HP Access Control - Upgrading HP AC Express and Enterprise Single-server from 15.x to 16.x

August 2018

Contents

Introduction

This guide covers the process of upgrading HP Access Control (HP AC) Express or Enterprise single-server environments to 16.x from version 15.x.

Multi-server environments require additional planning and are out of scope for this document.

Some legacy versions of HP Access Control (versions 6.x, 12.x, 13.x and 14.x) were based on entirely different architectures. Upgrading from those versions is considered a "migration" and is out of scope for this document.

The topics covered are intended to help facilitate conversations regarding upgrades including architecture and infrastructure considerations along with discussion points on how to streamline the upgrade process.

For simplicity, we assume the existing HP AC version was installed and configured correctly and that no architecture changes will be implemented as part of the upgrade. If there will be significant changes to the infrastructure or the addition of new features, it is recommended to consult with HP prior to upgrading.

Upgrade Planning Checklist – HP AC Express and Enterprise (Single-server)

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1. Get the latest HP AC 16.x software

HP recommends always using the latest upgrade software available. Using older versions may unnecessarily expose the customer environment to issues that have been resolved in newer revisions.

HP Access Control software can be downloaded from here:
https://h30670.www3.hp.com/portal/swdepot/displayProductInfo.do?productNumber=A5W63-63101

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2. Get an HP AC 16.x Upgrade License

Upgrading to HP AC 16.x from 15.x requires an updated license file that will be prompted-for during the upgrade installation. The installation will not proceed without a license.

Customers should contact their service provider for assistance getting the HP AC 16.x license. Service providers should contact the HP AC product team for assistance.

HP AC 16.x licenses are locked to the hostname of the HP AC server. In multiple server environments, the HP AC servers share a common license file. To create the 16.x upgrade license, HP will need a list of all the prospective HP AC 16.x server hostnames.

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3. Determine if the HP AC IRM agents need to be updated

HP recommends using HP AC IRM agent version 20171106 with FutureSmart4 printers. Version 20160912 is the minimum that should be used with FutureSmart3 printers.

If using the X3D03A /HIP II reader and it will be used for more than 2 card types, then the HP AC devices agents for the devices using that reader will need to be upgraded to version 20160912 or above.

During workflow deployment HP AC 16.2 and above checks if a device's IRM agent is current. If the agent is not current, it will automatically be updated.

	To avoid pushing a new IRM agent version in HP AC 16.2 and above, do not re-Deploy the device following an upgrade. HP AC 16.0 and 16.1 could not overwrite an IRM agent version, so this is not a concern for those versions. **WARNING:** Do NOT push an updated device agent and configuration from a version 15.3.2 or newer Admin Console to devices configured to pull jobs from a version 15.3.1 or older pull print server. This will result in an error condition as the devices try to connect with a newer pull print service which does not exist on the older server version. Upgrade the pull print servers prior to pushing an updated device configuration.
☐	## 4. Decide whether to upgrade in-place or install from-scratch and cut over? Before initiating an in-place upgrade please contact HP to ensure your version can be upgraded. It is highly recommended to receive technical consultation prior to upgrade. Recognize whether a given project represents an upgrade or a migration. If a significant infrastructure, architecture or server hardware change is included, it should be handled as a migration and is out of scope for this document. Installing HP AC 16.x from-scratch and then migrating devices across from the old production system may help reduce risk of production outages.
☐	## 5. Confirm devices are supported The Release Notes contain the list of supported devices for the new HP AC release.
☐	## 6. Determine if firmware needs to be updated Firmware should generally be kept up-to-date. Please contact HP for recommendations on any specific device or firmware revision. HP recommends upgrading to a supported firmware version prior to the HP AC upgrade.
☐	## 7. Certificates See section 4.2.4 of the HP Access Control Admin Guide v16.x for information on configuring HP AC servers to use certificates. Among other things, the Admin Guide explains how to make sure the certificate bindings are setup correctly. As a best practice for HP AC use in a production environment, HP recommends using a certificate that is issued and signed by a trusted certification authority. If upgrading from a version of HP AC prior to v15.2 and using a self-signed certificate generated by the HP AC configuration utility, you will need to generate and apply new self-signed v3 certificates by completing the following steps: 1. Within the HP AC 16.x configuration utility, go to the Settings tile > Pull Print tab, choose the server, and then click **Configure**. 2. Click **Create Certificate**. Two certificates are created for the server: one named with the server hostname, and one named with the server IP address. Both certificates, however, contain the server hostname and IP address in the Subject Alternate Name line in the certificate details. The certificates are created in the \Program Files\HP\HP Access Control folder. The certificates are also created in \Program Files\HP\HP Access Control\Open SSL and are used for communication between multiple HP AC servers. 3. Click **Update**. This will automatically bind the certificate to the default web site.

☐	## 8. Determine order of the upgrade - Express and Enterprise single-server environments 1. Upgrade device firmware if necessary 2. With HP AC Enterprise, upgrade the HP AC client software on end user PCs if used 3. For HP AC Express and Enterprise single-server environments, upgrade the HP AC server **WARNING:** Do NOT push an updated device agent and configuration from a version 15.3.2 or newer Admin Console to devices configured to pull jobs from a version 15.3.1 or older pull print server. This will result in an error condition as the devices try to connect with a newer pull print service which does not exist on the older server version. Upgrade the pull print servers prior to pushing an updated device configuration. 4. Upgrade the HP AC device agents as appropriate.
☐	## 9. Test prior to upgrade HP strongly recommends qualification of the new HP AC version and the upgrade process in a non-production test environment before deployment for production use.
☐	## 10. HP AC Client used? As of HP AC version 16.4, HP AC Client software cannot be automatically updated in-place. To upgrade to a newer version, the older version must first be uninstalled. HP AC Client software should be updated prior to updating HP AC server or device agent components. **Note:** HP AC 15.2.2 Server and newer needs a minimum Print Client version 15.2.2 which also requires .Net 4.6. HP AC 15.2.1 Server and older Print Client only requires .Net 4.5 Refer to the latest HP AC version's Release Notes for fixes and enhancements that might influence whether to upgrade the HP AC Client software.
☐	## 11. Update Push Mode settings for Tracking For improved security, HP AC 16.x no longer offers FTP as an option for passing tracking data from printers to HP AC. For upgrades from 15.x, confirm the Push Mode settings are properly enabled for HTTP. To configure Push Mode settings in the HP AC 16.x configuration utility, go to the Settings tile > Pull Print tab, choose the server, click **Configure**, select the **Advanced** tab, then select **HP Agent push mode**.

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12. Backup prior to Upgrading

- NOTE: *Any* file that has been customized or patched for the specific deployment should be backed up unless HP has confirmed those patches are included in the solution update. Consult with HP on whether these files should be put back into place following the update.
- HP recommends performing a server backup or snapshot for virtual machines for disaster recovery purposes prior to commencing the upgrade.
- For servers with Card ID Masking enabled, it is highly recommended to back up the DataDecodeDefaults.xml files prior to upgrading. The AD-Authenticator DataDecodeDefaults.xml file is located in the \HP Access Control\AD-Authenticator\ folder. The XT device DataDecodeDefaults.xml file is located in the \HP Access Control\DPR\ folder. When restoring the file after the upgrade, note that 16.x has change the file location to: C:\Program Files\HP\HP Access Control\Shared\4.0.5\Configuration\ProximityCards
- If using HP AC IPM, HP recommends backing up rules. If needed, please contact HP for instructions on backing up IPM rules.
- HP AC Authentication and Job Accounting databases should be backed up prior to the upgrade. HP AC will upgrade database tables as required if the newer HP AC version requires it but the upgrade does not back up databases.
- The C:\Program Files\HP\HP Access Control\bin\Config4.sdf file can be backed up to enable disaster recovery of the HP AC Configuration Utility settings.
- HP recommends that the IRM Authentication database should be backed up prior to the upgrade for disaster recovery purposes. The database schema may be extended as part of the upgrade process, but the enrollment data should be retained across an update.

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13. Is AlertX used?

If AlertX is being used to monitor service failures, it must be stopped prior to the upgrade. If allowed to continue running, AlertX will be triggered during the upgrade which could have negative consequences depending on how it is being used. Refer to the AlertX documentation or contact HP Support if you need instructions on disabling AlertX.

If it is a single server LMS needs to be turned off.

HP AC 16.x includes several new services which require AlertX to be updated if it is being used.

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14. Using HP AC IPM?

IPM is used for rules-based printing. Our best practice recommendation is to back up the rules for disaster recovery purposes. Please contact HP if you need instructions on how to back up IPM rules.

☐	### 15. Using HP AC Job Accounting? Upgrades of HP AC Job Accounting can generally be separated from upgrades to HP AC's Authentication/Authorization and Pull Printing components for project simplification. HP AC Job Accounting upgrades may involve extending the SQL database schema. DB Owner or equivalent SQL account permissions are required to perform this action. If upgrading HP Access Control Job Accounting, we recommend first performing the following steps: 1. Stop the Agent service 2. Backup the HP ACJA database on the SQL Server 3. Backup the C:\Program Files\HP\HP Access Control\Temporary folder which contains tracking XML files that have not yet been processed into the JA database
Prepare Devices for the Upgrade	
☐	### 16. Upgrade firmware if needed Make sure the upgraded firmware is compatible with the HP AC version active in the production environment.
☐	### 17. Confirm devices are configured for an EWS Admin Password Devices configured for a previous version of HP AC should already have an EWS Admin password set. Confirm that devices are configured with the same EWS Admin password set in the HP AC Admin Console.
☐	### 18. Confirm devices are configured correctly for Secure by Default If devices have been updated from FutureSmart3 to FutureSmart4 and then later reset, "Secure by Default" values may have been implemented. For upgrades to HP AC 16.0, 16.1, 16.2 or 16.3, the Secure by Default values must be set correctly for device configuration and installation of the device agent. See this white paper for more information on setting the values correctly. HP AC 16.4 and above should be able to work with Secure by Default settings values.

Prepare Clients for the Upgrade

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19. Upgrade HP AC Print Client on the client PCs if it is being used

As of HP AC version 16.1, HP AC Client software cannot be automatically updated in-place. To upgrade to a newer version, the older version must first be uninstalled.

HP AC Client software should be updated prior to updating HP AC server or device agent components

Perform the HP AC Software Upgrade

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20. Stop AlertX service if it is running

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21. Temporarily disable AntiVirus or AntiMalware software

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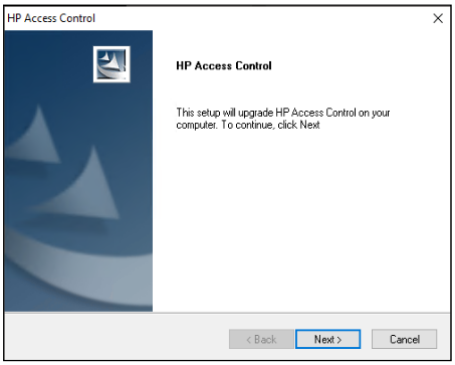
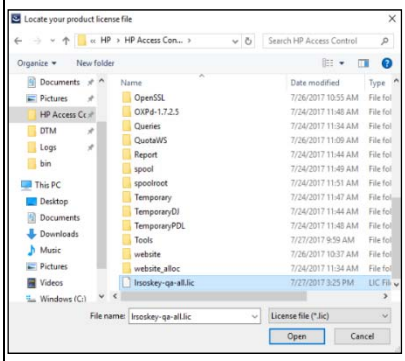
22. Locate HP AC 16.x EXE and Run as administrator*

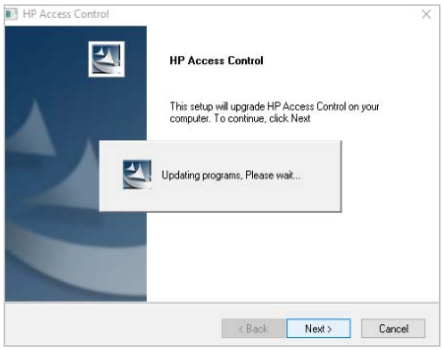


* Requires Local Admin privileges.

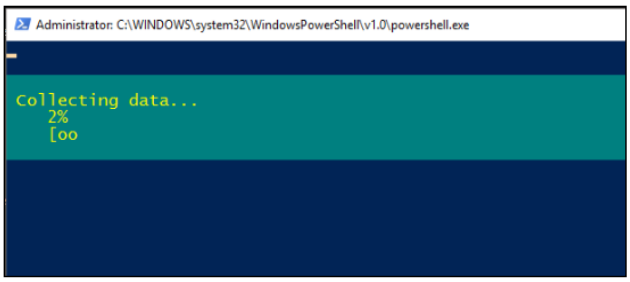
Note: Because the licensing schema in 16.0 is different than previous versions, the upgrade will prompt for a license file prior to proceeding.

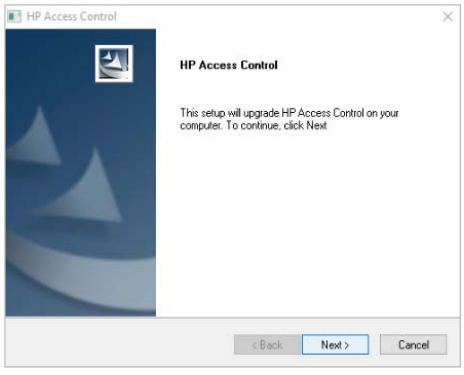
23. Select the location of the License file and select open.





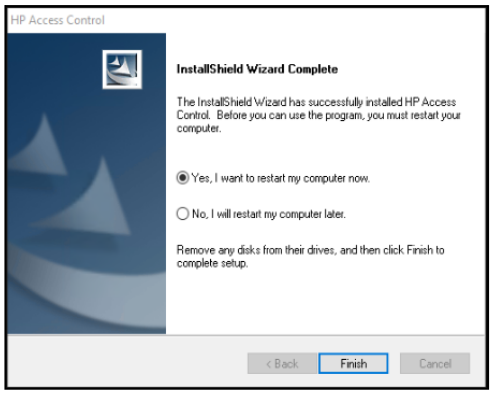
Note: Because the licensing schema in 16.0 is different than previous versions, the upgrade will prompt for a license file prior to proceeding.





24. Restart the server if necessary

After the upgrade, you may or may not receive a server restart prompt. If you do, go ahead and restart the server.



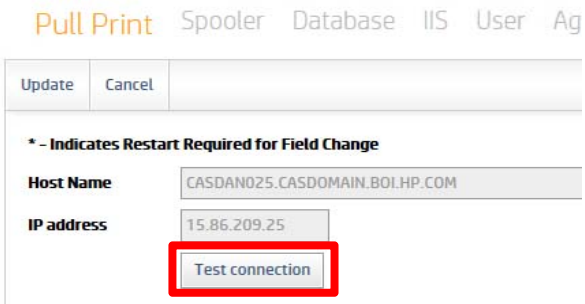
25. Restart AlertX and AntiVirus Scanner if Applicable

Configure HP AC following the Upgrade

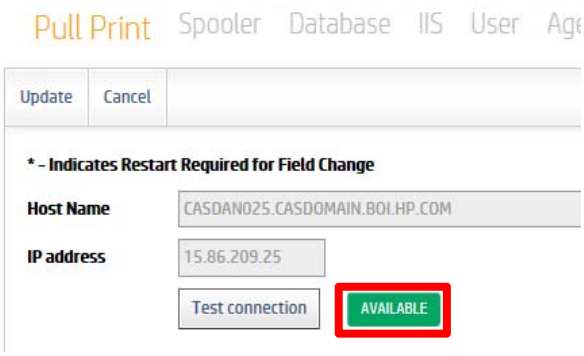
26. Test and Apply all the Settings

Following the upgrade, go through the Admin Console and hit Test and Apply on all the configured settings under the Settings tile.

1. On the Settings >Pull Print tab, select the server host name and click Configure.
2. Test the connection to the server:

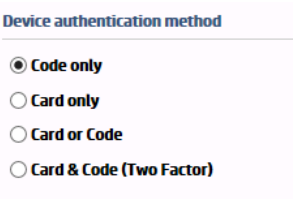


It should show Available:

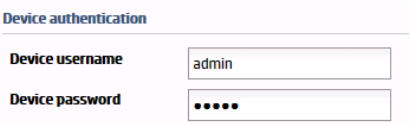


3. This would be a great time to give the server a Description and create a self-signed V3 certificate if not using a corporate CA certificate:

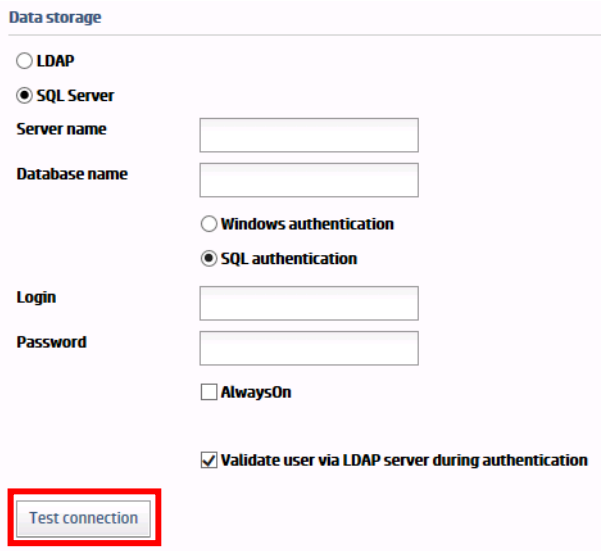
4. Confirm the authentication method is correct:



5. Re-enter the device's EWS admin password for configuration purposes:

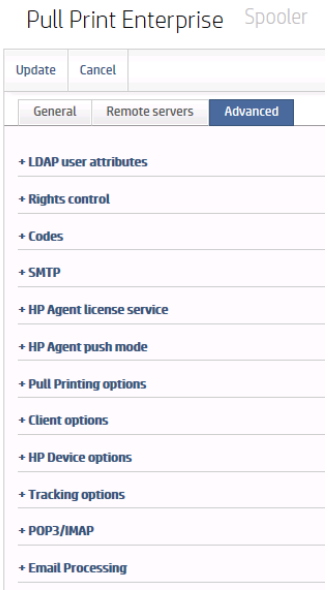


6. Validate the location for storing user enrollment data is appropriately set to LDAP or SQL. For SQL, confirm the settings and Test the connection:

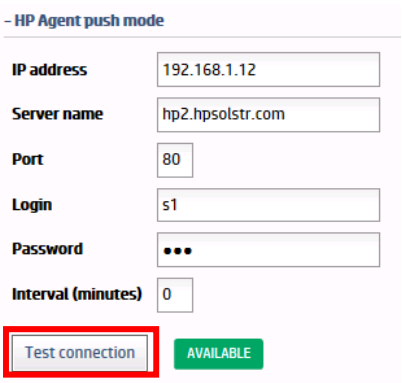


7. Validate the LDAP server settings and test the connection:

8. Validate all the Advanced settings are correct:

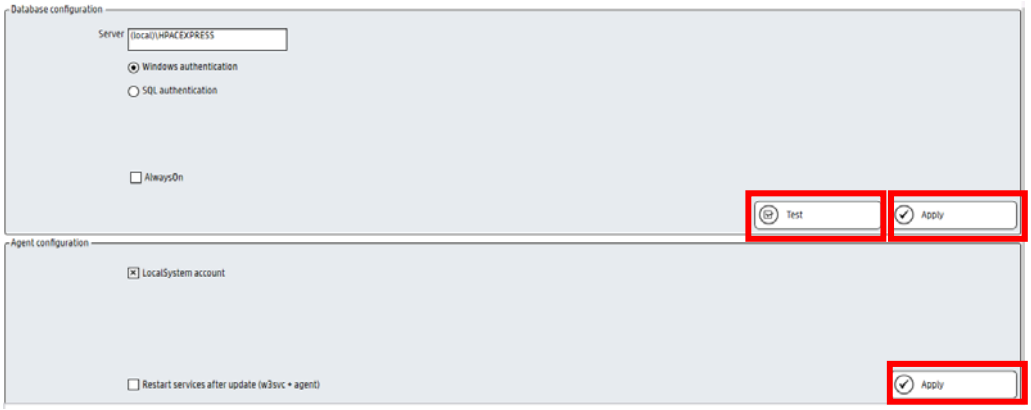


- If using PIN authentication, pay attention to Codes
- If using Job Accounting, confirm HP Agent push mode settings are correct and test the connection:



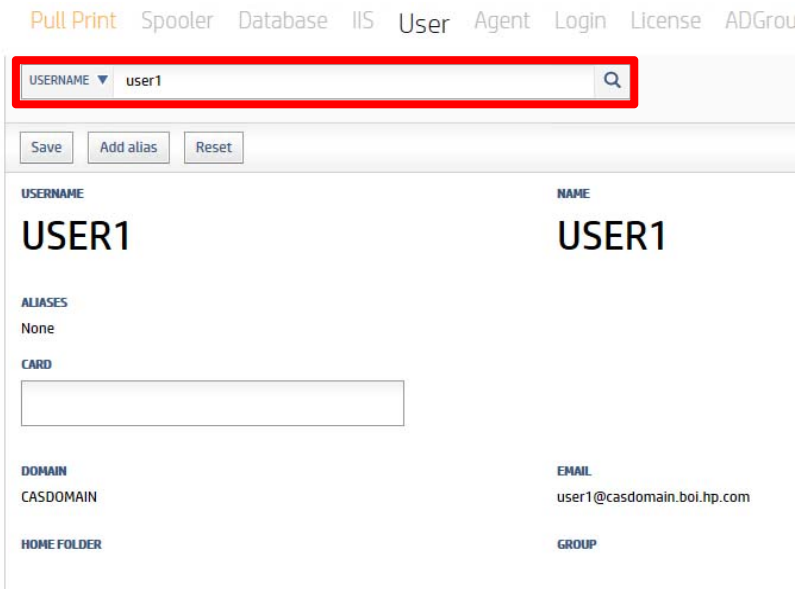
- Validate Pull Printing options
- If a PJL passwords is set via device EWS, confirm it is also set under HP Device options

9. On the Settings >Database tab, hit Test and Apply for the Database configuration and hit Apply on the Agent configuration:



10. On the Settings >IIS tab, hit Test and Apply for the Quota server and IPM Server name; If using IPM, hit Apply on IPM authentication:

11. On the Settings >User tab, look up an example user to validate LDAP lookups are working:



12. Likewise, check each of the remaining tabs under Settings to confirm all the settings are correct.

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27. If devices show “Not Deployed”

Assuming authentication and pull printing are working on the devices after the upgrade, if you don’t plan to re-push the configuration (“Deploy Workflow”), you can run the C:\Program Files\HP\HP Access Control\Misc\MFPSecureUpgrade.exe to clear the “Not Deployed” state.

Upgrade Device Agent if Needed

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28. Upgrade Device Agent if Needed

Hold on upgrading from original 15.2.x device agents until all server upgrades are complete

Note: if using the X3D03A /HIP II reader and it will be used for more than 2 card types, then the HP AC devices agents for the devices using that reader will need to be upgraded.

Restore HP AC Card Reader Masking configuration

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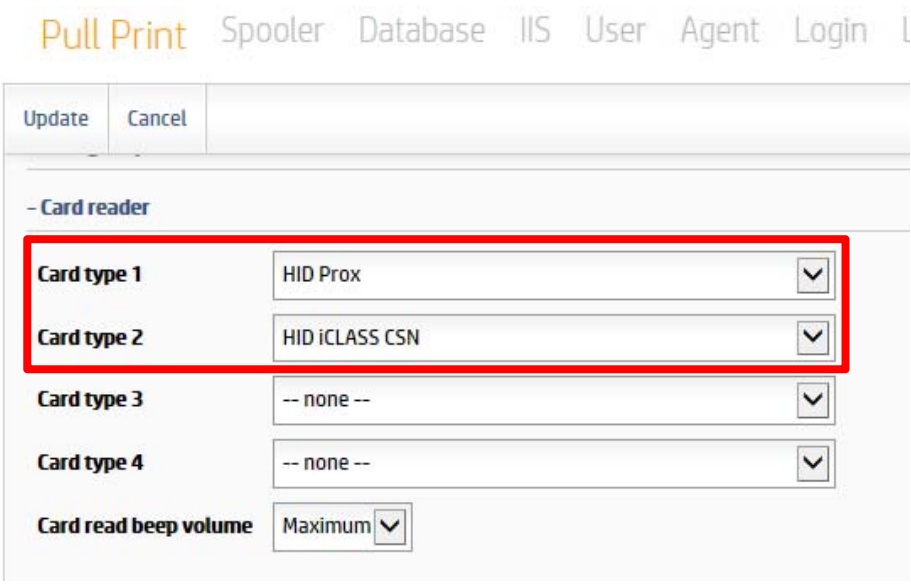
29. Masking

If Card Masking was enabled prior to the upgrade, the datadecodedefault.xml folder should have been backed up the in the planning phase.

The backed-up datadecodedefault.xml file should be restored immediately following the HP AC upgrade.

In an environment where there are both the HIP1 (CZ208A) and HIP2 (X3D03A) readers and HP AC 15.3.x or newer is installed and capable of managing 4 different card types, the CZ208 reader will always read from the first two card types configured in IRM. (See the screen shot below).

Note: For a device using the HIP2 reader to read all four card types set in IRM, the agent will need to be upgraded to version 20160912 or newer.



The Proximity reader configuration settings of IRM must not change if this server is doing the authentication.

Example: If you are configuring your devices from a central management server (Server A) it is possible to make changes to this setting for each Pull Print/Authentication server (Server B) you configure. Server B's card reader configuration would always remain static but server A would change according to which devices are being configured and for which server.