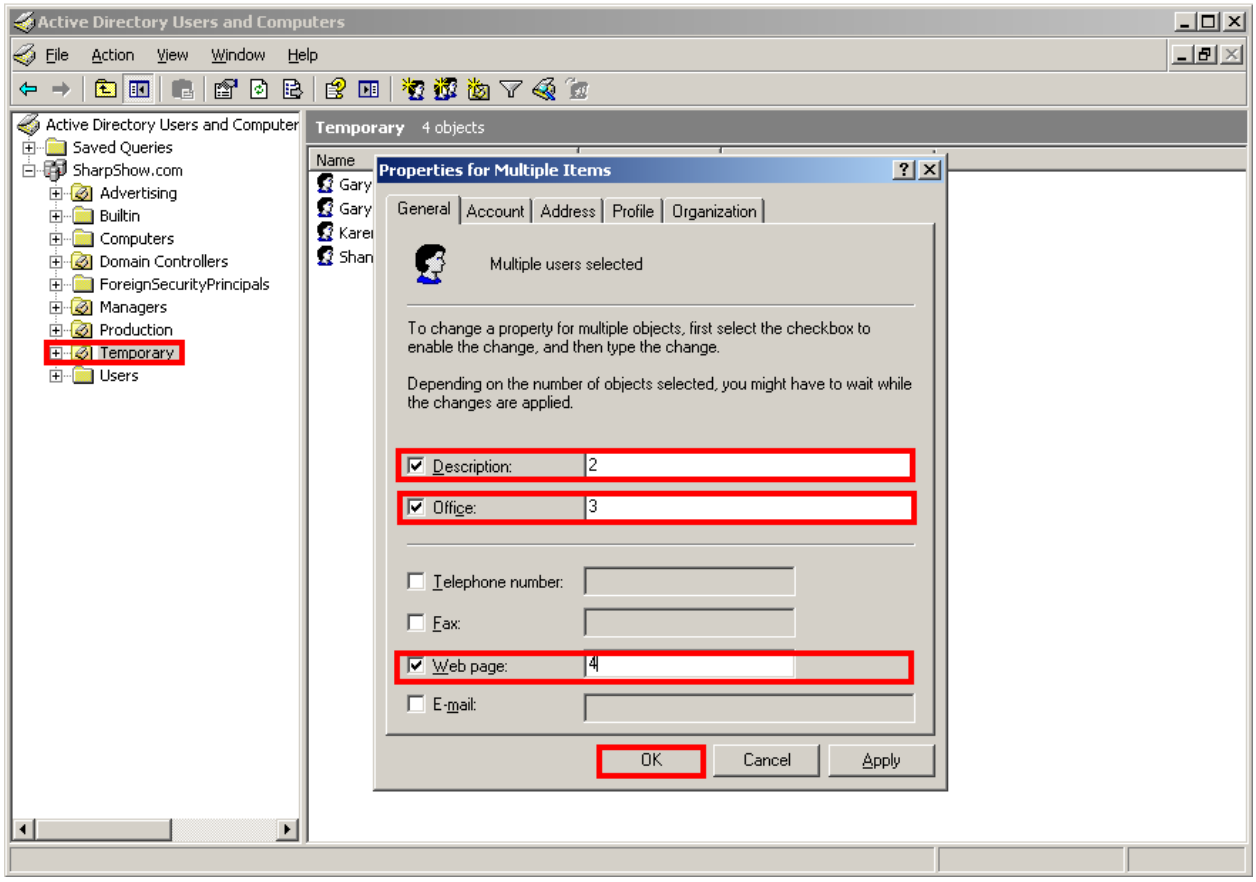
e. Finally, open the Temporary organizational unit. Highlight all the users in this unit, right click and select Properties. On the General tab, click on the checkboxes for Description, Office and Web page. Fill in the attribute values appropriate for the managers as shown below. Click on the OK button when done.

Users in Temporary Organizational Unit		
Display Name	Group Assigned	Value
Description	Limited_Group	2
Office	Restricted_User	3
Web page	Unauthorized	4



f. Changes in display language will have to be done on an individual basis by changing the value in the Web page attribute when requested by the user.

g. After updating the users' attributes, all network users will have their access to the MFP functions restricted as desired by the company. The MFP display will also be in the language requested by that user as shown on Pages 2 and 3 of this document. Test to ensure that the correct display and functions are available to each user group.

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6. Clone User Control, LDAP and Network Settings with Device Cloning.

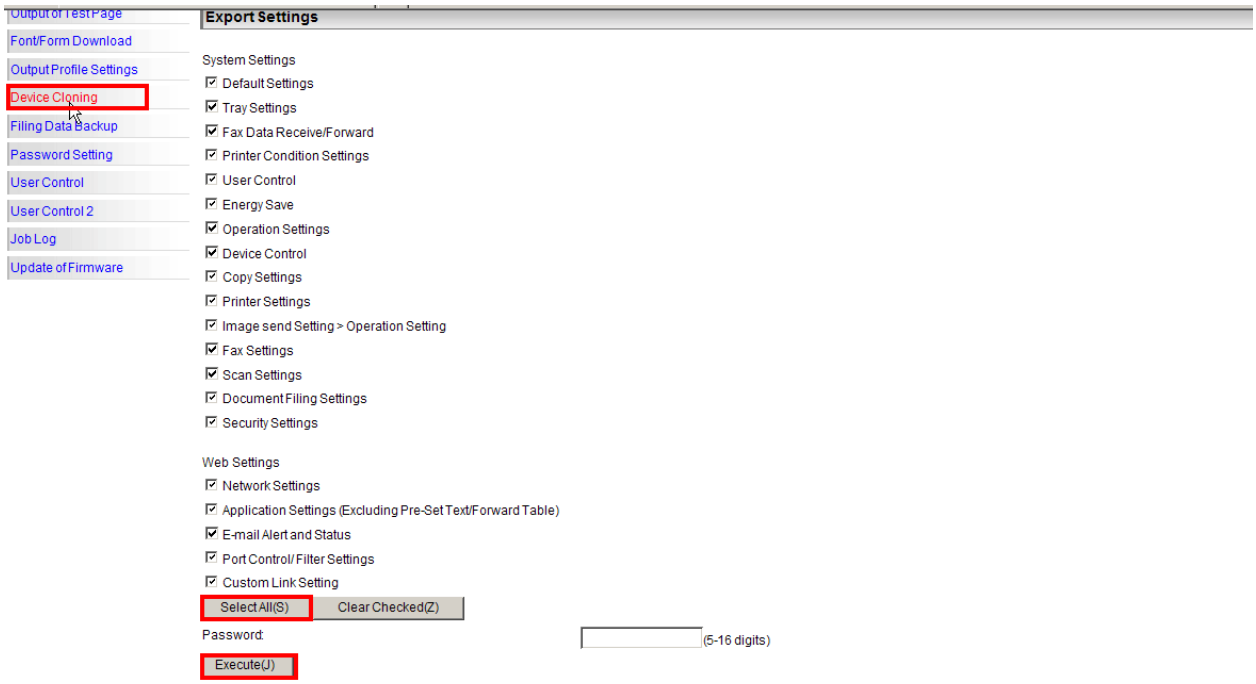
   If additional MFPs in the same network will be using LDAP Server Access Control, use the following procedure to clone the settings required after testing the original unit.

   a. Open the Service Web page of the MFP just configured using the following URL in Windows Internet Explorer:

http://{IP_Address_of MFP}/service_testpage.html

   b. Enter the default password service in the password field and click on the Submit button.

   c. Click on the Device Cloning menu item, click on the Select All button and then the Execute button.



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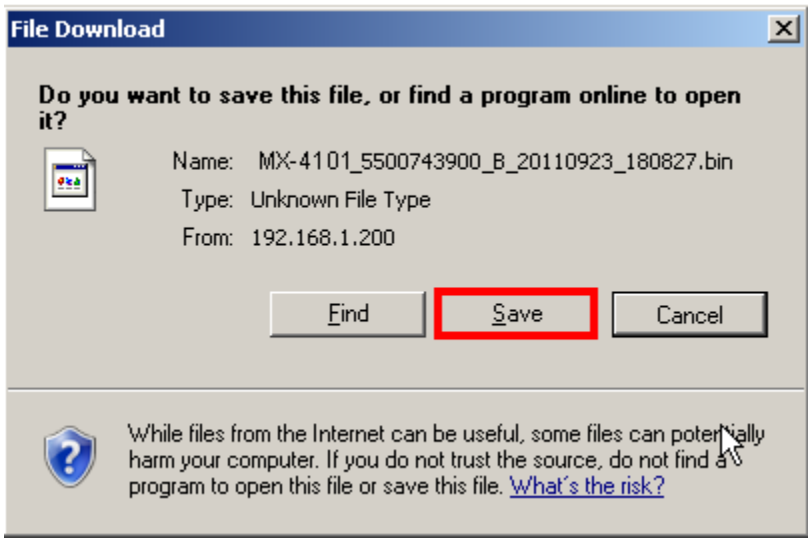
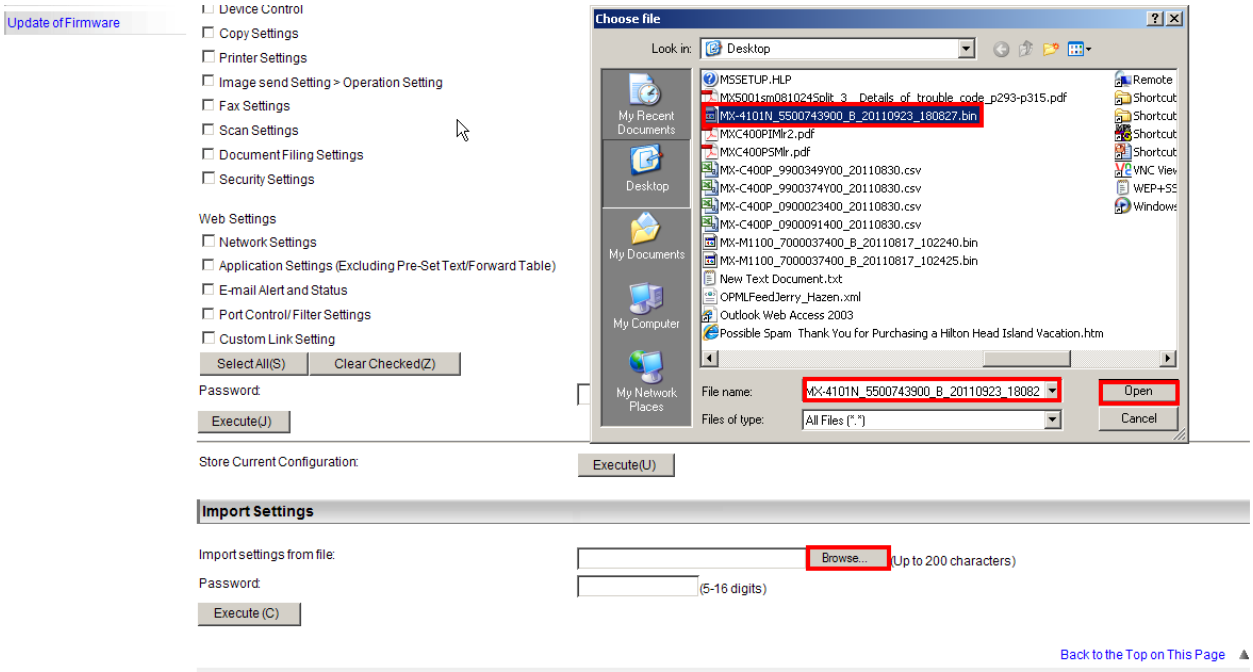
d. Click on the Save button to save the exported *.bin file in a known location on your computer.



e. Next, log into the Service Web page of the target MFP from the same computer where you saved the *.bin file. Click on the Device Cloning menu item and the click on the Browse button in the Import Settings area. Navigate to the saved *.bin file and click on the Open button.



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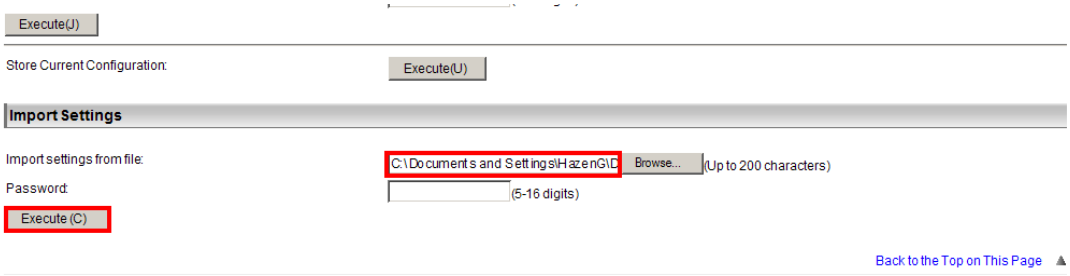
f. Click on the Execute button to import the clone file into the target MFP.



g. Repeat the above steps until all MFPs have the same clone file imported. Now network users will be have the same user experience regardless of which MFP they use in their network.

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