



Vbrick Distributed Media Engine

vbrick dme v3.23.2

Release Notes



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About Vbrick Systems

Founded in 1998, Vbrick Systems is a privately held company that has enjoyed rapid growth by helping our customers successfully introduce mission critical video applications across their enterprise networks. Since our founding, Vbrick has been setting the standard for quality, performance and innovation in the delivery of live and stored video over IP networks—LANs, WANs and the Internet. With thousands of video appliances installed world-wide, Vbrick is the recognized leader in reliable, high-performance, easy-to-use networked video solutions.

Vbrick is an active participant in the development of industry standards and continues to play an influential role in the Internet Streaming Media Alliance (ISMA), the MPEG Industry Forum, and Internet2. In 1998 Vbrick invented and shipped the world's first MPEG Video Network Appliance designed to provide affordable DVD-quality video across the network. Since then, Vbrick's video solutions have grown to include Video on Demand, Management, Security and Access Control, Scheduling, and Rich Media Integration. Vbrick solutions are successfully supporting a broad variety of applications including distance learning and training, conferencing and remote office communications, security, process monitoring, traffic monitoring, business and news feeds to the desktop, webcasting, corporate communications, collaboration, command and control, and telemedicine. Vbrick serves customers in education, government, healthcare, and financial services markets among others. Vbrick products are manufactured in an ISO certified manufacturing facility.

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DME Release Notes

The DME is a versatile, highly-configurable media distribution engine that moves streaming media to and from a wide variety sources and endpoints. With the DME you can distribute your video to anyone, anywhere, using a variety of robust IP networking options. This document contains Release Notes for the latest version of the DME software.

Some of the DME's upgrade processes have changed. Please read and understand these instructions in total before beginning your update.

Updates to the 3.23.0 Release

These Release Notes cover the DME v3.23.0 release and all subsequent patch releases when/if applicable. This includes:

- [3.23.0 Release](#)
- [3.23.1 Patch Release](#)
- [3.23.2 Patch Release](#)

For an overview of the DME and a concise description of all features and functions, view the [DME Admin Guide](#) Online help.

Release Notes are also included in Online help and can be downloaded from the [DME documentation](#) pages on the Vbrick website.

Important! Please call Customer Support if you are upgrading a hardware-based DME that has had any version of DME software from 1.0 to 3.4.x installed and was purchased on or before **July 2015**. Please review the entirety of the Release Notes, including New Features, Issues Addressed, and Deprecated Features before updating any DME.

3.23.0 Release

Security Scans

Vbrick takes security seriously, and Vbrick scans each non-patch release of the DME using industry standard scanners. The DME used for scanning is configured for the highest security – reflecting the security concerns of our customers. These scans are performed midway through the development process and addresses any issues found. Vbrick also scans again during the final quality pass. Vbrick endeavors not to release with any EXPLOITABLE or CRITICAL issues; however, there may be issues that are identified late (in relation to our development process) by the industry, added late to the test harness, and called-out in the final quality pass. While this is rare, it may happen. If it does happen, Vbrick evaluates each on a case by case basis and decides if release should be delayed, patched or no action the impact until the next release. Given the nature and frequency of OS update patches, Vbrick takes this decision very seriously. Any EXPLOITABLE/CRITICAL issues found in this manner and postponed to the next release are identified below under each version/patch released.

Beyond Trust(beyondtrust.com) Retina Network Security Scanner: Scanned May 21, 2020 with Scanner Version 6.7.4, Audits Revision 3662. The Retina EXTERNAL scan, there were 0 (zero) EXPLOITABLE findings. Additionally, there were 0 (zero) HIGH and

MEDIUM findings. One Medium finding is a False Positive based on openssl Version (the scan was looking for a 1.0.1 version for support, we ship a 1.0.2 version, ref: CVE-2014-0195.) The Retina INTERNAL scan, there were 0 (zero) EXPLOITABLE findings except any listed below for next release. Additionally, there were 0 (zero) HIGH and MEDIUM findings except any listed below for next release. A False Positive MEDIUM finding identical to the EXTERNAL scan was reported.

Late failing issues identified to be resolved in next release:

- N/A

False positive

- N/A

Tanable (tanable.com) / Nessus: Scanned May 25, 2020 with Version 8.10.1 (#212) Windows, Plug-in Set 202002251857, Policy Template Version 202002232053. Scans run: Badlock, Bash ShellShock, Basic Network, ExternalPCI, InternalNetworkScan, ShadowBrokers, SpectreMeltdown. There were 0 (zero) CRITICAL findings except any listed below for next release. Additionally, there were 0 (zero) HIGH and MEDIUM findings except any listed below for next release. There was one False Positive HIGH from the ExternalScan – 64588 - Microsoft ASP.NET MS-DOS Device Name DoS – we do not ship Microsoft or ASP.NET components. Additionally, with regards to PCI DSS, we do not store Credit Card or Bank information for any user.

Late failing issues identified to be resolved in next release:

- N/A

False positive

- N/A

New Features

The following table outlines new features provided within this release. In almost all cases, there is no Administration intervention required. In the rare case that intervention is required, it is clearly noted in the table below.

Feature	Description
Automatic Multicast and Reflection	This feature is configured on Rev, and will allow all Video Conference streams to be automatically converted into Multicast for reception by the Vbrick Multicast Agent. This feature request Vbrick Multicast Agent v1.2+. All configuration is performed on Rev 7.34+. This feature also provides for Automatic Multicast and Reflection of Custom Device HLS streams.
Pull Through Proxy	As part of the Automatic Multicast and Reflection feature, all HLS pull will honor proxy (for Akamai, CloudFront, or Custom Device). Note: This does not cover the HLS Pull feature, which has been deprecated. (See notes below in the following section)
DME Operating System Update	While all versions of DME releases provide updates to the system software, this update provides an OS update. Expect the update to take a longer period of time, and for there to be multiple reboots during the process. The process can be monitored on the SSH Admin interface Option 19.

Feature	Description
MPS Connections Page Redesign	The MPS Connections page was redesigned to provide deeper insights into the use of streams. All related streams within the DME are now grouped together for easier viewing, showing all related URLs. Filtering is provided for quick access. All connected RTMP/RTSP clients are provided. Reporting is simplified.
Front/Status Page Redesign	The front page, including the footer, were redesigned for ease of use. Redundant information was removed, and additional information was included. Please review the left hand of the page as it evaluates your settings against your license level. This will help in situations where the throughput and connection settings are not in line with the license level (not common).
Disable Kernal Dump Service	Customer request to allow for disabling the kernal dump service. Disabling the service will make troubleshooting the DME more difficult.
HLS via Caching Engine with DS	The caching engine will now serve HLS with DiffServ markers.

Issues Addressed

The following table outlines Issues resolved within this release. In almost all cases, there is no Administration intervention required. In the rare case that intervention is required, it is clearly noted in the table below. Vbrick does not identify Customers within the Release Notes; however, if you have reported issues that are addressed, please work with Customer Service to review the table. In some cases, the actual Issue is renamed to the underlying cause, which may cause some confusion.

Issue	Resolution
	<i>Unless otherwise noted, issues are automatically fixed and no action from an Administrator is required.</i>
Missing Video Codec DME-3383	In observed cases, a 3rd party encoder did not supply the necessary video codec information resulting in a HLS playlist creation and processing issue within the MPS. This was reported by a customer. This is fixed.
Proxy Configuration Sync Issues DME-3423	In limited situations, the proxy settings can get out of sync during a configuration backup and restore. This is fixed.
FQDN Validation DME-3416	Provided increased FQDN validation in Cert page for CSR. This was identified by trailing spaces in FQDN.
System Disk Size Calculation DME-3390	Fixed an issue where the system disk was reporting it's size/usage incorrectly.

Issue	Resolution <i>Unless otherwise noted, issues are automatically fixed and no action from an Administrator is required.</i>
Video Deletion Issue DME-3320	An issue with deleting videos (as directed by Rev) was identified and fixed. In most cases, videos would eventually be deleted by our least recently used algorithm if space is needed. This fixes keeping the video on the system.
Rewriter process generation DME-3129	In some cases, we have too many rewriter processes running. This fix caps the rewriter processes – there is no end user effects.
IP Forwarding DME-3093	We disabled IP forwarding within the caching engine.
Restoring Flash Multicast DME-3112	Restoring an old config to a DME will not restore the Flash Multicast settings. This fixes that. Reminder: Flash Multicast will no longer be supported by browsers mid-late 2020. Please plan accordingly. Consider migrating to Automatic Multicast and Reflection services on DME.
Origin header field issue DME-2831	In rare cases, during power up sequence, the DME v3.21+ incorrectly sets the origin header to the Rev URL (regardless of lockdown setting). This is fixed.

Deprecated Features

The following table outlines features have been or will be depreciated. The impacted version indicates the DME version that will no longer have the feature/functionality.

It is important that you review these features as some intervention or action may be necessary. Please plan accordingly.

Feature	Impacted Version	Description
Hyper-V Server 2012	DME v3.24+	Vbrick is migrating the HyperV creation process to a 2016 Server. Vbrick manages the Hyper-V creation processes on a fielded, existing Microsoft Server. Mainstream Support for Hyper-V Server 2012 End Date was 1/9/2018 (ref: https://support.microsoft.com/en-us/lifecycle/search?alpha=Hyper-V)
Input Configuration > HLS Pull (HLS Ingest)	DME v3.24+	This feature has been deprecated in favor of the new Automatic Multicast and Reflection Rev feature. While this feature is still in DME v3.23, it will be removed from DME v3.24. Please plan accordingly if you are using this feature and migrate to the new automatic <u>Rev Initiated Multicast and Reflection</u> features.

Feature	Impacted Version	Description
VC Gateway	DME v3.22+	The Vbrick VC Gateway is a separately licensed, legacy, DME component, and was designated officially End-of-Life in April 2019. This feature is no longer included in DME v3.22.0+ and all ongoing future versions. If you are currently utilizing the Vbrick VC Gateway (e.g., under a legacy perpetual license) Vbrick recommends a Rev VC Integration for cloud-based video conference recording and streaming. If you remain on DME v3.21 (or prior) you may continue to utilize VC Gateway in an <i>unsupported</i> manner.

3.23.1 Patch Release

Recommended for all Cloud Customers that control Vbrick Encoders via Rev. On-Premises customers should verify this DME version against their installed Rev version.

For an overview of the DME and a concise description of all features and functions, you should continue to view the [DME Admin Guide](#) Online help.

New Features

Patch releases, in general, do not include new features. They include fixes focused on stability and use of our system.

Issues Addressed

Issue	Resolution
	<i>Unless otherwise noted, issues are automatically fixed and no action from an Administrator is required.</i>
Caching Engine Vulnerabilities (DME-3377)	<p>Several caching engine findings were addressed, including:</p> <ul style="list-style-type: none"> • CVE-2020-8449, CVE-2020-8450 / SQUID 2020-1: Patch applied as provided on www.squid-cache.org. • CVE-2019-12528 / SQUID 2020-2: Workaround applied as provided on www.squid-cache.org, and disabled the affected FTP feature. • CVE-2020-8517 / SQUID 2020-3: This applies to a specific authentication helper program. Vbrick does not use this app and does not ship/deploy the affected code/executable – so it can not be invoked. This is a False Positive based on version number. <p>Note: Some vulnerability scanning systems that only inspect the version of squid will report false positives for these findings: CVE-2020-8449, CVE-2020-8450, CVE-2019-12528, CVE-2020-8517 / SQUID 2020-3.</p>
Security Review (DME-3468)	A regression included DES-CDC3. It was removed.
Push Logs Filename (DME-3465)	Customers upgrading from v3.22 to v3.23 resulted in non-visible push logs due to a naming issue. This fixes the naming issue.

Issue	Resolution
<i>Unless otherwise noted, issues are automatically fixed and no action from an Administrator is required.</i>	
kDump fails impacting upgrade (DME-3470)	In rare occurrences, specific versions of kdump impact upgrade. This is fixed.

3.23.2 Patch Release

Recommended for all Cloud customers that control Vbrick Encoders via Rev. On-Premises customers should verify this DME version against their installed Rev version.

For an overview of the DME and a concise description of all features and functions, you should continue to view the [DME Admin Guide](#) Online help.

New Features

Patch releases, in general, do not include new features. They include fixes focused on stability and use of our system.

Issues Addressed

Patches are cumulative, so all fixes in patch DME 3.x.1 will be included in the DME 3.x.2 patch.

Issue	Resolution
<i>Unless otherwise noted, issues are automatically fixed and no action from an Administrator is required.</i>	
Sensitive Information (DME-3472)	This removes the display of passwords within HTML pages.
Legacy DME Support (DME-3506)	Hardware DMEs that have been upgraded from DMEv3.4.4 (or prior) exhibited some installation issues. This patch fixes it. As a result, the rpma is available on Rev DME upgrade functionality.
Service Updates (DME-3525)	Migrated and updated push service. This includes updates for rare push service queuing logic and messaging handling issues. This improves Akamai push from DME.

Deployment Considerations with Rev v7.5+ and DME v3.5+

The DME is a very powerful tool for capture, manipulation and distribution of video, and is even more powerful when deployed with Vbrick Rev. There are, however, some deployment and network topology aspects that need to be taken into consideration when deploying with Rev. This is true for Cloud, Hybrid, and On-Premise deployments of Rev and DME.

One of the principle features of Vbrick Rev with (1 or more) DMEs is providing edge-based viewing. This means the content is delivered as near to the viewer as possible for both Live and Video-on-Demand. To attain this, Rev provides a feature called Zone Logic that will direct viewers to close DMEs. Given the complexities of network designs and topologies, Vbrick has developed a solution that utilizes the DME to help “locate” the viewer through DME Location Services. Access and use of this feature requires the following:

- **Enable DME and Rev Communication.** This is done in two steps; first, on Rev, you identify the DME by MAC address and a user created API key. Please see the Rev Admin

guide for further details. Second, within the DME admin UI, under **System Configuration > Rev Interface**, input Rev's URL, and the API key created in Rev. Click Enable and the two systems will begin communication. To view the additional Rev functions that will work with the DME once you have completed this, view the **DME Admin Guide > Rev Integration Functions** section

- **Enterprise WAN/LAN Accessibility.** One DME must be accessible everywhere within the enterprise or organization WAN/LAN. This special DME will respond to Location Services requests by viewers' video player pages (hidden and embedded within the player page – transparent to users). Requests from outside of the enterprise will not connect by design, and will direct the view to the default Zone.

Please identify the DME (or load balancer) by URL with FQDN (not IP because of the certificate requirement below) within Rev > System Settings > User Location. See: *Rev Admin Guide > DME Location Services* topic for details. Modification to enterprise DNS may be in order.

- **DME Security Certificate.** Added security is necessary for this special DME and its connections to viewer player pages. This security is enabled with an enterprise specific security certificate (from a common CA). Getting this certificate is the responsibility of the customer – because Vbrick cannot provision certificates specific to an enterprise. The DME UI does provide the ability to generate a certificate request, and once provisioned, can be applied via the UI. This is a must for all cloud-based or hybrid Rev/DME deployments. For on-premise Rev deployments, there are other options – please see your Sales representative. For details on obtaining and installing security certificates, see: [SSL Certificates](#).

DME Browser Support

The DME provides administration via a Web interface over (either) HTTP or HTTPS. While the interface operates on a wide selection of browsers, only specific browsers are tested and supported. “Supported” is defined as “the admin interface will operate” within the browser version.

Note: The browsers specified here only cover the DME Admin UI. Please refer to the appropriate Online help for browser requirements for Rev or VEMS interface, playback retrieval, and/or specific players. The DME continues to inter-operate with Rev and VEMS.

In general, the DME supports the top PC browsers (Microsoft Internet Explorer, Microsoft Edge, Google Chrome, Firefox) and top Macintosh browser (Safari) under the following stipulations:

1. Support is provided for the most currently generally available released browser version, and immediately previous released version. “Versions” are defined as any released software – which may differ in branding, major, minor, and/or build number. These versions may be manually downloaded or as part of automated update.
2. The exception to the rule above is that Vbrick will no longer provide support for browsers that are not also generally (not under extended agreements) supported by the browser manufacturer.

The DME Admin UI is tested with the most recent browsers during its development. Once released, Vbrick no longer re-tests that version of the DME with respect to newly released browsers. If an issue is found and reported through the Support Portal, it may be researched, prioritized and possibly addressed in the next DME version (often currently in development).

DME Installation

This section discusses the installation of DME software. Please read and understand this entire section before beginning on either an initial installation or software upgrade.

If you purchased the DME from Vbrick as a hardware/software combination, the hardware you ordered is shipped with the DME software pre-installed and ready to run—no additional software installation is required (although you will still need to accept the EULA and register the DME as explained in the “Software Activation” letter). From time to time Vbrick may also provide updates for the DME software with new features and enhancements. These updates and necessary support files will be posted on the Vbrick Support Services portal at <http://www.vbrick.com/support>. Please visit the support portal periodically to check for updates, or contact your reseller.

The next two sections discuss initial [OVA Installation](#), and [Existing DME Software Upgrades](#). The OVA installation should only be used once to install the DME on customer provided hardware. The section on existing software upgrades contains instructions for maintaining the version of your DME.

OVA Installation

The DME can be provided to run in a virtualized environment on customer provided hardware. These software-only versions of the DME can be hosted in either VMware vSphere ESXi environments or Hyper-V environments. Please be sure to verify your VM environment and download the correct version from Vbrick Support Portal. Additional VM version details include:

- VMware ESX is an embedded hypervisor that runs directly on server hardware without requiring an additional underlying operating system. When installing this software Vbrick assumes you are thoroughly familiar with VMware products including installation and operation. Please refer to the VMware documentation for specific details. Note that the DME runs on ESXi 5.5 Updates 1,2,3 / ESXi 6.0 GA, Update 1,2,3 / ESXi 6.5 GA. The installation characteristics are shown in Table 1.
- The Hyper-V version of DME will install into Hyper-V for Windows Server 2012, Windows Server 2012 Release 2. When installing this software Vbrick assumes you are thoroughly familiar with Hyper-V and associated Microsoft products -- including installation and operation. The Hyper-V DME distribution is not supported and will not run in previous versions of Hyper-V, nor will previous version of DME execute within Hyper-V.

Each VM will be installed with a DME License reflecting the model – 7530, 7550, or 7570. Each license level supports a different projected load of configured streams, users and necessary bandwidth. When purchasing your DME license, you may wish to overestimate your load needs to adjust for future growth. Table 1 below outlines the recommended load of the DME license levels as well as details the minimum virtual-hardware specifications that fit each of the DME licenses.

When purchasing your physical-hardware or provisioning on an existing virtual host, it may be prudent to include any future plans and needs into the assessment. When evaluating your network bandwidth needs, consider that the Vbrick DME is tested for multi-protocol server (MPS) traffic, and HTTP/s traffic at the licensed levels. It is difficult to provide a floor or ceiling measurement because it is contingent on server load, transrating load, reflection load, and the degree of cache hits, network activity, and user behavior. However, both MPS and HTTP/s traffic (on a non-over provisioned VM Host or hardware) will perform according to the specifications.

While it is possible to over-provision the virtual hardware (e.g., provision more vCPUs than pCPUs, allocate more memory than physical memory, or overload you pNICs with multiple vSwitches), the DME will still be limited by the DME license level in accordance to multi-protocol server configuration of streams and controlled bandwidth. Over-provisioning introduces challenges for high performance systems. E.g., having the number of vCPUs > pCPUs causes the VM Host to schedule cpu access (ref: relaxed co-scheduling) – which, in turn, introduces a small (but appreciable) delay in processing.

Vbrick recommends that VM Hosts are not over-provisioned for CPUs, Memory, or network connectivity.

Vbrick currently does not test, recommend, nor support the use of ancillary Virtual Hosts resource management systems and services. This includes, but is not limited to tools for shared resource management or dynamic VM migration tools (e.g., VMware VMotion, or performing Hot-Adds of RAM or CPU, DVFS, etc). For VM management, Vbrick recommends powering down the VM and performing maintenance. Vbrick does not recommend these dynamic management tools because they introduce unpredictable connection, playback and recording interruptions.

Table 1. Virtual DME Hardware Specifications and Load Recommendations

	DME Model 7530	DME Model 7550	DME Model 7570
Concurrent Multiprotocol Server Users (connected RTMP, RTSP)	100 or less	1000 or less	2200 maximum
Max Throughput	250 Mbps	500 Mbps	3.2 Gbps
Minimum CPU ¹	4 Virtual CPUs ²	8 Virtual CPUs (8 Cores, 1 Socket) (4 Cores, 2 Sockets) ³	16 Virtual CPUs (8 Cores, 2 Sockets) ⁴
Minimum Memory ¹	4 GB	16 GB	32 GB
Network Interface ¹	(1) VMXNET ³	(1) VMXNET ³	See footnote ⁵

1. Set this value *after* you load the ova file.

2. There are always newer CPUs, but the base requirement is 4 vCPUs (4 physical or 2 Hyperthreaded physical providing 2x2.) This specification covers a range of possible CPU choices. Performance on a 7530 is impacted by the number of cores, CPU speed, available chip Cache, and system memory. As guidance, consider the minimum requirement an Intel i3-6300T, 3.3GHz, 4MB Cache; a better solution is i5-4670, 3.4GHz, 6MB Cache; and even better is Xeon E3-1220v6, 3.0MHz, 8MB Cache.

3. The 7550 (and 7570) require server level CPUs. For the 7550, 8 vCPUs is the base requirement. The performance should be inline with (or exceed) the Intel Xeon E5 family of processors.

4. Like the 7550, the 7570 requires sever level CPUs. However, the 7570 requires more virtual cores and often (2) Intel Xeon E5 (or better) processors.

5. IMPORTANT: In order to achieve higher throughput than a single physical interface, the virtual network interfaces on the 7570 may require additional specification. If, for example, the Host VM has multiple 1GB NICs, to achieve > 1GB speeds, the Host VM must be set to one of the following:

a. [BEST - Recommended] If you have a 10GB physical NIC, then only 1 virtual NIC is necessary. This solution requires an available and configured 10GB connection to the physical switch.

b. [BETTER - Recommended] Within the Host VM, create 4 virtual interfaces (e.g. VMXNET 3) each on their own individually created virtual switch. This will utilize the bonding within the DME to share load across the connections.

c. Bundle your Host VM physical NICs and emulate a 4GB interface. This configuration requires physical switch configurations to bundle the connections. Please see your network administrators for this configuration.

The following outlines the procedure to install a DME OVA. Please review before beginning, and call Vbrick Customer Support if you have any questions.

▼ To install a DME OVA:

1. Go to the Vbrick [Support Downloads](#) site and download the correct VM file for the most recent DME. For example: **Distributed Media Engine 3.23.2.x Software Only Version ESXi 100GB**.
2. Get the OVA password from Vbrick Customer Support.

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3. Unzip the file with the supplied password.
 4. Load and boot the correct VM version within your VM environment. Please see your specific VM host documentation for additional details. Be sure to set the correct CPU and memory settings based on the virtual DME hardware specification table above and your purchased DME License.
 5. Once the VM is installed and booted, use the Admin console (via VM console or ssh to the IP address with username admin and password admin) and select **Reset to Factory Default Settings**. This is necessary to make sure the Hostname is unique before you begin. See: [Configure the DME with Secure Shell \(SSH\) or a Console](#)
 6. After the reboot, by default the system will use DHCP. If DHCP is preferred, you may proceed to the next step. (Remember to appropriately set your FQDN/Hostname.) For non-DHCP installs, use the Admin console again and select option 1 to set the **FQDN/ Hostname, IP Address, Subnet Mask, Gateway Address, Primary & Secondary DNS**, and **Search Domain**. The DME will apply these settings and reboot again.
 7. After the reboot, login to VAdmin (DME web interface). You will be presented with the EULA, please review and accept. You will then be presented with the ability to apply a DME license file. You may need to contact Vbrick Customer Support to get the license file and, if so, please have your DME Mac address available (DME displays this on the License page.) Cut/copy the license text into the provided text field. Once applied, the DME will then reboot, apply the license and create a swap file according to your license (this will take time.) See: [Activate Feature](#).
 8. Now that your license is applied, you need to correctly set all streaming capabilities. Log back into the admin console and select **Reset to Default Settings** option 4. (Note: Do NOT select **Reset to Factory Default Settings** because that will remove your network settings. The DME reboots with correct streaming limits configurations. You can skip this step on small VM DMEs because the earlier Factory Defaults set the limits for smaller models.) See: [Manage Configuration](#).

IMPORTANT. Within VAdmin, goto **User Configuration > Username and Password** and change your password. The DME should never be publicly visible with weakened/default passwords.

9. Within VAdmin, goto **Maintenance > Disk Status** page. Here you should see any additional virtual disks attached to the VM. Provision those now. Remember, the VM is provisioned with limited content space.
10. At this point, the DME has been created and is ready for use. The initial VM is provisioned with limited content space so it is often desirable to extend the storage space of your DME. Extending storage space can be done in one of the following ways:
 - Add a new virtual disk to a VM.
 - Add a new physical disk to a medium or large DME (small DMEs do not have the capability of adding additional space).
 - Add a network storage device.
 - Please see the appropriate help topics ([Provision a New Disk](#) or [SAN/iSCSI Setup](#)) for detailed instructions on adding storage options.

IMPORTANT. In limited cases, the RTP server will not automatically startup on a fresh OVA install. Rebooting the DME will remedy this situation.

Existing DME Software Upgrades

This topic explains how to upgrade an already existing DME—either physical hardware or virtual. Do not download the upgrade or attempt to apply it until you have read and understand all the following instructions.

Be aware that the upgrade procedure uses FTP. If FTP is not allowed on your network, you will need to upgrade the DME off the network in a private LAN environment. Please review the following table to identify applicable upgrade paths for your version of DME. Vbrick recommends that you are running the most current version to take advantage of all new features and fixes.

DME Version	Available Upgrade Path
v3.23.2	Current Patch version. No upgrade path.
v3.8.0 - 3.23.1	Upgrade directly to v3.23.2 Note: DME v.3.14.0 introduced additional security features that REQUIRE browser cache to be cleared before accessing the DME Web UI. Also, connecting to a new ova installed by IP is necessary until the Hostname is changed within the DME (if a fully qualified domain name is to be used). If you see 500 or 403 errors on the Login or Home page, then please refresh your cache and check your network settings.
v3.7.1	You can only upgrade to v3.8.0. On v3.8.0 you should apply the v3.8.1 patch to the DME that will be utilized for the Rev User Location Service.
v3.5.1 / v3.6.0	You can only upgrade to v3.7.1.
v3.4.4	You can only upgrade to v3.5.1. This upgrade includes an OS upgrade and will require more time to finish. Please plan accordingly.
v3.4.3 and all prior DME versions	Upgrade to v3.4.4

Note: Vbrick has updated the location of DME logs. If you are upgrading from v3.8 to v3.23.0, the successful install message will be at the beginning of the upgrade log in the VAdmin pages of the DME. Please verify your correct version on the DME VAdmin **Home** page.

If you are upgrading multiple versions, please wait until each upgrade is complete and verified (within the **Monitor > Upgrade Log** page) before continuing. Do not rely on the availability to FTP to determine if the update is complete.

If you are on a previous version, please review the table above to identify your correct upgrade path. In some situations, when going from older versions you may need to upgrade in steps.

If you have any questions, please contact Customer Support.

▼ Important notes if moving to 3.23.0:

- Before upgrading to this version of the DME, please check the Rev version (if appropriate) compatibility. If you are currently a cloud-based Rev customer and this is the newest DME version, you can update to this version directly. If you are an on-premises customer, please refer to your Rev Release Notes to see if this version of the DME is a qualified version. If you have questions, please contact Customer Support.
- Your DME must be on v3.8 or above to upgrade to this version. If you are not on one of these versions, please visit <http://www.vbrick.com/portal> and upgrade your current version first. To identify the DME version, visit the DME administration UI **Home** page and the version is listed under **Application Code Revision**.
- As a reminder, the DME requires specific paths (version to version) to perform upgrades. For example, you must be on v3.4.4 in order to upgrade to v3.5.1, and with this new release you must be on v3.8.x or above. As always, please review the release notes for the target DME version you are upgrading to. If you are jumping multiple versions, or if you need access to a version that is not on our Customer Portal, please contact Customer Support.
- In rare circumstances, depending upon the version of the DME you are updating, you may need to apply the update twice. The DME update packages include both system updates and DME specific software updates. If the upgraded DME identifies the new version on the Home page, but does not include a “Success” message within the Upgrade Log, then the upgrade should be applied once more.
- In some isolated cases, after reboot, you will be taken to the License page after DME sign-on. Your license will be pre-filled within the page, please select **Apply**. Your system will reboot and apply the license correctly. Please monitor your license expiry dates. Vbrick includes warnings on the bottom status bar for licenses that have expired or will expire in 45 days. Please plan accordingly to renew licenses in a timely manner.
- DME v3.14 introduced additional security features that REQUIRE browser cache to be cleared before accessing the DME Web UI. The fully qualified domain name should also be used within any browsers’ URL field. Lastly, connecting to a new ova install by IP is necessary until the Hostname is changed with the DME (if a fully qualified domain name is to be used). If you see 500 or 403 errors on the Login or Home page, then please refresh your cache, use the FQDN, and check your network settings.
- While the DME will allow the selection of which TLS level to use, consider migrating your deployment to TLS 1.2 for added security. This may have impacts on the browsers connecting to DME, so please test accordingly.
- Customers that have been upgrading VMs from 3.5, may notice an inability to add additional vDisks. If this occurs, the work around is to reinstall your OVA.

Do not download or attempt to upgrade your DME until you have read and understand all the instructions in these Release Notes. This upgrade is only for version(s) 3.8.0 or above. If you are on a prior version, make sure you understand your upgrade path.

There are two methods for upgrading a DME. The first method is to use the Rev DME upgrade capability. The second method is to download a copy of the updaters, place it on the DME, and begin the process.

Method 1. Use the Rev DME Upgrade Capability

1. First, visit the Rev **DME Management** page. The available DME version (for updating to) is listed at the top of the table.
2. If you are using an On-Premises Rev, verify the compatibility of the DME version to Rev (refer to Rev Help: **Supported Vbrick Devices**). Cloud Rev based customers (which are always on the most current Rev, can use the version identified within their tenant.)
3. Select the appropriate DMEs, and then select **Update** within the **Bulk actions** dropdown. As a reminder, DMEs currently in use (for Webcasts, recordings) will not update.

Method 2. Manual Upgrade

- ▼ To upgrade to the DME version you need:
 1. First, verify your upgrade path and specific download necessary.
 2. Go to the Vbrick [Support Downloads](#) site and download the file from the **Appliances** tab. For example, the current version is: **Distributed Media Engine – 3.8.x or Higher to 3.23.0**.
 3. Get the download **password** from Vbrick Customer Support.
 4. Unzip the file using the provided password.
 5. Verify that the target DME has at least 700MB of space on the system disk. The **Home** page on the DME provides the space available for the System Disk. If you do not have enough space on your System Disk, please call Vbrick Customer Services to help recover some space. Do not proceed unless you have sufficient space.
 6. Use FTP (command line or client) to copy the **vbrick-dme-rhel7-3-x-x-xx.rpma** to the **upgrade** folder in the DME's FTP root (/) folder.
 7. Reboot the appliance by going to **System Configuration > General** and clicking **System Reboot** button. The reboot kicks off the upgrade process which may take some time. You can use the admin console (via console or ssh to the DME IP address using the admin username and password) to view the status of the upgrade. The console will clearly identify if the update is still in progress, and you can view the upgrade log (static or live) with option 19. The system will reboot once the upgrade is complete.
 8. When the reset is complete, go to the **Monitor > Upgrade Log** page and verify the installation was successful. Also, go to the **Home** page on the DME and verify the **Application Code Revision** field reflects the software upgrade.
 9. Navigate to the **Monitor & Logs > Upgrade Log** page and verify two messages:
 - “Installation Script complete. Status: Success”
 - “Update script ran to completion and the system was rebooted”
 10. If you see both of these messages (associated with the install you just performed) then you are done. If you do not see both messages, please reapply the update (beginning at step 4). If, after the second update attempt, you do not see the success and reboot messages, please contact Vbrick Customer Support.

Caveats

This section addresses known issues in this release, most of which have an easy workaround. For more information about any item, or help with an issue not listed here, contact your reseller or Vbrick Support Services.

- Username and Password changes via VBAAdmin do not work properly when an SSH session is active. Make sure SSH session(s) are closed before changing the Username or Password.
- Vbrick's 7000 Series of encoders can stream (via Auto Unicast) through the DME to Akamai -- taking advantage of the RTMP timestamp improvements. The stream to the DME from the 7000 must be from an Auto Unicast transmitter, and it should be noted that a 7000 RTMP transmitter will not work when streaming through DME to Akamai.
- The DME does not support AAC-HE audio. H.264 streams encoded with the AAC-HE option will not play back from the DME. (901)
- Due to a strengthened encryption cipher, older versions of puTTY will not work with DME 3.1.2 or higher. For best results use puTTY 0.62 or higher to connect to the DME. (910)
- In DME v2.0 or later, authentication is required when publishing via RTP to 5544 (in prior DME releases authentication was not enforced). This means that Auto Unicast may stop working if the **Auto Unicast Dest Username** and **Auto Unicast Dest Password** are not configured accurately on the H.264 encoder.
- When logging in to the DME, be aware that the default management interface is on Port 8181 and must be appended to the IP address as follows: **http://<dme_ip_address>:8181**
- VEMS will ingest all .mov and .mp4 files to a DME and will discover all .mov and .mp4 files present on a DME. The Vbrick ecosystem does not currently distinguish between H.264 video or MPEG-4 Part 2 video, both of which may have the same file extension. Be aware that if .mp4 or .mov files with MPEG-4 Part 2 video are present on the DME, and you have the DME Global Assignment in VEMS set to "RTMP," VEMS will attempt and fail to playback .mov and .mp4 files containing MPEG-4 Part 2 video with the Flash player (or may play audio only). This content will play back properly with StreamPlayer or QuickTime.