



Host Extensions Program (ESXCLI) for vSphere 6.x

Program Guide v1.5

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Revision History

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1.1	6 June 2014	Migration to EASE Program Guide template
1.2	25 Aug 2015	SDDC specific changes
1.3	18 May 2016	Addition of VIB signing
1.4	7 May 2018	Addition of Partner VIB signing
1.5	30 June 2018	TAP membership transition

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1 Introduction

Welcome to the VMware ESXCLI Program, which provides development and resources for releasing host-based extensions. The ESXCLI Program is available to any qualified TAP Program member who needs to:

1. Migrate a tool or utility which runs in or depends on the ESX Service Console to ESXi 5.0 or later
2. Align with the vSphere 5.0 stateless architecture model for ESXi

Host-based extensions cover the following technologies, each with its own sub-program (collectively referred to herein as “the Program”):

3. Host Extensions / ESXCLI (herein referred to as the “Host Extensions Program”) - Pluggable CLI wrapper for management tools.

This Program Guide explains the Program requirements, as well as the program management and engineering engagement, support, and maintenance workflows of the Program.

Starting on August 31, 2015, Partner’s participation in the Software-Defined Data Center (“SDDC”) Foundation and Integration Program, depending on the Program Category Option that Partner selects (either “SDDC Foundation” or “SDDC Integration”), may include participation in the Program. Please refer to the SDDC Foundation and Integration Program Guide to determine if this Program is included in the SDDC Foundation or SDDC Integration Program Category Option, or in both.

1.1 Overview of This Guide

This document explains the Program requirements, as well as the engagement, support, maintenance models and lifecycle of the Program. For more detailed certification requirements, refer to the relevant certification guides available on the Program website. Capitalized terms used in this Program Guide have the same meaning as defined in the Platform Extensibility Program Agreement (the “PEPA”) unless otherwise defined herein. To the extent there is any inconsistency between the PEPA, the Program Addendum, and this Program Guide, the documents will govern in the following order of precedent: the Program Addendum, the PEPA, and then this Program Guide.

1.2 General Participation Requirements

Partner must meet the following requirements to engage in the Program:

- Establish and maintain membership in the VMware Technology Alliance Partner (TAP) Program.
- Sign the appropriate program agreements as referenced below (“Agreement”) as determined by VMware.
 - If the Partner joined prior to August 31, 2015 – the PEPA and VMware ESXCLI Program Addendum entered into by VMware and Partner will govern Partner’s participation in the Program.
 - If the Partner joins after August 31, 2015 – the PEPA and SDDC Foundation and Integration Program Addendum entered into by VMware and Partner will govern Partner’s participation in the Program
- Meet and follow product support requirements (outlined in Section 3.4 “Post-Release Activities”).
- Provide VMware details about development and support timeframes with respect to new Partner Software.

This Program may be amended periodically at the sole discretion of VMware, including but not limited to changes regarding the following:

- Requirements for TAP program enrollment
- Business and engineering processes to certify providers
- Certification tools, documentation, or other related materials
- Policies to list Partner Software on the VCG website or VMware.com, where applicable

When there is a change to this Program Guide, VMware will notify Partner through appropriate communication channels. Partner is responsible for ensuring that the communication channel with VMware is open and effective for compliance with VMware changes promptly.

Membership in the Program is effective on the effective date of the Program Addendum.

2 Membership Signup, Renewal, and Termination

2.1 Joining or Renewing Program Membership

Program membership is effective and valid for the duration specified in the Agreement. Each Program will be updated for each release of the corresponding VMware product that introduces significant new functionality and during this process VMware may change the Program enrollment requirements. Existing Partners will be allowed to continue to participate in the updated Program only if they meet the updated Program enrollment requirements.

2.2 Termination of Program Membership

Upon termination of the Agreement, Partner's Program membership is terminated; the Program collateral and Program website will no longer be accessible to the Partner. For details on termination, please review the "Term and Termination" Section of the Program Agreement.

2.3 Removal of Program from SDDC Foundation and Integration Program

VMware may, at its sole discretion, remove the Program from the SDDC Foundation and Integration Program. In such event, Partner will no longer have access to the Program's collateral or access to the Program website. However, the Partner's access to the collateral and websites of other programs that remain as part of the SDDC Foundation and Integration Program will not change.

3 Program Components and Process Flow

The Program provides a full spectrum of resources to guide Partners in developing, releasing, and supporting their products.

There are four Program components:

- Program Guidelines and Agreements
- Pre-Release Development and Certification Engagement
- Release Logistics
- Post-Release Activities

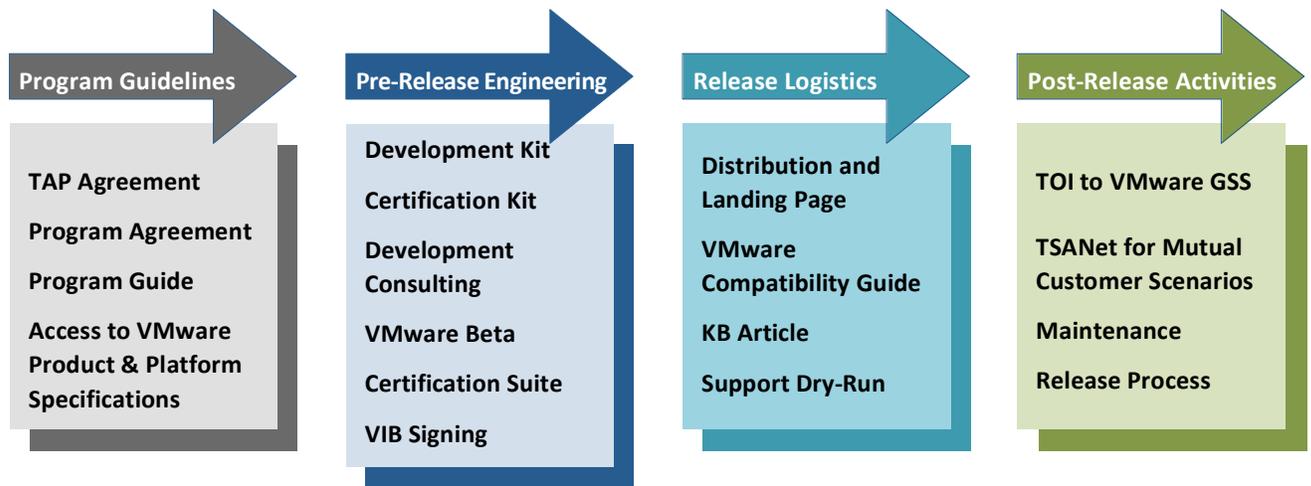


Figure 1: Program Components.

The remainder of this section elaborates on the components of this Program.

3.1 Program Guidelines

This Program component includes the non-technical elements of the Program.

3.1.1 Program Guidelines and Agreements

This Program Guide and the Agreement provide the terms and conditions of this Program. Partners must agree to the terms of these documents to participate in this Program. This Program Guide is subject to change. Qualification requirements are specified in the product Certification Guide, which is posted on the Program website.

3.1.2 Program Fees

VMware may, in its sole discretion, waive any or all of the fees associated with this Program. For exact fee amounts, please contact your VMware representative directly. Below is a description of various fees that may be applicable to the Program.

3.1.2.1 Program Entrance Fee

For Partners who joined the Program prior to August 31, 2015, the Program Entrance Fee previously paid by Partner is applicable to the specific version of the Program for which it was purchased and is a one-time, non-refundable, and non-transferable fee.

For Partners who join after August 31, 2015, the Program Entrance Fee is stated in the Program Guide applicable to the SDDC Foundation and Integration Program.

3.1.2.2 **Development Consulting Fee**

The Development Consulting fee provides Development Consulting via the Program website. Partners may renew the Development Consulting services as set forth in the Agreement. Please refer to the details here: <https://code.vmware.com/services/program-guide>

Please note: Partners are highly encouraged to avail themselves of this service. The Development Consulting fee enables Partners who opt for this service to post questions and gain access to VMware engineers. Engineers can answer questions regarding product development per the published specification.

3.1.2.3 **Certification Log Submission, Support, and Equivalency Fee**

This section is inapplicable to this Program.

3.2 **Pre-Release Development and Certification Engagement**

This Program component includes the tools and resources available for the development and certification of Partner software. All of the tools are available via the Program website.

3.2.1 **Engineering Support**

Partners in the program will have access to the Program website, which hosts the Developer Kit(s), which include code samples and other resources for developing the Partner Software. Additionally, availing of this support enables Partner teams to communicate with VMware about technical issues around development of the Partner Software. VMware provides development and testing consultation through the Program website, using collaboration tools, or via the telephone during pre-arranged conference calls. The Agreement will state the fees due for these services.

3.2.1.1 **Partner Contacts**

This Program uses a co-development process that requires Partners to identify a primary point of contact (such as a Program Manager) and an Engineering Manager and/or Technical Lead. Please complete the form in *Appendix F: Sample Partner Contact Information Form* and post the information in the “Documents” folder of your private project on the Program website. Please note that VMware does not publish the contact information on any public site.

3.2.1.2 **Partner Internal Triaging Process for Suspected VMware Software Issues**

The Partner’s Engineering Manager and/or Technical Lead shall review all suspected VMware software issues prior to the team engaging the VMware co-development engineers. Partner technical contacts shall include the internal assessment (including logs etc.) when filing a question for the VMware Engineering Team.

3.2.2 **VMware Products and Development Kit**

Partners will receive access to certain Pre-Release Materials and/or Development Kits, as determined by VMware. The current listing is set forth in *Appendix H: VMware Pre-Release Material(s) and Development Kit(s)*. The Pre-Release Materials and/or Development Kits may be used only in compliance with the Agreement.

VMware provides access to the applicable Pre-Release Materials and/or Development via:

- Official milestones, such as the official beta program for beta, RC, and GA milestones.
- Unofficial milestones, which refers to any point in time other than beta, RC, and RTM. To request access to such bits, please contact your EE Program Manager and provide a short justification.

As part of unofficial-milestone build delivery, VMware provides beta-type builds. When choosing to use such builds, please note the following:

- Only the ESXi installer bits are provided as beta-type builds.
- Beta-type and release-type builds are built from the same VMware changelist, but they do not have the same checksum.
- Beta-type and release-type builds are functionally the same for dev kit files; checksum differences do not indicate a real difference.
- Mixing different build types might lead to PSODs and unpredictable behavior.

Scalability and timing-sensitive functionality should be qualified only on release-type builds. Beta-type builds include debugging code.

3.2.3 Certification

Partner Software certification is generally considered to be one of the most important parts of the development process. The Partner provides all functionality testing for command-based plug-ins, including ESXCLIs. VMware does not offer a test suite for verifying such functionality on an ESXi host. The following links detail the certification levels and the support structure:

4. http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.upgrade.doc_50%2FGUID-27BBBAB8-01EA-4238-8140-1C3C3EFC0AA6.html
5. <https://www.vmware.com/support/policies/thirdparty>

This Program falls under the “Partner Supported” level of certification for partner software testing. This level carries the guidelines and benefits shown in Table 1:

Table 1: VMware Acceptance Levels.

Acceptance Level	Customer Support Provider	Testing Program	Process Flow
VMware Certified	VMware	Certification (Functional Verification)	Appendix C
VMware Accepted	Partner	Acceptance (Provider doesn't misbehave)	Appendix D
Partner Supported	Partner	Partner-defined	Appendix D
Community Supported	None	None	No Support Flow

For partners developing Software with a Software Development Kit, revisiting the following to provide a superior customer experience is recommended:

- Partner landing page recommendations
- Recommended Partner Software documentation
- Requested troubleshooting error codes documentation
- Partner support statement and support policy
- Product hosting information as applicable
- Bundling of the Partner Software with documentation

Upon successful certification, VMware updates the [VMware Compatibility Guide](#) (VCG) website to include the applicable version of the Partner Software.

The Agreement requires that Partners (if they choose to distribute their products) distribute only products that have successfully passed the certification tests and Qualification Requirements under this Program. Customer or field complaints that reveal non-compliance will result in delisting the Partner Software from the [VMware Compatibility Guide](#) (VCG)

3.2.4 Partner VIB Signing

VIBs are signed with Partner Supported acceptance level. The VIBs are published by a Partner that VMware trusts. The partner performs all testing. VMware does not verify the results. VMware directs support calls for VIBs with this acceptance level to the Partner's support organization.

Partner may submit VIB files for VMware's signature. If Partner submits such VIB files, Partner acknowledges that the files are final with no further changes to be made, pending the digital signatures. Partner understands that VMware may sign the Partner VIB files, test for the digital signature and return such files via the SR process —however, Partner acknowledges that it does not expect VMware to test the files for any other purpose. As the digital signature will allow the files to be installed in ESXi without a warning message/error, Partner acknowledges that it will be responsible for retesting the signed files per our internal processes to assure integrity before releasing to external parties. Should Partner notice any issues with the signed files, Partner may contact VMware again for assistance.

Partner VIBs submitted for signing should be submitted via the SR process. Once signed, any changes to the Partner VIB will invalidate the signature. Such VIBs must be resubmitted for signing. Please see your Program Manager for more information.

The fee structure is currently \$125 per transaction per SR (Equivalency). A maximum of 5VIBs per SR can be filled by Partner.

VMware no longer allows Partners to self-sign VIBs at the "Partner Supported level". VMware requires partners to submit VIBs through Service Requests (SRs) along with the VIB and supporting information. VMware will review the request and sign them at the "Partner Supported" level.

Please refer to the following page for more details - <https://code.vmware.com/programs/vib-signing-partner-supported>

3.3 Release Logistics

This Program component covers activities related to the release and availability of Partner Software developed and certified under this Program.

3.3.1 Packaging and Installation

This Section discusses some of the best practices and logistics of Partner Software packaging and installation.

3.3.1.1 Packaging

VMware recommends that Partner Software be packaged as an executable, containing a self-extracting, self-installing file where applicable. Zip all Partner Software documentation as part of the product download bundle, but keep docs separate from the installer/executable. Keeping the documentation zipped separately makes doc updates possible without going through the re-test waiver process.

Ship Partner Software with the following documentation in a single compressed archive (.zip) file:

- a. Release Notes with version-specific information for the following:
 - What was fixed

- What was added
 - Known bugs
 - Release Note organization to stay consistent over time and versions, with history included
- b. Installation Guide and Configuration Guide, to include the following where applicable
- Prerequisites. For example: Java run-time environment, .NET, etc.
 - Supported configurations with at least one simple, hardened test configuration, which should allow the product to perform all functions (the “proof case”).
VMware can use this example to confirm that there are no configuration issues in the customer environment and triage the issues appropriately.
 - Any licensing assumptions spelled out explicitly; details of any encryption being used.
 - Troubleshooting guide spelling out common error messages and typical configuration misunderstandings.
- c. Process explaining how to engage your support for the Partner Software, as follows:
- Which logs to have handy and how to collect them
 - What product information to gather for each type of problem (screenshots, array managers, replicated volumes, and so forth)
 - Contact protocol with URLs and toll-free telephone numbers
 - Any entitlement identity that might be required for support

Each and every version, release, patch, and hot fix of the Partner Software should clearly identify itself with a fully qualified and dated release signature, at least once for every request that it handles. (Make the release signatures clearly visible in the logs whenever the Partner Software is working and include a unique release signature, inasmuch as the date and at least one node of the version should be different from all other released Partner Software.

Partner Software must have version number designations. This helps users quickly discern the version without having to examine logs or open other windows or facilities.

Note: *Be sure to remove all references to VMware trademarks or product names as part of product name during installation and post-installation for product listings.*

3.3.1.2 **Delivery to Customers**

Once Partner Software has been packaged accordingly, Partners can then distribute their products to end customers from a page on their own website. The download bundle should contain all documentation that is listed as required under the Supporting Documentation Requirements Section.

In some cases, VMware might have programs that distribute certified partner software from VMware.com. In this case, partners will be responsible for the distribution and delivery of their own software.

3.3.1.3 **Installation**

During extraction or installation, Partner must present their End User License Agreement (EULA) to customers in a way that requires the customer to accept the Partner EULA prior to use of the product. If a user does not accept the EULA, the product must not install.

Customers must be presented with the option of opening documentation files after installation completes. The documentation should include a link to a webpage and customer help system that is maintained by the Partner. The customer must not be required to copy files to specific places, nor required to edit any files to configure the Partner Software.

3.3.1.4 **Open Source and Encryption**

Partners are expected to comply with all applicable third-party and free / open-source licenses and meet all applicable import, export, and re-export control obligations.

3.3.1.5 **Partner Signed Software**

If Partner wishes to distribute Partner Software that meets Qualification Requirements, under this Program, Partner must digitally sign the Partner Software prior to general distribution. For instructions on how to digitally sign certified Partner Software, refer to “Appendix I: Digital Signing Process for Partner Signed Software.” “**Partner Signed Software**” means Partner Software that meets the Qualification Requirements and has been digitally signed by Partner

3.3.2 **Hosting**

3.3.2.1 **VMware Hosting**

In cases where programs allow, VMware will host certified Partner Software on vmware.com, until the associated version of the VMware product has reached the end-of-life (EOL) phase. For more detail about product life cycle policies, including EOL dates, please visit:

<http://www.vmware.com/support/policies/lifecycle/general/index.html>

Please refer to the program requirements for packaging as specified in “Delivery to Customer” section.

3.3.2.2 **Partner Hosting**

Partners who choose to host Partner Software on their website are encouraged to consider the following recommendations for the product landing page.

Landing Page Recommendations:

- Publicly available landing page (The link must be a live link and not result in a 404 unknown error or send users to a generic, “we can’t find the page you are looking for” site.) It is OK for the landing page to require credentials to log in.
- Viewable with standard browsers
- Public statement of the Partner’s support policy for their certified Partner Software. (Include a link to the support policy or information on how to get support.)
- Stated support is not beyond VMware stated support (features, versions, array models, etc.).
- Link to VMware Compatibility Guide listings.

Static Information:

- About VMware product text from VMware.com or VMware approved collateral.
- A public statement of the Partner’s support policy for their Partner Software. (Include a link to the support policy or information on how to get support for a released product). This information should be provided to VMware support for review prior to GA of the Partner Software.
- Link to VCG website.

Partner Software Information:

- Text that describes features/bug fixes included in that product version
- Product documentation and installation information (include any software and/or hardware prerequisite; best practices/user guide, among others)

- Product download details (download bundle should include all relevant documentation listed on the landing page)
- Product version
- Date certified/released
- MD5 SUM and SHA1 SUM
- File size

3.3.3 VMware Compatibility Guide (VCG) Posting

Partner Host Extensions are not listed on the VMware Compatibility Guide (VCG)

3.3.4 Supporting Documentation Requirements

VMware Support requests that Partners provide links to all relevant TOI material described in *Appendix E: Transfer of Information (TOI)*.

3.3.5 VMware Ready Logos

Host Extensions/ ESXCLI is not a VMware Ready Program.

3.4 Post-Release Activities

This Program component includes support and sustaining policies for Partner Software.

3.4.1 Partner Software Support Policy

Unless otherwise approved in writing by VMware, Partners must provide a public statement of their support policy for products that can be linked from the Partner-landing page. This public-facing statement should be ready and released prior to GA of the Partner Software, or, if not applicable, prior to posting of the certified product on the VCG.

Support and troubleshooting of all Partner Software is the responsibility of Partner as per Partner's documented support policy.

For entitled support issues reported to VMware, VMware Global Support Services (GSS) assists customers in problem analysis and resolution. In the event the issue is diagnosed to be directly related to Partner hardware or software, GSS works with the customer to open a collaborative support request (SR) with the Partner. The support flow for the SR follows the VMware support process, as outlined in *Appendix C: VMware Customer Contacts Support Flow*.

3.4.1.1 Support Readiness

The goal for the Partner Software support policy is to ensure an excellent post-sale support experience for the mutual customer's product solution, and to drive best of breed customer satisfaction for Partner and VMware. In order for Partner and VMware to be successful with this goal and program, VMware expects the Partner to provide the following:

- A clearly defined process and escalation contacts between VMware Technical Support and Partner's technical support organizations, to engage each other for smooth handoffs and collaboration for all SRs related to Partner's product. This process should establish a Senior Support Engineer-to-Senior Support Engineer relationship. For critical escalation, this process should also provide an Escalation Manager-to-Escalation Manager relationship.
- Partner shall provide ability for VMware GSS to be able to open tickets directly with Partner for the sole purpose of troubleshooting mutual customer SRs.

- Partners shall ensure adequate support readiness and training of their support organization to support the Partner Software. Partners must have a support infrastructure in place to appropriately route and track all SRs related to their products. Additionally, Partner technical support engineers must be trained to have a reasonable understanding of the applicable VMware products, in order to assist during troubleshooting during any collaborative support effort between VMware and the Partner's support team for a mutual customer situation. To provide the best possible customer support, Partners must have one VMware Certified Professional (VCP) support staff onboard. Partner support teams must be ready to support the Partner Software at or before the general availability date of the Partner Software.
- Partners should appoint a designated technical support contact who is primarily responsible for the support relationship with VMware support organization. This person shall be responsible and shall act as a single point of contact for all support-related activities, including escalations and management of the cooperative support process relationship. This person shall ensure the overall support readiness and training of their support organization to support Partner Software.
- Communications of any changes, updates, patches, etc. to the Partner Software, are to be communicated back to VMware at least 14 days before release to the general public.

3.4.1.2 *Hosting of Collaborative Technical Support Process for Mutual Customers*

Partner agrees to post current valid support and escalation processes related to Partner Software as part of the VMware dedicated or custom Technical Support Alliance Network ("TSAnet").

For the duration of a partner's participation in this Program, and to retain certification status, the partner must maintain membership in the Technical Support Alliance Network ("TSAnet", www.tsanet.org), and as such join the VMware Private TSAnet Community. Any issues found with Partner Software are handled by the corresponding Partner, as described in the Third-Party Hardware and Software Support Policy documentation at <http://www.vmware.com/support/policies/ThirdParty.html>.

Partner shall comply with specific terms and recommendations regarding validation, support, and associated customer communication, as outlined in TSAnet guidelines and in this Program Guide.

3.4.1.3 Partner Support Experience

Partner shall open a Support Request with VMware on behalf of an end user via the TSA net channel, when the customer support issue is specifically isolated to a VMware product, or only reproducible on a VMware platform. Partner must resolve the support ticket in accordance with the applicable support agreement between the customer and the Partner.

VMware GSS **Product Support** Teams do not support SDK APIs. During customer situations, if the issue requires troubleshooting of SDK API calls, then Partner should take the lead and work with VMware **Developer Support** in the background.

The Support Call flow for SDK API related issues is shown in Figure 2:

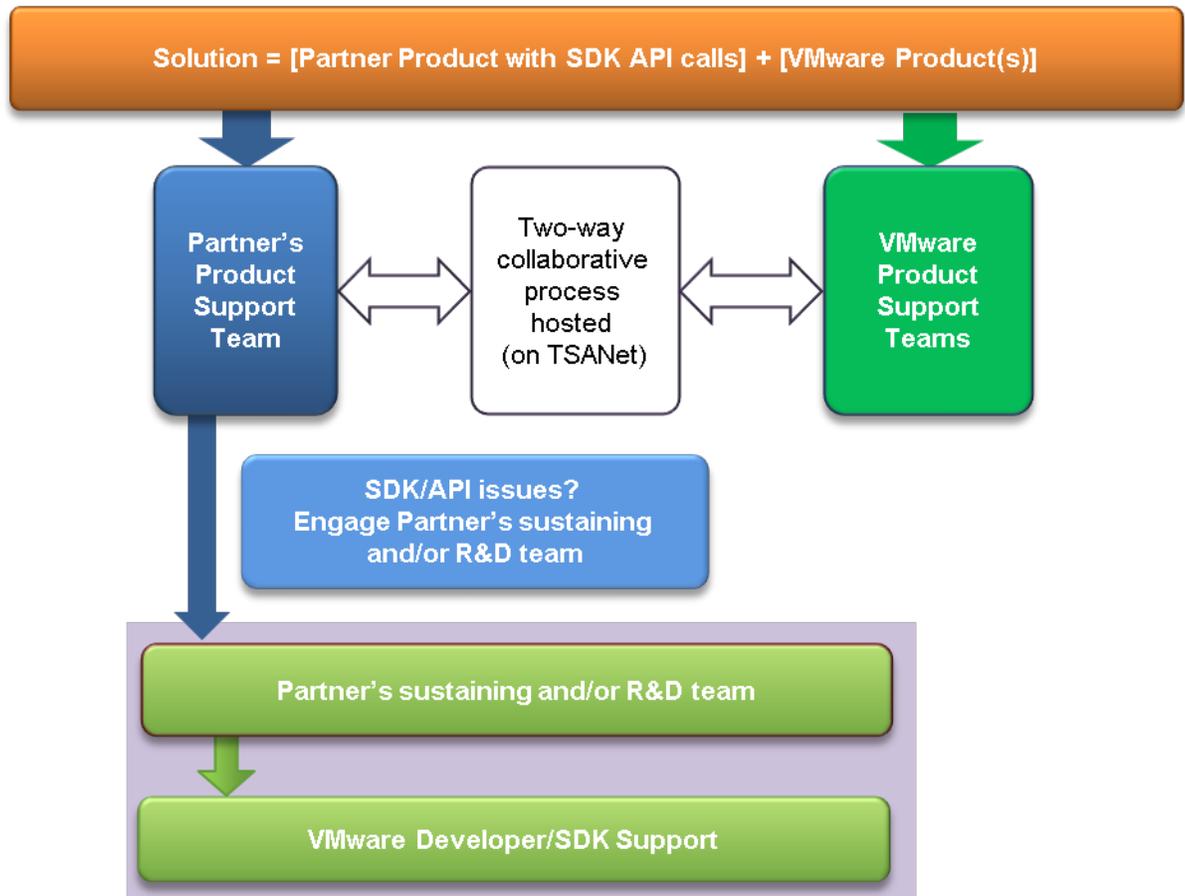


Figure 2: SDK API Support Call Flow.

3.4.1.4 *Support Requirements and Process*

General Support Terms:

- Partners are requested to provide the “volume” information of customer support issues reported against their products (open/resolved.)
6. Failure to fulfill and/or keep current with support requirements will result in non-compliance from certification perspective.

Support Request Process:

- End users can report software stability and performance issues to VMware. If they have reason to believe this is a VMware issue and, provided that the partner’s software is listed on the VCG website.
- For any issues related to the partner’s product, VMware shall initiate a request for technical assistance from the Partner by following the Partner’s support process and procedures posted on TSA.net.
- KBs (Knowledge Base articles) are recommended for all Partner Software issues or knowledge that will help end users. VMware provides a link to KBs from the product VCG. <http://blogs.vmware.com/vsphere/2012/05/oldies-but-goodies-site-recovery-manager-setup-videos.html>
http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1014610
- VMware and Partners shall work cooperatively to troubleshoot issues to resolution (see also the flowcharts in *Appendix C: VMware Customer Contacts Support Flow* and *Appendix D: Partner Customer Contacts Support Flow*).

3.4.1.5 *Transfer of Information (TOI)*

Partners are required to provide a training session with select VMware groups on the specifics of the product. For details regarding the content of the training, refer to *Appendix E: Transfer of Information (TOI)*. Please note that the TOI and support readiness requirements must be met prior to VMware authorizing posting partner software on the VCG website.

3.4.1.6 *Recommended Partner Training*

To provide the best possible customer support, VMware recommends that Partners have one VMware Certified Professional (VCP) support staff on board. To become a VMware Certified Professional, please visit www.vmware.com/services/certification.html to learn about the required instructor-led courses.

3.4.2 *Sustaining Policy*

Partners are responsible for maintaining their products by fixing any bugs or security issues and by updating and/or upgrading the software to support new or existing applicable VMware product(s) in a timely manner, as long as the VMware support policy is applicable for that release.

Note that any major change to the Partner Software might affect the certification status. It is highly recommended that the Partner Engineering team work closely with the VMware Program Manager during the product sustaining process. See Section 3.4.2.1 “Hot Fix Process” for details on how to provide customers with a Hot Fix, as well as on how to re-certify a modified product.

Should the need arise to provide a customer an immediate fix to address an urgent issue (a “Hot Fix”), Partners must follow the process defined below. To make the Hot Fix available to all customers, Partners must either submit a full re-certification of the modified Partner Software or follow the process outlined in Section 3.4.2.1.

3.4.2.1 Hot Fix Process

VMware considers a Hot Fix to be a fix addressing a specific critical issue found by one or more customers. A Hot Fix is not a mechanism to add features or functionality to existing Partner Software. When a Hot Fix is necessary, the Partner generates the Hot Fix and notifies VMware that the fix was created, tested, and distributed to those experiencing the problem addressed by the Hot Fix. Partners are strongly urged to run at least a subset of the certification tests against a Hot Fix before releasing it.

Partners must provide a detailed description of the bug and its symptoms to VMware, so that VMware support can direct customers who file new reports of the bug to Partner. This information must be communicated to VMware by completing the product Hot Fix Notification Form, available on the developer collaboration site. Partner's support organization shall distribute the Hot Fix on a customer-by-customer basis, via a non-public distribution mechanism. Partner shall also provide an estimate as to when the fix can be rolled into an update to the Partner Software, and shall request a review slot with VMware.

In cases where a Hot Fix is not widely distributed (posted version of product), partners are advised to track these customer distributions for support calls. Partner shall also provide the Hot Fix itself to VMware, with instructions on how to install the Hot Fix. Any changes to the Partner Software must be re-certified, as described in Section 3.4.2.2 "Re-Certification of Modified Partner Software."

3.4.2.2 Re-Certification of Modified Partner Software

If a Partner modifies a certified product, internal QA tests should run successfully before requesting the revised product to be considered by VMware for re-certification. Running all certification tests is recommended, but running a subset of the certification tests might be sufficient, if the following conditions are met:

- Partner helps VMware understand the nature, scope, and impact of the changes;
- Partner provides pointers to the user and reference documentation for relevant versions used to build the product
- Partner provides a list of changes and detailed explanations thereof.

Partners must complete a Re-Test Waiver form and submit this form along with any other applicable information (e.g., test results, source code, diffs, etc.) in the same folder where the Hot Fix notification form was submitted.

3.4.3 VMware Workbench, Dev Kits, and Cert Kits Support Lifecycle Policy

Details of this policy are available online at: <https://developercenter.vmware.com/kits-lifecycle-policy>.

Development Kits and Certification Kits support is dependent on the underlying vSphere product support. The VMware product support policy can be found at: <https://www.vmware.com/support/policies/lifecycle.html>.

4 Re-Validation

This component covers the re-validation of Partner Software when they are updated or otherwise modified. This involves doing a re-test waiver submission to check that the Partner Software is modified (check MD5 SUM match).

4.1 VMware Platform Triggers

A new major release of a VMware product requires a full re-certification of any platform-dependent product. VMware will attempt to notify Partners no later than the VMware product beta timeframe of the upcoming release dates for the major release.

4.2 VMware Product Backward Compatibility

VMware makes efforts to maintain backward compatibility between product update releases and Partner Software. Even with these efforts, VMware cannot guarantee that compatibility will not be broken. In the event that backward compatibility is not maintained and re-certification is required, VMware notifies the Partner and works to re-certify the product in a timely fashion.

4.3 Partner Software Qualification Triggers

Any bug fix or minor change to Partner Software might require a re-validation of all or a subset of these requirements. Refer to Section 3.4.2.2 “Re-Certification of Modified Partner Software” for further details regarding modified Partner Software.

4.4 Compatibility/Equivalency Claim Process

When Partner releases new versions of the Partner Software re-certification might be required, based on the impact of the changes in the new release(s) from the Partner. Partners are encouraged to run the Certification Tests in addition to their own QA tests, when making any changes, to expose potential issues related to the changes, even when full certification is not required, based upon the descriptions below: All Partner Software certification should follow the guidelines in the Certification guide. Many programs will have dependencies and pre-requisites listed. Some questions/examples that may help determine the re-certification criteria are listed in *Appendix A: Questions to Determine Re-Certification*.

http://www.vmware.com/files/pdf/support/VMware-GSS-Equivalency_and_Compatibility_Request-TP-EN.pdf?cc=www&client=VMware_Site&entqr=0&ud=1&output=xml_no_dtd&proxystylesheet=VMware_gsa_Site&site=VMware_Site&ie=UTF-8&oe=UTF-8&q=equivalency%20claim

Generally, examples of where VMware does or does not take an interest in re-certification of the product include:

- New H/W versions
- New S/W version
- New Firmware or Updates to existing Firmware
- New Version Numbers
- Product Documentation-Only Updates

New Version Numbers:

Although there is no science to version numbers, major version numbers draw more scrutiny than minor or maintenance versions. Equivalency and Compatibility status might be granted to a new Partner hardware

platform that interoperates with the Partner Software. In this case, VMware might require a re-validation of all or a subset of the product certification tests. Please refer to the certification policy listed for your specific program.

5 Contact Information

Partners are required to provide contact information for the person who is the primary manager of the Partner relationship with VMware, as well as contact information for the technical manager of the associated engineering projects and for the Customer Support Manager. All contact information is kept strictly confidential. For a sample contact information form that includes all required information elements, see *Appendix F: Sample Partner Contact Information Form*.

6 VMware Release Milestones

Membership in this Program is ongoing, and Partners are entitled to vSphere, vCenter, and vShield Manager update releases, as well as development and certification kit refreshes for the duration of their participation in the Program. Partners shall follow the VMware Ecosystem Engineering Maintenance Release Process.

Table 2 details VMware release life cycle naming conventions. It also lists activities partners can perform with intermediate releases. When a release becomes available, communications are sent to all partners via email with information on how to download the release.

Table 2: VMware Release Milestones.

VMware Release Name	Definition	Partner Activities	Release Goals
Early Access	Early access code for early deployment.	Early development and compatibility testing but not certification.	Get feedback and fix problems found by partners.
Beta	Beta release (for major and minor releases).	Perform development and compatibility testing but not certification, early certification kit available.	Get feedback and fix problems found by partners and customers.
RC	Release Candidate (for major, minor, update releases).	Perform official certification and make submissions. General release testing has ended. Only release-blocking defects will be considered. If RC software is installed, feedback is expected and should be returned within 21 days of build availability. Reported catastrophic or certification blocking issues including business justification will be considered for delivery in the product release.	Enable certification testing so that Partner Software can be listed on VMware Compatibility Guide at GA.
RTM	Release to Manufacturing (Restricted availability to OEM media kits and product release files provided per prior approval).	NA	NA
GA	General Availability (for major, minor, update patch releases).	Perform official certification and make submissions.	General Availability of production-level product to all partners and customers.

Partners are encouraged to engage in compatibility testing during beta or early access milestones to identify bugs that might block certification after RC.

Appendix A: Questions to Determine Re-Certification

This section is inapplicable to this Program.

Appendix B: Key Web Links

Product-Specific Information

Program website – Login required

VMware Developer Center (DC): <http://developercenter.vmware.com/>

VMware Developer Center Partner Network (DCPN)

Log in access for Developer Center Partner Network is via Developer Center. Click “DC Partner Network” in the top tab.

VMware Solutions Exchange (VSX): <https://www.vmware.com/partners/tech-alliance/vmware-solution-exchange.html>

Host Extensions Program Page: <https://developercenter.vmware.com/web/dp/other-programs/host-ext>

VMware Product Downloads

VMware vSphere (ESX Server & VirtualCenter)

Main Download Page: <http://www.vmware.com/products/vsphere/>

General Support Resources

TAP Alliances - <https://www.vmware.com/partners/tech-alliance.html>

My VMware - <https://my.vmware.com/web/vmware/login>

Technology-related information — such as knowledge base articles, documentation, and user groups — can be found at <http://communities.vmware.com/>

VMware Branding Guidelines - <http://www.vmware.com/help/usage.html>

Partner Central - <http://www.vmware.com/partners/partners.html>

VMware Flings - <http://labs.vmware.com/flings>

VI SDK support – www.vmware.com/go/sdksupport

VCP training and resources – <http://mylearn.vmware.com/portals/certification/?ui=www>

General VMware Documentation – <https://www.vmware.com/support/pubs>

VMware Solution Exchange Marketplace – <https://marketplace.vmware.com/vsx/>

VMware Compatibility Guide:

<http://www.vmware.com/resources/compatibility/search.php?action=base&deviceCategory=san>

Appendix C: VMware Customer Contacts Support Flow

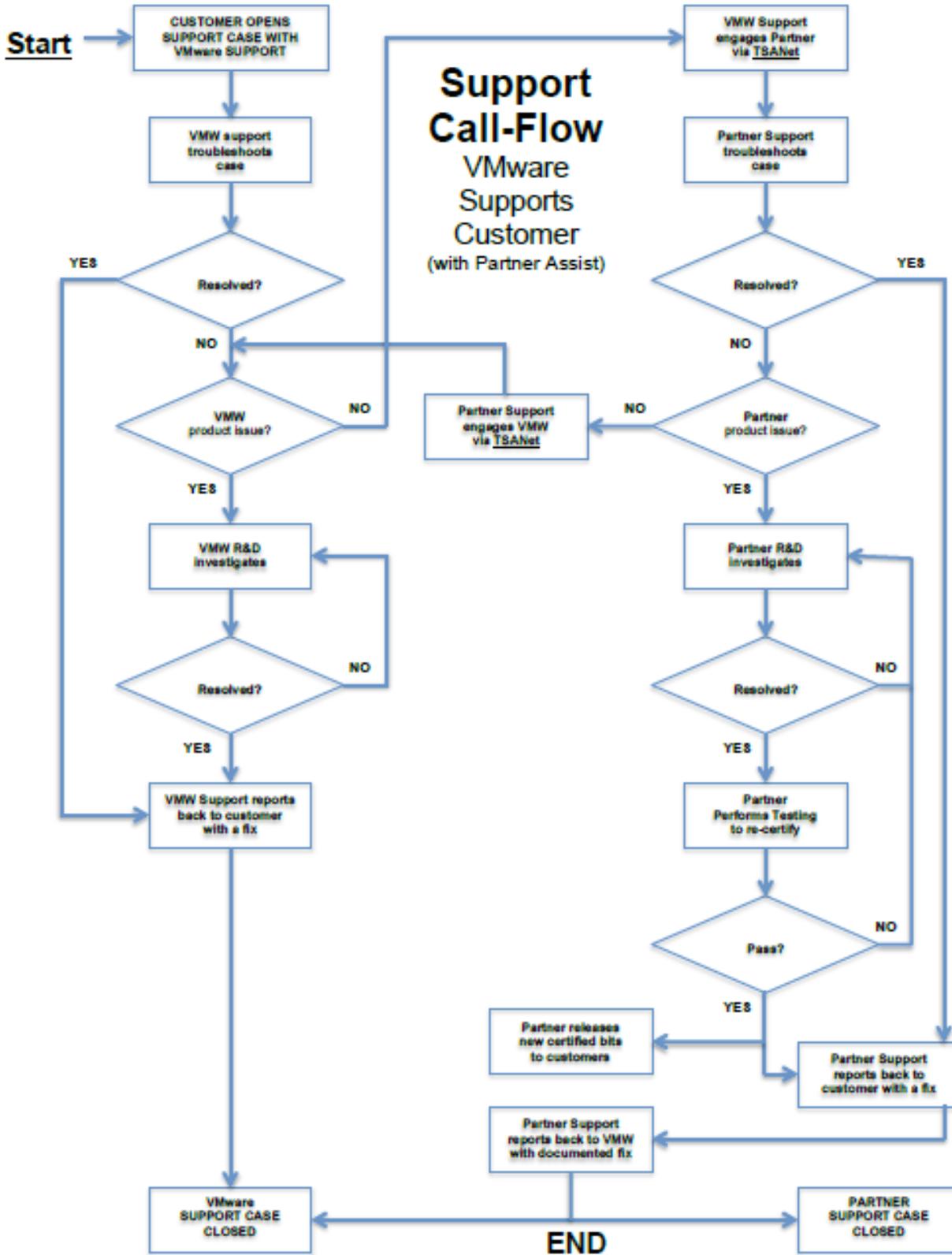


Figure 3: VMware Customer Contacts Support Flow.

Appendix E: Transfer of Information (TOI)

Partner shall provide TOI training for VMware (e.g., support, sales, sustaining engineering, QA, Alliances). Partner shall provide a short training to VMware personnel on the specifics of troubleshooting the Partner Software to help isolate the issue.

Note: Partner shall be responsible for supporting the Partner Software. This TOI is intended to ensure that VMware support engineers can easily isolate issues and smoothly engage Partner's support team for further troubleshooting.

Partner shall provide access to additional TOI materials at no charge upon the availability of any updates, upgrades or new versions of Partner Software. Partner's TOI material should cover troubleshooting, internally developed tools, and access to Partner's knowledge database, as necessary to get knowledge of their product to an extent when isolating reported issues.

A significant amount of content can be handled through documentation, which can keep an interactive information transfer to a very short duration. During the interactive session, Partner should, at a minimum, show VMware personnel the error logs from both good states and failed states, and explain the errors codes (or refer to documentation), so that VMware personnel have a basic understanding of what can be expected when fielding customer calls.

The session should be done via WebEx or some other method that enables recording of the training session.

Information to be documented for mutual customers of selected parts being presented at the TOI includes:

1. Prerequisites for Partner Software.
 - a. SW pre-requisites (perl, java, array management software, etc.)
 - b. HW prerequisites (array HW and firmware versions, visibility, credentials, etc.)
 - c. Licensing requirements (yes/no) If yes, please provide details.
2. Partner Software installation (if applicable): step-by-step installation guide.
3. Partner Software initial configuration (config files, UI parameters, special options, etc.), documented list of pre and post installation configuration and optional parameters.
4. Release notes and version information (to include information on known and fixed issues).
5. Product behavior, information on failback process.
6. Array capabilities and basic administration.
7. Troubleshooting:
 - a. List of all error messages, what they mean, appropriate remedies.
 - b. Log files with known results (to include what the product injects into the product logs). This should be further broken down to clearly identify:
 - i. Expected good output and what it means (i.e. what is expected when everything is running correctly).
 - ii. Expected bad output and what it means, such as:
 1. This XML block means the arrays can't see each other.
 2. This XML block means that the LUN is not replicated.
 3. This XML block means that something else is broken.
 - c. Log files with error messages with a "verbose mode" option. (Verbose option should be available, but turned off by default; it could be invoked when it is not possible to make a good determination from the default logs.)
8. URL location where customers download the Partner Software.
9. URL location where customers can see their support policy for Partner Software.

Appendix F: Sample Partner Contact Information Form

Partner Alliance/Business Contact

Employee Name: _____

Title: _____

Address: _____

Phone: _____

Email: _____

Role and Responsibility of Contact: Help with strategic partner alignment and getting legal agreements signed.

Partner Engineering Manager Contact

Employee Name: _____

Title: _____

Address: _____

Phone: _____

Email: _____

Partner Technical Support Manager Contact

Employee Name: _____

Title: _____

Address: _____

Phone: _____

Email: _____

Role and Responsibility of Contact: Manage the support relationship with VMware. He/she will be responsible and will act as a single point of contact for all support related activities including escalations and the management of the TSA net infrastructure. He/she should ensure the overall support readiness and training of their support organization to support their products.

Appendix G: Glossary of Terms and Acronyms

This Appendix defines acronyms and terms used in this guide.

API	Application Programming Interface
CLI	Command Line Interface
EASE	Ecosystems and Solutions Engineering
EULA	End User License Agreement
GA	General Availability
GSS	Global Support Services
HCL	Hardware Compatibility List
KB	Knowledge Base
PRD	Product Requirements Document
QA	Quality Assurance
RC	Release Candidate
SAN	Storage Array Network
SDK	Software Development Kit
SR	Support Request
TAP	Technology Alliance Partner
TOI	Transfer of Information
TSANet	Technical Support Alliance Network
VCG	VMware Compatibility Guide
VCP	VMware Certified Professional
VIB	VMware Installation Bundle

Appendix H: VMware Pre-Release Material(s) and Development Kit(s)

Under this Program, VMware may provide to Partner the VMware Pre-Release Material(s) or VMware Development Kit(s) listed below. Partner's use of the VMware Pre-Release Material(s) or VMware Development Kit(s) is subject to the terms and conditions of the Program Agreement.

VMware Pre-Release Material(s):

- VMware vSphere 5.x, 6.x
- VMware WorkBench 2.x, 3.x
- VMware vCenter Server 5.x, 6.x
- VMware Host Extensions Development Kit ("HEX DK") 5.x, 6.x (upon general availability release, this item will become a VMware Development Kit)

VMware Development Kit(s):

Appendix I: Digital Signing Process for Partner Signed Software

Definitions

1. To **“Access,”** with respect to a Private Key, means to directly or indirectly create, delete, copy, move, or view the Private Key, or in any other way to put the Private Key at risk to be compromised. For clarity, individuals that have access to a device that uses the Private Key in a software build function but who themselves are not able to create, delete, copy, move, view, or cause the Private Key to be at risk of compromise, will not be deemed to have Accessed the Private Key.
2. **“Authorized Materials”** means executables, scripts and/or data that comprise the partner developed extensions (“Extensions”), or Partner Software, that are certified in accordance with this Program Guide.
3. **“Certificate”** means a documented record issued by the PKI Service certification authority that: a) identifies Partner as the certified party, and b) contains a Public Key that corresponds to a Private Key under the control of Partner.
4. **“Designated Administrator”** means a Partner employee identified as pursuant to Section 5 of the Program Guide. In the event that Partner requires a change to its Designated Administrator, Partner shall provide immediate written notice to VMware and shall include with such notice full contact information for the new Designated Administrator.
5. **“Digital Signature”** means an implementation of a Private Key and applicable Certificate onto Authorized Materials, which implementation is transformed using an asymmetric cryptosystem such that the applicable ESX system can accurately determine whether the transformation was created using the Private Key that corresponds to the signer’s Public Key and whether the Authorized Materials have been altered since the transformation was made.
6. To **“Digitally Sign”** means, with regard to Authorized Materials, to create and implement a Digital Signature for the Authorized Materials through use of a Private Key and the applicable Certificate.
7. **“Key Generation Guidelines”** means the document provided by VMware to Partner that specifies the method for creating Key Pairs.
8. **“Key Pair”** means two mathematically related keys, having the following properties: a) one key can be used to encrypt a message that can only be decrypted using the other key, and b) it is computationally infeasible to discover one key, even knowing the other key.
9. **“PKI Service”** means the public key infrastructure service used by VMware for purposes of authenticating the source of Authorized Materials that will be allowed to install with VMware ESX systems.
10. **“PKI Service Passcode”** means a unique passcode provided to Partner by VMware that allows access to VMware’s PKI Service.
11. **“Private Key”** means the key of a Key Pair used to create a Digital Signature. The Private Key must be kept private and secure in accordance with the terms of the Program Agreement and this Program Guide.
12. **“Public Key”** means a key of a Key Pair used to verify a Digital Signature. The Public Key is made available to the recipient of materials that include a Digital Signature. A Public Key is used to verify the Digital Signature of materials purportedly provided by Partner as the holder of the corresponding Private Key.
13. To **“Revoke”** means, with regard to a Certificate, to cancel the validity of the Certificate.

Process for digitally signing AUTHORIZED materials

Partner shall follow the following process with regard to signing its certified Extensions:

1. VMware shall provide Partner's Designated Administrator with the Key Generation Guidelines.
2. The Designated Administrator shall generate a Key Pair according to the Key Generation Guidelines.
3. Partner agrees to secure the confidentiality of the PKI Service Passcode and the Private Key and to only allow the Designated Administrator to Access the PKI Service Passcode and the Private Key.
4. VMware shall provide the Designated Administrator with a PKI Service Passcode, and the Designated Administrator will initiate a request for a Certificate through the PKI Service which will result in the generation of a Certificate.
5. Partner may Digitally Sign Authorized Materials, and agrees that it will not use its Private Key to Digitally Sign anything other than Authorized Materials.
6. Partner agrees that, in the event that Partner becomes aware that the Private Key has been Accessed or has the reasonable potential of being Accessed by any individual other than the Designated Administrators, Partner shall either immediately either Revoke the affected Certificate through use of the PKI Service or notify VMware so that VMware may Revoke the affected Certificate.
7. Partner agrees that it will not use the Certificate to Sign code that: i) circumvents technical restrictions of VMware Products, or ii) uploads or otherwise transmits any material containing software viruses or other harmful or malicious computer code, files or Programs designed to interrupt, destroy, or limit the functionality of any software or hardware.
8. VMware reserves the right to Revoke a Certificate: i) if it has reasonable belief that the Certificate has been Accessed or has the reasonable potential of being Accessed by any individual other than the Designated Administrators, or ii) if it has reasonable belief that Partner has used the Certificate not in accordance with the terms of the Program Agreement and this Program Guide.

