RELEASE NOTES

EMC Storage Integrator for Windows Suite
Version 3.5

Release Notes

P/N 300-012-821
REV 12

July 2014

These release notes contain information for the following topics:

EMC²

Revision history

The following table presents the revision history of this document:

Revision	Date	Description
12	July 2014	Adds new features and support as follows: • SQL Server Adapter • Microsoft Active Directory Services • AppSync Adapter • Linux Adapter • VPLEX health monitoring • EMC RecoverPoint Bookmarks
11	May 5, 2014	Added support for VNXe3200
10	March 25, 2014	Added support for Windows Server 2012 R2 and VHDX
9	January 9, 2014	Added IPv6 support
8	November 2013	• EMC FAST VP for VMAX support • Support for expanding LUNs and creating and expanding metas • Microsoft Exchange 2013 support • Exchange DAG scope functionality
7	September 2013	• Next-generation VNX support • Added upgrade instructions for the ESI SCOM Management Packs
6	August 2013	• GUI and hypervisor updates • ESI Exchange Integration • ESI Recover Point Adapter • ESI SCO Integration Pack • EMC Hyper-V VSS Requestor
5	March 2013	Added the EMC software license agreement
4	January 2013	Fourth release of the product
A03	June 2012	Third release of the product
A02	December 2011	Second release of the product
A01	July 2011	First release of the product

Product description

EMC® Storage Integrator (ESI) for Windows Suite is a set of tools for Microsoft Windows and Microsoft applications administrators. The suite includes the following:

◆ ESI for Windows and ESI PowerShell Toolkit

◆ System adapters

◆ ESI hypervisor support

◆ ESI Service and ESI Service PowerShell Toolkit

◆ ESI SharePoint Adapter

◆ ESI Exchange Integration

◆ ESI SQL Server Adapter

◆ ESI AppSync Adapter

◆ ESI RecoverPoint Adapter

◆ ESI SCOM Management Packs

◆ EMC Hyper-V VSS Requestor

ESI for Windows and ESI PowerShell Toolkit

The ESI for Windows GUI is based on Microsoft Management Console (MMC). You can run ESI as a standalone tool or as part of an MMC snap-in on a Windows computer.

ESI for Windows provides you with the ability to view, provision, and manage block and file storage for Microsoft Windows, Exchange, SQL Server, and SharePoint sites. ESI supports the EMC Symmetrix® VMAX® series, EMC VNX® series, EMC VNXe® series, and EMC CLARiiON® CX™ fourth generation (CX4) series of storage systems. ESI also supports EMC AppSync® and Linux hosts.

ESI requires that you install the corresponding adapters for specific system and application support. Environment and system requirements provides specific prerequisites for storage systems and adapters.

The ESI PowerShell Toolkit provides ESI storage provisioning and discovery capabilities with corresponding PowerShell cmdlets.

ESI hypervisor support

In addition to supporting physical environments, ESI supports storage provisioning and discovery for Windows virtual machines that are running on Microsoft Hyper-V, Citrix XenServer, VMware vSphere, and VMware vCenter. ESI requires that you install the corresponding adapters for the specific hypervisor support.

Storage options in ESI vary depending on what the hypervisor supports, as follows:

◆ For Hyper-V virtual machines, you can create virtual hard disk (VHD and VHDX) files and pass-through SCSI disks. You can also create host disks and cluster shared volumes.

◆ For vSphere and vCenter virtual machines, you can create virtual machine disk (VMDK) files and raw device mapping (RDM) disks with or without virtual compatibility mode. You can also create SCSI disks and view datastores. SCSI disks require the use of existing SCSI controllers.

◆ For XenServer virtual machines, you can create VHD files and storage repositories. Before you add or remove virtual disks with ESI, xs-tools must be installed on the virtual machine that is running on the XenServer. Otherwise, you must shut down the virtual machine before adding or removing virtual disks.

ESI Service and ESI Service PowerShell Toolkit

ESI Service is the communications link between ESI and the ESI SCOM Management Packs. You can use ESI Service to view and report on registered EMC storage systems and storage-system components that are connected to the ESI host system. ESI Service then pushes this data to SCOM. You can also use the ESI Service as a standalone tool without SCOM to collect, view, and report this same system data.

When you install the ESI Service as part of the ESI installation, both the ESI Service and the ESI Service PowerShell Toolkit are installed on the ESI host system. You must use the toolkit to set up the ESI Service to communicate with the storage systems and ESI SCOM Management Packs.

ESI SharePoint Adapter

The ESI Microsoft SharePoint Adapter enables you to navigate Microsoft SharePoint farms and create, provision, and manage storage. You can enumerate databases in SharePoint farms and map them to the underlying storage resources. Then you can use the provisioning wizard to prepare a LUN and provision new content databases and web applications.

ESI Exchange Integration

ESI Exchange Integration enables you to integrate Microsoft Exchange with supported EMC storage systems. This integration combines the ESI Microsoft Exchange Adapter, the ESI Exchange High Availability (HA) Extension, the ESI Exchange SCOM Management Packs, and the Exchange cmdlets in the ESI PowerShell Toolkit. You can connect and manage Microsoft Exchange storage in the following ways:

◆ Discover Exchange mailbox databases, mailbox database copies, mailbox servers, and database availability groups (DAGs).

◆ Associate Exchange objects with applicable EMC storage-system objects.

◆ Create and remove Exchange mailbox databases.

◆ View database copy status in ESI GUI or with the ESI PowerShell Toolkit.

◆ Add and remove mailbox database copies for high availability and site resilience.

◆ Create, provision, and remove storage for mailbox databases.

◆ Use the ESI PowerShell Toolkit to automate storage-provisioning and high-availability tasks.

◆ Use EMC RecoverPoint® to enable Exchange third-party DAGs (in third-party replication mode) for high availability.

◆ Use the ESI Exchange SCOM Management Packs to monitor the ESI Exchange HA Extension in SCOM. You can use SCOM to ensure that the extension is running and to generate alerts for possible remediation failures.

ESI SQL Server Adapter

The ESI SQL Server Adapter enables you to view local and remote Microsoft SQL Server instances and databases and map the databases to EMC storage. ESI supports the SQL Server 2012 Always On feature, so you can view the primary SQL Server replica and up to four secondary replicas.

You can use SQL Scripts to create and configure SQL Server databases from an ESI host. For SQL Server 2012, creating databases on file shares using SMB 3.0 and VNX storage systems is supported in this release.

ESI AppSync Adapter

The ESI AppSync Adapter enables simple, self-service application protection with tiered protection options and proven recoverability. This adapter supports multiple SQL Server instances on the same host.

With this adapter, you can do the following tasks in ESI for supported SQL Server and Exchange databases:

◆ View AppSync Application Server instances and databases, including their database files, copies, subscribed service plans, service plan events, registered storage, registered hosts, and registered RecoverPoint systems.

◆ Subscribe and unsubscribe databases to AppSync Service plans.

◆ Protect databases with AppSync service plans or protection policies.

◆ Mount and unmount database copies on VNX or RecoverPoint target hosts.

◆ Expire and restore database copies.

AppSync provides the following built-in service plans that you can view and change in ESI:

◆ The Bronze plan creates and manages local copies.

◆ The Silver plan creates and manages remote copies.

◆ The Gold plan creates and manages local and remote copies.

ESI RecoverPoint Adapter

You can use the ESI RecoverPoint Adapter for local and remote data protection. If a disaster occurs, EMC RecoverPoint can recover lost data from any point in time that you select. You can use EMC RecoverPoint in the following ways:

◆ Connect to existing EMC RecoverPoint/SE or EMC RecoverPoint/EX systems.

◆ Manage and view replication service clusters, which are groups of RecoverPoint sites and appliances that work together to perform replication for storage and other ESI-managed applications.

◆ Add consistency groups, which are groups of one or more replica sets.

◆ Add replica copies, which can be either local or remote copies of a LUN.

◆ Add replica sets, which include a source LUN and the local and remote copies for that LUN.

◆ Seamlessly provision journal and replica LUNs when creating replica copies and sets.

◆ View underlying storage details for volumes used by EMC RecoverPoint.

◆ Apply bookmarks and parallel bookmarks to consistency groups.

◆ Enable and disable image access for replica snapshots.

◆ Search and use snapshots for production recovery tasks.

◆ Perform replication and automated failovers for Microsoft Exchange in conjunction with the ESI Exchange HA Extension.

Note: For Exchange third-party DAGs, ESI Exchange Integration with EMC RecoverPoint supports only synchronous replication. Because Microsoft does not currently support asynchronous replication for Exchange third-party DAGs, the **Asynchronous Replica Link Mode** setting in ESI is available for experimental testing purposes only and is not currently supported for production replication.

ESI SCOM Management Packs

The ESI SCOM Management Packs for Microsoft System Center Operations Manager enable you to manage EMC storage systems with SCOM by providing consolidated and simplified dashboard views of storage entities.

The management packs support the same VMAX family, VNX series, and CX4 series of storage systems that ESI supports. The ESI SCOM Management Packs also support EMC VPLEX® systems and EMC Symmetrix DMX™ 4 storage systems. The ESI SCOM Management Packs enable you to do the following:

◆ Discover and monitor the health status and health events of EMC storage systems and system components in SCOM.

◆ Receive alerts in SCOM for possible problems with disk drives, power supplies, storage pools, and other types of physical and logical components.

You can use the ESI Exchange SCOM Management Packs to monitor the ESI Exchange HA Extension in SCOM to ensure the extension is running.

EMC Hyper-V VSS Requestor

EMC Hyper-V VSS Requestor is a backup utility that processes VSS requests to create point-in-time copies (shadow copies) of Microsoft Hyper-V virtual machines for the VMAX and VNX series of storage systems. *EMC Hyper-V VSS Requestor Release Notes* provides more information about this utility.

New features and changes

This release adds the following new functionality:

◆ ESI SQL Server Adapter to view and manage SQL Server databases and provision storage for SQL Server

◆ ESI VPLEX Adapter to monitor the health of EMC VPLEX systems in SCOM

◆ ESI AppSync Adapter to automate application protection with EMC AppSync

◆ Use Microsoft Active Directory Domain Service (AD DS) or Active Directory Lightweight Directory Service (AD LDS) with ESI to persist connection settings in a central location for all supported applications and systems

◆ ESI Linux Adapter to manage Linux hosts

◆ ESI VNXe Adapter to manage LUN groups and unified snapshots for EMC VNXe3200™ systems

◆ ESI RecoverPoint Adapter to manage EMC RecoverPoint Bookmarks

◆ ESI Exchange Integration to update HA Extension with the ESI GUI for easy DAG and database failover operations

This release continues to support Internet Protocol version 6 (IPv6).

This release also adds the following new cmdlets to the ESI PowerShell Toolkit:

PowerShell cmdlet	Description
Add-EmcVnxeLunGroupMember	Adds one or more members to a VNXe3200 LUN group.
Dismount-EmcVnxeSnapshot	Dismounts a VNXe3200 LUN or LUN group snapshot to prevent host access.
Dismount-EmcAppSyncCopy	Dismounts a copy of the specified SQL Server database or Exchange database.
Get-EmcAppSyncCopy	Gets the copies of SQL Server databases or Exchange databases for the specified system.
Get-EmcAppSyncExchangeDatabase	Gets the Exchange databases for the specified system.
Get-EmcAppSyncExchangeServer	Gets the Exchange servers for the specified system.
Get-EmcAppSyncManifest	Gets the manifest information for the specified AppSync system.
Get-EmcAppSyncRegisteredHost	Gets the registered hosts on the specified AppSync system.

PowerShell cmdlet	Description
Get-EmcAppSyncRegistered RecoverPointSystem	Gets the RecoverPoint systems that are registered with the specified AppSync system.
Get-EmcAppSyncRegisteredStorage System	Gets the storage systems that are registered with the specified AppSync system.
Get-EmcAppSyncServicePlan	Gets the service plans for the specified system.
Get-EmcAppSyncServicePlan Subscription	Gets the subscription information of the specified service plan.
Get-EmcAppSyncSqlServerDatabase	Gets the SQL Server databases on the specified AppSync system.
Get-EmcAppSyncSqlServerInstance	Gets the SQL Server instances on the specified AppSync system.
Get-EmcAppSyncSystemAlert	Gets the alerts on the specified AppSync system.
Get-EmcExchangeCmdletOutput	Gets results of some Microsoft standard Exchange cmdlets (not ESI cmdlets).
Get-EmcLinuxHostSystemCredential	Gets the encrypted connection (system object creation) parameters BLOB.
Get-EmcReplicaCopySnapshots	Gets the list of snapshots for the specified replica copy.
Get-EmcVnxeFileSystem	Gets the file systems on connected VNXe3200 systems.
Get-EmcVnxeLunGroup	Gets a VNXe3200 LUN group.
Get-EmcVnxeLunGroupMember	Gets the VNXe3200 LUN group members.
Get-EmcVnxeSnapshot	Gets a VNXe3200 snapshot.
Mount-EmcAppSyncExchange DatabaseCopy	Mounts the specified Exchange database copy.
Mount-EmcAppSyncSqlServer DatabaseCopy	Mounts the specified SQL Server database copy.
Mount-EmcVnxeSnapshot	Mounts a VNXe LUN or LUN group snapshot so that it is visible to hosts, which have been added to the snapshot access list for the LUN or LUN group.
New-EmcAppSyncExchange DatabaseCopy	Protects the specified Exchange database by making a copy according to the criteria of the specified service plan.
New-EmcAppSyncServicePlanCopies	Creates copies for the applications that subscribe to the specified service plan.
New-EmcAppSyncServicePlan Subscription	Creates the specified SQL Server database or Exchange database subscription for the specified service plan.
New-EmcAppSyncSqlServer DatabaseCopy	Protects the specified SQL Server database by making a copy for the specified service plan.
New-EmcBookmark	Creates a bookmark for a consistency group.
New-EmcParallelBookmark	Creates a bookmark for more than one consistency group.
New-EmcVnxeLunGroup	Creates a new LUN group on a VNXe3200 system.
New-EmcVnxeSnapshot	Creates a new snapshot on a VNXe3200 system.

PowerShell cmdlet	Description
Remove-EmcAppSyncCopy	Expires the specified SQL Server database copy or Exchange database copy.
Remove-EmcAppSyncServicePlan Subscription	Removes the specified subscription.
Remove-EmcVnxeLunGroup	Deletes a LUN group from a VNXe3200 system.
Remove-EmcVnxeLunGroupMember	Removes one or more members from a LUN group.
Remove-EmcVnxeSnapshot	Deletes a snapshot from a VNXe3200.
Restore-EmcAppSyncExchange DatabaseCopy	Restores the source Exchange database by using the specified copy.
Restore-EmcAppSyncSqlServer DatabaseCopy	Restores the source SQL Server database by using the specified copy.
Restore-EmcVnxeSnapshot	Restores a VNXe snapshot back to its source.
Set-EmcRecoverProductionCopy	Performs a Recover Production for the specified Replica Copy.

Note: *EMC Storage Integrator for Windows Online Help* provides more details about ESI PowerShell cmdlets.

This release no longer supports the following:

◆ Microsoft Windows 32-bit operating systems

◆ Exchange 2010 HA Extension Service

◆ Snapshot LUNs for VMAX systems; cannot create, view, or delete snapshots; future releases of ESI will support snapshot LUNs for VMAX

◆ The Granting Access Control feature (Export and Import Access Control actions) is being deprecated and will be removed from future ESI releases

◆ Unpublish a system from another user with the **Publish Connection** action

◆ Remote BLOB Storage (RBS) for SharePoint; however, you can manually enable RBS in SQL Server and on content databases (Microsoft TechNet has instructions)

◆ ESI System Center Orchestrator (SCO) Integration Pack; however, you can use ESI version 3.1 to integrate with Microsoft System Center Orchestrator (SCO) or to use with 32-bit operating systems

◆ No ESI Product Guide or Technical Notes PDFs in this release; *EMC Storage Integrator for Windows Suite Online Help* (ESI.CHM) and these Release Notes provide complete documentation for ESI, including how to set up and use ESI system adapters, ESI GUI, and ESI PowerShell Toolkits

Fixed problems

This release resolves the following issues:

◆ Microsoft Active Directory Services support enables cross-domain connectivity to ESI host systems.

◆ EMC PowerPath® version 5.7 SP3 fixes the VDS Proxy "network path was not found" error.

Environment and system requirements

This section describes the environment and system requirements for the ESI for Windows Suite.

ESI system prerequisites

Before you install ESI, ensure that the environment meets the following requirements:

◆ Install .NET framework 4.5 on the ESI controller (the host on which ESI runs).

◆ Ensure that one of the following 64-bit, full installations of Windows Server is installed on the ESI controller (Windows Server Core installations are not supported):

  • Windows Server 2012 R2 or 2012

  • Windows Server 2008 R2 with SP1 or later

  • Windows Server 2008 SP2

◆ Ensure that MMC 3.0 is installed. Otherwise, the ESI installer prompts you to upgrade to MMC 3.0 before installing ESI. If MMC is not installed, download and install it from the Microsoft website.

◆ Enable the following firewall exceptions on the ESI controllers and ESI controllees (hosts on which ESI provisions storage):

  • Remote Volume Management-Virtual Disk Service (RPC) (vds.exe)

  • Remote Volume Management-Virtual Disk Service Loader (RPC) (vdsldr.exe)

  • Remote Volume Management (RPC-EPMAP) (svchost.exe)

  • Windows Management Instrumentation

◆ Ensure that Microsoft PowerShell 4.0 is installed on all hosts. If PowerShell is not installed, download and install it from the Microsoft website.

◆ Enable the remote PowerShell on the controller and controllee hosts by running the following command:

```
Enable-PSRemoting -force
```

◆ If you use iSCSI or FC transport for SAN connectivity:

  • Use the iSCSI initiator to log in to the storage systems.

  • Configure zoning for the FC initiator and use that initiator to log in to the storage system.

◆ Install the latest version of EMC PowerPath or Microsoft Multipath I/O (MPIO) with the Microsoft Device Specific Module (MSDSM) on the controllee host.

◆ Ensure that ESI is installed and runs in a domain user login session with administrative privileges for the controller host. The controller and controllee hosts must be members of the same Windows domain or in trusted domains.

◆ For CX4 and VNX block storage systems, enable Access Logix on the storage array before connecting a host disk on a Windows host.

◆ To use Microsoft Active Directory Services with ESI, confirm that Windows Server 2012 R2, 2012, or 2008 R2 Active Directory is installed. To use AD LDS, confirm an AD LDS instance is installed on the Windows Server.

Storage system and hypervisor software prerequisites

Storage system	Required software
EMC Symmetrix VMAX storage series	EMC Enginuity™ release level 5876.159.102 and EMC Solutions Enabler 7.6.2 or later with EMC SMI-S Provider 4.6.2 or later
EMC VNX5100™, VNX5200™, VNX5300™, VNX5400™, VNX5500™, VNX5600™, VNX5700™, VNX5800™, VNX7500™, VNX7600™, and VNX8000™	Block 05.31, 05.32, or 05.33.000.5.015 File 7.0.12.0, 7.1.55.3, or 8.1.0.15
EMC VNXe3100™, VNXe3150™, VNXe3200, and VNXe3300™	VNXe 2.3.1.20364 OE or 3.0 OE (VNXe3200 only) **Note:** ESI SCOM Management Packs do not support VNXe systems
EMC CLARiiON CX4-120C, CLARiiON CX4-240C, CLARiiON CX4-480C, and CLARiiON CX4-960C	FLARE 4.30
Microsoft Hyper-V	64-bit version of Windows Server 2012 R2, 2012, or 2008 R2 SP1
Citrix XenServer	XenServer 6.0.0
VMware vSphere	vSphere 5.0 Update 1 or later

VNX Adapter prerequisite

The VNX Adapter uses a Secure Shell (SSH) network connection to communicate with VNX file storage systems. Confirm that the standard SSH port 22 is open on the ESI host. If it is not, the connection fails.

VNXe Adapter prerequisite

Install the latest version of the EMC Unisphere® VNXe CLI for your specific environment on the ESI controller host. The latest versions of the VNXe CLIs are available for download on EMC Online Support.

VMAX Adapter prerequisites and limitations

The VMAX Adapter requires that you install and run EMC Solutions Enabler 7.6.2 or later with EMC SMI-S version 4.6.2 or later on a management server that is separate from all ESI hosts and storage systems. The EMC Solutions Enabler software is available on the EMC Solutions Enabler page on EMC Online Support.

ESI has the following limitations for managing storage with EMC Fully Automated Storage Tiering for Virtual Pools (FAST™ VP) policies and for expanding LUNs, extending LUNs, and creating meta volumes (metas or composite LUNs):

◆ Expanding a bound stripe meta volume results in the creation of a Business Continuity Volume (BCV), which has the same meta configuration to preserve data. During the expansion, the system creates a mirror relationship between the meta and the BCV, which means the meta and the BCV contain the same data. After the expansion, the storage system detaches the BCV from the meta, and by default, ESI does not delete the device. You can manually delete the BCVs with EMC tools, such as EMC Solutions Enabler SYMCLI or Unisphere for VMAX, to manage disk space.

◆ The Expand-EmcLun cmdlet does not work for thin single hypervisor volumes (bound and unbound). The command only works with existing VMAX meta volumes.

◆ You cannot expand or extend meta volumes that involve a clone, a remote data facility (RDF), or a snap session.

◆ You cannot compress or shrink meta volumes.

◆ If LUNs in a storage group are not bound to at least one pool that is part of the policy tier, you cannot associate a FAST VP policy to the storage group.

◆ You cannot rebind LUNs for FAST VP.

VPLEX Adapter prerequisites

This adapter requires the following prerequisites:

◆ VPLEX systems to have EMC GeoSynchrony® version 5.2 or 5.3 installed.

◆ This adapter uses the standard SSH network connection to communicate with VPLEX. Confirm that the SSH port 443 is open on the ESI host. If it is not, the connection fails.

AppSync Adapter prerequisites and limitations

This adapter requires the following prerequisites:

◆ EMC AppSync version 1.6 is installed on the Windows Server.

◆ When installing the adapter as part of the ESI installation, confirm that you use the same service name and port information that you used when installing Windows Server.

Your system must meet the following to use this adapter with Exchange databases:

◆ Your system meets the Exchange Adapter prerequisites.

◆ Mount and production hosts must have same version of Windows installed.

Your system must meet the following to use this adapter with SQL Server databases:

◆ Your system meets the SQL Server Adapter prerequisites.

◆ SQL Server databases and transaction logs must be stored on disks in the same storage system.

◆ SQL Server databases must be online during replication.

◆ EMC recommends you use the same version of SQL Server on the production and mount hosts.

◆ Mount hosts must have SQL Server installed to recover databases from mounted copies.

This adapter has the following SQL Server limitations:

◆ SQL Server system databases are not supported.

◆ SQL Server database snapshots are not discovered.

Linux Adapter prerequisites

This adapter has the following Linux system prerequisites, which you can install by default with Linux:

◆ Red Hat version 6.1 and SUSE Linux version 11 is installed on the Linux server. These versions were tested with ESI, however later versions might also work.

◆ ESI uses the standard SSH network connection to communicate with Linux. Confirm that the SSH port 22 is open on the ESI host.

◆ For SCSI operations with ESI, confirm the following is installed on the Linux server:

• Confirm the SCSI sg3-utils tool set component is installed.

• Confirm the optional, open SCSI component with the protocol for iSCSI is installed.

ESI Service prerequisites

ESI Service, which is installed as an option during the ESI installation, has the same prerequisites as the ESI host controller.

ESI SCOM Management Packs prerequisites

The ESI SCOM Management Packs have the following requirements:

◆ The SCOM Management Group server or servers must have Microsoft System Center Operations Manager (SCOM) 2012 R2, 2012 SP2, 2007 R2, or 2007 SP1 installed.

◆ In addition to meeting the ESI storage-system requirements:

• Symmetrix DMX-4 storage systems must have Enginuity release level 5773.183 or later and EMC Solutions Enabler version 7.6.1.12 or later with EMC SMI-S Provider version 4.6.1.3 or later installed.

• VPLEX systems must have GeoSynchrony version 5.2 or 5.3 installed.

ESI SharePoint Adapter prerequisites and supported features

The ESI Microsoft SharePoint Adapter has the following prerequisites:

◆ Windows Server 2012 R2 or 2012 SP2 is installed. (Windows Server Core installations are not supported.)

◆ SQL Server 2012 R2, 2012, or 2008 R2 is installed.

◆ Microsoft SharePoint Server 2013 or SharePoint Foundation 2013 is installed.

This adapter has the following feature limitations:

◆ SharePoint Foundation Client is not supported.

◆ Domain-based SharePoint farm deployment is supported; however, clustered and stand-alone installations and web applications for remote farms are not supported.

Note: If you create a database without a web application on a remote farm, you cannot view the new database in ESI.

ESI Exchange Integration prerequisites and limitations

The ESI Exchange Integration has the following prerequisites:

◆ For native Exchange DAGs, Microsoft Exchange 2013 or 2010 SP3 is installed on each Exchange server.

◆ Full 64-bit version of Windows Server 2012 R2, 2012, or 2008 R2 with SP1 is installed on each Exchange server. (Windows Server Core installations are not supported.)

◆ On each Exchange Server, the Internet Information Services (IIS) Manager for Windows PowerShell must have **PSLanguageMode** set to **FullLanguage** in the **Application settings** for Windows PowerShell.

◆ ESI Exchange HA Extension Service and ESI are installed and set up on each Exchange server. Each Exchange server has the same prerequisites as the ESI controller. For servers running Windows Server 2008 R2, confirm that .NET framework 4.5 is installed on the Exchange servers for which you are installing the ESI Exchange HA Extension. ESI system prerequisites provides the complete list.

◆ For EMC RecoverPoint replication, ESI RecoverPoint Adapter is installed on the ESI controller and EMC RecoverPoint/SE or RecoverPoint/EX, version 4.0 SP2 P1, and the applicable splitters are set up for each supported EMC storage system.

The ESI Exchange Integration has the following limitations:

◆ You cannot use ESI to create DAGs and to create, add, or remove mailbox servers. Use the Exchange Management Tools for these tasks.

◆ The ESI Exchange HA Extension is supported only on Exchange servers with the mailbox server role in an Exchange DAG that is in third-party replication mode.

◆ With the ESI Exchange SCOM Management Packs, SCOM detects ESI Exchange Integration events only when the ESI Exchange HA Extension detects issues and takes action.

◆ For EMC RecoverPoint replication of third-party Exchange DAGs:

- Mailbox databases and database copies must be provisioned in ESI.

- The ESI RecoverPoint Adapter supports only the VNX and VMAX series of storage systems.

◆ For native DAGs (with built-in replication), ESI requires that you use only existing drive letters to create and add mailbox database copies.

◆ With EMC RecoverPoint, the Exchange Integration supports only two replica copies of a mailbox database—a production copy and a remote site copy.

ESI SQL Server Adapter prerequisites

This adapter supports the following Windows and SQL Server versions

Supported versions	Windows 2008 R2	Windows 2012	Windows 2012 R2
SQL Server version 2008 R2	Supported	Supported	Supported
SQL Server version 2012	Not supported	Supported	Supported
SQL Server version 2012 SP1	Not supported	Supported	Supported

Additionally, this adapter requires the following prerequisites:

◆ ESI and SQL Server are connected to the same domain controller and you have Administrator login credentials for SQL Server.

◆ To support databases created on file shares, SMB 3.0 is required and the databases must reside on the file share.

ESI RecoverPoint Adapter prerequisites

The ESI RecoverPoint Adapter has the following prerequisites:

◆ Full 64-bit version of Windows Server 2012 R2, 2012, 2008 R2 with SP1, or 2008 SP2 is installed. (Windows Server Core installations are not supported.)

◆ EMC RecoverPoint/SE or EMC RecoverPoint/EX 4.0 SP2 P1 is installed.

◆ System.net.http.formatting DLL is installed on the ESI host controller. When you select to install the RecoverPoint Adapter as part of the ESI installation, this DLL is installed for you.

EMC RecoverPoint Release Notes on EMC Online Support provides more details about EMC RecoverPoint/SE and EMC RecoverPoint/EX.

Known problems and limitations

This section describes known problems, limitations, and troubleshooting information for supported storage systems in ESI. The known problems, limitations, and troubleshooting information for all ESI system and application adapters, ESI Service, ESI SCOM Management Packs, and ESI PowerShell Toolkit is available in *EMC Storage Integrator for Windows Suite Online Help*.

Symptom	Prevention, resolution, or workaround
In the **Storage System Health** of the SCOM console, the User Friendly Name for the storage system does not appear as the **Display Name**.	To get the User Friendly Name of the storage system to appear as the Display Name in SCOM, you need to set up the storage system filter file. "Setting up the storage system filter file" in *EMC Storage Integrator for Windows Suite Online Help* provides instructions.
• ESI fails to connect to Windows clusters or failover clusters. • ESI cannot create, delete, or disconnect a cluster disk.	• Healthy clusters are an ESI requirement. Confirm that the clusters are healthy. • Cluster resource dependencies are not removed before you delete or disconnect a cluster disk. Before deleting or disconnecting a cluster disk, remove disk resource dependencies.
When a valid description is typed for **Storage Pool Description**, sometimes the description is not displayed in the **Storage Pool** column.	This is a known problem. The description display is for more information and is not critical for system operations.
Ping system timeout fails.	Set the timeout value according to the network status in ESI.
You are unable to connect to a Windows server.	• Check that firewall rules are enabled on both controller and controllee hosts. • Check that remote PowerShell is enabled on both controller and controllee hosts. • Check that DNS is configured correctly.
Rescan fails to find a LUN.	• Check that the FC Zoning is configured correctly. • Check that the iSCSI initiator is logged into the target port. • Check that the multipath software is configured correctly.

• Storage-related data does not display in the host view, cluster view, or SharePoint view.
• The storage pools in the **Create Disk** wizard do not load and the wizard is blank.
	• ESI shows storage-related information for a disk or shared folder only when the corresponding storage systems are registered. Verify that the corresponding storage systems are registered with ESI (in **Storage Systems**). If they are not, register the storage systems.
	• The storage system might take longer than the default timeout value of 60 seconds. Set a higher timeout value (in seconds) in the ESI GUI by selecting **ESI › Options** or in the following registry key:
	`Key: HKLM\SOFTWARE\EMC\WSI\Config`
	`DWORD Value Name: DefaultOperationTimeout`

• When a storage system is added to ESI, it is not listed in PowerShell. • When a storage system is added in PowerShell, it is not listed in ESI.	Log out of the other application and then reopen it to refresh the list.

Symptom	Prevention, resolution, or workaround
PowerShell scripts from previous versions of ESI that are using the `Connect-EmcSystem` PowerShell cmdlet might fail with the "Parameter `ConnectionName` is needed to create the Host System Object" error.	Instead of using the `HostSystemName` parameter with the `Connect-EmcSystem` cmdlet, change the command line to use the `ConnectionName` parameter for connecting the VMAX system and retry the connection in PowerShell.
"Retrieval of host disks failed: Operation RefreshDisks failed on VDS proxy..." error occurs.	When the VDS load operation uses the target host FQDN, this name resolution error occurs. To resolve this error, you must configure the Windows host file on the ESI controller host system with both the short (NETBIOS) and long (FQDN) host names.
In ESI, right-clicking a tree node does not display all the menu options.	This is the default behavior of the MMC framework. Select an item and then right-click to display the menu options.
• When creating a disk, ESI fails or creates the incorrect volume size. • If the file system type is FAT32, provisioning a storage volume fails.	If you create a host disk and ESI fails or creates the incorrect volume size, you might need to increase the disk size. For example, when creating a 16 KB cluster unit with a FAT32 file system type, the minimum disk size requirement is 1,029 MB. A FAT32 volume must contain a minimum of 65,527 clusters. You cannot increase the cluster size on a volume that uses the FAT32 file system so that it contains fewer than 65,527 clusters. More details on the limitations of the FAT32 File System in Windows XP are on the Microsoft Support website. Sometimes the smaller clusters can fail because the cluster does not meet the required minimum of 65,527.
When importing storage with the access control file, some of the storage does not display.	Before importing the storage access control file, confirm that the ESI host has the respective storage adapters installed on it.
You are unable to view the mounted shared folders on the target host for file storage systems.	Log out and then log back into the server. This reinitializes the shared folder view. After logging back in, you can view the shared folder changes on the target host. The mapping between drives and shared folders is specific to each user account, unlike the LUN or disk mount that does not vary between accounts. Every user account can have different drive mappings for the same drive letter.
When you create a virtual hard disk or pass-through SCSI disk for a virtual machine, no IDE controllers are listed.	ESI does not support IDE-based disks. Use hypervisors to create IDE-based disks.
When you specify both the `-ID` and the `-ConcreteLun` parameters with the `Get-EmcLun` ESI PowerShell cmdlet, an "AmbiguousParameterSet exception" error occurs.	The `-ConcreteLun` switch parameter specifies the Concrete LUN type as an optional parameter, through which only Concrete LUNs can be filtered out. Do not use this parameter with the `-ID` parameter because it supports only block storage systems.
For hypervisors, you cannot create new SCSI controllers for virtual machines.	ESI does not support creating new SCSI controllers to create disks for virtual machines. Use the hypervisor to create new SCSI controllers. Then use ESI to create and attach the disks for virtual machines with these existing SCSI controllers.
For hypervisors, the **Connect to Host** action leads to the following error message: "Can't retrieve IP from MAC address…" or the "host name is empty."	This error can occur for several reasons. Confirm the following to avoid this error: • The virtual machine is a part of a reachable domain. • The supported Windows operating system is installed on that virtual machine. • The IP of that virtual machine is configured correctly. • The ESI-mandatory firewall settings are configured correctly if you want to manage the virtual machine in ESI.

Symptom	Prevention, resolution, or workaround
For a VMware ESX host that is connected with ESI to a virtual machine, when expanding a file-based disk on the virtual machine, the operation fails with an "Access to resource settings on the host is restricted to the server that is managing it" error message.	This is a VMware restriction for expanding file-based disks, which requires the operation to succeed only when the vCenter host is connected and the ESX host is disconnected from ESI. Remove the ESX host and add the vCenter hypervisor again in ESI. Then try the expand operation again.
For VMware, you cannot expand RDM disks that are attached with virtual compatibility mode.	For VMware systems, ESI does not support RDM disks that are created with virtual compatibility mode. Use ESI to provision disks without the virtual compatibility mode setting.
For a XenServer, you cannot add or remove a virtual disk on a running virtual machine.	This occurs when xs-tools is not installed on XenServer. XenServer requires that xs-tools is installed on the virtual machine before you can add or remove virtual disks while the virtual machine is running. You can either install xs-tools or shut down the virtual machine before adding or removing disks.
For XenServers, the operation fails when attempting to remove a XenServer storage repository.	The failure can occur when you create a XenServer storage repository on a LUN and then mask the LUN without deleting the storage repository. When you click **Remove Storage Repository**, XenServer cannot discover the LUN mask immediately, even if the page is refreshed, and the operation fails. Try completely removing a storage repository as described in "Forget Citrix XenServer storage repositories" in *EMC Storage Integrator for Windows Suite Online Help*. Then create a LUN for a storage repository by following the steps in "Create Citrix XenServer storage repositories" in *EMC Storage Integrator for Windows Suite Online Help*.
For XenServers, when you create or delete a virtual disk for a storage repository, the free capacity of the storage repository does not update immediately.	In the ESI Window, go to **Storage Repositories › Actions** and click **Refresh** to update the storage repository disk information.
• For VMAX, cannot create, view, or delete snapshot LUNs in ESI. • Or when using the following ESI PowerShell cmdlets, results are incomplete or incorrect: — Disable-EmcSnapshotLun — Enable-EmcSnapshotLun — Get-EmcSnapshotLun — New-EmcCandidateSnapshotLun — New-EmcSnapshotLun — Remove-EmcSnapshotLun — Restore-EmcSnapshotLun	These tasks and cmdlets are not available, because snapshot LUNs for VMAX systems are not supported. However, future releases of ESI will support snapshot LUNs for VMAX.
For VMAX, when creating disks with the **Create Disk** wizard, "no appropriate storage system found" is the only option in the **Storage System** page.	ESI does not support provisioning disks for host systems (VMware, Windows, XenServer, and so on) with only iSCSI initiators (HBAs) on VMAX storage systems.
For VMAX, the "Symmetrix system with serial not found: 123400688" error occurs.	When adding VMAX systems to ESI, confirm that you include all the required 12 digits, which might include a prefix of zeros, for example: 000123400688.

Symptom	Prevention, resolution, or workaround
For CX4 systems and XenServer hypervisors, ESI displays the incorrect LUN size for thin provisioning.	This is a known problem with CX4 systems and XenServers. XenServer assigns a thin LUN from ESI as smaller than the assigned size. To avoid this error, create thick LUNs for XenServer storage repositories.
For CX4 and VNX systems, the local administrator account status is **Offline**.	This occurs when a CX4 or VNX storage array is added with a global account without administrator rights or a local administrator account and the status is **Offline**. VNX and CX4 systems require administrator accounts with a global scope.
For CX4 and VNX systems, you are unable to connect a host disk.	If the CX4 or VNX storage array does not have Access Logix enabled, the host disk connection fails. CX4 and VNX block storage systems must have Access Logix enabled on a storage array before you can connect a host disk on a Windows host.
For VNX systems, advanced snapshot LUNs can be viewed in **LUNs** in the ESI GUI but are not listed in ESI PowerShell.	You can view advanced snapshot LUNs in the ESI GUI. Although the snapshots exist, you cannot currently view the list with the Get-EmcSnapshotLuns cmdlet.
For VNX-CIFS systems, a time-out error message occurs.	In ESI version 2.0, the default **File Port Number** was **443**. In ESI version 3.0 or later, the default is **22.** If you upgraded to version 3.1 from a previous release, you might have set up an incorrect **File Port Number**. To change the port, remove the VNX-CIFS storage system and then add it again with the correct default port number of **22**.
For VNX-CIFS systems, a "Host key was not found in the repository: ‹IP Address›" or a "Host key has been changed" error message occurs.	Because the **Add Host Key If Missing** and **Replace Host Key If Changed** settings are new as of ESI version 3.0, you might need to reset these security validation settings for VNX-CIFS systems. Or if the host key was recently changed on the VNX file storage system, you need to reset the registry key with ESI. To reset the Registry key settings: 1. Remove the VNX-CIFS storage system. 2. Add the system again and update the Registry key information: a. Select the **Replace Host Key If Changed** checkbox and click **Test Connection**. ESI will read and update to the new host key information during the connection test. b. Clear that checkbox and then click **Add** to add the system. This maintains security, yet allows ESI to connect to the system and update the cached host key in ESI.
For VNX-CIFS systems, the connection fails.	ESI requires the correct control station username and password is set up for the VNX-CIFS connection. ESI does not support root for the VNX-CIFS control station connection. If necessary, you can use nasadmin or equivalent administrator username and password to connect to VNX CIFS systems.
For VNXe and Hyper-V, when you use New-EmcLun to create a LUN for Hyper-V, a "LUN does not exist" error occurs.	This occurs in older versions of VNXe. To resolve this problem, update your VNXe to version 2.3.1.20364.
For VNXe, a snapshot cannot be promoted.	If the resource has no access to the snapshot, a snapshot cannot be promoted for a host. Set up host access to the snapshot, and then the snapshot can be promoted for that host.
When adding a VNXe, the "System cannot find the file specified" error occurs when you click **Test Connection**.	VNXe Unisphere CLI might not be available on the controller host where ESI is running. Download VNXe Unisphere CLI from the EMC Online Support website and install it on the ESI host system. After installing the CLI, retry adding the VNXe system.

Symptom	Prevention, resolution, or workaround
PowerShell scripts from previous versions of ESI that are using the `Connect-EmcSystem` PowerShell cmdlet might fail with the "Parameter ConnectionName is needed to create the Host System Object" error.	For `Connect-EmcSystem`, use `ConnectionName` for the creation parameter instead of the `HostSystemName` parameter.
• The `Set-EmcLunAccess` PowerShell cmdlet fails. • An unmasking operation fails.	Before unmasking a LUN or using the cmdlet, ESI requires that you register all iSCSI and FC HBAs or host initiators used to unmask LUNs on the storage system.

Technical notes

EMC Storage Integrator for Windows Suite Online Help provides all relevant technical notes for ESI, including installation and setup instructions for ESI adapters and other ESI options.

Documentation

The following table lists the ESI documentation that is available in the ESI Zip file and on the EMC Storage Integrator for Windows Suite page on EMC Online Support.

Name	Part number
EMC Storage Integrator for Windows Suite Release Notes	300-012-821-12
EMC Storage Integrator for Windows Suite Online Help	Not applicable

Software media, organization, and files

ESI is distributed as a Zip file and is available for download from EMC Online Support.

Installation

The ESI Zip file includes the ESI installer for the core ESI setup and other ESI options. The Zip file also includes the ESI SCOM Management Packs, and EMC Hyper-V VSS Requestor installers.

If you elect to install the ESI Service, the installer also installs the ESI Service PowerShell Toolkit. *EMC Storage Integrator for Windows Suite Online Help* have installation and setup instructions for the ESI SCOM Management Packs installer.

You can install ESI in one of the following ways:

◆ Installing a new, complete version of ESI provides instructions for a new, complete installation of ESI. During installation, you can select which adapters and other options to install with ESI.

◆ Reinstalling ESI provides instructions for a reinstallation of the same ESI adapters and ESI options that were installed during your last ESI installation.

◆ Upgrading from an earlier version of ESI provides instructions for upgrading from an earlier version of ESI and the ESI SCOM Management Packs.

Installing a new, complete version of ESI

To install a new, complete version of ESI:

1. Locate and double-click the latest version of **ESI.3.*.Setup.X64.exe**.

2. In the **ESI InstallShield Wizard**, click **Next**.

3. When the EMC Software License Agreement displays, read and accept the license agreement and click **Next**.

4. In the **Prerequisites** window, confirm that your system meets the prerequisites and click **Next**.

5. In the **Setup** window, confirm or change the options to install and click **Next**.

   Note: Some options, including the ESI Service and ESI Exchange HA Extension, are not selected by default. Also, click **Change** in the main **Setup** window, or for each option, to change the default installation paths.

6. In the **Publish Connection Information** window, select a connection service and click **Next**:

   • **Active Directory Lightweight Directory Service**—Recommended to persist connection settings in a central location. For this option, type the **Service Name** and **Service Port** for connecting to the AD LDS instance.

   • **Active Directory**—Uses Active Directory to persist connection settings.

   • **Local Server**—Connection settings will be stored locally (same as ESI 3.1). For example, MMC and PowerShell use the users' appdata and ESI Service uses SQLCE to persist settings locally.

7. If you are not installing the ESI Exchange HA Extension, skip to the next step.

   If you are installing the extension, when prompted, type a username and password for the **Login Credential for HA Extension Service**, and then click **Next**.

   Note: You must type the same username and password for each extension installed on each Exchange mailbox server.

8. In the **Ready to Install the Program** window, click **Install**.

9. Click **Finish**.

   Note: The ESI installer attempts to add a firewall exception rule to enable Remote Volume Management on the host where ESI is being installed. The installer also attempts to enable the remote PowerShell (PS Remoting) on the same host. If the installer encounters a problem during these steps, ESI instructs you to perform these steps manually after the installation is complete.

Reinstalling ESI

To reinstall the same version of ESI to the same installation path and repair the installation or modify the options that are installed:

1. If you plan to select **Local Server** for **Publish Connection Information** in step 7, then skip to the next step.

   If you plan to select either of the new Active Directory options, you must remove all system connection settings before installing ESI as follows:

   a. Remove all systems from ESI. "Removing systems" in *EMC Storage Integrator for Windows Suite Online Help* provides instructions.

   b. Delete the following ESI settings file:
   ‹system drive›:\Users\‹user name›\AppData\Local\EMC\ESI\EMC Storage Integrator.settings

2. Locate and double-click the latest version of **ESI.3.*.Setup.X64.exe**.

3. In the **ESI InstallShield Wizard**, click **Next**.

4. When the EMC Software License Agreement displays, read and accept the license agreement and click **Next**.

5. In the **Prerequisites** window, confirm that your system meets the prerequisites and click **Next**.

6. In the **Setup** window, confirm or change the options to install and click **Next**.

   Note: Some options, including the ESI Service and ESI Exchange HA Extension, are not selected by default. Also, click **Change** in the main **Setup** window, or for each option, to change the default installation paths.

7. In the **Publish Connection Information** window, select a connection service and click **Next**:

   • **Active Directory Lightweight Directory Service**—Recommended to persist connection settings in a central location. For this option, type the **Service Name** and **Service Port** for connecting to the AD LDS instance.

   • **Active Directory**—Uses Active Directory to persist connection settings.

   • **Local Server**—Connection settings will be stored locally (same as ESI 3.1). For example, MMC and PowerShell use the user appdata and ESI Service uses SQLCE to persist settings locally.

8. If you are not installing the ESI Exchange HA Extension, skip to the next step.

   If you are installing the extension, when prompted, type a username and password for the **Login Credential for HA Extension Service**, and then click **Next**.

   Note: You must type the same password for each extension installed on each Exchange mailbox server.

9. Depending on your selection, in the **Ready to Modify the Program** or the **Ready to Repair the Program** window, click **Install**.

10. Click **Finish**.

Upgrading from an earlier version of ESI

From version 1.2

To upgrade ESI:

1. Uninstall ESI version 1.2 by following the steps in Uninstalling ESI.

2. Install the latest version of ESI by following the steps in Installing a new, complete version of ESI.

From version 1.3 or later

To upgrade ESI:

1. If you plan to select **Local Server** for **Publish Connection Information** in step 8, then skip to the next step.

    If you plan to select either of the new Active Directory options, you must remove all system connection settings before installing ESI as follows:

    c. Remove all systems from ESI. "Removing systems" in *EMC Storage Integrator for Windows Suite Online Help* provides instructions.

    d. Delete the following ESI settings file:
        ‹system drive›:\Users\‹user name›\AppData\Local\EMC\ESI\EMC Storage Integrator.settings

2. Locate and double-click the latest version of **ESI.3.*.Setup.X64.exe**.

3. In the **Upgrade ESI** dialog box, click **Yes**.

4. In the **ESI InstallShield Wizard**, click **Next**.

5. When the EMC Software License Agreement displays, read and accept the license agreement and click **Next**.

6. In the **Prerequisites** window, confirm that your system meets the prerequisites and click **Next**.

7. In the **Setup** window, confirm or change the options to install and click **Next**.

    Note: Some options, including the ESI Service and ESI Exchange HA Extension, are not selected by default. Also, click **Change** in the main **Setup** window, or for each option, to change the default installation paths.

8. In the **Publish Connection Information** window, select a connection service and click **Next**:

   - **Active Directory Lightweight Directory Service**—Recommended to persist connection settings in a central location. For this option, type the **Service Name** and **Service Port** for connecting to the AD LDS instance.

   - **Active Directory**—Uses Active Directory to persist connection settings.

   - **Local Server**—Connection settings will be stored locally (same as ESI 3.1). For example, MMC and PowerShell use the user appdata and ESI Service uses SQLCE to persist settings locally.

9. If you are not installing the ESI Exchange HA Extension, skip to the next step.

   If you are installing the extension, when prompted, type a username and password for the **Login Credential for HA Extension Service**, and then click **Next**.

   Note: You must type the same password for each extension installed on each Exchange mailbox server.

10. In the **Ready to Install the Program** window, click **Install**.

11. Click **Finish**.

   Note: The ESI installer attempts to add a firewall exception rule to enable Remote Volume Management on the ESI host. The installer also attempts to enable the remote PowerShell (PS Remoting) on the same host. If the installer encounters a problem during these steps, ESI instructs you to perform these steps manually after the installation is complete.

Upgrading ESI SCOM Management Packs

To upgrade version 3.0 or later of the ESI SCOM Management Packs to the latest version, perform the steps in "Installing the ESI SCOM Management Packs" in *EMC Storage Integrator for Windows Suite Online Help*.

To upgrade version 2.1 of the ESI SCOM Management Packs:

1. In **Administration** in the SCOM console, select all the EMC Storage Integrator management packs, except for the **EMC Storage Integrator Customization** and **EMC Storage Integrator Exchange High Availability Extension Monitoring Customization** XML files, right-click and select **Delete**.

   NOTICE

   Do not delete the two customization files or you will lose your customization settings.

2. If prompted, select to also delete any other dependencies.

3. After deleting the ESI version 2.1 SCOM Management Packs, locate and import version 3.1 of the management packs.

   "Installing the ESI SCOM Management Packs" in the *EMC Storage Integrator for Windows Suite Online Help* provides instructions.

Uninstalling ESI

To uninstall ESI:

1. Close all ESI applications, including ESI and the ESI PowerShell Toolkits.

   If you do not close all applicable ESI applications, you might receive a warning message to close them during this procedure.

2. Open the Windows **Programs and Features** Control Panel.

3. Select the EMC Storage Integrator program and click **Uninstall**. If you are upgrading from version 1.2, repeat this step until you remove all EMC Storage Integrator adapters and programs from the list.

4. After removing ESI, follow the steps in Installing a new, complete version of ESI to install the latest complete version of ESI.

Troubleshooting and getting help

You can obtain EMC support, product, and licensing information as follows:

Product information — For documentation, release notes, software updates, or information about EMC products, go to EMC Online Support.

Technical support — Go to EMC Online Support and click **Service Center**. You will see several options for contacting EMC Technical Support. Note that to open a service request, you must have a valid support agreement. Contact your EMC sales representative for details about obtaining a valid support agreement or with questions about your account.