

# PaperCut OKI Open Platform Embedded Manual

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This manual covers the OKI Open Platform embedded MFD setup. For general PaperCut MF documentation, please see the [PaperCut MF manual](#).

## 1 Overview

This manual provides an overview of the installation, configuration and operation of PaperCut's embedded software MFD (Multi-Function Device) solutions. Today's MFDs are smarter – they have touch screens and offer the ability to run applications directly on the device. The goal of PaperCut Software's embedded MFD solution is to leverage these smart devices and to provide walk-up copier users with the same set of rich application features provided in the print control area. These include:

- Secure access to device functions
- End user authentication including integration with single sign-on environments
- Monitoring and control of photocopying (quotas, charging, allocation and logging)
- Allocation of copying to accounts/departments/cost-centers/projects (shared accounts)
- Ability to locate shared accounts via select-from-list, keyword search or manual code/pin entry
- Release jobs from a hold/release queue (Secure & Find Me Printing)
- Tracking of faxing and scanning

Highlights of the embedded solution include:

### 1.1 Consistency:

The embedded solutions are developed in-house by the PaperCut Software development team. This ensures that the copier interface is consistent with the workstation print interface, meaning users only have to learn one system.

### 1.2 Integration:

PaperCut is a single integrated solution where print, internet and copier control are all managed in the one system. Users have a single account and administrators have the same level of reporting and administration for all services. The embedded solution interacts with the PaperCut server using a Service Oriented Architecture (SOA) and web services based protocols.

### 1.3 Rate of development:

PaperCut is developed under a release-often policy where new features are made available to users as soon as they are complete. Unlike hardware based solutions, new versions can be delivered to users regularly as software updates.

### 1.4 Vendor Neutral:

PaperCut remains true to its vendor neutral stance. All embedded solutions are equal and support all server OS's including Windows, Linux and Mac.

### 1.5 Security:

A large percentage of PaperCut's user base is in Education environments where security is important. All embedded solutions are developed with security in mind. Where security objectives can't be satisfied, any known deficiencies are fully disclosed.

## 2 Installation

This section covers the installation of the PaperCut embedded application for compatible OKI devices. The embedded application will allow the control, logging and monitoring of walk-up off-the-glass copier, fax and scanner usage and may serve as a release station for network prints (for information on tracking network printing see the PaperCut user manual).

### 2.1 Requirements

Ensure that the following points are checked off before getting started:

- PaperCut is installed and running on your network. Please see the ‘Installation’ section of the PaperCut user manual for assistance.
- Ensure that your OKI MFD is in the list of supported devices. Check the device lists in 2.1.1 below.
- The OKI devices must be directly accessible over the network by the PaperCut server (i.e. not via a NAT network).
- Verify that the OKI Embedded Web Browser (EWB) is enabled on your device. This is enabled through the “External Interface Enabler” (Code: GS-1020). This is an option in some markets and you should check with your OKI representatives.
- Have available the network name and IP address of the system running PaperCut (e.g. the print server).
- Ensure that the OKI MFD is connected to the network.
- Have available the network address of the OKI MFD. It is recommended that the MFD is configured with a static IP.

#### 2.1.1 Supported OKI Devices

Please contact your local OKI vendor for the latest information on compatible OKI Open Platform devices and required firmware versions.

Currently the following devices are known to work

Product name	Firmware version
OKI CX3535 MFP, OKI CX4545 MFP, OKI ES9455 MFP, OKI ES9460 MFP, OKI ES9465 MFP, OKI ES9470 MFP, OKI ES9475 MFP	O146HD03012 (Refer to note below)
OKI MC760 OKI MC770, OKI ES7470 MFP, OKI MPS3537mc OKI MC780, OKI ES7480 MFP, OKI MPS4242mc, OKI MPS4242mcf, OKI MPS4242mcfx OKI MB770, OKI MPS5502mb OKI MB770f, OKI MPS5502mbf OKI MB770fx, OKI MPS5502mbfx	O280HD02146
OKI ES9475 MFP OKI ES9465 MFP OKI ES9455 MFP	O313HD0W1538

NOTE: Corresponding models don’t support Identity Number authentication.

Please note that there are regional variations in model numbers so please check with your local OKI supplier

### 2.1.2 PIN/ID and Card + PIN firmware support

PIN Support (which PaperCut uses for Identity Number authentication) and Card + PIN support (used for Card authentication requiring a PIN) is available for certain OKI models and firmware versions. Please check with your OKI vendor for availability.

## 2.2 Setup Procedure

### 2.2.1 Verify Access to the OKI Administrative Web Interface (TopAccess)

The OKI devices have an embedded web server that provides an alternate administration interface. The web interface is used to configure the MFD to connect to PaperCut.

To verify admin access:

1. On a computer, open your web browser
2. Enter the URL of the OKI device. E.g. <http://oki-device-ip/>
3. Click the "Administration" tab at the top right of the page.
4. Enter the device administrator username and password, and press "Login". By default this is Admin/123456.

### 2.2.2 Networking/Firewall Configuration

Ensure that your networking/firewall configuration allows:

- Inbound connections from the OKI devices to the PaperCut server on ports:
  - 10389 (TCP)
  - 9191 (TCP/HTTP).
- Outbound connections from PaperCut to the OKI Device on ports:
  - 49629 (TCP/HTTP)

### 2.2.3 PaperCut Settings

1. Log in to the PaperCut administration interface using a web browser (e.g. <http://papercut-server:9191/admin> ).
2. Navigate to 'Options -> Advanced' and ensure the option 'Enable external hardware integration' is enabled.



3. Press 'Apply'.

## 2.2.4 Device configuration

This section describes the LDAP and ODCA configuration for these devices. See section 2.1.1, for details of the devices and device series that are supported.

### 2.2.4.1 Configuring the o8 “Service Mode” MFP settings

Please note that all o8 “service mode” changes should be done **only by a qualified OKI technician**.

To support the Zero Stop functionality, the Counter Quota Setting should be made accessible by setting the following o8 code:

1. Enter o8 service mode.
2. Enter: 6086
3. Press the “Start” button.
4. Enter: 1 (0 is the default)
5. Press the “OK” button on the LCD screen.
6. Restart the MFP by holding down the “Main Power” button until it stops. Press again to restart.

The user experience can be improved by making the EWB screen be the initial default screen on log in by setting the following o8 code:

1. Enter o8 service mode.
2. Enter: 9132
3. Press the “Start” button.
4. Enter: 99
5. Press the “OK” button on the LCD screen.
6. Restart the MFP by holding down the “Main Power” button until it stops. Press again to restart.

If using a supported USB card reader for authentication, an additional o8 code setting is required. See Appendix A: Supported Authentication Card Readers on page 38 for the supported card readers and required o8 codes. To enable the card reader:

1. Enter o8 service mode.
2. Lookup the required config code in Appendix A: Supported Authentication Card Readers. e.g. for the Elatec USB reader use code 90001.
3. Change setting 3500 to the code for the given card reader. To do this:
  - Enter: 3500
  - Press “Start” button.
  - Enter the appropriate code.
  - Press the “OK” button on the LCD screen.
4. Restart the MFP by holding down the “Main Power” button until it stops. Press again to restart.

If using card authentication, verify that the correct LDAP field is being used to lookup the card number, as follows:

1. Enter 08 service mode.
2. Check the value of setting 9398, as follows:
  - Enter 9398
  - Confirm that the value is set to either “eBMUserCard” or “pager”. If not, change it to one of these values using the onscreen keyboard and press OK.
3. Restart the MFP by holding down the “Main Power” button until it stops. Press again to restart.

#### **2.2.4.2 (Optional) Dedicated screen for card authentication**

Note: Feature only available on certain firmware and model versions. Please check with your OKI vendor.

If you want to see a separate screen to prompt for swiping a card then the following 08 can be used to enable it.

1. Enter 08 service mode.
2. Check the value of setting 8727, as follows:
  - Enter 8727
  - Confirm that the value is set to either “1” to enable this screen or “0” to disable this screen.
3. Restart the MFP by holding down the “Main Power” button until it stops. Press again to restart.



#### **2.2.4.3 (Optional) Change the EXTENSION button label**

The button on the LCD, used to activate the embedded web browser (EWB), is labeled “EXTENSION”. If you would prefer a more descriptive label, this can be changed to any text of up to 10 characters by changing an 08 setting as follows:

1. Enter 08 service mode.
2. Change setting 9955. To do this:
  - Enter: 9955
  - Press “Start” button.
  - Enter the button description on the onscreen keyboard and press OK.



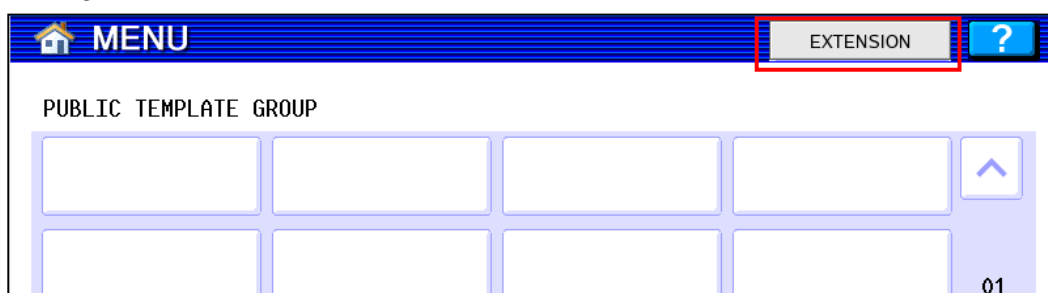
- Restart the MFP by holding down the “Main Power” button until it stops. Press again to restart.

#### 2.2.4.4 Enable the MFP Embedded Web Browser (EWB)

The OKI Embedded Web Browser (EWB) is an optional module licensed from OKI. This provides a web-based interface for print release, to select accounts/cost-centers, and to associate unknown card numbers from users. If your OKI MFP does not have the EWB module enabled please contact your OKI dealer.

To check if the EWB is enabled:

1. At the MFP device select the “Menu” hard button.
2. If the “EXTENSION” button is displayed and functional in the top right (see below), then the EWB is enabled. Note that this button may have been re-labeled in section 2.2.4.3.



To configure the EWB:

1. Log in to the MFP web interface (TopAccess) with your web browser.
2. Log in as the “Admin” user and select the “Administration” tab.
3. Navigate to the “Administration” -> “EWB” page.
4. Under the “Home Page Setting” set the “Home Page” setting as below (changing “server-address” for the address of your PaperCut server).

`http://server-address:9191/device/oki/`

alternatively to use an encrypted HTTPS connection (advisable when using card-association) enter:

`https://server-address:9192/device/oki/`

**NOTE:** To use HTTPS you must install an officially signed SSL certificate (e.g. from Verisign, Thawte, etc) in the PaperCut server and use the server’s DNS name. Without this the OKI embedded web browser will display a certificate warning message before displaying the page. See the PaperCut manual chapter “SSL/HTTPS Key Generation” for details.

5. Press the “Save” button.

#### 2.2.4.5 Configure MFP LDAP server

The OKI connects to the PaperCut using LDAP to authenticate users and validate card authentication. The MFP must be configured to establish an LDAP connection to the PaperCut server. To do this:

1. Log in to the device’s web administration (TopAccess) with a web browser.
2. Select the “Administration” tab and login as an admin user.



3. Select the “Maintenance” sub-section, and the “Directory Service” option (see below).

The screenshot shows the OKI web interface. At the top is a red header with the OKI logo. Below it is a navigation bar with tabs: Device, Job Status, Logs, Registration, Counter, User Management, Administration, and My Account. Under the Administration tab, there are sub-tabs: Setup, Security, Maintenance (highlighted with a red box), and Registration. Below the sub-tabs, the 'Maintenance' section is active, showing links: Create Clone File, Install Clone File, Import, Export, Delete Files, Directory Service (highlighted with a red box), Notification, Languages, System Updates, and Reboot. A 'New' button is visible. Below the links is a table with columns: Default Server, Directory Service Name, Server IP Address, and Search Base. The table contains one row with values: MFP LOCAL, localhost, and an empty Search Base field. At the bottom, there is a link: Go to top of this page.

4. Select the new button and enter the LDAP server settings as displayed below.

The screenshot shows the 'Directory Service Properties' form in the OKI web interface. The navigation bar is the same as in the previous screenshot. The 'Maintenance' sub-tab is active, and the 'Directory Service List' link is visible. Below the sub-tabs, there are buttons: OK, Reset, and Delete. The form contains the following fields and values:

- \*Required
- \*Directory Service Name: PaperCut LDAP Server
- \*Server IP Address: 172.31.29.56
- \*Port Number: 10389
- Authentication: Simple Bind (dropdown)
- Search Base: dc=pc,dc=local
- User Name: uid=pc-admin,dc=pc,dc=local
- Password: \*\*\*\*\*
- Search Timeout: 1 (dropdown)
- Enable SSL: Accept all certificates without CA (dropdown)
- SSL Port Number: 10636

<b>Directory Service Name</b>	Any name to identify the PaperCut LDAP server.
<b>Server IP address</b>	The network address of the PaperCut server.
<b>Port</b>	10389
<b>Authentication</b>	Simple Bind
<b>Search Base</b>	dc=pc,dc=local
<b>User Name</b>	uid=pc-admin,dc=pc,dc=local
<b>Password</b>	pc!ldap5
<b>Enable SSL</b>	Accept all certificates without CA
<b>SSL Port Number</b>	10636

**IMPORTANT:** You must use above Port, Authentication, Search Base, User Name, Password, Enable SSL and SSL Port Number exactly as shown above.

**NOTE:** If one wants to debug the LDAP protocol sequence, then one can set **Enable SSL** to *Disable* and set the **SSL Port Number** to 10389. The LDAP text data including the password will then be sent in plain text.

5. Press “OK” to save the LDAP settings.
6. If you have multiple LDAP servers defined, select the newly created LDAP server as the default.

#### **2.2.4.6 (Optional) MFP LDAPS (encrypted LDAP) server settings**

If you have configured PaperCut with an officially signed SSL certificate (e.g. from Verisign, Thawte, etc.) as described in the PaperCut manual chapter “SSL/HTTPS Key Generation”, then you can set the “Enable SSL” option to “Verify with imported CA certification(s)”.

If you want to use a different port number for the “SSL Port Number” then you can use a different value in TopAccess and modify the PaperCut configuration setting “ext-device.oki.ldaps-port” as follows:

1. Login to the PaperCut admin interface.
2. Go to the “Options” tab.
3. Select “Config Editor (Advanced)”, from the action links on the left.
4. Find the “ext-device.oki.ldaps-port” setting.
5. Enter the port number that was specified on the MFC in TopAccess or “-1” if you want to disable the LDAPS port in PaperCut.

Note that if you change the LDAPS port to another number, then you must restart the PaperCut Application Server (to make it listen on the new port) and you must make sure that your server’s firewall is not blocking this port number.

#### **2.2.4.7 Configure Print Data Converter**

To ensure that the OKI MFP does not attempt to track print jobs or restrict them in any manner, a Print Data Converter file must be installed. It can be imported as follows:

1. Log in to the device web administration (TopAccess) with a web browser.
2. Select the “Administration” tab and “Setup”.
3. Select the “Print Data Converter” link.
4. In the “Import New Converter” section, select the following file:  
`[app-path]\providers\hardware\oki\Disable_Print_Authentication.xml`
5. Press the “Import” button.
6. Enable the Print Data Converter from the drop-down list.

7. After completing this import the screen should look like the following:

The screenshot shows the OKI Administration Setup screen. The top navigation bar includes tabs for Device, Job Status, Logs, Registration, Counter, User Management, Administration (selected), and My Account. Below this, there are sub-tabs for Setup, Security, Maintenance, and Registration. The Setup sub-tab is active, showing a breadcrumb trail: General | Network | Copier | Fax | Save as file | Email | InternetFax | Printer/e-Filing | Printer | Print Service | ICC Profile | Print Data Converter | EWB | ODCA | Version. There are 'Save' and 'Cancel' buttons. The 'Print Data Converter Setting' section shows 'Print Data Converter' set to 'Enable'. The 'Import New Converter' section has a 'File Name' field with 'Choose File' and 'No file chosen' buttons, and an 'Import' button. The 'Current Converter' section has 'Delete' and 'Export' buttons. A table lists the current converter:

File Name	File Size	Date
Disable Print Authentication.xml	528	Mon Jun 16 08:59:20 2014

One caveat with doing this is that the network print jobs will be owned by the user “printope” and by default, the real owner of the print job will not be able to delete the print job from the Job Status screen on the copier. To work around this limitation for the Job status screen, one can change an 08 code to allow anyone to delete a print job:

1. Enter 08 service mode.
2. Change setting 8726 to 1 (default is 0). To do this:
  - a. Enter: 8726
  - b. Press “Start” button
  - c. Enter: 1 (to allow all users to delete others print jobs)
  - d. Press the “OK” button on the LCD screen.

To allow the user to delete their jobs from the Private/Hold screen on the copier, the following 08 code should be set:

1. Enter 08 service mode.
2. Change setting 9236 to 3 (default is 1). To do this:
  - a. Enter: 9236
  - b. Press “Start” button
  - c. Enter: 3 (to allow users to see their own jobs and be able to delete them)
  - d. Press the “OK” button on the LCD screen.

#### **2.2.4.8 Enable ODCA (Off Device Customization Architecture) Setting**

To support the communication of a variety of tasks in Open Platform, the ODCA setting should be enabled.

1. Log in to the device web administration (TopAccess) with a web browser.
2. Select the “Administration” tab and “Setup”.
3. Select the “ODCA” tab.
4. Enable the port in the drop down list.
5. After completing this the screen should look like this:

The screenshot shows the OKI TopAccess web administration interface. The top navigation bar includes tabs for Device, Job Status, Logs, Registration, Counter, User Management, Administration, and My Account. The Administration tab is selected, and the Setup page is displayed. The Setup page has sub-tabs for Setup, Security, Maintenance, and Registration. The Setup sub-tab is active, showing a list of links: General, Network, Copier, Fax, Save as file, Email, InternetFax, Printer/Filling, Printer, Print Service, ICC Profile, Print Data Converter, EWB, ODCA, and Version. Below the links are Save and Cancel buttons. The main content area is titled 'Off Device Customization Architecture Setting' and contains two sections: Network and Configuration. The Network section is expanded, showing 'Enable Port' set to 'Enable' (highlighted with a red box), 'Port Number' set to '49629', 'Enable SSL Port' set to 'Disable', and 'SSL Port Number' set to '49630'. The Configuration section shows 'Session Timeout(60-99999)' set to '60' seconds.

#### 2.2.4.9 Enable Job Quota for Zero Stop

To enable the zero stop functionality, the Quota Setting needs to be set to “Job Quota”. Please ensure that the corresponding 08 code is set in section 2.2.4.1.

1. Log in to the device web administration (TopAccess) with a web browser.
2. Select the “Counter” tab.
3. Select the “Quota Setting” tab.
4. Select the “Job Quota” for the Quota Setting (instead of the default of “Black/Colour Quota”).
5. Please disregard the Weight Setting values in the boxes on the right hand side as they are irrelevant.

6. After completing this the screen should look like this (ignoring the Weight Setting values):

#### 2.2.4.10 Enable LDAP User Authentication

1. Log in to the device's web administration (TopAccess) with a web browser.
2. In TopAccess, select "Administration" -> "Security".
3. Under the "User Authentication Setting" heading change the following options.
4. Change "User Authentication" to "Enable".
5. Change "Authentication failed print job/Raw Print Job" to "Print"
6. Set the "Authentication Type" to "LDAP Authentication"
7. Choose one of the empty LDAP server entries in the table such as "LDAP Server 1".
8. For the "LDAP Server1", select the PaperCut LDAP server configured previously.
9. Select the "LDAP Server (Other than Windows Server)" option.

10. Set the "Attribute type of 'user name'" to **uid**. (Please note that this is case-sensitive.)
11. Enable the RBAC by setting "Role Based Access using LDAP server" to "Enable".

12. Set the RBAC LDAP server to the PaperCut LDAP server defined previously.
13. If using card authentication, set the card authentication LDAP Server to the PaperCut LDAP server previously defined.
14. Please check that the PaperCut LDAP server is specified now in 3 places:
  1. User authentication
  2. Role based access setting
  3. Card authentication setting
15. If under “User Authentication Setting” it has the option of “Create User Information Automatically”, ensure it is enabled.
16. Note that if you have done a firmware update of the copier, please check that the update has not incorrectly modified any of these settings (for example, ensure that the LDAP Server’s User Name attribute is still “uid”).
17. Verify that the settings are all set as described (see screenshot)

**User Authentication Setting**

User Authentication: Enable

Authentication failed print job/Raw Print Job: Print

Auto Release on Login: Disable

☐ Use Password Authentication for Print Job  
\*It is not able to print from other than Windows Client when this function is enabled.

☐ Enable Guest User

Authentication Type: LDAP Authentication

☒ Create User Information Automatically

Primary	LDAP Server	Type	Attribute type of "User Name"
<input checked="" type="radio"/> <a href="#">LDAP Server1</a>	papercut ldap server	LDAP Server (Other than Windows Server)	uid
<input type="radio"/> <a href="#">LDAP Server2</a>	Disable		
<input type="radio"/> <a href="#">LDAP Server16</a>	Disable		

**Role Based Access Setting**

Role Based Access using LDAP server: Enable

LDAP Server: papercut ldap server

**PIN Code Authentication Setting**

PIN Code Authentication: Disable

Minimum PIN Code Length: 1 (1-32)

**Card Authentication Setting**

Auto Change Login User: Enable

☒ Enable Guidance Screen

☐ Require PIN Code

Primary	LDAP Server	Type	Attribute type of "User Name"
<input checked="" type="radio"/> <a href="#">LDAP Server1</a>	papercut ldap server	LDAP Server (Other than Windows Server)	uid
<input type="radio"/> <a href="#">LDAP Server2</a>	Disable		
<input type="radio"/> <a href="#">LDAP Server3</a>	Disable		
<input type="radio"/> <a href="#">LDAP Server4</a>	Disable		

18. If the MFP supports PIN authentication, you have PaperCut MF version 13 or higher and you want to support Identity Number authentication in PaperCut, then you should enable PIN Code authentication.

**Role Based Access Setting**  
 Role Based Access using LDAP server    
 LDAP Server

**PIN Code Authentication Setting**  
 PIN Code Authentication    
 Minimum PIN Code Length  (1-32)

Primary		LDAP Server	Type	Attribute type of "User Name"	Attribute type of "PIN"
<input checked="" type="radio"/>	<a href="#">LDAP Server1</a>	papercut ldap server	LDAP Server (Other than Windows Server)	uid	eBMUserPIN
<input type="radio"/>	<a href="#">LDAP Server2</a>	Disable			
<input type="radio"/>	<a href="#">LDAP Server3</a>	Disable			

**Card Authentication Setting**  
 Auto Change Login User    
☒ Enable Guidance Screen  
☐ Require PIN Code

Primary		LDAP Server	Type	Attribute type of "User Name"
<input checked="" type="radio"/>	<a href="#">LDAP Server1</a>	papercut ldap server	LDAP Server (Other than Windows Server)	uid
<input type="radio"/>	<a href="#">LDAP Server2</a>	Disable		
<input type="radio"/>	<a href="#">LDAP Server3</a>	Disable		

19. Set the "Attribute type of 'User Name'" to **uid**.  
 20. Set the "Attribute type of 'PIN'" to **eBMUserPIN**.

**PIN Code Authentication**

LDAP Server1

☐ Windows Server  
☒ LDAP Server (Other than Windows Server)

Attribute type of "User Name"

Attribute type of "PIN"

21. If you have PaperCut MF version 13.1 or higher and you want to support swipe cards requiring a PIN, then enable "Require PIN Code" for the Card Authentication Setting.

**Card Authentication Setting**  
 Auto Change Login User    
☒ Enable Guidance Screen  
☒ Require PIN Code

Primary		LDAP Server	Type	Attribute type of "User Name"
<input checked="" type="radio"/>	<a href="#">LDAP Server1</a>	papercut ldap server	LDAP Server (Other than Windows Server)	uid
<input type="radio"/>	<a href="#">LDAP Server2</a>	Disable		



22. Optionally, you can set up the Email Address Setting. An example setting is:

When User Authentication or Email Authentication is enabled, select whether to set the Email address of the authenticated user as a destination. The available options are (we have chosen the “To:” option in the screenshot):

Option	Purpose
<b>None</b>	Not used as a destination
<b>Fixed To</b>	Only the Email address of the authenticated user is used for "To".
<b>To</b>	The Email address of the authenticated user is added to "To".
<b>Cc</b>	The Email address of the authenticated user is added to "Cc".
<b>Bcc</b>	The Email address of the authenticated user is added to "Bcc".

23. Press “Save” to confirm the changes.

24. Reboot the MFP for these settings to take effect.

### 2.2.5 Create OKI MFP device in PaperCut

Now that the MFP is configured, the device can be configured in PaperCut:

1. Log in to the PaperCut administration interface using a web browser (e.g. <http://papercut-server:9191/admin> ).
2. Navigate to ‘Options -> Advanced’ and ensure the option ‘Enable external hardware integration’ is enabled, and press “Apply” to save the change.
3. Select the “Devices” tab and press the “Create device” action link on the left.
4. Choose Device type of “OKI (Open Platform)”.
5. Enter the device details, including the network address / IP address of the OKI device.
6. Select the device functions to control/log (e.g. copying, scan, fax, etc).

### Create Device

Allows for the creation of an external device, like a photocopier terminal. Supported hardware is required.

Type  
OKI (Open Platform)

Device name (e.g. Staff room copier, Library cash loader)  
Oki

Location/Department (Optional)  
Main Library

Hostname / IP  
10.100.64.50

Device's administrator username  
admin

Device's administrator password  
••••••••

Function

☒ Track & control copying

☒ Track & control scanning

☒ Track & control faxing

☐ Enable print release

Additional configuration is available after the device is created.

7. Press OK, to create the device.
8. On the device details page, change options as required. For example, here you can change the costs of copying, scanning and faxing. And select the print queues that this device will act as a "Print Release Station" for.
9. Press "OK" to save the changes.
10. The device appears on the device list. If the connection to the device is established the status column will not have an "error" state.

Device Name ▲	Function	Type	Hostname	Status
device!Oki	Copier, Scanner, Fax	OKI (Open Platform)	10.100.64.33	Started

## 2.3 Upgrading to a newer version

The embedded application will be up to date when you upgrade your PaperCut installation, no further action is necessary.

## 3 Post-install testing

After completing installation and basic configuration it is recommended to perform some testing of the common usage scenarios. This is important for two reasons:

1. To ensure that the embedded application is working as expected
2. To familiarize yourself with the features and functionality of PaperCut and the embedded application.

This section outlines three test scenarios that are applicable for most organizations. Please complete all the test scenarios relevant for your site.

### 3.1 Test Preparation

To complete these tests it is recommended you use two test users so that each can be configured differently. These users are:

- 'testusersimple' – is used to perform basic copier monitoring and control and to perform print release tests.
- 'testuseradvanced' – is used to perform copier monitoring and control with the account selection enabled (i.e. to charge copying to accounts/departments/cost-centers/etc).

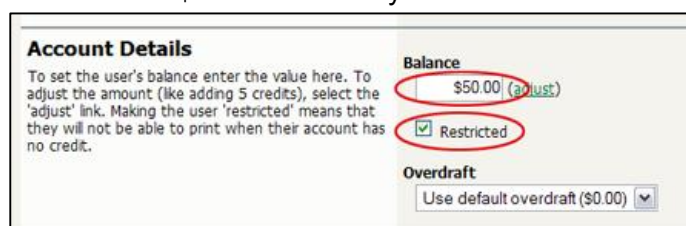
If you already have existing users for testing, then there is no need to create the users above. Instead you can use your existing users for testing.

To setup these users in PaperCut:

1. Create the 'testusersimple' and 'testuseradvanced' users in your Active Directory or LDAP directory.
2. Login to the PaperCut's admin web interface
3. Go to the "Options->User/Group sync" page and press "Synchronize Now".
4. Once the sync is complete, the users will be added to PaperCut.

The next step is to configure the users. To configure 'testusersimple':

1. In PaperCut, select the "Users" tab
2. Select the 'testusersimple' user.
3. Set the user's balance to \$50.00 and verify the account is set to "Restricted".



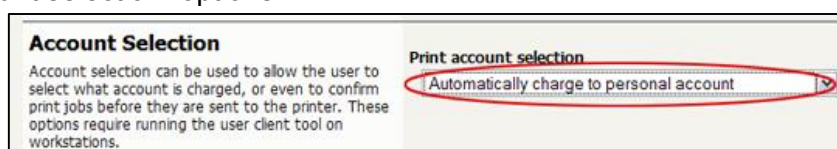
**Account Details**  
To set the user's balance enter the value here. To adjust the amount (like adding 5 credits), select the 'adjust' link. Making the user 'restricted' means that they will not be able to print when their account has no credit.

**Balance**  
\$50.00 (adjust)

☒ Restricted

**Overdraft**  
Use default overdraft (\$0.00)

4. Verify that this user is set to "Automatically charge to personal account" in the "Account selection" options.



**Account Selection**  
Account selection can be used to allow the user to select what account is charged, or even to confirm print jobs before they are sent to the printer. These options require running the user client tool on workstations.

**Print account selection**  
Automatically charge to personal account

5. Press the "OK" button to save.

To configure 'testuseradvanced':

1. In PaperCut, select the "Users" tab
2. Select the 'testuseradvanced' user.
3. Change the "Account Selection" option to "Standard account selection popup" and enable all the account selection options.

**Account Selection**

Account selection can be used to allow the user to select what account is charged, or even to confirm print jobs before they are sent to the printer. These options require running the user client tool on workstations.

**Print account selection**

Show the standard account selection popup

**Information to show in popup**

- ☒ Allow user to charge to their personal account
- ☒ Allow user to select shared accounts (from list)
- ☒ Allow user to select shared accounts (using PIN/code)

4. Press the "OK" button to save.

### 3.2 Scenario 1: Standard copying

Standard copying involves monitoring/charging printing to a user's personal account. This is most commonly used for student printing or basic staff monitoring. Users can also be configured for unrestricted printing, which is commonly used for staff/employee use.

At the photocopier device:

1. Enter the 'testusersimple' username and password and press "Login".
2. At this point the copier will be enabled for use. Any copying/scanning/faxing performed will be charged to the logged in user.
3. Once completed, press the "Access" or "Function Clear" or "Authentication" hard button to logout of the device.

Back in the PaperCut application verify that the copier activity was recorded and the user's account deducted.

1. Log in to PaperCut.
2. Select the device from the "Devices" tab.
3. Select the "Job Log" tab. This will list all recent copying activity on the copier. The copying just performed as the test user should be listed. Verify the details of the copy job that was just performed.

Usage Date ▼	User	Charged To	Pages	Cost	Document Name	Attribs.
Apr 16, 2008 2:59:30 PM	testusersimple	testusersimple	2 (Color: 0)	\$0.20	[copying]	A4 (ISO_A4) Duplex: No Grayscale: Yes

4. Click on the user's name in the user column to view the user's account details
5. Select the "Job Log" tab to display all print/copy activity for the user.
6. Select the "Transaction History" tab and verify that the cost of the photocopying was deducted from the user's account.

Transaction date ▼	Transacted by	Amount	Balance after
Apr 16, 2008 3:05:40 PM	[system]	-\$0.20	\$49.80
Apr 16, 2008 3:04:15 PM	admin	\$40.20	\$50.00

### 3.3 Scenario 2: Copying with account selection

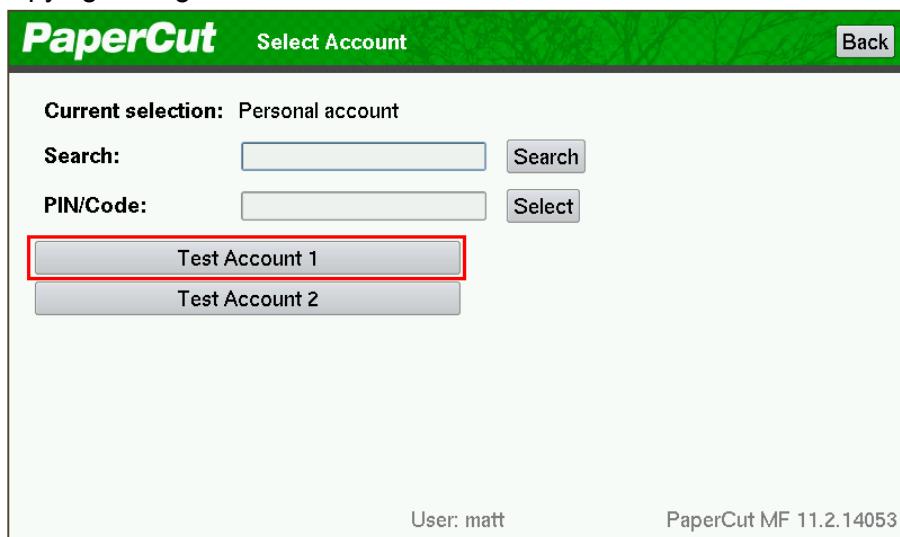
Copying can be allocated to “shared accounts” that represent departments, projects or cost centers. This is commonly used by staff in academic organizations to allocate printing to departments.

First some test accounts should be created:

1. Log into PaperCut, select the “Accounts” tab.
2. Select the “Create a new account...” action link on the left.
3. Enter an account name “Test Account 1”.
4. Press “Apply”.
5. Select the “Security” tab and allow all users to access that account by adding the “[All Users]” group.
6. Press “OK”.
7. Repeat the process to create another few accounts.

At the photocopier:

1. Enter the ‘testuseradvanced’ username and password and press “Login”.
2. At this point any copies for the user will be charged to the user’s personal account.  
To select another account open the EWB by:
  - a. Pressing the “Menu” hard key (right of the LCD)
  - b. Pressing the “EXTENSION” button.
3. The EWB will display a summary screen showing the user information. Press the “Select Account” button.
4. The screen will display the account selection options (which changes based on user settings and the number of accounts available). Select the account to allocate copying to. E.g. “Test Account 1”.



5. Press the “Copy” hard key and perform some test copying.
6. Once completed, press the “Access” or “Function Clear” or “Authentication” hard button to logout of the device.

Back in the PaperCut application verify that the copier activity was recorded and the user's account deducted.

1. Log in to PaperCut
2. Select the device from the “Devices” tab
3. Select the “Job Log” tab. This will list all recent copying activity on the copier. The copying just performed as the test user should be listed.
4. Verify the details of the job (i.e. that the job was charged to the selected account).
5. In the log details, click on the “Charged To” account name to view the account's details.
6. Selecting the “Job Log” tab will display all print/copy activity for the account, and will show the test photocopying that was performed.

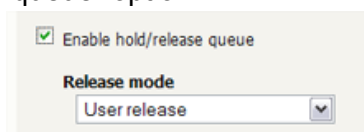
### 3.4 Scenario 3: Print release

The embedded application may also be used for print release. For full description of PaperCut hold/release queues and release stations, please read the PaperCut manual.

Skip this scenario if hold/release queues will not be used at your site.

To perform print release testing, a hold/release queue must be enabled:

1. In PaperCut, select the “Printers” tab.
2. Select the print queue (i.e. not the ‘device’) for the OKI MFD that is used for testing.
3. Enable the “Hold/release queue” option.



4. Press OK/Apply to save the changes. All printing to this queue will now be held until released by a user.

The photocopier device must also be enabled as a “Print Release Station”:

1. In PaperCut, select the “Devices” tab.
2. Select the OKI MFD's device.
3. In the “External Device Settings”, change the “Device Function” and enable “Release Station” option.
4. Select the print queue that was enabled for hold/release above. The OKI device will allow jobs on the selected queues to be released.
5. Press “OK” to save. You will now notice in the External Device List that the device is listed as having the function of a “Print Release Station”.
6. Login to a computer workstation as ‘testusersimple’.
7. Print a few jobs to the print queue that was configured above. The jobs will be held in the hold/release queue.
8. Confirm that the jobs are held, by checking that the jobs are listed in the “Printers->Jobs Pending Release” page of the PaperCut administration interface.
9. Confirm that the username is ‘testusersimple’.

At the photocopier device:

1. Enter the 'testusersimple' username and password and press "Login".
2. Select the "Release Held Print Jobs" option.
3. The list of held print jobs is displayed.

<b>PaperCut</b> Held Print Jobs <span>Refresh</span> <span>Print All</span> <span>Back</span>					
Time	Document	Pages	Cost		
11:47:22	Budget – OpenOffice.org Calc	98	\$9.80	Print	Cancel
11:47:21	Microsoft PowerPoint – Presentation	99	\$9.90	Print	Cancel
11:47:20	Microsoft Word – Document1	38	\$3.80	Print	Cancel
11:47:19	research paper.pdf	62	\$6.20	Print	Cancel
11:46:05	Budget – OpenOffice.org Calc	38	\$3.80	Print	Cancel
11:46:04	research paper.pdf	23	\$4.60	Print	Cancel
11:46:03	Microsoft PowerPoint – Presentation	93	\$9.30	Print	Cancel
11:46:02	Stats – OpenOffice.org Writer	25	\$5.00	Print	Cancel
1 / 2					Next >>

4. Select the job to release by pressing the "Print" button next to the job.
5. The job will then print.
6. Try cancelling a job by pressing the "Cancel" button next to the job.
7. The job will be cancelled, and will not print.



## 4 Configuration

After completing the Installation section and registering the device with PaperCut, it will have been configured with reasonable default settings that are suitable for most environments. This section covers how to change the default settings. All the following settings are available via the device's 'Summary' tab in the PaperCut administration interface.

### 4.1 Device Function

The device function setting defines which functions will be available on the device and how it will be used. Not all function settings are supported on all devices.

Device function (e.g. copy, print release, etc)

☒ Track & control copying

Page cost

\$0.10
(simple)

☐ Track & control scanning
☐ Track & control faxing
☐ Enable print release

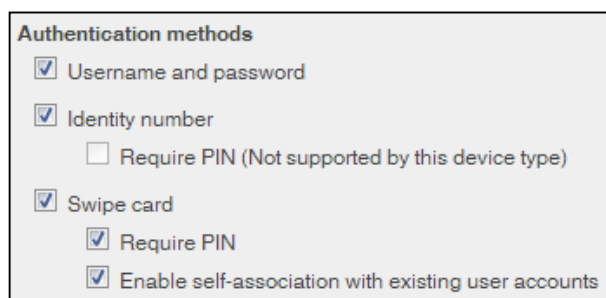
Each device function is discussed in the following table.

Device Function	Description
Track & control copying	The device will track walk-up off-the-glass copying and on-device printing.
Track & control scanning	The device will track scanning such as scan-to-email or scan-to-file.
Track & control faxing	The device will track the sending of faxes.
Enable release station	The device will act as a print release station.

### 4.2 Authentication Methods

PaperCut supports a number of different ways to authenticate users who walk-up to the devices to perform copying. The default authentication method is username and password authentication.

The available authentication methods can be modified in the 'External Device Settings -> Authentication methods' section.



**Authentication methods**

- ☒ Username and password
- ☒ Identity number
  - ☐ Require PIN (Not supported by this device type)
- ☒ Swipe card
  - ☒ Require PIN
  - ☒ Enable self-association with existing user accounts

**Authentication methods available for a device**

Each authentication method is discussed in the following table.

Authentication Method	Description
Username and password	The user may use their domain/network username and password to log into the device.
Identity number	The user can enter a predetermined number to log into the device. The dialog on the panel will actually ask for a PIN but this is actually referring to PaperCut's identity number associated for that user. This method is supported since PaperCut MF version 13.
Swipe card	The user may log in by swiping a card (e.g. magnetic strip, smart card, RFID). See the PaperCut user manual for information about user card numbers, including importing card numbers from an external source.

**Description of authentication methods**

### 4.3 Shared Account Selection

Shared account selection options at the MFD mirror the options presented in the PaperCut client print popup. The options available include:

- Select from a list of shared accounts
- Search for shared accounts by keyword
- Select account using PIN/Code

The options available to each user, as well as account security access, will mirror the same options available when the user prints. "Select from list" and/or "Select using PIN/Code" are controlled at the user level via the *User Details* page under "Account Selection" when showing the "standard account selection popup". The Security tab on each account controls account security/access.

**Note:** The search option will only appear if the account list is long. Short lists of only a few accounts will not list a search option.

### 4.4 Customizing Text and Messages

PaperCut allows some text that appears in the device to be customized. The custom text might include instructions or terminology that is more appropriate for the site. An example of text that is customizable is the "welcome text" that displays on the EWB screen that shows the user details.

The text can be customized by editing the device configuration from the PaperCut administration interface. For more details see the Advanced Configuration section.

## 4.5 Setup Scan-to-Network Folder

OKI devices can be configured to scan to network folders that can be predetermined for each user. This functionality **requires** PaperCut MF version 12.4 or later. The process to configure this functionality is:

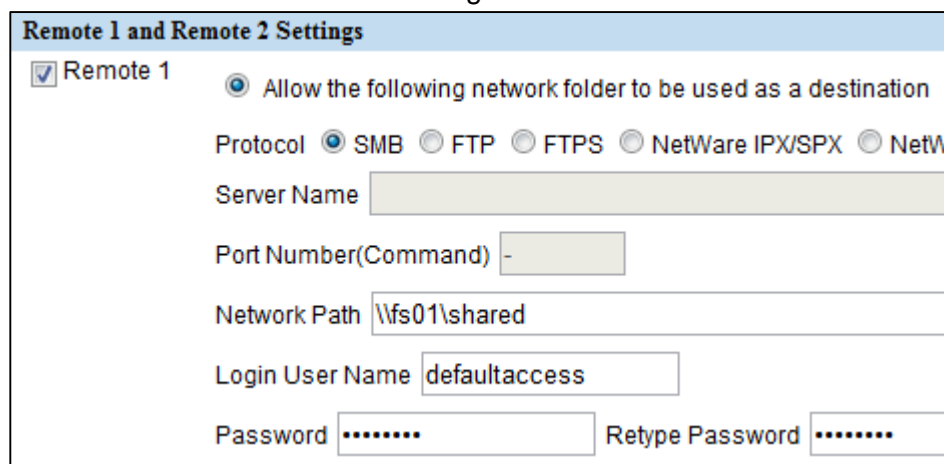
- 1) Under the OKI TopAccess configuration, navigate to Administration -> Security.
  - a. Click the LDAP Server link that is set as the Primary for Role Based Access Setting.
  - b. In the new window, set the “Attribute type of ‘User Name’” to “sAMAccountName” instead of “uid”.
  - c. Repeat this process, if necessary, for the Primary LDAP Server for Card Authentication Setting.
  - d. When the settings have been completed as indicated above, click Save.
- 2) Create a directory server connection under the OKI TopAccess configuration, navigating to Administration -> Maintenance -> Directory Service. Click “New” and fill out the LDAP settings with details that point to the AD/LDAP directory containing the users’ network folder information.
- 3) Under the OKI TopAccess configuration, navigate to Administration -> Security and locate the **Home Directory Setting** section.
  - a. Set the option to “Enable”.
  - b. Select the directory server object created in Step 1.
  - c. Select the option “Use specific server”, to choose the server in Step 2b as the source of the Home Directory information.

- d. When the settings have been filled out as indicated above, click Save.
- 4) Under the OKI TopAccess configuration, navigate to Administration -> Setup -> Save As File, and locate **Destination**. Select “Use Network Folder Destination”, and set the “Default File Path” to “Remote 1”.

- 5) On the same screen, locate the **Remote 1 and Remote 2 Settings**.
  - a. Fill out the settings under “Remote 1”. This is the network location that will be overwritten by the user’s home directory attribute. The entered details will be

used as the default if the user's home directory cannot be queried from the directory server object used in Step 1 and 2.

- b. Enter the login username/password for a user account that has **read/write permissions to all user home directories**. These credentials will be used to authenticate to the shared drive if the user authenticates with card authentication. If the user logs into the device with standard credentials, those will be used to authenticate against the network folder.



**Remote 1 and Remote 2 Settings**

☒ Remote 1      ☒ Allow the following network folder to be used as a destination

Protocol ☒ SMB ☐ FTP ☐ FTPS ☐ NetWare IPX/SPX ☐ NetW

Server Name

Port Number(Command)

Network Path

Login User Name

Password  Retype Password

- 6) When the settings have been filled out as indicated above, click Save.

## 4.6 Adding application button links on the welcome page

PaperCut allows one or two buttons to be added to the initial PaperCut welcome page which allows the Embedded Web Browser (EWB) to redirect to configured URLs. This can be used, for instance, to go to a 3<sup>rd</sup> party scan connector application. For more details about the configuration variables to set, please refer to the Advanced Configuration section and modify the configuration variables prefixed by “*ext-device.oki.app-button*”.

## 5 Advanced Configuration

### 5.1 Config Editor

The common configuration options for a device in PaperCut are available on the device's 'Summary' tab, and are discussed in more detail in the Configuration section. This section covers the more advanced or less common configuration options which are available via the 'Advanced Config' tab in the device details screen.

Config name	Description
ext-device.admin.password	The admin password for the OKI copier.
ext-device.admin.username	The admin username for the copier, by default it is “admin”.
ext-device.card-no-regex	See chapter section 5.5.

ext-device.card-self-association.use-secondary-card-number	<p>Select whether user self-association should occupy the primary or secondary card number. It overrides the global setting unless the keyword "GLOBAL" is specified. This is useful when there is a mix of different non-configurable card readers that read different numbers from an ID card.</p> <p>Set to "Y" to use the secondary card number, "N" to use the primary card number. Default: "GLOBAL" to defer to the global configuration option.</p>
ext-device.oki.welcome-text	<p>The text displayed on the 'welcome screen' (the screen displayed after pressing 'Start' from the ready screen). This text can be used to provide specific information about logging in to the device. Default: DEFAULT (uses the default application text).</p>
ext-device.oki.locale-override	<p>Used to override the language displayed on the device. This is the 2 letter language code for the required language. E.g. "ja" for Japanese.</p>
ext-device.oki.release-columns	<p>The columns to display in the print release screen. This is a comma separated list of column names. The valid column names are:</p> <ul style="list-style-type: none"> <li>• time – the time of the job</li> <li>• user – the username of the user that printed</li> <li>• document – the document name</li> <li>• pages – the number of pages in the job</li> <li>• cost – the cost of the job</li> <li>• client – the client machine name</li> <li>• datetime – the date &amp; time of job</li> </ul> <p>When set to DEFAULT the following are used: Secure print release mode: time, document, pages, cost. Release any mode: time, user, document, pages, cost</p>
ext-device.oki.header-font-color	<p>The color used for the font in the header. The color should be entered as a HTML RGB value in the format #RRGGBB. NOTE: The OKI has a limited color palette (the 256 web safe palette).</p>
ext-device.oki.header-background-color	<p>The color used for the background color header. The color should be entered as a HTML RGB value in the format #RRGGBB. NOTE: The OKI has a limited color palette (the 256 web safe palette).</p>
ext-device.oki.limit-reference.duplex	<p>Used at log in time, to assume whether the copying is going to be duplex or not. This is used in order to decide if we have enough quota to do a single copy.</p>
ext-device.oki.limit-reference.paper-size	<p>Used at log in time, to assume what page size the copying is going to use. This is used in order to decide if we have enough quota to do a single copy. By default for</p>

	the United States this size is <i>Letter</i> and elsewhere it is <i>A4</i> .
ext-device.oki.v2.limit-reference.quota.duplex	Whether we consider the page to be duplex for the page quota. By default we consider the page to be duplex so we don't overcharge the user.
ext-device.oki.v2.limit-reference.quota.large-paper-size	The reference paper size that we consider to be a large paper size for the zero stop page costs. By default for the United States this size is <i>Ledger</i> and elsewhere it is <i>A3</i> .
ext-device.oki.v2.limit-reference.quota.small-paper-size	The reference paper size that we consider to be a small paper size for the zero stop page costs. By default for the United States this size is <i>Letter</i> and elsewhere it is <i>A4</i> .
ext-device.oki.v2.log-highest-id	The highest log id that we have processed so far. Used to determine what log entries to look at next from the copier.
ext-device.oki.v2.port-num	The port number used for ODCA (Off Device Customization Architecture) as set up in Top Access, as discussed in section 2.2.4.8.
ext-device.oki.v2.serial-number	The serial number of the device that we last queried from the device. This is used so that we know if the device changes across restarts of the PaperCut application server.
ext-device.oki.v2.zero-quota-logout	<p>When set to "Y" always reset the user's quota on the MFP is set to zero at logout.</p> <p>Default: "N"</p> <p>When a user logs into the MFP, there is a slight delay until the quota/balance is set <b>on the MFP</b>. Until it is set the user's quota from their previous MFP login is used. If their previous quota/balance was zero, they may see a "quota exceeded" message briefly before the quota is set.</p> <p>Setting this to "N" (the default) will not zero the quota on user logout. This means that if the user can login and access the copier before the quota is set that may be able to use the device with their old quota (that may be out of date).</p> <p>Setting this to "Y" will zero the user's quota on each logout. This provides more strict enforcement, but with the possible downside that users can login and access the copier before the quota is set and they will see the "Quota exceeded" message.</p>
ext-device.oki.v2.set-roles	<p>When set to "N" it will prevent PaperCut from automatically setting the data for the RBAC (Roles Based Access Controls) allowing the admin to manually set the data.</p> <p>Default: "Y" (will set the RBAC data every 12 hours to ensure it is still correct)</p>





ext-device.oki.v2.secure-odca	When set to “Y”, PaperCut will use SSL for the SOAP communications with ODCA. This will ensure the setting of quotas and the OKI log information will be encrypted.  Default: “N” (ODCA messages will not be encrypted)
ext-device.oki.hide-cancel-job-button	When set to “Y” it will ensure that the Cancel buttons are never displayed on the Print Release web page.  Default: N (the cancel buttons will be shown for release jobs)
ext-device.oki.direct-to-release-page	When set to “Y”, upon login the user will go direct to the print release page (assuming the device is configured for print release) and skip the welcome screen.  Default: N (it will go to the welcome page on login)
ext-device.oki.app-buttons.enabled	When set to “Y” it will enable the application buttons on the welcome screen. The label(s) and URL(s) need to then be defined. Either 1 or 2 buttons can be set.  Default: N (application buttons will not be shown by default)
ext-device.oki.app-buttons.heading	The text displayed for the heading at the bottom of the welcome screen to introduce the application buttons.  Default: DEFAULT (use the default heading text)
ext-device.oki.app-button1.label	OPTIONAL: The application label for the 1 <sup>st</sup> button (if needed).  Default: NONE (the button will not be displayed if this is set to “NONE”)
ext-device.oki.app-button1.url	OPTIONAL: The application URL for the 1 <sup>st</sup> button (if needed).  Default: NONE (need to change to a valid URL if you want to use this button)
ext-device.oki.app-button2.label	OPTIONAL: The application label for the 2 <sup>nd</sup> button (if needed).  Default: NONE (the button will not be displayed if this is set to “NONE”)
ext-device.oki.app-button2.url	OPTIONAL: The application URL for the 2 <sup>nd</sup> button (if needed).  Default: NONE (need to change to a valid URL if you want to use this button)

**Note:** The limit reference variables for version 2 quotas are used in a different way than the standard limit references such as *ext-device.oki.limit-reference.duplex*. The standard ones are used at log in time to decide if the user will have permission to do copies, assuming they

are going to try to do at least one page of a certain page size and whether it will be duplex or not. The version 2 quota reference variables are used to set the page costs for quotas on the copier. For example, if PaperCut is told to charge \$0.50 for A3 pages, and *ext-device.oki.v2.limit-reference.quota.large-paper-size* is set to A3, then this will tell the copier that large-pages cost \$0.50.

## 5.2 Setting an explicit PaperCut Server Network Address

The copier connects to the PaperCut server to send user and job event notifications. The device makes inbound network connections to the PaperCut server using a network address of the PaperCut server. By default PaperCut will use the server's IP address (if the server has multiple IPs (i.e. multi-homed) then PaperCut will select one of them), but on some networks this address may not be publicly accessible from other parts of the network.

If the PaperCut server has a "public" IP address or DNS name then this can be used instead, which allows the copiers to use the "public" network address instead of the IP address that PaperCut detects. To do this:

- Login to PaperCut
- Go to the "Options" tab.
- Select "Config Editor (Advanced)", from the action links on the left.
- Find the "system.network-address" setting.
- Enter the public network address for the PaperCut server.
- Press the "Update" button next to the setting and confirm the setting is updated.

When connecting devices to a PaperCut site server, you can configure the sites' "Network address used by devices":

- Login to PaperCut
- Go to the "Sites" tab.
- Select the site to edit.
- Change the "Network address used by devices".
- Save the site details.

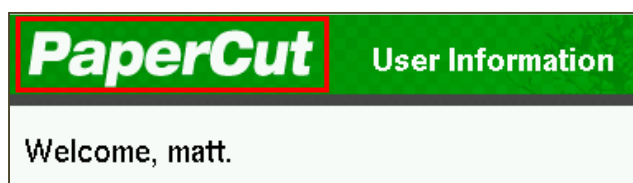
To have either of these changes take effect immediately, restart the PaperCut Application Server service (i.e. on Windows use: Control Panel->Admin Tools->Services).

## 5.3 Customizing the Header Logos and Colors

The embedded application has a header at the top of all screens. This header defaults to the PaperCut logo and green color. The header can be customized to match your organization's color scheme and logos.

### 5.3.1 Customized Logos

The embedded application header has a single header logo (as shown below). This logo can be replaced with your organization's logo.



This shows one logo outlined in red. The images must be saved in the PNG format. The PaperCut logo has the size of 200 pixels wide by 42 pixels high. It is important that your logo has a height of 42 pixels, but the width can vary.

This custom logo must be stored on the PaperCut server in the location:

[app-path]\server\custom\web\device\oki\header-logo.png

## 5.4 Custom Header Color

The header colors are defined in the Advanced Config settings as described in Section 5.1. See the settings for “ext-device.oki.header-font-color” and “ext-device.oki.header-background-color”.

NOTE: The OKI devices have a limited color palette (the 256 color web-safe palette).

## 5.5 Configuring Swipe Card Readers

Swipe cards contain numbers which are used to identify users according to the card number configured in the User Details screen under “Card/Identity” number. Some readers report information in addition to the number encoded on the card, such as checksums. PaperCut can treat these cases in two ways:

- A typical case is the checksum being reported after the card number, separated by an equals sign, such as in 5235092385=8. PaperCut can handle this case by default; it will extract the number before the equal sign as the card number: 5235092385.
- For some cases, a “regular expression” *may* be required that will filter the card number from the complete string of characters reported by the card reader. Documentation on regular expressions can be found on the Internet, e.g. at [www.regular-expressions.info](http://www.regular-expressions.info).
  - The regular expression must be fashioned so that the card number is returned as the first match group.
  - Usually one regular expression will be used for all the devices managed by PaperCut; this must be entered in the “Config editor” in the PaperCut Admin Console. Open the Admin Console and select the Options tab, then select “Config Editor (Advanced)” from the left menu. The key is called “ext-device.card-no-regex”.
  - The global setting however can be overridden on a per-device basis: The key “ext-device.card-no-regex” can also be found on the “Advanced Config” tab in the device details screen. This setting will override the global setting unless the keyword “GLOBAL” is specified.
  - PaperCut developers will gladly assist in producing a regular expression when supplied with a few sample outputs from your card reader. Please contact PaperCut support.
  - If you would like to write your own regular expressions, here are some examples:
    - Use the first 10 characters (any character): `(.{10})`
    - Use the first 19 digits: `(\d{19})`

- Extract the digits from between the two “=” characters in “123453=292929=1221”:  $\backslash d^* = (\backslash d^*) = \backslash d^*$

## 6 Known Limitations and Security

### 6.1 Usability and User Interface Limitations

After the user is authenticated they are either taken straight to the “copier” screen or the Embedded Web Browser (EWB) screen (if you enabled the 08 code). However, at any stage the user is free to go to the copier screen by hitting the “copier” button and PaperCut has no way of preventing this other than removing copier permissions. If the user wants to go back to the PaperCut screen in the Embedded Web Browser, they must press the “Menu” hard key and then the “EXTENSION” button. This is not an ideal user experience, and may require some user training to overcome.

An example of when this is a problem is if the user should not have permission to charge copying to their personal user account, but instead should select an account. As PaperCut cannot force this account selection, it defaults to charging to the personal account. As a possible work-around you may configure a “Default Shared Account” to preselect a particular shared account at login.

The Open Platform integration allows PaperCut to lock the copier when the user has not selected an account. This is a significant improvement over earlier integration, however, this is not as preferable as being able to force account selection at login. OKI are aware of this issue and aim to improve their SDK for future devices.

### 6.2 Limited Authentication Options

The OKI Open Platform does not allow for customizing the authentication process. For this reason, PaperCut has the following limitations with login/authentication:

- No option for PIN entry when performing identity number authentication (the input for the identity number is actually done using OKI’s PIN input).
- Identity number authentication was introduced in PaperCut MF version 13.

### 6.3 Zero stop when Copying

In an ideal implementation, PaperCut would be able to control exactly how many pages a user can copy and always prevent the user from overdrawing their account. OKI’s Open Platform offers the ability to limit page counts but has the following limitations:

1. The copier does not seem to stop immediately when limits are reached. There is a small delay meaning that users can overrun their account below zero by about 2 pages.
2. Ideally PaperCut would be informed of the user selection prior to copying and be able to accept/reject the job at this point. Current OKI API implementations prevent this level of pre-approval.
3. Open Platform supports the page costs of color, grayscale, small page size and large page size. It does not support costs or discounts for duplex and individual pages sizes other than the 2 sizes of small and large. By default, the small paper size is set to *ext-device.oki.v2.limit-reference.quota.small-paper-size* which is *US letter* in the United States and *A4* everywhere else. The large paper size is set to *ext-device.oki.v2.limit-reference.quota.large-paper-size* which is *Ledger* in the United States and *A3* everywhere else.

When the quota limit is exceeded a popup message on the device will alert the user to having run out of quota.



## 6.4 Zero stop when Scanning and Faxing

OKI devices currently do not stop scan or fax jobs mid-way when users run out of credit. Instead, users can complete the scan or fax job and possibly incur an overdraft in their accounts. Users are then prevented from starting further jobs of any kind upon next log in.

## 6.5 Bypassing the System

It is important that the administrators take care to prevent users from bypassing the system and directly accessing the copier. Likewise it's also important that administrators know how to bypass/disable the system if direct copier access is required – say to change advanced system settings. Administrators should take the following precautions:

- The copier's built in admin password should be changed and always kept secure.
- The power and network cable should be securely connected. The system is designed to be robust and record copier usage if the power is lost during copying, but it is possible to start copying before the embedded application starts after restarting the copier.

## 7 Uninstalling PaperCut from the MFD

In order to stop the OKI MFD from trying to authenticate with PaperCut and allow free copying on the device, the simplest option is to disable the "User Authentication Setting." If all you do is this step, then it is very simple to re-enable the MFP for PaperCut again if you change your mind.

To disable the PaperCut authentication follow these steps:

1. Log in to the device's web administration (TopAccess) with a web browser.
2. In TopAccess, select "Administration" -> "Security".
3. Under the "User Authentication Setting" heading change "User Authentication" to "Disable".

The screenshot shows the 'Security' configuration page in the PaperCut TopAccess web interface. The page has a dark red header with tabs for 'Setup', 'Security', 'Maintenance', and 'Registration'. Below the header, the 'Security' section is active, with sub-links for 'Authentication', 'Certificate Management', and 'Password Policy'. There are 'Save' and 'Cancel' buttons at the top left. The 'User Authentication Setting' section is highlighted with a light blue background. It contains three rows of settings: 'User Authentication' with a dropdown menu set to 'Disable' (highlighted with a red circle), 'Authentication failed print job/Raw Print Job' with a 'Print' dropdown, and 'Auto Release on Login' with a 'Disable' dropdown. At the bottom, there is a checkbox for 'Use Password Authentication for Print Job' and a note: '\*It is not able to print from other than Windows Client when this function is enabled.'

## 7.1 Further optional uninstallation steps

Theoretically, you could reverse all the steps that you followed during the setup process. You could revert the 08 codes back to what they were and change all the Top Access menu options back to what they were. However, disabling the authentication would be the prime thing that is required. Some other steps to be more complete could include:

- Removing the EWB URL so that the menu option doesn't try to contact the PaperCut application server
- Disabling the ODCA option
- Disabling the Print Data Converter
- Unselecting the Job Quota Setting

## 8 FAQ & Troubleshooting

### My OKI device is not logging any copy/fax/scan jobs? What's wrong?

There are a number of possible problems. Check the following:

- In the PaperCut admin site, go to the “Devices” tab and select the device:
  - Verify that the “Device hostname / IP” is correct.
  - Verify that the appropriate “Device Functions” are enabled. i.e. To track faxes ensure “Track & control faxing” is enabled.
  - Check the Device Status on this page (or in Status column of Device List) to ensure no errors are occurring.
  - Check that the Device’s administrator username and password are correct.
- Verify that the 08 service mode settings have been changed.
- Verify that ODCA has been enabled and the default port of 49629 was used.
- Verify the correct version of the firmware is running.

### A user has overrun their quota during a copy job. Why didn't it stop them earlier?

There are a number of possible reasons for this:

- A copy job tends to overrun its quota by at least 2 pages probably because there are at least 2 pages in the device which have not yet come out of the copier. This is a restriction of the device.
- You have used more advanced costs than just color, grayscale, small paper size or large paper size which are all that Open Platform provides direct support for. For example, you have set a duplex discount and by default we will favor the user and assume all pages are duplex (according to *ext-device.oki.v2.limit-reference.quota.duplex*).

### You see the dialog about “Empty Quota” on the copier before you have actually run out of quota in PaperCut.

Check the following:

- Make sure that the Print Data Converter file is installed as mentioned in section 2.2.4.7. If this is not done, then print jobs (from a print server) by the user can potentially reduce the quota for that user on the copier.

### The card reader isn't working? What's wrong?

Firstly ensure that you are using a compatible card reader (see Appendix A on page 38).

If you are using a compatible card reader the most likely cause is a configuration issue:

- Make sure the card reader is connected while the device is booting up. Try rebooting the device.
- Check the 08 codes used to enable the card reader (e.g. 3500)



- Check that correct LDAP server is selected in the “card reader” setting in the LDAP authentication settings in TopAccess.

### What is the IP address of my PaperCut Server?

Use operating system command-line tools such as ipconfig or ifconfig to determine this.

### I have thousands of accounts representing my clients. Will the system handle this?

Yes. We have designed the system to handle thousands of Shared Accounts. Users with many accounts will also be presented with some “power options” to help them find accounts including keywords based search.

### Login on my OKI device is very slow

This can be caused by incorrect network settings on the copier such as incorrect DNS servers, subnet masks and similar. We recommend checking all network settings.

## 9 Appendix A: Supported Authentication Card Readers

The OKI devices support the following card reader types. Each card reader type requires a different 08 service mode setting configuration which is typically done in the section “Configuring the ‘08 Service Mode’ MFP settings” and is described in the table below.

Card Reader Type	08 service code	service mode setting
<b>Elatec TWN3</b>	3500	60001
<b>RFIDeas pcProx Plus</b>	3500	60001
<b>IDGATE - HID iClass</b>	3500	40002
<b>IDGATE - Mifare</b>	3500	30001
<b>Generic Keyboard mode readers<sup>1</sup> (supports Elatec TWN3)</b>	3500	60001

**NOTE:** IDGATE in the table refers to OKI's own brand of card readers.

### 9.1 Elatec TWN3

The Elatec TWN3 card reader can support a large variety of card types including:

- HID PROX (HID PROX)
- HID iCLASS (HID iCLASS)
- Multi125 (EM410x, HITAG 1, HITAG 2, HITAG S, EM4150, T5567/Q5)

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<sup>1</sup> Not supported on CX3535 / 4545 devices

- Inditag (Indala)
- MIFARE (MIFARE, Ultralight, MIFARE Mini, MIFARE 1k/4k, MIFARE DESfire)
- Legic (Legic Prime, Legic Advant)

This card reader can either operate in one of two ways:

1. COM mode with 08 service mode **3500** set to: **90001** and special firmware installed on the OKI device which is supplied when purchasing the device;
2. Generic Keyboard mode with 08 service mode **3500** set to: **60001**.

## 9.2 Magtek Dynamag

OKI has magnetic card reader support for the Magtek Dynamag card reader. This is set using the 08 code of **3500** with a mode setting of **70001**. As well as setting the type of reader using the **3500** code, one also needs to set the **3501** code to specify which track data to use as specified in the table below.

Track data	08 service mode setting 3501
Use track 1 data	1
Use track 2 data	2
Use track 3 data	3

When entering the track number (for example, track 2 has been used for the banking industry), you will be shown boxes with the letters A to F. Please ignore this and just enter one of the digits 1 to 3 on the key pad. Then press OK. You will be asked to repeat this for confirmation and so just enter the same digit again and press OK.

## 10 Appendix B: Process for performing user card association

This section describes the process of how a user can associate a new card with their PaperCut account on the OKI devices.

1. Present card at the MFP reader (should hear a beep)
2. If the web screen is not set as the default, bring up the web interface (EWB) by doing:
  - a. Press MENU hard key on the MFP
  - b. Press the EXTENSION icon (or other name as assigned)
3. The following screen is displayed to allow the user to authenticate with a username and password.

**PaperCut** Associate New Card

Unknown card, access to device functions is denied. To associate this card with your account, enter your network username and password.

**Username:**

**Password:**

PaperCut MF 11.2.14053

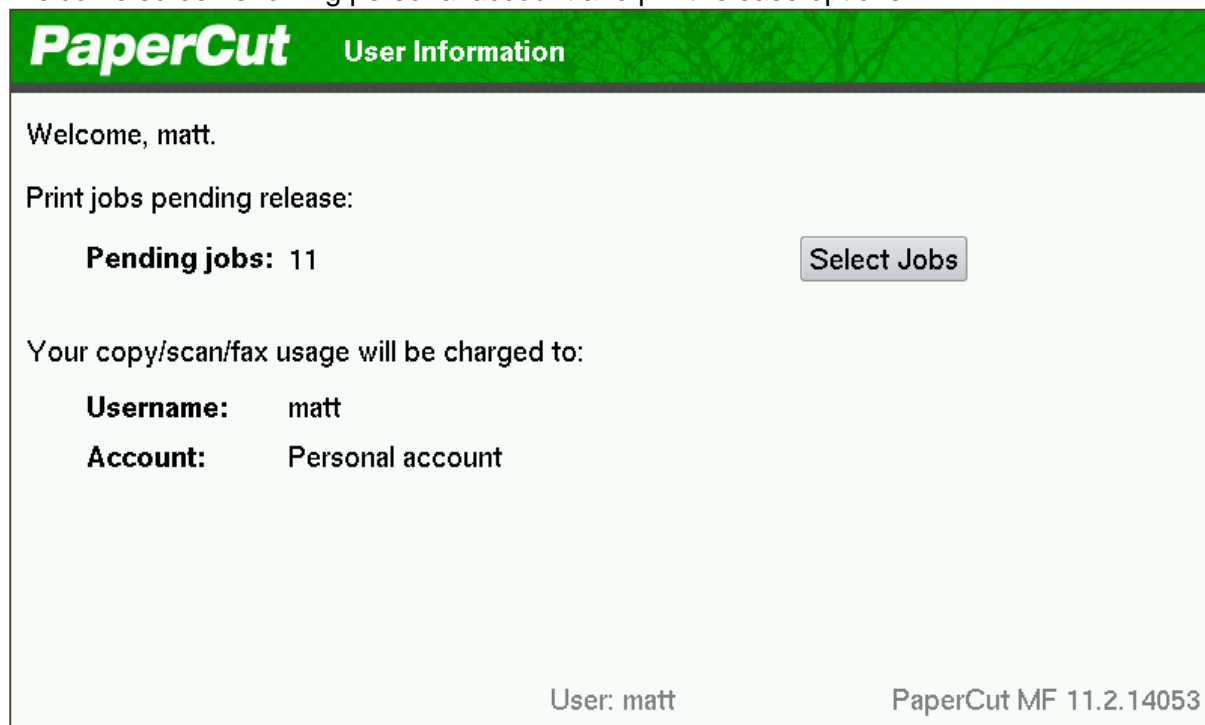
4. Enter the username and password. If the association is successful the user is notified on the LCD screen.
5. Logout (press the “Access” or “Authentication” key).

At this point the card has been associated with the user’s account. Swiping the card again will allow them to login using the card.

## 11 Appendix C: Device screenshots for user documentation

This section contains some screenshots that may be used for end-user documentation.

Welcome screen showing personal account and print release options:



**PaperCut** User Information

Welcome, matt.

Print jobs pending release:

**Pending jobs:** 11 [Select Jobs](#)

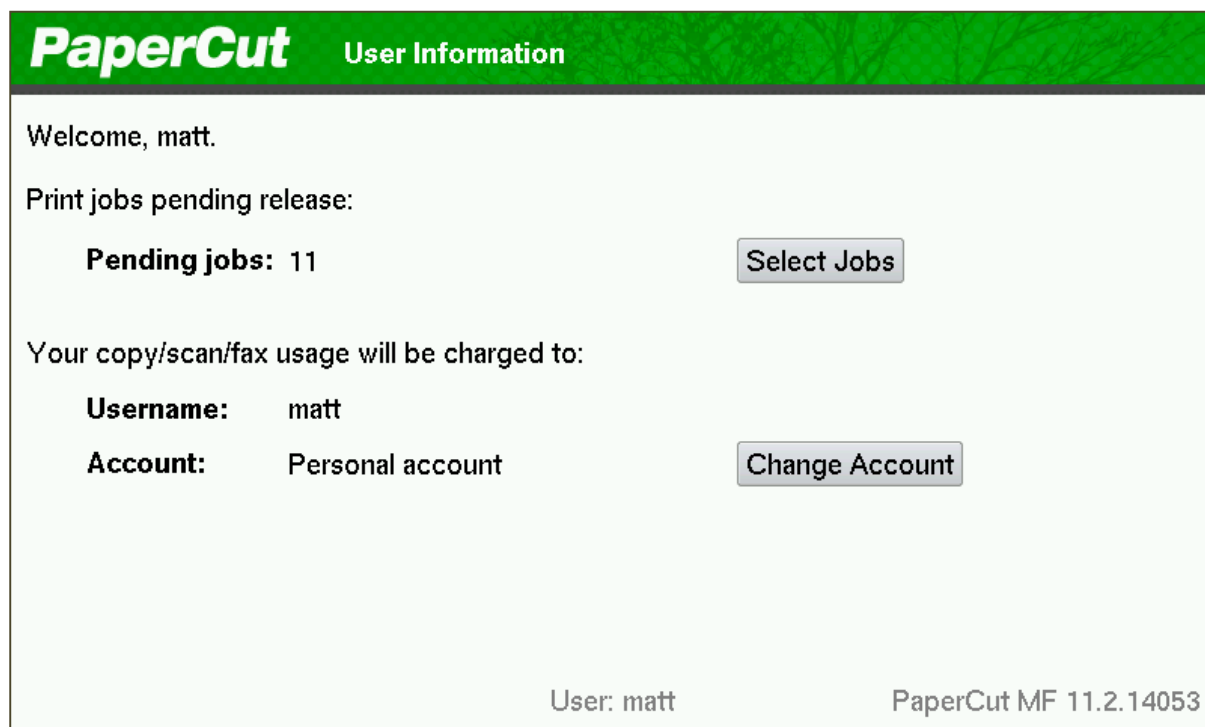
Your copy/scan/fax usage will be charged to:

**Username:** matt

**Account:** Personal account

User: matt PaperCut MF 11.2.14053

Welcome screen showing account selection options:



**PaperCut** User Information

Welcome, matt.

Print jobs pending release:

**Pending jobs:** 11 [Select Jobs](#)

Your copy/scan/fax usage will be charged to:

**Username:** matt

**Account:** Personal account [Change Account](#)

User: matt PaperCut MF 11.2.14053

Print release screen showing the jobs awaiting release.

**PaperCut**
Held Print Jobs
Refresh
Print All
Back

Time	Document	Pages	Cost		
11:47:22	Budget – OpenOffice.org Calc	98	\$9.80	Print	Cancel
11:47:21	Microsoft PowerPoint – Presentation	99	\$9.90	Print	Cancel
11:47:20	Microsoft Word – Document1	38	\$3.80	Print	Cancel
11:47:19	research paper.pdf	62	\$6.20	Print	Cancel
11:46:05	Budget – OpenOffice.org Calc	38	\$3.80	Print	Cancel
11:46:04	research paper.pdf	23	\$4.60	Print	Cancel
11:46:03	Microsoft PowerPoint – Presentation	93	\$9.30	Print	Cancel
11:46:02	Stats – OpenOffice.org Writer	25	\$5.00	Print	Cancel

1 / 2
Next >>

User: matt
PaperCut MF 11.2.14053

Shared account search / selection screen.

**PaperCut**
Select Account
Back

**Current selection:** Personal account

**Search:**

**PIN/Code:**

myaccount
myaccount\subacct

User: matt
PaperCut MF 11.2.14053

## User card association

**PaperCut** Associate New Card

Unknown card, access to device functions is denied. To associate this card with your account, enter your network username and password.

**Username:**

**Password:**

PaperCut MF 11.2.14053

## 12 Appendix D: o8 Code Check list

Description	08 service code	service mode setting
<b>Card Reader</b>	3500	90001 (e.g. Elatec TWN3) – See Appendix A: Supported Authentication Card Readers
<b>Card Authentication LDAP field</b>	9398	eBMUserCard
<b>Zero Stop Enabling</b>	6086	1
<b>Extension Label (optional)</b>	9955	PaperCut
<b>Dedicated card swipe screen (optional)</b>	8727	1 (to enable) or 0 (to disable)
<b>Initial default screen be the EWB screen</b>	9132	99
<b>Allow anyone to delete a print job (optional)</b>	8726	1
<b>Allow the user to delete their jobs from the Private/Hold screen on the copier (optional)</b>	9236	3

## 13 Appendix E: TopAccess Settings Check list

Description	Menu
<b>Configure EWB</b>	Administration -> Setup -> EWB
<b>Create LDAP server</b>	Administration -> Maintenance -> Directory Service
<b>Enable LDAP authentication in sections:</b> <ol style="list-style-type: none"> <li>1. User Authentication</li> <li>2. RBAC</li> <li>3. PIN Authentication (in newer versions)</li> <li>4. Card Authentication</li> </ol>	Administration -> Security
<b>Import Print Data Converter</b>	Administration -> Setup -> Print Data Converter
<b>ODCA Enabling</b>	Administration -> Setup -> ODCA
<b>Zero Stop Enabling</b>	Counter -> Quota Setting -> Job Quota