CA Privileged Access Manager

Update Paths

Document Version 39

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Document Version 39 (20 July 2016)

Overview

NOTE Following the acquisition of Xceedium by CA Technologies in August 2015, the Xsuite product has been renamed CA Privileged Access Manager. The change in product name occurs between the release series 2.4.4.x and release 2.5. Note that some "Xsuite" labels nevertheless remain in the product.

This document identifies the update packages required and the sequence that should be performed to raise a previous GateKeeper, Xsuite, or CA Privileged Access Manager release to a later or the current CA Privileged Access Manager release.

The update packages identified in Table 1 beginning on 5 are those that CA Technologies requires that, at minimum, you must add to an existing Release level (see labeled column in Table 1) to get to the next Release level. For example, to upgrade from Xsuite 2.1.0 to 2.2.0, CA requires that you first install the 2.1.0 Maintenance Patch 2, then install the 2.1.0 Hotfix 18, then the 2.1.0 Debug Sync Check Patch, then the Bash Patch, and finally the 2.2.0 Upgrade.

You may also have installed other optional GA or custom-issue update packages – this is OK. If you have any questions about the procedures, please contact CA Privileged Access Manager Support.

About the Releases

GateKeeper 5.2.1 through Xsuite 2.4 FP2

Labeling and numbering did not always follow a clear sequence. Refer closely to Table 1 to perform updates.

NOTES

- GateKeeper 5.2.2 has reached its end-of-life (EOL) on January 1, 2015.

Xsuite 2.4.3 through 2.4.4.x, and CA Privileged Access Manager 2.5 and later

The release labeling and compatibility processes were changed beginning with Xceedium Xsuite Feature Pack ("FP") 2.4.3:

Naming and numbering

CA Privileged Access Manager software releases follow a strict hierarchical numbering scheme with each release between two to five levels. The name for these releases follows the format of:

CA Privileged Access Manager *MajorNumber.MinorNumber[.FeaturePackNumber[.PatchNumber[.HotfixNumber]]]*

Examples:

- Xsuite Feature Pack 2.4.3 or FP 2.4.3
- Xsuite Maintenance Patch 2.4.4.9 or MP 2.4.4.9
- CA Privileged Access Manager 2.5
- CA Privileged Access Manager 2.5.1

Previous releases remain named as before.

Hotfixes issued after 2.4.4 are not GA distributions. They are instead provided in limited releases (limited number of customers according to appropriateness) and are no longer posted on the Support website.

Software

In coordination with the new labeling, software compatibility is maintained according to a strict numerical precedence scheme.

- All accumulated functionality at a release level is eventually carried into the next expanded (example: 2.4.4 → 2.4.4.1) or the next higher-level (example: 2.4.4.9 → 2.5) update.
- Previous releases remain built and labeled as issued. Changes may be made in the future to improve compatibility or remove specific issues.

Installation

Each update is issued with a *Release Notes* document. Refer to that document for information about how to perform and verify your update. Links are provided in the table below to download both the *Release Notes* and the Update package. If you have any questions about the update and installation sequence requirements, please contact CA PAM Support.

IMPORTANT During patch upload you may not always see the Xsuite GUI or receive browser activity feedback. Please wait up to 10 minutes for each screen to change before reloading your browser.

GateKeeper 5.2.1 through Xsuite 2.4 FP2

To upgrade across multiple appliance releases, perform in sequence the update procedures required between each release level.

IMPORTANT Certain updates cannot be installed successfully while a CA Privileged Access Manager cluster is active, such as those that require a reboot. Before starting an update sequence, establish a maintenance window and ***turn off your cluster*** (from the **Config** > **Synchronization** page).

Xsuite 2.4.3 through 2.4.4.x, and CA Privileged Access Manager 2.5 and later

Beginning with Release 2.4.3, install updates in hierarchical numerical sequence. Thus, for example (anticipating possible future release numbers): Onto 2.5, you may install updates as they are released GA or otherwise provided to you – first 2.5.1, then 2.5.2, 2.5.4, then potentially 2.6, then 2.6.1, then 2.7, and so on. Ideally, you should perform installation as soon as possible after the release is announced GA. If your installations fall out of sequence, contact CA Privileged Access Manager Support for assistance.

Paths

Table 1. Required Update Packages and their Installation Order

Release baseline	Order	Update Package *with links to Support site for downloads* — Release Notes	Update Package — Software Installer	Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
GateKeeper					
5.2.1	(GA 28 Jan 2011)				
	1*	Doc	5.2.1 Java Security Compatibility Patch	Prevents the security behavior of Java Version 7 Update 51 or later from disabling GateKeeper 5.2.1.	*Conditional: Install this patch only if you are unable or do not want to upgrade to 5.2.2 at this time.
	2	Doc	5.2.2 Upgrade	Provides the following new features: • Password Authority access through GateKeeper • Dual power supply hardware support • Mac client support • CLI applet copy/paste • Double-byte character support in most of database • List filtering; custom views; Device tags • Xceedium LDAP Browser overhaul • Numerous GUI improvements Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 22 Jul 2011)	The features introduced in GateKeeper 5.2.2 are each described briefly in the GateKeeper 5.2.2 *Release Notes* (PDF), and in detail in the GateKeeper 5.2.2 *Administration Guide* (PDF). **IMPORTANT** GateKeeper 5.2.2 has reached its end-of-life and is no longer supported. If you upgrade with this patch, you must then continue upgrading (using the 5.2.2 updates below) to Xsuite 2.0.0 or later to be eligible for Xceedium Support.
5.2.2	**IMPORTANT** GateKeeper 5.2.2 reached its EOL as of January 1, 2015. CA Technologies advises that you upgrade to Xsuite and CA PAM as soon as possible as it is needed to receive Support. **NOTES** GateKeeper 5.2.1 continues to be supported for a limited time. It is not possible to downgrade GateKeeper/Xsuite/CA PAM releases.				To upgrade from GateKeeper 5.2.2 to Xsuite 2.0.0, the best procedure is to install all updates from 5.2.2 MP 5 through 2.0.0 Upgrade, in order, onto GateKeeper 5.2.2. Note the conditional installation.
	1	Doc	5.2.2 Maintenance Patch 5	Resolves several issues. *Release Notes* provides an updated report of known issues.	
	2	Doc	5.2.2 Security Patch 1	Applies updates issued for Debian OS: Security issues were identified in the Debian OS which is used for GateKeeper. Debian published a patch which corrects these issues.	
	3	Doc	5.2.2 Security Patch 2	Corrects several Xsuite access security issues. See *Release Notes* for details.	
	4	Doc	5.2.2 Security Patch 3	Corrects Apache HTTP server issue (CVE-2012-0053).	
	5	Doc	5.2.2 Hotfix 12	Corrects three issues causing login and connection failures.	
	6	Doc	5.2.2 Hotfix 13	Corrects an issue resulting in full CPU (100%) and prevented users from deploying RDP or SSH Access Method applets.	
	7*	Doc	5.2.2 Java Security Compatibility Patch	Prevents the security behavior of Java Version 7 Update 51 or later from disabling GateKeeper 5.2.2.	*Conditional: Install this patch only if you are unable or do not want to upgrade to Xsuite 2.0.0 at this time.
	8	Doc	Bash Patch	Remediates the Shellshock (CVE-2014-6271) vulnerability within Xsuite. Note that the Bash shell within Xsuite is inaccessible to all Users.	

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
GateKeeper 5.2.2 *cont.*	9	Doc	Xsuite 2.0.0 Upgrade	Integrates GateKeeper 5.2.2 and Password Authority 4.5. Additionally, provides the following new features: • Xsuite Dashboard • Authenticated NTP • Regular expressions in filters • RDP applet copy/paste • Additional enhancements Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 22 Feb 2012)	The features introduced in Xsuite 2.0.0 are each described briefly in the Xsuite 2.0.0 *Release Notes* (PDF), and in detail in the Xsuite 2.0.0 *Administration Guide* (PDF).
Xsuite					
2.0.0					To upgrade from Xsuite 2.0.0 to 2.1.0, the best procedure is to install all updates from 2.0.0 Hotfix 2v16 through 2.1.0 Upgrade, in order, onto Xsuite 2.0.0.
	1	Doc	2.0.0 Hotfix 2v16 *(included in the 2.1.0 Upgrade package below)*	Corrects an error where under certain circumstances the Xsuite database fails to properly import LDAP user accounts, and an error in which an LDAP domain is not properly deleted.	
	2	Doc	2.1.0 Upgrade	Provides the following new features: • Import of AWS AMI instances as Xsuite Devices, including dependent enhancements to other Xsuite features (requires license) • Autodiscovery enhancements • RDP connection enhancements: Client-to-server recording; Drive-mapping; Custom applet resolution • Dynamic groups applied to Access page • Password Authority CLI integration • Additional enhancements Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 24 Jul 2012)	The features introduced in Xsuite 2.1.0 are each described briefly in the Xsuite 2.1.0 *Release Notes* (PDF), and in detail in the Xsuite 2.1.0 *Administration Guide* (PDF).
2.1.0					To upgrade from Xsuite 2.1.0 to 2.2.0, the best procedure is to install all updates from 2.1.0 Maintenance Patch 2 through 2.2.0 Upgrade, in order, onto Xsuite 2.1.0.
	1	Doc	2.1.0 Maintenance Patch 2	Provides the following new features: • LDAP+RSA authentication • Password check-in from Access page Resolves numerous issues. *Release Notes* provides updated report of known issues.	
	2	Doc	2.1.0 Hotfix 18	Corrects an error in which the separate databases for Access use and Credentials Management use can become unsynchronized.	

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.1.0 *cont.*	3	Doc	2.1.0 Debug Sync Check Patch	Inspects your database and reports in log whether any user synchronization errors have been detected between the Access and Credential Management portions of the database.	
	4	Doc	Bash Patch	Remediates the Shellshock (CVE-2014-6271) vulnerability within Xsuite. Note that the Bash shell within Xsuite is inaccessible to all Users.	
	5	Doc	2.2.0 Upgrade	Provides the following new features: • Xsuite VMware appliance via OVF • Xsuite AWS appliance cluster synchronization • VMware device importing (requires license) • Restrict Users to IP range access • SFA for name-addressed Xsuite Devices • RDP connection dynamic drive-mapping • Native SSH Service support • Xceedium web browser introduction • UTF-8 support in database • Improved session recording viewers • Additional enhancements Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 26 Mar 2013)	The features introduced in 2.2.0 are each described briefly in the Xsuite 2.2.0 *Release Notes* (PDF), and in detail in the Xsuite 2.2.0 *Administration Guide* (PDF or CHM).
2.2.0					To upgrade from Xsuite 2.2.0 to 2.3, the best procedure is to install all updates from 2.2.0 Debug Stop Cleanup Patch through 2.3 Upgrade, in order, onto Xsuite 2.2.0. Note the conditional (*) installations.
	1	Doc	2.2.0 Debug Stop Cleanup Patch	Updates the session recording post-processing script that was included in the 2.2.0 upgrade package and that resulted in high CPU use after long periods.	
	2	Doc	2.2.0 Maintenance Patch 1	Provides the following new features: • Improvements for AWS and VMware device imports (AWS and VMware support each require a license) • NFS v3 support • Several provisioning enhancements • Transparent login using Windows domain accounts • Additional enhancements Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 13 May 2013)	The features introduced in 2.2.0 MP1 are each described briefly in the Xsuite 2.2.0 MP1 *Release Notes* (PDF), and in detail in the Xsuite 2.2.0 MP1 *Administration Guide* (PDF or CHM).
	3	Doc	2.2.0 Debug Sync Check Patch	Inspects your database and reports in the log whether any user synchronization errors have been detected between the Access and Credential Management portions of the database.	

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.2.0 *cont.*	4*	Doc	2.2.0 Hotfix 3	If release 2.2.0 has been installed by upgrade, it may not be possible to re-import Users from an LDAP directory when those Users had previously been in the Xsuite database. Hotfix 3 restores this capability.	*Conditional: If the Session Log contains reported issues (see information in the Xsuite 2.2.0 Hotfix 3 *Release Notes*) after the Debug Sync Check patch installation is complete, install this patch.
	5*	Doc	2.2.0 Debug Sync Check Patch	Inspects your database and reports in the log whether any user synchronization errors have been detected between the Access and Credential Management portions of the database.	*Conditional: If Xsuite 2.2.0 Hotfix 3 was required, re-install this patch.
	6*	Doc	2.2.0 MP1 Java Security Compatibility Patch	Prevents the security behavior of Java Version 7 Update 51 or later from disabling Xsuite 2.2.0 MP1.	*Conditional: Install this patch only if you are unable or do not want to upgrade to 2.3 at this time.
	7	Doc	Bash Patch	Remediates the Shellshock (CVE-2014-6271) vulnerability within Xsuite. Note that the Bash shell within Xsuite is inaccessible to all Users.	
	8	Doc	2.3 Upgrade	Provides the following new features: • AWS API Proxy support (requires license) • AWS multiple accounts and regions support (AWS support requires license) • SSH key pairs as managed credentials • Microsoft Office 365 controlled access (requires license) • HSM-based credentials (SafeNet support; requires license) • RDP Network-level authentication • RDP support for Windows' 'Always prompt for password' Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 11 Sep 2013)	The features introduced in 2.3 are explained in procedural detail in the Xsuite 2.3 *New Features Guide*. (PDF)
2.3					To upgrade from Xsuite 2.3 to 2.4, the best procedure is to install all updates from 2.3 Debug Sync Check Patch through 2.4 Upgrade, in order, onto Xsuite 2.3. Note the conditional installations.
	1	Doc	2.3 Debug Sync Check Patch	Inspects your database and reports in the log whether any user synchronization errors have been detected between the Access and Credential Management portions of the database.	
	2*	Doc	2.3 User Sync Patch	Corrects User synchronization problems discovered after applying the 2.3 Debug Sync Check Patch.	*Conditional: If User synchronization problems were discovered after applying the Xsuite 2.3 Debug Sync Check Patch, install this patch. (See also Debug Sync Check Patch *Release Notes*.)
	3*	Doc	2.3 Java Security Compatibility Patch	Prevents the security behavior of Java Version 7 Update 51 or later from disabling Xsuite 2.3.	*Conditional: Install this patch only if you are unable or do not want to upgrade to 2.4 at this time.
	4	Doc	2.3 Hotfix 7	Corrects the RADIUS authentication One-Time Password (OTP) process that was broken by Xsuite 2.3.	
	5	Doc	2.3 Hotfix 5	Corrects connection failure, file transfer failure, and numeric keypad failure in the Xsuite RDP Access Method applet.	

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.3 *cont.*	6	Doc	2.3 Security Patch 1	Corrects several security issues. See *Release Notes* for details.	
	7	Doc	Bash Patch	Remediates the Shellshock (CVE-2014-6271) vulnerability within Xsuite. Note that the Bash shell within Xsuite is inaccessible to all Users.	
	8	Doc	2.3 Security Patch 2	Remediates the POODLE (CVE-2014-3566) vulnerability for Xsuite by blocking the fallback to SSLv3 and ensuring that only TLS 1.0, 1.1, or 1.2 is used.	
	9*	Doc	2.3 Hotfix 9	Resolves several issues in SSH and RDP Access Method applets.	* After installing Hotfix 9, install Hotfix 10 immediately.
	10	Doc	2.3 Hotfix 10	Fixes session recording processing engine to correct timestamp errors in existing and future recordings.	
	11	Doc	2.3 Hotfix 11	This hotfix prevents recorded RDP sessions from continuing if they do not have successful key transfer. (Transfer is required for post-processing to create a usable session recording.)	

	12	Doc	2.4 Upgrade	Provides the following new features:
				• Expansion of HSM support (Thales support; new features; HSM support now requires license)
				• LDAP browser viewing of cross-domain trusts
				• JAR file self-signing
				• Web portal transparent login (aka SSO)
				• Native Telnet Service introduced
				• Manual login to Xsuite through Juniper SSL VPN
				• SCP/SFTP file transfer through SSH applets
				• X11 forwarding and commands through native SSH Service
				• Cisco TACACS+ target account support
				• Multiple credentials for transparent login (aka SSO)
				• Several enhancements to session recording viewer
				• Additional enhancements (see *Release Notes*)
				Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 21 Feb 2014)
					Release Documentation:
					• Xsuite 2.4 *A2A Integration Guide* (PDF)
					• Xsuite 2.4 *Administration Guide* (PDF)
					• Xsuite 2.4 *Credential Management Installation Guide* (PDF)
					• Xsuite 2.4 *New Features Guide* (PDF)
					• Xsuite 2.4 *Release Notes* (PDF)
					• Updated online help: Each Xsuite GUI page provides a context-sensitive pop-up page from its **Help** button (HTML)
					Supporting Documentation (not Xsuite release-specific):
					• Xsuite *Hardware Model X304L Setup Guide* (PDF)
					• Xsuite procedures:
					  • *Changing the Minimum Password Age Policy on Windows Servers* (PDF)
					  • *Configuring Session Recording using Windows CIFS* (PDF)
					  • *SSL Certificate Installation Procedure* (PDF)
					• Xsuite SFA 2.1 for Windows *Release Notes* (PDF)
					• Xsuite SFA 2.2 for Unix/Linux *Release Notes* (PDF)
					• Xsuite SFA 2.3 for Linux *Release Notes* (PDF)

2.4					To upgrade from Xsuite 2.4 to FP 2.4.4, the best procedure is to install all updates from 2.4 Java Security Compatibility Patch through FP 2.4.4 Upgrade, in order, onto Xsuite 2.4. See "Release Documentation" and "Supporting Documentation" for the 2.4 Upgrade (above).
	1	Doc	2.4 Java Security Compatibility Patch	Prevents the security behavior of Java Version 7 Update 51 or later from disabling Xsuite 2.4. *Currently applicable build:* `XS_JAVA_SECURITY_COMPATIBILITY.240.02.p.bin`	**NOTES** No reboot is needed.

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.4 *cont.*	2	Doc	2.4 Maintenance Patch 1	Corrects several miscellaneous issues discovered in the field. Additionally, SSH Access using domain accounts was enabled. See update *Release Notes* for details. *Currently applicable build:* **`XSMP020400_01.16.p.bin`**	**NOTE** Automatic reboot occurs during update.
	3	Doc	Bash Patch	Remediates the Shellshock (CVE-2014-6271) vulnerability within Xsuite. Note that Bash shell within Xsuite is inaccessible. *Currently applicable build:* **`XS_SP_BASH.04.p.bin`**	**NOTE** No reboot is needed.
	4	Doc	2.4 Feature Pack 2	Provides the following new features: • Secondary transparent login for RDP and SSH applets • Fine-tuning of administrator privileges over users • AWS commercial vs GovCloud specification (AWS access requires license) • AD password updating through Xsuite login • LDAP+RADIUS authentication • Multiple credential sourcing for Device Groups • SCP/SFTP file transfer logging • Additional enhancements (see *New Features Guide* and/or *Release Notes*) Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 30 Sep 2014) *You may use either of the following two builds:* **`XS_FP2.240.8.p.bin`** **`XS_FP2.240.9.p.bin`**	Release Documentation: • Xsuite 2.4 FP2 *Administration Guide* (PDF) • Xsuite 2.4 FP2 *New Features Guide* (PDF) • Xsuite 2.4 FP2 *Release Notes* (PDF) • Updated online help: Each Xsuite GUI page provides a context-sensitive pop-up page from its **Help** button (HTML) • New RDP Secondary Transparent Login Learn Tool help: The Learn Tool GUI provides a descriptive document from its **Help** menu (CHM) See also "Supporting Documentation" for 2.4 Upgrade (above). **NOTES** ➢ Automatic reboot occurs during update. ➢ Hardware appliance Model X304L was introduced simultaneous to this release.
2.4 FP 2	5*	Doc	2.4 Hotfix 8	Fixes an issue where an update that requires a reboot to an Xsuite 2.4 FP2 AWS AMI instance does not complete installation. *Currently applicable build:* **`XHF020400_08.02.p.bin`**	*Conditional: • Required if your Xsuite is an AWS AMI instance: This patch is necessary so that you can install any subsequent update that requires a reboot. • Not applicable if your Xsuite is not an AWS AMI instance. **NOTE** No reboot is needed.
	6	Doc	2.4 Security Patch 1	Remediates the POODLE (CVE-2014-3566) vulnerability for Xsuite by blocking the fallback to SSLv3 and ensuring that only TLS 1.0, 1.1, or 1.2 is used. *Currently applicable build:* **`XS_SP020400_01.240.05.p.bin`**	**NOTE** Automatic reboot occurs during update.

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.4 FP2 *cont.*	7*	Doc	Feature Pack 2.4.3: *See instructions and links in the cell at the far right, marked "Conditional".**	Provides the following new features: • VMware multiple account access and device import (VMware access requires license) • Secondary transparent login for native SSH services • Shellshock vulnerability detection • Release versioning scheme • Additional enhancements (see *New Features Guide* and/or *Release Notes*) Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 18 Feb 2015) *According to the instructions and links in the cell at the far right marked "Conditional",* use the build below that is appropriate:* **XS_2.4.3.0.b29.p.bin** -or- **XS_2.4.3.0.b30.p.bin**	*Conditional: A. If you have previously installed 2.4 Feature Pack 2 **Build 8** (if XS_FP2.240.8 appears in Config > Upgrade > Upgrade History), you must here install Feature Pack 2.4.3 Build 29. -OR- B. If you have previously installed 2.4 Feature Pack 2 **Build 9** (if XS_FP2.240.9 appears in Config > Upgrade > Upgrade History), you must here install Feature Pack 2.4.3 Build 30. Release Documentation: • Xsuite FP 2.4.3 *Administration Guide* (PDF) • Xsuite FP 2.4.3 *New Features Guide* (PDF) • Xsuite FP 2.4.3 *Release Notes* (PDF) • Updated online help: Each Xsuite GUI page provides a context-sensitive pop-up page from its **Help** button (HTML) See also "Supporting Documentation" for 2.4 Upgrade (above). **NOTE** Automatic reboot occurs during update.
2.4.3	8*	Doc	Feature Pack 2.4.4	Provides the following new features: • ExternalAPI (requires license) • Additional enhancements (see *New Features Guide* and/or *Release Notes*) Resolves numerous issues. *Release Notes* provides updated report of known issues. (GA 8 Apr 2015) *Currently applicable build:* **XS_2.4.4.0.b16.p.bin**	*Conditional: If you are licensing the new ExternalAPI, install the new license that has ExternalAPI Capability after installing the 2.4.4 update patch. Otherwise, you must re-install the license following update. Release Documentation: • Xsuite FP 2.4.4 *Administration Guide* (PDF) • Xsuite FP 2.4.4 *New Features Guide* (PDF) • Xsuite FP 2.4.4 *Release Notes* (PDF) • Updated online help: Each Xsuite GUI page provides a context-sensitive pop-up page from its **Help** button (HTML) New Supporting Documentation: • Xsuite *ExternalAPI 1.0 Guide* (PDF) See also "Supporting Documentation" for 2.4 Upgrade (above). **NOTE** Automatic reboot occurs during update.
2.4.4			Maintenance Patch 2.4.4.*x* series *Each release is described below. Each obsolete patch is shown in a gray line item. Links are provided only for the currently supported release.*	Provides the latest cumulative set of maintenance and security updates to Xsuite FP 2.4.4. For example, MP 2.4.4.4 included all updates for 2.4.4.1, 2.4.4.2, and 2.4.4.4. (Release 2.4.4.3 was not shipped; this number was for Xceedium internal use only.) • See feature lists for each update in cells below. • See *Release Notes* for more feature details (Doc link). **NOTE** As of FP 2.4.4, Hotfixes (**some** labeled with five-part numbers, such as: 2.4.4.2.1) are issued only in limited, non-public releases, and so are no longer issued GA. *continued next page*	Whenever a new Maintenance Patch is issued, please install it over any set of previous 2.4.4.*x*[.*y*] patch(es) you may have previously installed (including limited-distribution hotfixes labeled with five-part numbers, if any were provided to you). Always install patches in numerical order. However, it is not necessary to have applied all previous patches in the 2.4.4.*x*[.*y*] series. Below are two examples of permitted installation sequences onto FP 2.4.4: • 1) MP 2.4.4.2 2) HF 2.4.4.2.1 3) MP 2.4.4.4 4) MP 2.4.4.6 • 1) MP 2.4.4.1 2) MP 2.4.4.4 3) MP 2.4.4.5 4) MP 2.4.4.6

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.4.4 *cont.*				**`XS_2.4.4.`***`x`***`.p.bin`** … *where current 'x' may be 1, or 2, etc.* **NOTE** The build number is no longer part of the filename.	
			*MP 2.4.4.*x *series:*		
	9A		Maintenance Patch 2.4.4.1	Provides the following updates to FP 2.4.4: • Smart card access using Windows Server 2008 R2 and 2012 R2 permitted • Secondary Transparent Login policy 'Enable' button activated • Xsuite VM Devices can now be deployed with any number of network interfaces • Juniper login failure after timeout (GA from 12 Jun 2015 through 30 Jun 2015)	• Obsolete patches for the MP 2.4.4.*x* series are identified by the shaded cells in the Software Installer column. These patches are no longer available on the Support website. • The current patch is identified in the last (unshaded) cell for the MP 2.4.4.*x* series.
	9B		Maintenance Patch 2.4.4.2	Provides the updates of MP 2.4.4.1, and adds the following: • Support provided for Oracle Directory Server when Devices are members of more than one group • Synchronization page was occasionally inaccessible and prevented cluster shutdown • Display is now wiped following timeout or termination • Vulnerability mitigations (GA from 30 Jun 2015 through 9 Jul 2015)	
			Release 2.4.4.3	**Not shipped**: Xceedium-internal only	
	9C		Maintenance Patch 2.4.4.4	Provides the updates of MP 2.4.4.2, and adds the following: • Password update fixed for clustered directories • Access page loading improvements made for large User - to- Device Group policies (GA from 9 Jul 2015 through 17 Jul 2015)	
	9D		Maintenance Patch 2.4.4.5	Provides the updates of MP 2.4.4.4, and adds the following: • OpenSSL upgraded to 1.0.1p [CVE-2015-1793] • SQL injection security vulnerability remediated [CVE-2015-4664] • Incoming connection load balancing improvements made for clustered Xsuite • Cluster database synchronization improvements • Ability provided to create PKI/CAC Users through ExternalAPI • Xceedium Browser now updated for client workstations using IE 8 to access Xsuite (GA from 17 Jul 2015 through 10 Aug 2015)	
			MP 2.4.4.x series continues on next page		

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.4.4 *cont.*			*MP 2.4.4.x series, continued:*		
	9E		Maintenance Patch 2.4.4.6	Provides the updates of MP 2.4.4.5, and adds the following: • Vulnerablity mitigations [CVE-2015-4666, CVE-2015-4668] • Apostrophe in Username prevented password view • Cluster stability affected by long-running scheduled jobs • Learn Mode failure corrected for cluster configurations using external load balancer • Tomcat log level setting (GA from 10 Aug 2015 through 9 Oct 2015)	**IMPORTANT** Possible cluster recovery instability condition requires immediate patch update to 2.4.4.9.
			Release 2.4.4.7	**Not shipped separately**: Limited-availability hotfix • NLA can be bypassed for PIV use	As of Release 2.4.4.7, Hotfixes are issued with four-part numbers. (Hotfixes are no longer issued GA after FP 2.4.4.)
			Release 2.4.4.8	**Not shipped separately**: Internal use only • VNC Access Method applet and Embedded VNC removed	

	9F	Doc	Maintenance Patch 2.4.4.9	Provides the updates of MP 2.4.4.6, Release 2.4.4.7, and Release 2.4.4.8, and adds the following:
				• New log detail for AD connection failure
				• Scheduled Password Update in clustered LDAP deployments
				• Improved Filter for re-running Scheduled Jobs
				• License settings corrected in sysinfo text file
				• Reset catalina.out logging levels
				• SafeNet HSM integration update
				• Clustering improvements
				  • Restoration of last-deactivated CM database
				  • Improved Device list load time for VMware imports
				  • Logged timeouts for Scheduled Jobs
				  • Scheduled Jobs run only for active database
				  • LDAP connector timeouts
				  • Windows connector timeouts
				  • View cluster log entries from Synchronization page
				  • Credential Management cluster metrics in session logs
				  • AWS instance and VMware VM constraints removed
				• Error message improvements
				• Cluster message removed from non-cluster logs
				• Vulnerability mitigations
				• Port scan settings and advice improvement
				• Host header attack vulnerability mitigated
				(GA beginning 9 Oct 2015)
					IMPORTANT *If currently at release 2.4.4.6:* Possible cluster recovery instability condition requires this 2.4.4.9 patch update
					• Does not require any previous 2.4.4.*x* patches.
					• Automatic reboot occurs during update.

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
Xsuite 2.4.4 *cont.*	**NOTE** You may update directly to CA PAM 2.5 from any release from 2.4.4 through 2.4.4.9 by first installing the 2.4.4.x Certificate Linefeed Patch, and then the CA PAM 2.5 Upgrade.				
	10	Doc	2.4.4.x Certificate Linefeed Patch	Fixes all uploaded certificate chain file(s) that are missing line feed(s) between certificate blocks. (GA 23 Feb 2016) **NOTE** This patch does not correct the algorithm – that fix is provided in release 2.5.4. This patch corrects only the existing certificate files. Filename: `XS_CERT_CLEANUP.p.bin`	**IMPORTANT** This patch is required before CA PAM 2.5. **REQUIREMENTS** Minimum current level: Xsuite 2.4.4 Maximum current level: 2.4.4.9. It is not necessary to shut down a cluster. No reboot is forced or required.
	11	Doc	2.4.4.9 Certificate Expiration Patch	Updates the default Xsuite code signing certificate so that it does not expire imminently. (GA 23 Feb 2016) Filename: `XS_UPDATED_CODESIGN_CERT.p.bin`	**REQUIREMENTS** Current level must be: Xsuite 2.4.4.9. It is not necessary to shut down a cluster. No reboot is forced or required. **NOTE** This patch is not needed if you use a code signing certificate specified for your organization rather than the default Xsuite certificate.
	12	Doc	CA Privileged Access Manager (CA PAM) 2.5 Upgrade Patch	Provides all updates from MP 2.4.4.1 through MP 2.4.4.9, and the following new features: • VMware NSX coordination • SAML authentication support as IdP and/or SP • TACACS+ authentication support • Splunk coordination • Interface updates addressing Section 508 requirements • AWS API Proxy 2.1 support • VMware NSX API 1.0 support • Additional enhancements (see *New Features* and *Release Notes*) Resolves numerous issues. CA PAM 2.5 *Release Notes* provides updated report of known issues. (GA 21 Nov 2015)	**IMPORTANT** You must install 2.4.4.x Certificate Linefeed Patch before installing the CA PAM 2.5 Upgrade. Release Documentation: • CA PAM 2.5 *A2A Integration Guide* (PDF): Informs developers for A2A customizations. • CA PAM 2.5 *Credential Management Implementation Guide* (PDF): Covers all aspects of Credential Management. • CA PAM 2.5 *Implementation Guide* (PDF): Outlines procedures for deployment, access, configuration, and provisioning tasks. • CA PAM 2.5 *New Features* (PDF): Describes, and outlines procedures, for all significant new capabilities since 2.4.4. • CA PAM 2.5 *Peripheral Implementation Guide* (PDF): Covers all aspects of peripheral components: A2A, Windows Proxies, and Socket Filter Agents (SFAs) software. • CA PAM 2.5 *Planning Guide* (PDF): Provides product implementation strategy, including planning, deployment, configuration, user monitoring, and auditing advice. • CA PAM 2.5 *Reference Guide* (PDF): Displays the interfaces and provides tabular information about their components. • CA PAM 2.5 *Release Notes* (PDF): Provides information on supported environments, new features, resolved issues, known issues, and upgrade procedures. • Updated online help (HTML): Each 2.5 GUI page provides a context-sensitive pop-up from its **Help** button *continued next page*

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
			CA PAM 2.5 Upgrade Patch *cont.*		Additional supporting documentation: • CA PAM *Introduction* (PDF): Describes in detail a simple deployment and use of CA PAM on a hardware appliance. • CA PAM *Hardware Model X304L Setup Guide* (PDF): Describes hardware shipment contents, appliance racking, connection and LCD setup.
CA Privileged Access Manager					
2.5					**IMPORTANT** You must install 2.4.4.x Certificate Linefeed Patch before installing the 2.5 Upgrade. See previous page. To upgrade to the current 2.5.x, install its patch over any earlier 2.5.x release level, or over 2.5 (2.5.0).
			2.5.x Patch Series Each release is described below. Each obsolete patch is shown as a gray line item. Links are provided only for the currently posted release.	Provides the latest cumulative set of maintenance and security updates to CA Privileged Access Manager 2.5. • See feature lists for each update in cells below. • See *Release Notes* for more feature details ("Doc" link).	Always install patches in numerical order. However, it is not necessary to have applied all previous patches in the 2.5.x series.
	1		Release 2.5.1 Patch	Provides the following: • OpenSSL upgrade to 1.0.1q • Resolution of a GUI issue 2.5.1 *Release Notes* describes in more detail all changes since release 2.5. (GA from 11 Dec 2015 through 21 Jan 2016)	Patches with line items shaded gray are obsolete, are no longer available on the Support website, and should no longer be used. As of the GA date of the latest 2.5.x patch, **DO NOT** install any earlier 2.5.x patch (that you may have downloaded earlier and stored locally). Instead, always use just the latest 2.5.*x* series patch, as this includes the changes of all previous and current 2.5.*x* patches.
	2		Release 2.5.2 Patch	Provides the updates of release 2.5.1, as well as the following: • AWS cluster no longer requires EIP addressing • Multiple access credentials permitted for AWS Management Console portal • CRL Options panel updated • Resolution of several issues 2.5.2 *Release Notes* describes all changes since release 2.5. (GA from 21 Jan 2016 through 29 Feb 2016)	
			Release 2.5.3 Patch	**Limited-availability patch** Provides the updates of release 2.5.2, as well as the following: • Device listing performance improvements • Dual authorization expiration fix	

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
CA Privileged Access Manager 2.5 *cont.*	3		Release 2.5.4 Patch	Provides the updates of release 2.5.3, as well as the following: • Certificate linefeed fix • User no longer disabled following autoconnection attempt using checked-out credentials • Xceedium LDAP Browser fix • Browser management improvements • Unresponsive Device and User listings fixed 2.5.4 *Release Notes* describes in more detail all changes since release 2.5. (GA from 29 Feb 2016 through 1 Apr 2016)	Patches with line items shaded gray are obsolete, are no longer available on the Support website, and should no longer be used. As of the GA date of the latest 2.5.x patch, **DO NOT** install any earlier 2.5.x patch (that you may have downloaded earlier and stored locally). Instead, always use just the latest 2.5.*x* series patch. That patch includes the changes of all previous and current 2.5.*x* patches.
			Release 2.5.5 Patch	**Limited-availability patch** Provides the updates of release 2.5.4, as well as the following: • FIPS-mode encryption to SFAs (LA 18 Mar 2016)	
	4	Doc	Release 2.5.6 Patch	Provides the updates of release 2.5.5, as well as the following: • Signing JAR files with long URL now permitted • Cluster members release-level checks implemented • Daily reports now sending emails • LDAP no longer updates from duplicate records for same Devices • Certificate linefeed issue: Remediation 3 • Juniper access remediation 2.5.6 *Release Notes* describes in more detail all changes since release 2.5. (GA 1 Apr 2016)	**PREREQUISITES** Before installing the 2.5.6 maintenance patch: • **Update** Xsuite to at least release 2.5. In other words, do not install 2.5.6 directly over any Xsuite 2.4.*x.y* or prior release without updating to 2.5 first. • Shut down your **cluster** (if applicable). • Prepare for **reboot** consequences (for example, production downtime).

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Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
CA Privileged Access Manager 2.5 *cont.*	5	Doc	2.6 Upgrade Patch	Provides all updates from release 2.5.1 through 2.5.6, as well as the following new features: • CA Privileged Access Manager Client – *Allows access without local (workstation) Java installation. Download is available from the CA Privileged Access Manager GUI login page.* • Password View Policy (PVP) enhancements • Improved RDP security This release also resolves numerous issues. 2.6 *Release Notes* provides a listing of resolved issues and an updated report of known issues. (GA 6 May 2016)	**PREREQUISITES** Before installing the 2.6 upgrade patch: • **Update** Xsuite to at least release 2.5. In other words, do not install 2.6 directly over any Xsuite 2.4.*x.y* or prior release without updating to 2.5 first. • Shut down your **cluster** (if applicable). • Prepare for **reboot** consequences (for example, production downtime). Release Documentation: • CA PAM 2.6 *A2A Integration Guide* (PDF): Informs developers for A2A customizations. • CA PAM 2.6 *Credential Management Implementation Guide* (PDF): Covers all aspects of Credential Management. • CA PAM 2.6 *Implementation Guide* (PDF): Outlines procedures for deployment, access, configuration, and provisioning tasks. • CA PAM 2.6 *New Features* (PDF): Describes, and outlines procedures, for all significant new capabilities since 2.5.6. • CA PAM 2.6 *Peripheral Implementation Guide* (PDF): Covers all aspects of peripheral components: A2A, Windows Proxies, and Socket Filter Agents (SFAs) software. • CA PAM 2.6 *Planning Guide* (PDF): Provides product implementation strategy, including planning, deployment, configuration, user monitoring, and auditing advice. • CA PAM 2.6 *Reference Guide* (PDF): Displays the interfaces and provides tabular information about their components. • CA PAM 2.6 *Release Notes* (PDF): Provides information on supported environments, new features, resolved issues, known issues, and upgrade procedures. • CA PAM 2.6 *Third-Party License Acknowledgments* (PDF): Provides required legal notices for all non-CA components of CA PAM. • Updated online help (HTML): Each 2.6 GUI page provides a context-sensitive pop-up from its **Help** button
CA Privileged Access Manager 2.6					To upgrade to the current 2.6.x, install its patch over any earlier 2.6.x release level, including 2.6 (2.6.0).
		2.6.x Patch Series Each release is described below. Obsolete patches are shown as gray line items. Links are provided only for the currently posted release.		Provides the latest cumulative set of maintenance and security updates to 2.6. • See feature lists for each update in cells below. • See Release Notes for more feature details (“Doc” link).	Always install patches in numerical order. However, it is not necessary to have applied all previous patches in the 2.6.x series.

Release baseline	Order	Update Package *with links to Support site for downloads*		Description • *For details, see the* Release Notes *for the corresponding update* • *For 2.4 through 2.4.4, current patch filename(s) noted*	Advice
		Release Notes	Software Installer		
CA Privileged Access Manager 2.6 *cont.*	1	Doc	2.6 JAR Version Renaming Patch	Fixes a JAR file signing error that: • Prevents the Access page from loading in 2.6.1 • Prevents installation of updates after 2.6.1 • Current Version 2: Corrects a numbering issue in Version 1 Version 2 filename: `CAPAM_2.6_HF1_JarV.p.bin` (v2 GA 9 Jun 2016)	**This patch was previously required before further upgrades.** You can now upgrade directly from 2.6 to 2.6.2 without intervening patches.
	2	Doc	Release 2.6.1 Patch	Provides the following: • Security updates • Cluster issue remediation • Command filtering for PuTTY Telnet • NFS share Security Safe setting restored • Auto-login via embedded Service settings restored • RADIUS password may contain colon • ExternalAPI available to stopped cluster member • Consistent visibility restored for session recordings • FIPS security certificate update • Re-authentication mechanism restored 2.6.1 *Release Notes* describes in detail all changes since release 2.6. (GA 3 Jun 2016 through 19 Jul 2016)	Patches with line items shaded gray are obsolete, are no longer available on the Support website, and should no longer be used. As of the GA date of the latest 2.6.x patch, **DO NOT** install any earlier 2.6.x patch (that you may have downloaded earlier and stored locally). Instead, always use just the latest 2.6.*x* series patch. That patch includes the changes of all previous and current 2.6.*x* patches.
	3	Doc	2.6 JAR Version Renaming Patch	Fixes a JAR file signing error that: • Prevents the Access page from loading • Prevents installation of further updates • Current Version 2: Corrects a numbering issue in Version 1 Version 2 filename: `CAPAM_2.6_HF1_JarV.p.bin` (v2 GA 9 Jun 2016)	**This patch was previously required before further upgrades.** You can now upgrade directly from 2.6 to 2.6.2 without intervening patches.

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		Release Notes	Software Installer		
CA Privileged Access Manager 2.6 *cont.*	4	Doc	Release 2.6.2 Patch	Provides the updates of Release 2.6.1, as well as the following: • CA PAM Client authentication now includes SAML, RADIUS, RADIUS challenge/response, RSA, RSA+LDAP • Service credentials pass-through enabled • Identification of Client in Mac menu bar • Terminal Customization: Buffer Size fixed • Command filtering restored for Cisco Devices • SSH Service failure corrected • License signature verification restored • AWS Access Key can now be changed • CA PAM Client installer can now be launched on Windows 7 from IE download • SFTP-SFTP Services capability restored • Application re-keying supported for Services • SSH connection activations now captured to session logs • Web portal Services fixed • SSH key can now be changed successfully using master account • JAR file versioning improved • SAML reauthentication restored for password view • CA PAM Client can now successfully connect using FQDN • Large number of unique connection sockets now possible • CA PAM Client can now be used on Red Hat EL 7 • Cluster member Virtual Management IP delegation corrected • Certificate update no longer prevents autologin 2.6.2 *Release Notes* describes in detail all changes since release 2.6. (GA 19 Jul 2016)	**PREREQUISITES** Before installing Release 2.6.2 maintenance patch: • **Update** Xsuite to at least release 2.6. In other words, do not install 2.6.2 directly over any 2.5.x or any prior release without updating to 2.6 first. • Shut down your **cluster** (if applicable). • Prepare for **reboot** consequences (for example, production downtime).