ActivID® ActivClient® for Windows Installation Guide

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Typographic and Document Conventions

Typography	Description
blue	Cross-references within the document.
blue, underline	References to external web addresses.
bold	Action steps (paths, buttons, options); field and drop-down list labels; emphasis.
italic	File names, document titles, and file extensions.
`Code snippets`	Highlights `code snippets` within regular content.
`Code samples`	`Highlights code samples`
	**WARNING**: This symbol indicates a critical warning. It applies to actions that if taken or not taken will break the system. Read the warning carefully and follow it.
	**Important**: This symbol indicates something very important to the reader. Ignore this symbol at your own risk.
	**Note**: This symbol indicates a note that should be of interest to the reader. It is not critical. Nevertheless, the reader should pay attention.

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1.0 Introduction



ActivID® ActivClient® guards against an ever-changing threat landscape by providing organizations with risk-appropriate and secure access to corporate IT assets.

1.1 Product Overview

HID Global's ActivID ActivClient is the latest smart card and USB token middleware from that allows enterprise and government customers to easily use smart cards and USB tokens to protect workstations and networks.

ActivClient enables the use of PKI certificates and keys and one-time passwords and static password credentials on a smart card or USB token to secure:

- Desktop applications
- Network logon
- Remote access
- Web logon
- E-mail
- Electronic transactions

ActivClient provides the following range of services:

- PKI services
- Remote access and One-Time Password (OTP) services
- Remote session services
- Management services (for end users and administrators)
- Development services with a Software Development Kit (SDK)

1.2 Document Scope and Audience

This guide explains how to install, customize and deploy ActivClient on user workstations in a Microsoft Windows environment.

It is intended for:

- System administrators
- Operators/end users
- People with knowledge of Microsoft® Windows® operating systems as well as some understanding of Public Key Infrastructure

1.3 Getting Started

ActivClient 7.1 is available in two editions:

- ActivClient 32-bit
- ActivClient 64-bit

The distribution contains:

- A launch program that starts the appropriate setup file according to the detected platform processor type (32 or 64-bit).
- Documentation.
- Administrative Utilities − unsigned installation files, administrative templates, utilities and samples to customize and manage ActivClient deployments.

Before installing ActivClient, plan which components and sub-components you want to deploy (for further information, see section 2.2 Components and Sub-Components on page 9).

2.0 Installation

This section explains how to install ActivClient locally.

For information regarding remote installation, refer to the *ActivID ActivClient for Windows Administration Guide*.

2.1 Prerequisites

Your system must meet the following minimum requirements:

- You have access to ActivClient distribution through either the local drive, the network or the CD-ROM drive.
- You have local administrative rights on your workstation.
- Your workstation is configured with a supported operating system:
  - Microsoft Windows 7 SP1 (32 and 64-bit editions)
  - Microsoft Windows 8 (32 and 64-bit editions)
  - Microsoft Windows 8.1 Update 1 and later (32 and 64-bit editions)
  - Microsoft Windows 10 (32 and 64-bit editions)
  - Microsoft Windows Server 2008 R2 SP1 (64-bit edition) including Server Core
  - Microsoft Windows Server 2012 (64-bit edition) including Server Core
  - Microsoft Windows Server 2012 R2 (64-bit edition) including Server Core
  - Microsoft Windows Server 2016 (64-bit edition)

Note: While both x86 and x64 versions of Microsoft Windows are supported, this is not extended to support of Windows IA-64 (Itanium) or Windows RT for tablets.

For more information, refer to the *ActivID ActivClient for Windows Overview*.

2.2 Components and Sub-Components

The ActivClient setup consists of several components that you can enable or disable for installation, depending on the scope of your deployment.

When you perform a **Typical** setup, ActivClient automatically determines which components to install based on your workstation environment.

You can also decide to select which components (and sub-components) to install or not install using a **Custom** setup.

Table 1 provides complete details of the available ActivClient components.

Notes

- The OTP services are installed as part of the ActivClient base services node. They are available only with smart cards configured with OTP capability.
- When you install the ActivClient Mini Driver, the certificate is automatically added to the Trusted Publishers store of your workstation.

Table 1: ActivClient Components and Sub-Components

Component	Description
Digital Certificate Services	• Provides smart card support for Digital Certificate Services. • Is installed by default. Includes the following sub-components: **Microsoft Smart Card Mini Driver Support** • Provides smart card support for applications relying on Microsoft cryptographic framework (such as Windows PKI Login, Internet Explorer, EFS or Outlook). • Is installed by default. **Microsoft Outlook Usability Enhancements** • Eases the configuration and use of digital certificates in Microsoft Outlook. • Is installed by default if Microsoft Outlook® 2007 SP2 (or later) is detected. **PKCS#11 Support** • Provides smart card support for applications relying on the PKCS#11 API. • Is installed by default. Includes the following sub-component: **Firefox and Thunderbird configuration** Registers PKCS#11 for SSL client authentication and e-mail signing and decryption

Component	Description
	in Mozilla® Firefox® and Thunderbird®. Is installed by default if either Firefox 3.5 (or later) or Thunderbird 3.0 (or later) are detected. **Note:** • During setup, you must close Firefox and Thunderbird. • Before installing this feature, a user account must have been created in Thunderbird.
Common Services	• This feature provides the ActivClient core components required by all ActivClient services. • It is installed by default and cannot be unselected. Includes the following sub-components: **User Console** • Provides a management console for your smart card and credentials. • Is installed by default. **PIN Initialization Tool** • Enables end users to initialize and reformat their smart card and PIN code. • Is installed by default. **Troubleshooting** • Provides information to diagnose ActivClient issues. • Is installed by default. **Auto-Update Service** • Provides support for ActivClient software automatic updates. • Is not installed by default. **Card auto-update service with ActivID CMS** • Provides support for automatically updating smart cards managed by ActivID Card Management System. • Is not installed by default. **US Department of Defense configuration** • ActivClient configuration for US Department of Defense Common Access Cards. • Is not installed by default.

Component	Description
	Configuration Management • Provides the ActivClient administrative templates to configure the policy settings. • Is not installed by default. **Online Help** • Provides ActivClient Online Help. • Is installed by default.

2.3 Install ActivClient

1. If you have ActivClient available on a CD-ROM, insert the disk into the CD-ROM drive.

   If you have the ActivClient distribution on your file system, or if the ActivClient installation wizard does not appear automatically from the CD-ROM, run the *setup.exe* from the distribution.

   The setup detects the platform type (32 or 64-bit) and starts the relevant ActivClient installation wizard

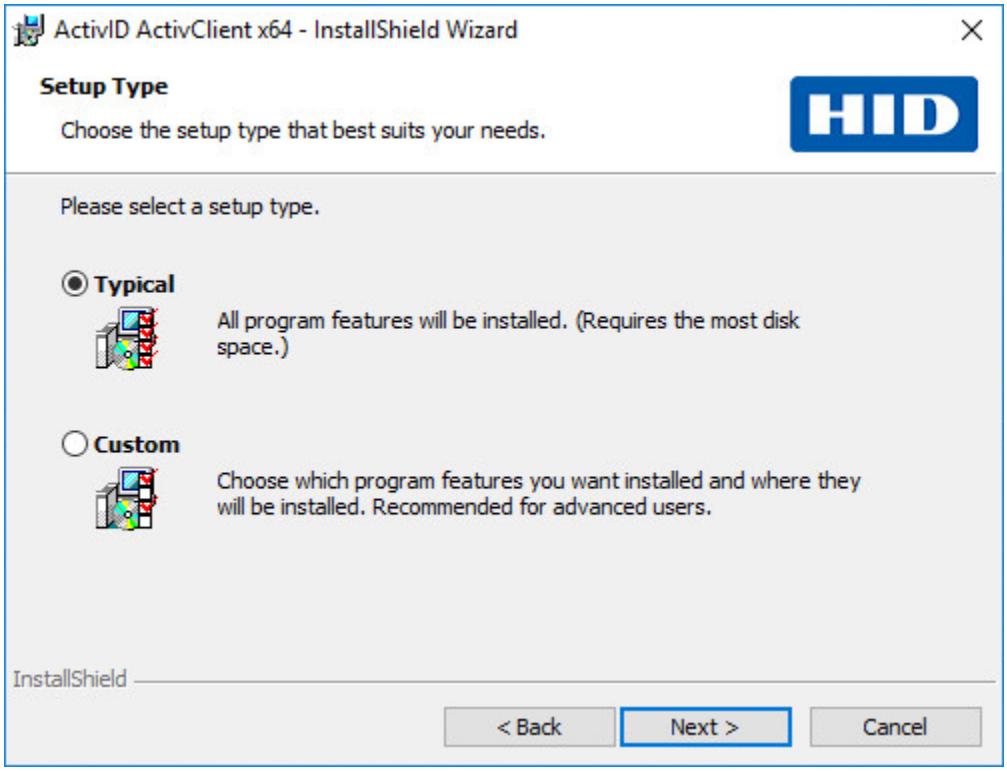
   The Welcome page is displayed.

2. Click **Next**.

   The License Agreement page is displayed.

3. Accept the license agreement and click **Next**.

   The Setup Type page is displayed.



4. Leave the setup type at the default setting (Typical), and click **Next**.

   If you want to customize the feature installation, select **Custom** (see section 3.1 Customize ActivClient During Installation on page 16).

5. Click **Install**.

   The Setup Progress page is displayed. The progress might take several minutes.

6. Once the setup is completed, the Completed page is displayed. Click **Finish**.

7. Select the **Show the readme file** option to automatically view ActivClient Readme file.

8. In order to benefit from all ActivClient services immediately, it is recommended that you restart your workstation after the installation is complete.

2.4 Post-Installation Steps

- **Smart card readers**:
  - The smart card reader that you use requires a reader driver. This driver might be present in your Microsoft Windows system, or you might need to install it. Contact your reader vendor for information.
  - If you use an HID Global OMNIKEY® reader, and if the reader is not recognized automatically, or if the driver is not installed by Microsoft Windows Update, the drivers are available for download from HID Global's web site at http://www.hidglobal.com/drivers.

- **Using ActivClient with Microsoft Outlook**:

  In order to use ActivClient with Microsoft Outlook installed *after* ActivClient, you must register ActivClient to the application using the Add/Remove or Repair action on the Microsoft Outlook Usability Enhancements feature see section 3.2 Customize ActivClient After Installation on page 17.

- **Using ActivClient with Mozilla Firefox and Thunderbird**:
  - If you installed the Firefox and Thunderbird configuration sub-component, the next time you start Firefox, you will be prompted to allow the installation of the ActivClient Security Module.

    Select the option and the click **Continue**.
  - If a recent version of Firefox™ (3.5 or later) or Thunderbird™ (3.0 or later) was installed on your workstation *before* ActivClient installation, then ActivClient is automatically registered in these applications.

    In order to use ActivClient with a version of Firefox earlier than 3.5, or a version of Thunderbird earlier than 3.0, you need to register ActivClient to these applications. See Firefox and Thunderbird Support on page 21.
  - In order to use ActivClient with Firefox (3.5 or later) or Thunderbird (3.0 or later) installed AFTER ActivClient, you must register ActivClient to these applications using the Add/Remove or Repair action on the Firefox and Thunderbird support feature. See section 3.2 Customize ActivClient After Installation on page 17.

2.5 Upgrading ActivClient

ActivClient 7.1 setup allows you to upgrade automatically from the following versions:

- ActivClient 6.2 (32-bit and 64-bit editions)
- ActivClient CAC 6.2 (32-bit and 64-bit editions) (the CAC configuration must be installed)
- ActivClient 7.0 (32-bit and 64-bit editions)
- ActivClient 7.0.1 (32-bit and 64-bit editions)
- ActivClient 7.0.2 (32-bit and 64-bit editions)

The ActivClient setup automatically detects the previous version and performs the upgrade. You do not need to uninstall the previous version.

2.5.1 Customized Settings

Upgrade from ActivClient 6.x

- If you had customized the previous ActivClient 6.x version by specifying which components to install, the equivalent components will be installed during the upgrade. For example, if you had installed the ActivClient 6.x CSP, the ActivClient 7.x Mini Driver will be installed.
- If you had customized the previous ActivClient 6.x version by updating some configuration options, this customization is not upgraded automatically.

Upgrade from ActivClient 7.0.x:

- If you had customized the previous ActivClient 7.0.x version by specifying which components to install, the upgrade process will upgrade these components automatically.
- If you had customized the previous ActivClient 7.0.x policies, these policy settings are not removed. During the upgrade to ActivClient 7.1, it is recommended that you:
  a. Clear the ActivClient 7.0.x policy settings with the Group Policy Editor and uninstall the ActivClient 7.0.x ADMX/ADML files.
  b. Install the ActivClient 7.1 ADMX/ADML files and configure the policies as required.

Refer to the *ActivID ActivClient for Windows Administration Guide* for details on upgrading customized deployments.

2.5.2 New Features

The new features of ActivClient (that is, those that are not included in version you are upgrading from) are installed according to the *Typical* setup.

For further information concerning the new features, see the ActivClient Readme file in the **Documentation** folder on the distribution CD-ROM.

2.5.3 Upgrade ActivClient

Prerequisites:

- See the ActivClient installation Prerequisites on page 8.
- A previous ActivClient version is installed (see the list of supported upgrades on page 13).

1. If you have ActivClient available on a CD-ROM, insert the disk into the CD-ROM drive.

   If you have the ActivClient distribution on your file system, or if the ActivClient installation wizard does not appear automatically from the CD-ROM, run the *setup.exe* from the distribution.

   The setup detects the platform type (32 or 64-bit) and starts the relevant ActivClient installation wizard

   The Welcome page is displayed.

2. Click **Next**.
3. Accept the license agreement, and click **Next**.
4. Click **Install**.

   The Setup Progress page is displayed. The progress might take several minutes.
5. Once the setup completed, the InstallShield Wizard Completed page is displayed. Click **Finish**.
6. Select the **Show the readme** file option to automatically view the ActivClient Readme file.

2.6 Uninstalling ActivClient

Prerequisites: Before uninstalling ActivClient, it is recommended that you:

- Close Firefox and/or Thunderbird if they are running.
- If you use a version of Firefox earlier than 3.5, or a version of Thunderbird earlier than 3.0, manually unregister ActivClient from these applications. See Firefox and Thunderbird Support on page 21.
- Remove all smart cards from smart card readers.

1. Go to the program or app management feature on your system.
2. Select ActivClient from the list and click **Uninstall**.

   A confirmation message is displayed.
3. Confirm your choice and click **Yes**.
4. Click **Yes** when asked to restart your machine.

When ActivClient is uninstalled, the ActivClient policy settings remain on the workstation. For instructions on how to uninstall them, refer to the *ActivID ActivClient for Windows Administration Guide*.

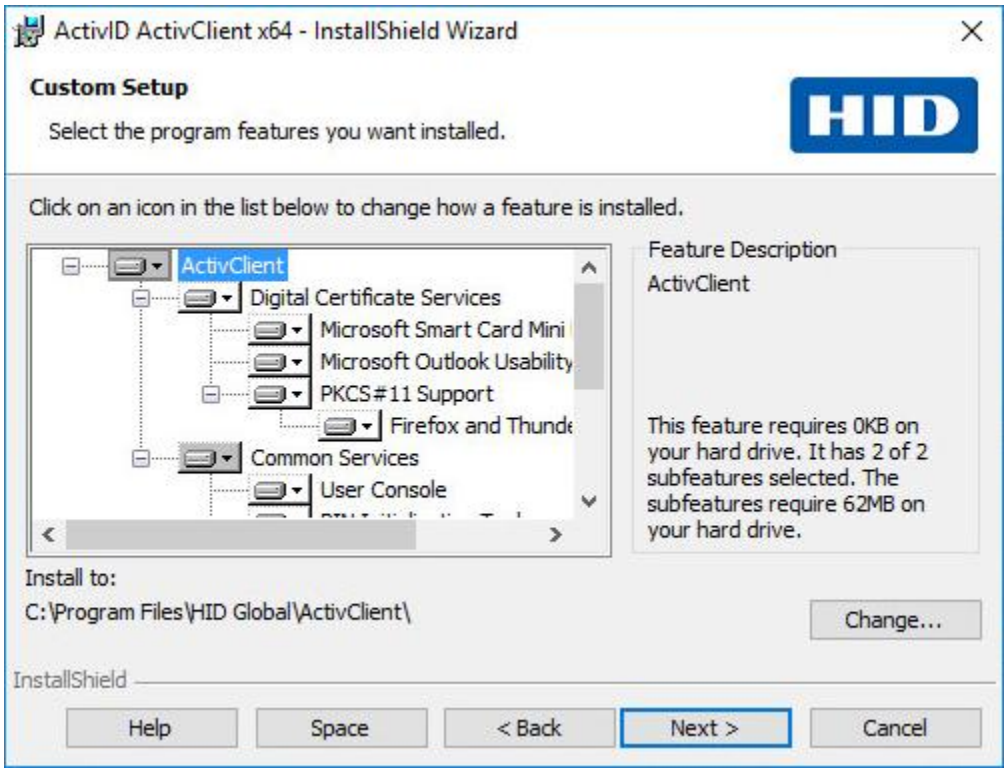
3.0 Customize the Installation

This section explains how to customize the ActivClient installation by adding or removing components and sub-components during or after setup.

3.1 Customize ActivClient During Installation

1. Follow steps 1 to 4 of the standard installation procedure described in section 2.3 Install ActivClient on page 11.
2. When the Setup Type page is displayed, select **Custom**, and then click **Next**.

   The Custom Setup page is displayed.



3. Select the program features you want to install from the list using the appropriate option from the right-click menu:
   - To install or add a component, click the icon for the component and then click the appropriate installation option in the displayed list.
   - To remove a component, click the icon for the component and then click in the displayed list.

   For the complete list of available components and subcomponents, see section 2.2 Components and Sub-Components on page 9.

Notes:

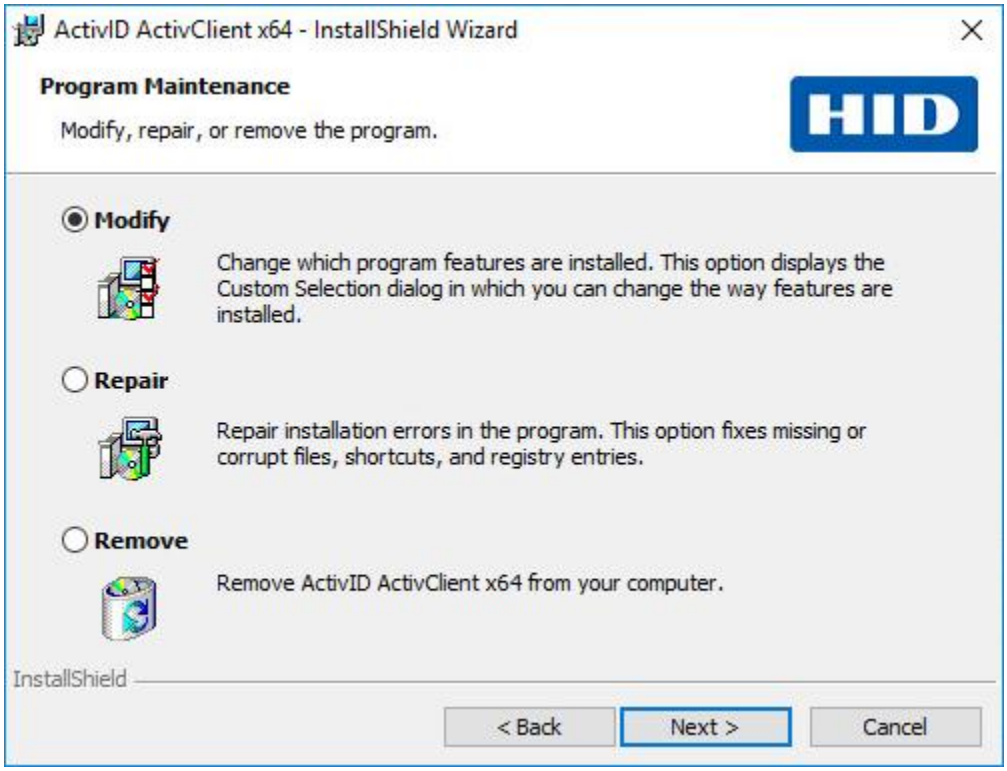
- The Microsoft Outlook Usability Enhancements component requires Microsoft Outlook 2007 SP2 (or later).
- The Firefox and Thunderbird configuration component requires either Firefox 3.5 (or later) or Thunderbird 3.0 (or later).

4. Click **Next** to proceed. The Ready to Install the Program page is displayed.
5. Click **Install**.
6. When the InstallShield Wizard Completed page is displayed, click **Finish**.
7. Select the **Show the readme file** option to automatically view the readme file.
8. In order to benefit from all ActivClient services immediately, it is recommended that you restart your workstation after the installation is complete.

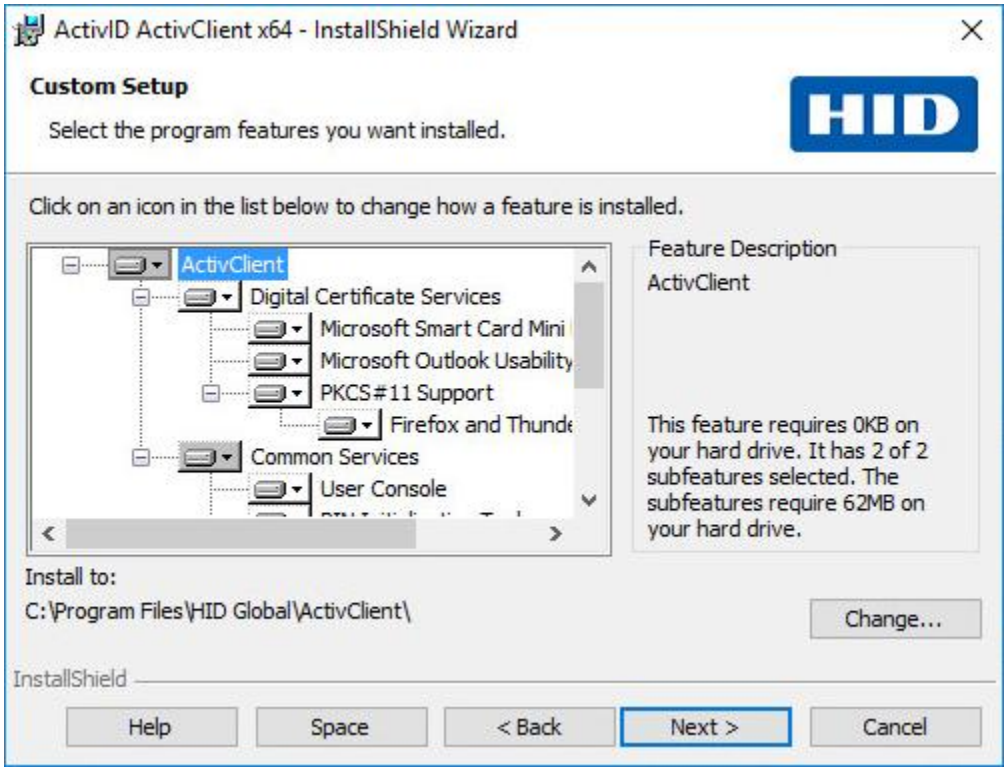
3.2 Customize ActivClient After Installation

After installing ActivClient, you can modify the ActivClient installation by adding or removing components.

1. Go to the program or app management feature on your system.
2. Select ActivClient from the list and click **Change**.



3. In the Program Maintenance window, select **Modify** and click **Next**.



4. Select the program features you want to install from the list using the appropriate option from the right-click menu:

   - To install or add a component, click the icon for the component and then click the appropriate installation option in the displayed list.
   - To remove a component, click the icon for the component and then click in the displayed list.

   For the complete list of available components and subcomponents, see section 2.2 Components and Sub-Components on page 9.

   Notes:

   - The Microsoft Outlook Usability Enhancements component requires Microsoft Outlook 2007 SP2 (or later).
   - The Firefox and Thunderbird configuration component requires either Firefox 3.5 (or later) or Thunderbird 3.0 (or later).

5. Click **Next** to proceed. The Ready to Install the Program page is displayed.
6. Click **Install**.
7. When the InstallShield Wizard Completed page is displayed, click **Finish**.
8. In order to benefit from all ActivClient services immediately, it is recommended that you restart your workstation after the installation is complete.

4.0 Deployment

This section provides an overview of the ActivClient deployment methods and policy options.

4.1 Product Deployment

You can deploy ActivClient by installing the product remotely for a set of users or computers. This dramatically reduces the total cost of ownership of ActivClient because administrators are not required to perform installation in person at every workstation. Users do not require information on how to install the product, thereby eliminating on-site installation support and associated help desk calls.

There are several methods to deploy ActivClient:

- Using the standard local installation (see section 2.3 Install ActivClient on page 11).
- Using software push using Active Directory Group Policy Objects.
- Using software push using Microsoft System Center Configuration Manager (formerly Systems Management Server - SMS).

The deployment procedures are explained in the *ActivID ActivClient for Windows Administration Guide*.

4.2 Policy Deployment

You can deploy the ActivClient policies using the Active Directory Group Policy (GPO) and ActivClient administrative templates (ADMX and ADML) installed as part of the Configuration component and provided on the installation CD-ROM.

You can modify the default values for:

- PIN Management
- PIN Caching Service
- Certificate Availability
- Outlook Enhancements
- User Console
- PIN Initialization Tool
- Notification area icon
- Notifications management
- Logon Window
- Software Auto-Update
- Smart Card Auto-Update
- Smart Card

- Smart Card Readers
- Advanced Diagnostics
- Logging

The policy definition and deployment procedures are explained in the *ActivID ActivClient for Windows Administration Guide*.

4.3 Administrative Tools

For further information on the following tools, refer to the *ActivID ActivClient for Windows Administration Guide*:

- Policy definition
- Setup customization
- Setup deployment
- Remote session customization
- Administrative commands
- Upgrading and updating
- Uninstallation
- Troubleshooting tools and strategy

The **\Admin** folder of the ActivClient distribution CD-ROM includes additional tools and information for administrators, such as:

- Active Directory templates – ADMX/ADML formats
- Unsigned setups for ActivClient

For the complete list, refer to the *ActivID ActivClient for Windows Administration Guide*.

Appendix A: Firefox and Thunderbird Support

This appendix explains how to install the PKCS#11 library to support Mozilla Firefox and Thunderbird.

The PKCS#11 binary is automatically registered in Firefox if Firefox is installed before ActivClient and the version is later than 3.5.

A.1. About Firefox and Thunderbird Support

ActivClient supports Firefox and Thunderbird for smart card services via the ActivClient PKCS#11 library.

- ActivClient automatically installs the PKCS#11 library into Firefox/Thunderbird (for each user profile) during setup if Firefox 3.5 or later/Thunderbird 3.0 or later are installed before ActivClient is installed.
- If new profiles are created after ActivClient installation, the registration is also automatic.
- If you use a version of Firefox earlier than 3.5, or a version of Thunderbird earlier than 3.0, you need to register ActivClient to these applications manually as described below.

A.2. Install the PKCS#11 Library

This section describes how to configure Firefox or Thunderbird to use the ActivClient PKCS#11 library. This step is required only when the configuration is not performed automatically.

Make sure the ActivClient PKCS#11 library has been installed during ActivClient setup.

1. In Firefox or Thunderbird, go to **Tools**, **Options**, **Advanced** and then select either the **Encryption** (Firefox) or **Certificates** (Thunderbird) tab.
2. Click **Security Devices** and, in the **Device Manager**, click **Load**.
3. Enter a **Module Name** and browse to one of the following:
   - If you use ActivClient 32-bit, select the ActivClient PKCS#11 32-bit library:

     <Program Files>\HID Global\ActivClient*acpkcs211.dll*
   - If you use ActivClient 64-bit and Firefox/Thunderbird 32-bit, select the ActivClient PKCS#11 32-bit library:

     <Program Files x86>\HID Global\ActivClient*acpkcs211.dll*
   - If you use ActivClient 64-bit and Firefox/Thunderbird 64-bit, select the ActivClient PKCS#11 64-bit library:

     <Program Files>\HID Global\ActivClient*acpkcs211.dll*
4. Click **Load**, and then click **OK**.
5. Repeat this operation for all user profiles.

A.3. Uninstall the PKCS#11 Library

When you uninstall ActivClient, the PKCS#11 library is automatically uninstalled from Firefox/Thunderbird if they are recent versions.

If you use a version of Firefox earlier than 3.5, or a version of Thunderbird earlier than 3.0, you should manually unregister ActivClient from these applications as described below.

1. In Firefox or Thunderbird, go to **Tools**, **Options**, **Advanced** and then select either the **Encryption** (Firefox) or **Certificates** (Thunderbird) tab.
2. Click **Security Devices** and, in the **Device Manager**, select **ActivClient** in the list of security modules and devices.
3. Click **Unload**.
4. If asked, confirm the deletion of the ActivClient module.
5. Click **OK**.
6. Repeat this operation for all user profiles.

Appendix B: Terms and Acronyms

This appendix lists terms and acronyms used throughout the full set of the set of technical publications for this product. Not all terms and acronyms appear in all documents in the set.

B.1. Terms

Certificate Authority (CA)	The CA issues and manages security credentials and public keys for message encryption in a networked environment. As part of a Public Key Infrastructure (PKI), a CA checks with a registration authority (RA) to verify information provided by the requestor of a digital certificate. If the RA verifies the requestor's information, the CA issues a certificate.
ActivID Credential Management System (CMS)	Formally known as ActivID Card Management System, ActivID CMS is a web-based, smart card, credential and application lifecycle management system. ActivID CMS augments and works in concert with an enterprise's primary identity management infrastructure components, including popular directory, database, and PKI components.
Challenge	Random number generated by the server API for authentication of a user in the asynchronous (challenge/response) mode.
Cryptographic Service Provider (CSP)	An independent software module that performs cryptography algorithms for authentication, encoding, and encryption.
Discovery mode	Discovery mode enables a calling application to find out the size of the data that will be returned to by making a preliminary discovery call and then making a second call after it allocates a buffer large enough to accommodate the data that will be returned.
End-point card	The PIV standard defines two interfaces for communicating with PIV cards: • The PIV transitional interface. • The PIV end-point interface. A PIV end-point card is a card that implements the second of these interfaces. **Note:** The PIV transitional interface is not supported by the PIV API.
Federal Information Processing Standard (FIPS 140-2)	FIPS 140-2 is the standard for crypto-module security. FIPS 140-2 level 3 adds additional requirements to FIPS 140-2 level 2. These requirements concern physical security and a trusted path for entering a Cryptographic Service Provider, such as a PIN. FIPS 140-2 level 3 uses local ports and the key pad to enforce such security.
Federal Information Processing Standard 201 (FIPS 201)	FIPS 201 is the standard for Personal Identity Verification (PIV) cards defined for US Government employees and contractors.
Force change PIN flag	Flag which indicates whether the user must change the PIN on first use of the card.

Integrated circuit chip (ICC)	The chip on the smart card.
Mini Driver	Smart card middleware for the Microsoft platform that works with the Microsoft Base Smart Card CSP (Cryptographic Service Provider). The ActivClient Mini Driver replaces the ActivClient CSP available in previous versions. The Mini Driver architecture provides stronger cryptographic services.
My Digital ID Card (MDIDC)	This CMS component allows end users to access the self-service CMS functions, which includes card and credential management.
One-Time Password (OTP)	A one-time password is a password used only once to authenticate to remote applications. One-Time Passwords are only present on smart cards issued with SKI credentials.
Personal Identification Number (PIN)	The Personal Identification Number (PIN) code used to access an HID Global device's services such as Windows PKI logon, remote access and email signature. HID Global devices can only be used after a correct PIN is entered.
Public Key Infrastructure (PKI)	PKI describes the laws, policies, standards, and software that regulate or manipulate certificates and public and private keys.
Registration Authority (RA)	RA is an authority in a network that verifies user requests for a digital certificate and instructs the CA to issue it. An RA is part of a PKI, a networked system that enables companies and users to exchange information safely and securely.
Symmetric Key Infrastructure (SKI)	SKI keys are used to perform strong authentication on remote applications. SKI keys encrypt passwords in: • Synchronous mode (generates 1 password without any challenge. The server uses the same method to create a password than the smart card) • Asynchronous: encrypts a challenge
Standalone smart card	Smart card with pre-loaded applets issued by the manufacturer.
Unlock code	Value that the card holder needs to provide in order to unlock a locked smart card. Depending upon the smart card unlock mechanism, the unlock code may or may not be different from the unlock key.
Verification	Process in which a signature that was produced by the signing operation is verified.
Weak PIN	A weak PIN is a PIN in which: • The length is less than three characters or digits, or • The difference between each character or digit, and the following one is a constant. For example, a PIN that is a sequence of the same number (1111) or an increasing/decreasing sequence of numbers (1234, 4321) is a weak PIN.

B.2. Acronyms

CA Certificate Authority

CAC Common Access Card (for the United States Department of Defense)

CSP Cryptographic Service Provider

CUID Card Unique Identifier

CUID is a number that uniquely identifies a card.

FIPS Federal Information Processing Standard

GAL Global Address List

GP GlobalPlatform

Replaces OpenPlatform (OP).

OTP One-Time Password

PKI Public Key Infrastructure

PIV Personal Identity Verification.

Smart card issued by the United States government to federal employees and contractors.

RA Registration Authority

SKI Symmetric Key Infrastructure

