December 2017

Crossmatch DigitalPersona (DP) AD and LDS v**2.3.0** Update Notes

General Upgrade and Deployment Information

Branding changes from DPCA (DigitalPersona Composite Authentication) to DP (DigitalPersona), December 2017

- Crossmatch is the company, since Crossmatch DigitalPersona merger April 2014
- DigitalPersona (DP) is the product name – no longer DPCA or Altus or Pro
- Composite Authentication is now simply a feature, and no longer the product name

Name changes from Altus to DigitalPersona Composite Authentication Platform, April 2017:

DigitalPersona Composite Authentication (DPCA) v2.x:	Altus v2.x:
DigitalPersona Premium Composite Authentication AD (O365 SSO + Logon for Windows + Password Manager)	Altus AD (was previously DigitalPersona Pro)
DigitalPersona Premium Composite Authentication LDS (O365 SSO + Logon for Windows + Password Manager)	Altus LDS
DigitalPersona Composite Authentication AD Logon for Windows	Altus AD Base
DigitalPersona Composite Authentication LDS Logon for Windows	Altus LDS Base
DigitalPersona Composite Authentication Office 365 SSO (new product)	N/A
DigitalPersona Composite Authentication Federal (Premium + CAC support)	Altus Federal
DigitalPersona Composite Authentication LE	Altus LSMS
DigitalPersona Composite Authentication AD Windows Password Synchronization (included in Premium AD and Logon for Windows AD)	Altus Windows Password Synchronization
DigitalPersona Composite Authentication AD ESPM (Extended Server Policy Module)	Altus AD ESPM
DigitalPersona Composite Authentication LDS ESPM	Altus LDS ESPM

Name changes from Pro to DP

- Originally Pro for AD with releases 1.0.0 through 4.4.3
- Then Pro for Enterprise with releases 5.0.0 through 5.5.1
- Product continues with new name Altus, January 2014, resetting to v1.0.0
- April 2017 changed from Altus to DPCA (between Altus 2.0.0 and DPCA 2.0.3)
- December 2017 changed from DPCA to Pro (between DPCA 2.2.0 and DP 2.3.0)

DigitalPersona (DP) **AD** 2.3.0 can upgrade from the following releases:

- DigitalPersona Composite Authentication AD 2.2.0
- DigitalPersona Composite Authentication AD 2.1.0
- DigitalPersona Altus AD 2.0.3

- DigitalPersona Altus AD 2.0.0
- DigitalPersona Altus AD 1.2.0
- DigitalPersona Altus AD 1.1.0
- DigitalPersona Pro Enterprise 5.5.1
- DigitalPersona Pro Enterprise 5.5.0

DigitalPersona (DP) **LDS** 2.3.0 can upgrade from the following releases:

- DigitalPersona Composite Authentication LDS 2.2.0
- DigitalPersona Composite Authentication LDS 2.1.0
- DigitalPersona Altus LDS 2.0.3
- DigitalPersona Altus LDS 2.0.0
- DigitalPersona Altus LDS 1.2.0
- DigitalPersona Altus LDS 1.1.0
- There is *no* upgrade path from Pro 5.x to DPCA LDS / Altus LDS / DP LDS

Migration Options

For DigitalPersona Pro 5.5.x to DigitalPersona (DP) AD migration, customers have two options. Customers can choose to self-migrate or choose to use Professional Services (PS).

Crossmatch Solutions Professional Services

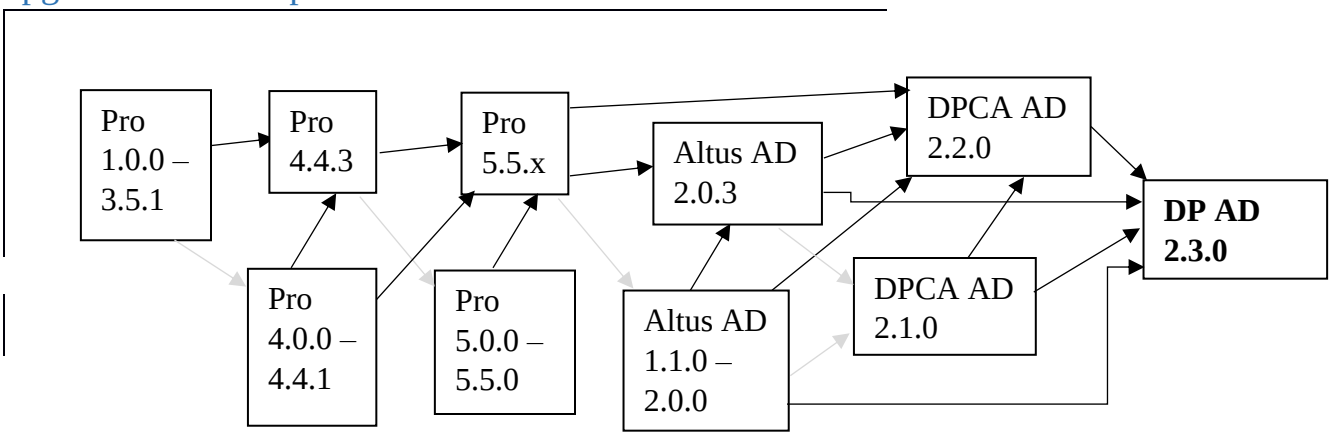
Highly recommended for migration from Pro 4.x or Pro 5.x to current AD product are Crossmatch Solutions Professional Services. The Crossmatch Solutions Team can perform the migration for you as a Professional Service. Contact your sales account manager for additional information.

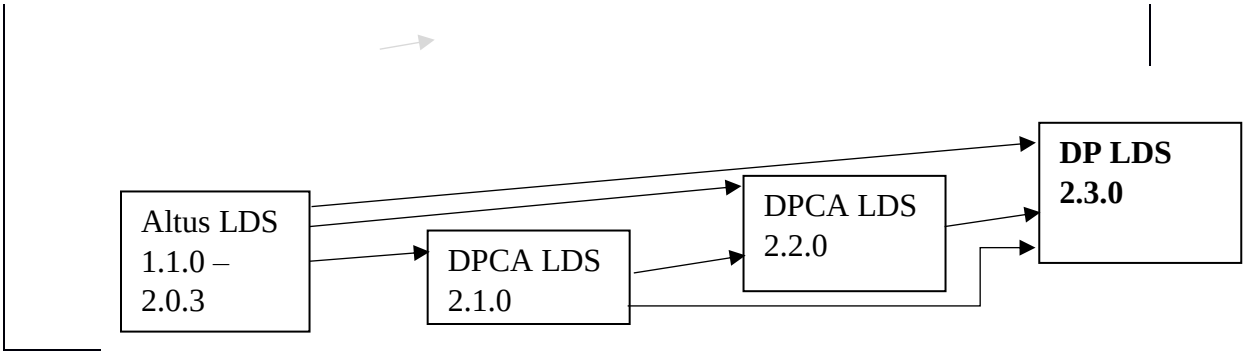
Self-migration

The DP Administration Guide provides some migration instructions. Another resource is the Altus Migration Guide. The requirements for DP are basically the same as was for Pro/Altus/DPCA. DP AD server is backwards compatible with, and will support the DPCA AD 2.x, Altus AD 2.x, Altus AD 1.x, and Pro 5.5.x clients. In going to DP, end users will experience a difference in UI etc., so it is advisable to test in a lab, and upgrade the clients via a pilot group first.

Please note: Tech Support (Crossmatch Customer Care (CMCC)) cannot be on standby during self-migration projects. Once the migration is complete however, CMCC will support the migrated deployment under standard Maintenance and Support (M&S).

Upgrade version hops





Updating from version Pro 5.0.0 through Pro 5.4.1

Upgrading from these versions of Pro requires that you first complete an upgrade to Pro 5.5.1, and then migrate to DP AD 2.3.0. (Do NOT upgrade to Pro v5.5.2; this is not a roll-up release of post Pro 5.5.1 patches but rather a special build for a specific customer base.) If staying on Pro 5.5.1 for any amount of time it is highly recommended to deploy patch DP08-02-050, a roll-up of fixes for password resets, recovery access, client/server sync, and more, for Pro 5.5.1.

More information on this topic is here: Migrating from Pro versions 4.4.3 through 5.4.1 ► DP AD 2.3.0

Updating from a version Pro 4.x earlier than v4.4.3

Upgrading from releases of DigitalPersona Pro for Active Directory prior to v4.4.3 requires that you first complete an upgrade to DigitalPersona Pro for Active Directory 4.4.3 plus patches, then complete an upgrade to DigitalPersona Pro Enterprise 5.5.1 plus patches, and then migrate to DP AD 2.3.0. If staying on Pro 4.4.3 for any amount of time, please reference the Supplemental Information for DigitalPersona Pro for Active Directory 4.4.3 Software document.

More information on this topic is here: Migrating from Pro 4.x (earlier than v4.4.3) ► DP AD 2.3.0

DigitalPersona (DP) "AD" and "LDS" flavors:

DigitalPersona **AD**

DP AD is a direct successor and replacement product for the DigitalPersona Pro for AD 1.x to 4.x, DigitalPersona Pro for Enterprise 5.x, Altus AD 1.x to 2.x, and DPCA AD 2.x products.

DigitalPersona **LDS**

DP LDS is similar in many ways to DP AD. Product distinguishers are:

- DP LDS stores data in a Microsoft AD LDS database instead of Active Directory
- The DP LDS server need not be run on a Domain Controller
- Active Directory schema changes are *not* required
- DP LDS allows for both internal use, like DP AD, and external (customer facing) use, with separate licenses
- DP LDS is generally deployed customized by the Crossmatch Solutions team Professional Services (PS)

Note that the name of the storage database DP LDS uses is Microsoft Active Directory Lightweight Directory Services; for technical clarity the DigitalPersona LDS product is sometimes referred to as DigitalPersona AD LDS.

DigitalPersona **Federal**

DP Federal supports CAC (DoD Common Access Card). This is a wholly separate product with government pricing.

DigitalPersona **LE**

DP Workstation only, bundled at no additional cost, with LSMS software. The assumption is that as most LSMS instances are on non-domain member hosts isolated from the rest of the customer's network, the DigitalPersona Workstation will function as stand-alone without any additional configuration. DigitalPersona will not use the scanner connected to LSMS, rather a U.are.U 4500 or other reader is still needed. (Note that there is an "Guardian Support" driver folder distributed with the DigitalPersona solution that provides Guardian ten-print scanner support – however that is NOT what DP LE is.)

DigitalPersona **Premium**

DP "Base," plus SSO and Password Manager managed logons and SAML support and more.

DigitalPersona **Logon for Windows**

Only for Windows AD logon and unlock, no Password Manager.

Fresh install / deployment of DigitalPersona

This document provides information for *upgrades* and *migrations* of existing Pro / Altus deployments. For fresh installs of DP 2.3.0, please refer to the Administrator and Quick Start Guides, available at https://www.crossmatch.com/company/support/documentation/, and the readme.txt files included with the software.

Upgrade Planning

Updating to DigitalPersona 2.3.0 requires preparation, planning, and testing.

- Review the readme.txt file included with each DP product.
- Review the Administrator Guide and identify any potential changes to the system administration settings.
- DP client installs may have required prerequisites, like a newer .Net framework for example.
- Check crossmatch.com for applicable server and client and tools patches.
- Incrementally deploy and test your system upgrade, i.e.: servers, then pilot clients, then all clients.
- Prepare a software rollback plan.
- Perform a lab test of the upgrade in an environment that approximates your production environment prior to performing a live/production upgrade:
    - Identify the features and policies you've deployed in your environment.
    - Schedule the timing for your upgrade and estimate how long upgrade will take for your environment.
    - Plan for and resources that may need.
    - Identify any special requirements applicable to your environment.
    - Determine how to mitigate downtime.

DP 2.3.0 clients require DP Server 2.3.0

DP 2.3.0 clients cannot be deployed with an DP Server version earlier than the client. You must complete the upgrade of all Pro/Altus/DPCA Servers prior to upgrading Pro/Altus/DPCA clients. (Ex. Altus AD 1.2 Server is not compatible with Altus AD 2.0.3 client.)

Backwards compatibility

The DP server is compatible with older clients. This allows for some ease of migration insofar as all clients don't have to be instantaneously updated. Please consult the server product readme.txt for specific compatibility information. For example, the DP Server 2.3.0 will support the Altus AD Workstation 2.0.3 and Pro Workstation 5.5.1 clients. Note however that Altus 2.0.3 clients are not compatible with the DP 2.3.0 STS logon page- if using the v2.3.0 STS logon with fingerprint or cards, you'll need to upgrade to clients to v2.3.0.

Laptops and tablets with built-in fingerprint readers

DP supports a broad range of built-in fingerprint readers in notebooks. Some driver software is redistributed by Crossmatch and found in the `.\Client\Drivers` folder in the product package. Any third-party fingerprint applications that use these readers must be disabled or uninstalled for the DP client to utilize the reader. WBF (Windows Biometric Framework) drivers should work out-of-the-box.

Recommended False Accept Rate (FAR) Setting

We recommend setting the False Accept Rate to 'Medium High' (1 in 100,000). The FAR used by all DP Servers and clients must be the same value. The FAR is the mathematical probability of two different fingerprints being falsely matched. For specific instructions on configuring the FAR settings for your deployment, please consult the Administrator's Guide. If the FAR is not explicitly set, defaults will be used.

Maintenance and Support

Please contact maintenancecontracts@crossmatch.com for all information and quotes to renew your Maintenance and Support (M&S) contract. M&S covers new major and minor software releases, bug fixes, and access to technical support.

DigitalPersona Biometric Tokenization engine

A new feature in DP v2.3.0 is fingerprint biometric tokenization. Tokenized fingerprints are more secure as they are revocable and unlinkable to specific users. Doing a **default** upgrade from DP 2.2 or earlier, to DP 2.3 or later, does **not** implement fingerprint tokenization. To use tokenization, new deployments of DP 2.3 or higher must explicitly select the new Biometric Tokenization Engine and deselect the Fingerprint Recognition Engine, on all server and client installs. To upgrade from non-tokenized to tokenized requires: deletion of all fingerprints, modification of all clients and servers from the old engine to the new tokenization engine, and then re-enrollment of fingerprints.

Upgrading from DPCA AD 2.2.0 or 2.1.0 or 2.0.3 ► DP AD 2.3.0

1. Check crossmatch.com for applicable server and client and tools patches
2. Run the .\Server\DigitalPersona AD Server\Domain Configuration\DPDomainConfig.exe
   a. Document any custom, non-default, attended enrollment permissions and/or custom kiosk memberships configured
   b. Run the domain configuration wizard
   c. Re-customize any custom attended enrollment or kiosk membership permissions
3. On each Altus AD server: (Note: If using central store follow steps elsewhere in this document.)
   a. Remove Altus AD 2.x Administration Tools
   b. Remove Altus AD 2.x Server
   c. Install DP AD 2.3.0 Server
   d. Install DP AD 2.3.0 Administration Tools
   e. To ensure an upgrade of the DP web server (Web Enrollment and/or Web Admin Console) goes smoothly:
      i. Prior to installing the new server components: Stop IIS, and, stop any running DP traces
      ii. If a non-administrative-power user is needed, add the user to the "DPCA SO" group.
      iii. To demote a "DP_Access" user with domain admin rights from pre-v2.3 delete it prior to installing the v2.3 software. In v2.3 and higher the "DP_Access" user will not be created as domain admin.
4. On each client
   a. Upgrade from v2.x to v2.3.0, in place, over top
   b. Reboot client
5. Altus 2.0.3 and higher includes a new Password Manager (PM) feature, now individual logons roam with users, much like managed ones always have. If you encounter issues where users can't save new individual logons, PM labels or other data does not persist reboots, please follow the rangeUpper tweaking steps elsewhere in this document.

Upgrading from Altus AD 1.2.0 or 1.1.0 ► DP AD 2.3.0

1. Check crossmatch.com for applicable server and client and tools patches
2. Run the .\Server\DigitalPersona AD Server\Schema Extension\DPSchemaExt.exe
3. Run the .\Server\DigitalPersona AD Server\Domain Configuration\DPDomainConfig.exe
   a. Document any custom, non-default, attended enrollment permissions and/or custom kiosk memberships configured
   b. Run the domain configuration wizard
   c. Re-customize any custom attended enrollment or kiosk membership permissions
4. On each Altus AD server: (Note: If using central store follow steps elsewhere in this document.)
   a. Remove Altus AD 1.x.0 Administration Tools
   b. Remove Altus AD 1.x.0 Server
   c. Install DP AD 2.3.0 Server
   d. Install DP AD 2.3.0 Administration Tools
   e. To ensure an upgrade of the DP web server (Web Enrollment and/or Web Admin Console) goes smoothly:
      i. Prior to installing the new server components: Stop IIS, and, stop any running DP traces
      ii. If a non-administrative-power user is needed, add the user to the "DPCA SO" group.
      iii. To demote a "DP_Access" user with domain admin rights from pre-v2.3 delete it prior to installing the v2.3 software. In v2.3 and higher the "DP_Access" user will not be created as domain admin.
5. On each client
   a. **If "old" client is v1.2.0 then**: Remove post Altus 1.2.0 patch DP00-04-001 (This roll-up patch was highly recommended for Altus 1.2.0, for general functionality beyond just Chrome, however, the installer does not remove it and so if not removed prior to upgrade it will remain listed on the system but not be removable. If you skipped this step, then simply ignore this artifact left on the machines as it should have no negative impact.)
   b. Upgrade from v1.x.0 to v2.3.0, in place, over top
   c. Reboot client
6. Altus 2.0.3 and higher includes a new Password Manager (PM) feature, now individual logons roam with users, much like managed ones always have. If you encounter issues where users can't save new individual logons, PM labels or other data does not persist reboots, please follow the rangeUpper tweaking steps elsewhere in this document.

Upgrading from LDS 2.2.0 or 2.1.0 or 2.0.x or 1.2.0 or 1.1.0 ► DP LDS 2.3.0

1. Check crossmatch.com for applicable server and client and tools patches
2. **If "old" server is Altus LDS v1.1.0 then:** License change
   a. *Do NOT proceed with upgrade until you have new replacement licenses in hand*
   b. The LDS license types (LDS customer-facing and LDS employee-facing) have changed technically; new replacement licenses will need to be obtained from Crossmatch Sales Operations or Customer Care. Existing Altus Employee licenses will need to be deleted manually prior to upgrade. If not removed prior to upgrade these licenses will be displayed as an unknown type and will need to be deleted manually using ADSIEdit.
   c. Prior to the configuration run and server changes, remove the v1.0.0 / v1.1.0 licenses
   d. After the configuration run and server changes, add the newer v1.2.0 / v2.x.x licenses
3. Run the .\Server\DigitalPersona LDS Server\Configuration Wizard\DPADLDSConfig.exe (Note that schema changes mentioned in the LDS product documentation and dialogs is referring to the ADLDS schema and not the Active Directory (AD) schema.)
4. Note that due to some subtle errors in the early Altus LDS admin guide, the replica AD LDS DB instance may be misnamed. While replicating data, and seeming to appear correctly in the management consoles, it may not actually provide full fail-over functionality. Fail-over should be tested, and if it doesn't work as expected, be re-configured correctly, by full replica DB removal and re-instantiation as per the latest admin guide. Also, if not in place already, recommended is setting the "Computer / Polices / Admin Templates / General Admin / AD LDS instance name" policy explicitly.
5. On each Altus LDS server: (Note: If using central store follow steps elsewhere in this document.)
   a. Remove Altus LDS Administration Tools
   b. Remove Altus LDS Server
   c. Install DP LDS Server v2.3.0
   d. Install DP LDS Administration Tools v2.3.0
   e. To ensure an upgrade of the DP web server (Web Enrollment and/or Web Admin Console) goes smoothly:
      i. Prior to installing the new server components: Stop IIS, and, stop any running DP traces
      ii. If a non-administrative-power user is needed, add the user to the "DPCA SO" group, on LDS, additionally add the "DPCA SO" group to the administrators group under role assignments in AZMan.
      iii. To demote a "DP_Access" user with domain admin rights from pre-v2.3 delete it prior to installing the v2.3 software. In v2.3 and higher the "DP_Access" user will not be created as domain admin.
6. On each client
   a. **If "old" client is Altus LDS v1.2.0:** Remove post Altus 1.2.0 patch DP00-04-001 (This roll-up patch was highly recommended for Altus 1.2.0, for general functionality beyond just Chrome, however, the DP LDS Workstation v2.3.0 installer does not remove it and so if not removed prior to upgrade it will remain listed on the system but not be removable. If you skipped this step, then simply ignore this artifact left on the machines as it should have no negative impact.)
   b. Upgrade to v2.3.0, in place, over top
   c. Reboot client
7. **If "old" server was Altus LDS v1.2.0 or v1.1.0 then note:** After upgrading an administrator may not be able to delete previous "Employee Licenses" using Altus License Manager due to changes in the

license format. To resolve the issue, use ADSI (Active Directory Services Interface) editor to delete the record corresponding to the previous license.

Migrating from Pro 5.5.x ► DP AD 2.3.0

Please reference the information in the Migration Options section.

To self-migrate:

1. Check crossmatch.com for applicable server and client and tools **patches** not already detailed in the steps below
2. Ensure everything is working, to ease potential troubleshooting later
3. Run the DP AD 2.3.0 . \Server\DigitalPersona AD Server\Schema Extension**DPSchemaExt.exe**
4. Following the rangeUpper tweaking steps elsewhere in this document is recommended at this point to avoid Password Manager space issues.
5. Run the DP AD 2.3.0 .\Server\DigitalPersona AD Server\Domain Configuration**DPDomainConfig.exe**
   a. Document any custom, non-default, attended enrollment permissions and/or custom kiosk memberships configured
   b. Run the domain configuration wizard
   c. Re-customize any custom attended enrollment or kiosk membership permissions
6. **Document all and any GPOs with Pro settings.** Once new DP 2.3.0 .admx / .adml files are installed the settings based on older administrative templates may be un-editable. Settings from .adm files show in the classic nodes. Settings without administrative template or configured and viewed by DLL show in the extra registry settings nodes.
7. On each Pro / DP AD server: (Note: If using central store follow steps, elsewhere in this document.) (Note: If upgrading/refreshing DCs (same AD domain) at the same time you can remove Pro 5.5.1 from the "old" DCs and install DPCA AD 2.3.0 into the "new".)
   a. Remove Pro 5.5.1 Administration Tools
   b. Remove Pro 5.5.1 Server
   c. Install DP AD 2.3.0 Server
   d. Install DP AD 2.3.0 Administration Tools
   e. For the DP web server (Web Enrollment and/or Web Admin Console), if a non-administrative-power user is needed, add the user to the "DPCA SO" group.
8. **Update and transfer GPO policies from Pro 5.5.x to DP AD 2.3.0 using one of the options below.**
   a. <u>Add / duplicate settings</u>:
      i. Note that if there are much older Pro settings in use you may not be able to access them to remove them once the new DP .admx files and admin tools DLLs are in place; in this situation use the manually duplicate GPO option just below.
      ii. Instead of using separate existing Pro, and new DP AD, GPOs - the same existing GPO can be used.
      iii. Note GPO sections marked as legacy, and policies for new features as you go through.
      iv. Manually go through policies and enable and configure the DP settings to match the existing Pro settings.
      v. After client migration is complete, the old Pro policy settings can be cleared; during migration both old and new policies will be in effect with each machine getting the appropriate ones.

b. Manually duplicate GPOs:

i. In GPMC identify the GPOs serving Pro
ii. Export GPOs to html reports, or document existing policies, specifically:
    1. GPO filtering and security Groups used
    2. Shared managed template folder paths locations
iii. Create new DP AD GPOs, set all the desired settings, security filtering if used, and link GPOs properly
iv. After all clients are migrated, then the older "Pro" GPOs can be unlinked and later deleted

c. Using the Altus AD Policy Migration Tool:

i. Detailed in the Migration Guide
ii. If the Altus Migration Tool (AMT) reports that DP / Altus / Pro polices have not been detected, then use one of the other options in this section.
iii. Note that this tool may not be part of your DP download, in which case you can request it from your sales account manager or customer care.

d. Notes on GPOs:

i. To navigate to all the settings, note that the **Administrative templates** section is expanded with new .admx/.adml files, and the **software settings** section is extended with DLLs
ii. The Password Manager path GPO, under the User node, need to be configured. The Pro 5.x policy is named "Pro", while the different new DP/DPCA/Altus policy has the newer name. Most policies carry over, but do look for a newer setting that replaced it, just in case.
iii. The newer DP AD GPO policy settings will only be available to view and set after DP Admin Tools are installed
iv. Older Pro settings will now be viewed though the filter of newer DP admx files – in order to view with the v5.5.1 admx and snap-in extensions the admin would have to save or build a machine with the v5.5.1 admin tools installed

e. Note on GPO policy setting for the kiosk client:

i. Be sure you know your kiosk shared account passwords prior to migration. If you need to reset them, do so while on the full unchanged v5.5.1 environment
ii. Older Pro version policy stored the kiosk shared account password in clear-text, newer DP stores it encrypted. If you have policies with clear-text password content they will not be automatically changed to the newer encrypted format. To get these policies into the newer encrypted format you'll have to recreate the GPO(s)

9. **Upgrade clients**, from Pro client 5.5.x, to DP AD client 2.3.0, in place; and reboot all clients
10. Notes on Password Manager (PM):

a. PM categories disappear when going from v5.5.1 to v2.x; this is a known issue with no workaround other than manually recreating the categories.
b. DPCA 2.0.3 and higher includes a new Password Manager (PM) feature, now individual logons roam with users, much like managed ones always have. If you encounter issues where users can't save new individual logons, PM labels or other data does not persist reboots, please follow the rangeUpper tweaking steps elsewhere in this document.
c. All centrally MANAGED logons should continue to work from Pro 5.5.1 to DP AD 2.3.0. (These are "roaming" templates stored in an accessible network share and managed with the Password Manger Admin Tool, PMAT.)
d. All INDIVIDUAL logons should continue to work from Pro 5.5.1 to DP AD 2.3.0. (These are templates within each user's Windows profile.) However, to ensure a smooth upgrade of individual

PM user logons, during the client upgrade, the workstation should have connectivity to the DP Server(s).

e. There is a backup and import utility in PM for all Pro and DP versions. This can be used to back up PM credentials, or copy/move them from one machine and Pro/DPCA version to another. This procedure should be tested before use in production across versions.

11. Notes on **Online client;** steps for getting Online 551 and DP 220 together: (Crossmatch DigitalPersona Online is another product which may be run in parallel with Pro.)
    a. Install DP AD Workstation 2.3.0
    b. Reboot
    c. If installing any patches decline reboot on workstation install, patch, then reboot once for both
    d. Install DP Online 5.5.1 (decline reboot)
    e. Install Patch dp03_01_004
    f. Reboot (for Online client and patch)
    g. Repair DP AD Workstation 2.3.0 (decline reboot, will reboot after registry tweaks)
    h. Regedit under Computer\HKEY_Local_Machine\Software\DigitalPersona\Policies: (some keys in steps below may be there from installs above or previous software)
        i. Add AllowFPRedirect=1 (reg_dword)
        ii. Add ForbidFPCompression=1 (reg_dword)
        iii. Add TSCompressionType=1 (reg_dword)
    i. Under Computer\HKEY_Local_Machine\Software\Policies\DigitalPersona\Altus
        i. Add AllowFPRedirect=1 (reg_dword)
        ii. Add ForbidFPCompression=1 (reg_dword)
    j. Reboot

Migrating from Pro versions 4.4.3 through 5.4.1 ► DP AD 2.3.0

Follow the DigitalPersona Pro Enterprise 5.5.1 Upgrade Notes to get to DigitalPersona Pro 5.5.1. Once on Pro 5.5.1, you can migrate to DP by following the appropriate section of this document. If you plan to stay on Pro 5.5.1 for any period of time, highly recommended is post Pro 5.5.1 Workstation patch DP08-02-050. There are multiple post Pro 5.5.1 patches for third party reader hardware and other issues are available here.

Note: When going from Pro 4.x to Pro 5.x: Though license quantities and the license file extensions may be the same, Pro 4.x and Altus AD / Pro 5.x licenses are programmatically different. A new .dplic file **must be obtained** from M&SOrderDesk@crossmatch.com in going to DP.

In going from Pro 4.4.3 to Pro 5.5.1 you may notice various license count particularities. After a while you may find you seem to be using more licenses on Pro 5.x then you were on Pro 4.x. The Pro 5.x server has a Pro 4.x server module under it which provides backwards compatibility. The 4.x and 5.x licenses are for their specific clients and are managed separately. So, a User accessing a Pro 5.5.1 server(s) from only Pro 4.4.3 client(s) will not affect Pro 5.x license counts or show up in the Pro 5.x User Query Tool results. (If you were to retain a Pro workstation 4.4.3 with the Pro 4.x License Manager Tool, even once you upgraded all your servers to Pro 5.5.1, you would see the 4.x and 5.x licenses separate and more-or-less correct.) Once the User accesses Pro 5.5.1 server(s) from Pro 5.5.1 client(s), then the User will affect Pro 5.x license counts and show up in the Pro 5.x User Query Tool results. There is no clean-up of the Pro 4.x licenses, they are simply abandoned; similarly, once there are no more Pro 4.x clients the Pro 4.x server sub-module and the Pro 4.x DNS SRV RR remain but are no longer used.

Migrating from Pro 4.x (earlier than v4.4.3) ► DP AD 2.3.0

Follow the DigitalPersona Pro for Active Directory 4.4.3 Upgrade Notes to get to DigitalPersona Pro 4.4.3. Once on Pro 4.4.3, you can upgrade to Pro 5.5.1 by following the appropriate section of this document. There are multiple post Pro 4.4.3 patches available here if you plan to stay on Pro 4.4.3 for any significant amount of time.

Frequently Asked Questions (FAQ)

Q: **Where do I obtain the administration guides and other documentation?**

https://www.crossmatch.com/company/support/documentation/

DigitalPersona Composite Authentication - AD Administrator Guide.pdf
https://a3fcb69dc7037ab91b58f8ba-qnewmedia.netdna-ssl.com/wp-content/uploads/2017/06/dpca-ad-administrator-guide.pdf

DigitalPersona Composite Authentication - Client Guide.pdf
https://a3fcb69dc7037ab91b58f8ba-qnewmedia.netdna-ssl.com/wp-content/uploads/2017/06/dpca-ad-client-guide.pdf/

DigitalPersona Composite Authentication - LDS Administrator Guide.pdf
https://a3fcb69dc7037ab91b58f8ba-qnewmedia.netdna-ssl.com/wp-content/uploads/2017/06/dpca-lds-administrator-guide.pdf/

DigitalPersona Composite Authentication - Federation Implementation Guide
https://a3fcb69dc7037ab91b58f8ba-qnewmedia.netdna-ssl.com/wp-content/uploads/2017/03/DigitalPersona-Composite-Authentication-Federation-Implementation-Guide.pdf

DigitalPersona Altus Password Manager Application Guide
https://a3fcb69dc7037ab91b58f8ba-qnewmedia.netdna-ssl.com/wp-content/uploads/2017/03/DigitalPersona-Altus-Password-Manager-Application-Guide-20131210.pdf

DigitalPersona Altus AD Migration Guide
https://a3fcb69dc7037ab91b58f8ba-qnewmedia.netdna-ssl.com/wp-content/uploads/2017/03/Altus-AD-Migration-Guide-20150518.pdf

DP / DPCA / Altus / Pro update notes
https://www.crossmatch.com/company/support/documentation/

Q: **Do I need to run the Schema Extension and/or Domain Configuration Wizard with DigitalPersona Composite Authentication AD?**

From	*To*	*Run schema extension?*	*Run domain configuration?*
DPCA AD 2.2.0	DP AD 2.3.0	No	YES
DPCA AD 2.1.0	DP AD 2.3.0	No	YES
Altus AD 2.0.3	DP AD 2.3.0	No	YES
Altus AD 2.0.0	DP AD 2.3.0	No	YES
Altus AD 1.2.0	DP AD 2.3.0	YES	YES
Altus AD 1.1.0	DP AD 2.3.0	YES	YES
Altus AD 1.0.0	DP AD 2.3.0	YES	YES
Pro 5.5.1	DP AD 2.3.0	YES	YES

For minor version releases there are no schema changes; the domain configuration must be run on even minor updates.

Note that **any custom attended enrollment permissions and/or custom kiosk memberships configured will be overwritten to their defaults by the domain configuration run**. The domain configuration will reset the 'register / delete fingerprints' permission back to the defaults. For example, after running the domain configuration, end-users will be able to self-enroll - if you had changed the permissions to prevent self-enrollment, you'll then have to re-configure this again. If you had set up custom attended enrollment group permissions, check to ensure these are still functioning.

Q: I'm **having trouble getting the schema extension to run.** What might I be missing?

Run on the schema master – find which DC this is via the `netdom /query fsmo` command. Ensure the user you are running as is in the schema and enterprise admins groups. Right-click and use the 'run as admin' option.

Q: **Do I need to install administrative templates and/or set GPOs on every Domain Controller (DC) / DP Server?**

No. However, to view Group Policy settings, generally yes, administrative templates need to be present. Administrative templates and GPOs are stored in AD and need only be set once (from any AD Users and Computers or GPMC console) and then they exist in AD and are replicated by AD among all the DCs and to clients.

On Windows 2003 Server .adm files need to be added to GPOs for settings to be available. Windows 2008 Server uses .admx/l files, so this step is no longer needed. If using Microsoft Central Store then .admx/l files need to be manually copied from the default locations to the PolicyDefinitions location. In addition to the Administrative Templates node, DP AD extends the Policies/Software Settings node via a GPMC snap-in extension, which is part of the Administrative Tools install.

Q: **Do I need to add licenses on every DC / DP AD Server?**

No. Licenses are stored in AD for DP AD and in the DP LDS AD LDS database for LDS, and need only be added once; then the licenses are replicated.

Q: **The instructions say to remove Server <older> and then freshly install Server <newer> – will I lose fingerprint or user password data due to these changes?**

No, there should be no user data loss. This is simply the removal of the older version's Authentication Service and then an install of the newer version's Authentication Service; DP data in AD/AD LDS is untouched. Stored in AD/AD LDS is DP's copy of User's domain credentials, OTS/PM secrets from synchronized clients, and OTI/PM secrets from synchronized workstations.

Q: **Where do I obtain these Upgrade Notes?** (If you're reading a print-out, or to send a link.)

Download or view the DP AD Upgrade Notes PDF from here:

https://www.crossmatch.com/company/support/documentation/

Server Hardware or Software Changes with DigitalPersona Composite Authentication in Place

Please follow the recommendations detailed below to ensure minimal service interruption, if you are working with an existing production **AD Forest and AD Domain with DP in place** and are:

- Refreshing Domain Controller (DC) hardware
- Upgrading DC Operating System (ex. 2008R2 to 2016 Server)
- Adding additional DCs and then decommissioning older DCs

What is Stored in Active Directory (AD)?:

- AD Schema modifications made by the DP AD Schema Extension wizard
- Permission changes made to the AD Domain by the DP AD Domain Config wizard
- DigitalPersona Pro / DP AD licenses
- GPO .admx/.adml/.adm files and actual GPO settings for DP AD
- Users' fingerprint templates
- Users' Password Manager (PM) credentials
- If the Password Manager share is in the AD SYSVOL then this too is stored in AD

We strongly recommend all DP AD server, client and admin tool software be at the most current versions.

Most day to day DP functionality will be available even without an DP Server being accessible due to DP client caching functionality (by default, caching is enabled) **however:**

- Users will NOT be able to manage fingerprints as this is done through the Server.
- Users will NOT be able to use a fingerprint to access DP clients they've never used a fingerprint to log onto before. (Because their credentials are not in the local cache; credentials are only cached after at least one successful logon.)

How can one test a new DP Server? Stop the Authentication Service on all the DP Servers not being tested and then try managing fingerprints from an DP client. If you get the warning message stating that changes made will be stored locally only, then the DP client is not properly communicating with the DP Server. If you can for example, add a new fingerprint without receiving the warning message, then the Server is accessible and working. You can also see the DP Server is working by using the DP User Query Tool; log to file, and then view the log, looking for an entry detailing a user with newly registered fingerprints.

Gracefully remove DP Server when you decommission a DC running Pro / Altus / DPCA / DP Server. The graceful removal of DP Server does a few things:

- Removes dynamic DNS service records which Pro / DP AD clients use to find the Server
- Removes metadata from AD about the Pro / DP Server (which if left behind can cause some issues)

Example:

You have a fully functional DP AD deployment with two DCs, one of which is an older box running Windows Server 2008R2. You are replacing this DC with new server hardware which will run Windows 2012R2 Server OS.

- All fingerprints, licenses, GPOs. etc. are stored in AD
- You are already on the current version so there is NO need to run the AD Schema extension or Domain configuration again

1. Once the Windows 2012R2 server has been promoted to a DC, install DP Server
2. Gracefully remove DP from the old DC by uninstalling DP Server and then decommissioning the DC as planned

Administrative Templates

With Pro 5.x and higher some GPO policy settings have been moved from the more traditional Administrative Templates area to a new location – allowing more complex configurations to be created. This GPO location is also where the user licenses are stored. Location is: Computer Configuration, Policies, Software Settings. Remember to look for settings both here and in the Administrative Templates folder.

As a convenience the installation of DP Server automatically:

- Copies .adm files into %systemroot%\inf
- Copies .admx files into %systemroot%\PolicyDefinitions on Server 2008 and later
- Copies .adml files into %systemroot%\PolicyDefinitions\<appropriate language folders> on Server 2008 and later

Password Synchronization tool

If using the optional password synchronization tool, be sure to remove the older version, and install the current version. This must run on all DCs, or none.

Central Store

If using the optional Microsoft central policy definitions store, the admin will have to manually copy .admx/l files to \\FQDN\SYSVOL\FQDN\policies\PolicyDefinitions\ as appropriate. The DP installer is not Central-Store-aware and simply places the files in \\%systemroot%\PolicyDefinitions\.

1. Install the DP Administrative Tools – specifically choose custom and ensure the ADUC and/or GPMC snap-in extensions is installed.

2. Manually copy dp*.admx files from \\%systemroot%\PolicyDefinitions\ into \\FQDN\SYSVOL\FQDN\policies\PolicyDefinitions\
3. Manually copy dp*.adml files from \\%systemroot%\PolicyDefinitions\<appropriate language specific folders>\ into \\FQDN\SYSVOL\FQDN\policies\PolicyDefinitions\<appropriate language specific folders>\

Licensing

A user license is required for a user to store credential data centrally, allowing "roaming". User licenses can be viewed and managed in multiple ways. In the Group Policy Management Console (GPMC) GPO editor, view the properties of the License ID object. Use the User Query Tool (UQT) to view which users are taking licenses, and for what credentials. All of this licensing section is applicable to DP AD, some detailed here are not available in DP LDS, or they may be done by script or other methods as implemented by Crossmatch Solutions.

General User license workflow:

- Once a DigitalPersona Composite Authentication AD "user", or DP LDS Server "AD user", license has been activated, DP Servers will manage the user license pool.
- When a user registers credentials (fingerprint, smart card, contactless card, proxy card, PIN, Bluetooth device, etc.), and is authenticated by DP Server, that user consumes one user license.
- The use of a Windows / AD password with Single Sign-On (SSO), or with Password Manager managed templates, additionally consumes an DP user license, if not already claimed.
- When a domain user is deleted, its license is returned to the pool for future use.
- When the AD administrator uses the DP AD 'delete license…' option in AD Users & Computers (ADUC), the license is returned to the pool for future use.
- The DP AD Administrative Tools must be in place to access the license node in the GPMC, and the license menus in ADUC.

To activate an additional or new user license:

1. On a computer with the DP Administration Tools installed, open the Microsoft Group Policy Management Console (GPMC)
2. Edit any GPO – the licenses appear in all GPOs
3. Browse to computer configuration / Policies / Software Settings / Altus Server / Licenses
4. You should see any already activated License IDs here
5. Launch the "Add License…" wizard
6. Choose to activate over the Internet (if the DP Server / DC does not have Internet access to solo.digitalpersona.com then follow guidance in the Administrator Guide on the remote license tool)
7. Browse to the .dplic file (from Crossmatch via email) -OR- enter License ID and password manually
8. At the end you'll see User License total (total of all activated licenses) / number enrolled / number available

To view the properties of the license itself in AD:

1. On a computer with the DP Admin Tools License Activation Manager sub-component installed, open the Microsoft Group Policy Management Console (GPMC)
2. Edit any GPO – the licenses appear in all GPOs

3. Browse to computer configuration / Policies / Software Settings / {product name} Server / Licenses / select License ID / properties
4. Here you'll see User License total (total of all activated licenses) / number enrolled / number available

To view all AD Users taking licenses, having enrolled fingerprints, etc.:

1. Launch the User Query Tool (UQT) - part of the DP Administration Tools install
2. Choose all the relevant checkboxes
3. View the output from the UQT as a text file and look at the summary at the end; use a spreadsheet application as needed

To return a user license to the pool:

1. Right click on the user account in ADUC (AD Users and Computers) and select 'delete credentials' (this step is optional, but avoids some issues if the user does use DP again in the future)
2. Right click on the user accounts in ADUC and select 'delete license' (this doesn't actually delete the license, rather just deletes the link to it)

RangeUpper

To increase the storage space for Password Manager data, make the following change on the AD Domain where your Users are. This is an AD Schema level change done using the ADSI editor.

1. On a computer with the tool installed, running as an account that has rights to modify the Active Directory Schema, launch adsiedit.msc.
2. In the "Connection Settings" dialog chose the radio button to "select a well known naming context", and choose "Schema".
3. Expand the Schema and select the "CN=Schema,CN=Configuration,DC=domain_name,DC=com"
4. In the right, details, pane, find and right-click "CN=dp-Password-Manager-Data", and then click Properties.
5. Find and double-click "rangeUpper".
6. Clear the value from upper range so it's blank. (Alternately, double, or quadruple, the value here until end-users no longer receive errors on saving changes in Password Manager.)
7. Click OK, and then click OK again.

Alternative to the above, a script to more easily make this change is available here or in the utilities download section of the crossmatch.com website. Check the readme to run the script in the right location with needed permissions.

Extended Server Policy Module (ESPM)

ESPM is add-on module which provides additional user based authentication configuration features. The core product offers machine based control of authentication policies. ESPM extends Pro / Altus / DPCA / DP with additional user based authentication policies. These additional user based policies are a separate purchasable product. ESPM is available for DP AD and LDS. To obtain ESPM contact Crossmatch Sales.

Re-Enrolling Users' Fingerprints

There are a couple of scenarios where re-registering selected users' fingerprints is recommended. Re-registering users whose fingerprints have changed over time will decrease false rejects and reduce the need to raise your domain's FAR (False Accept Rate.) Users whose fingerprints have changed over time include:

- People who work with abrasive materials or solutions and whose fingerprints are damaged or worn down by this work
- Fingerprints features can change, sometimes significantly for individuals over the age of 60 years

The User Query Tool can be used to generate a report of all users with fingerprints registered. When logged to file this can then be viewed as a tab delimited spreadsheet. There is a column for "date fingerprint last modified"; this information can help determine which users should re-register their fingerprints.