Vormetric Data Security™

Vormetric® Data Security Platform

Release Notes for Linux Agents

Release 5

Version 5.2.4

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Release Notes
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Vormetric Data Security Platform

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Release 5, Version 5.2.4
Date: January 12, 2016

Document Version History

The following table describes the documentation changes made for each document version.

Table 1: Documentation Changes

Documentation Version	Date	Changes
5.2.4 v1	1/12/2016	First GA Release.

New Features and Improvements

Shared Secret

This VTE 5.2.4 release introduces a way to register agents using a pre-shared secret (also called "PSK", or "Pre-Shared Key"). This method is used in many contexts already, and for certain applications, this feature can provide more security than the fingerprint-based approach and can be significantly easier to use.

When using the shared secret to authenticate the registration process, the DSM will only allow agents that know the secret, and the agent will know that it's talking to the DSM because it can prove it also knows the secret. As long as the secret is managed appropriately, this can be made to be secure and particularly helpful in large-scale deployments.

New OS and File Systems Support

The section for the VTE Linux Agent Compatibility Matrix includes all the new Linux kernels and file systems that are now supported.

Resolved Issues

Patch Note 5.2.3.79

(AGT-10694) [Support Desk 17871] VCS system would crash during failover after VTE was upgraded to 5.2.3.

and

(AGT-10707) [Support Desk 17871] VCS switchover killed all processes associated with "/" if the GuardPoint is part of the "/" file system.

Symptoms

VTE agent was upgraded on VCS nodes and the upgrade went smoothly without problems. However, after upgrading had been done and while doing a failover test, the system crashed.

Solution

Fixes have been made for this release (and in subsequent releases) to prevent this situation from occurring after an agent upgrade.

However, if you are currently running an agent earlier than 5.2.3.79, you ***MUST*** adhere to the following process when upgrading VTE on VCS clusters:

Assuming that Host1 is currently the primary and is the active host:

1. From Host1 initiate a switchover.

   ```
   hagrp -switch <group> -any
   ```

2. Wait for switchover to complete so Host2 is now active and Host1 is in standby.
3. Shutdown VCS on Host1.

   ```
   hastop -local -force
   ```

4. Verify VCS is shut down on Host1.

   ```
   hares -state
   VCS ERROR V-16-1-10600 Cannot connect to VCS engine
   ```

5. Upgrade the Vormetric agent on Host1.

   ```
   ./vee-fs-5.2.3-79-rh5-x86_64.bin
   ```

NOTE: The “VCS ERROR V-16-1-10600” message is expected since we brought VCS down on this host.

```
Upgrade detected: this product will be stopped and restarted.
Do you wish to proceed with the upgrade? (Y/N) [Y]: y
```

```
.........VCS ERROR V-16-1-10600 Cannot connect to VCS engine

VCS ERROR V-16-1-10600 Cannot connect to VCS engine

Veritas Cluster Services (VCS) support scripts have been installed
or updated.

Please review README in --
prefix=/opt/vormetric/DataSecurityExpert/agent/secfs/vcs for more
information.
```

6. Once the agent upgrade completes, start VCS on Host1 and wait until it is up.

   ```
   hastart
   ```

7. Insure there are ***no users or active processes in the GuardPoint or its subdirectories on Host2***, then from Host1 initiate a switchover.

   ```
   hagrp -switch <group> -any
   ```

8. Wait for switchover to complete so Host1 is now active and Host2 is in standby.
9. Shut down VCS on Host2.

   ```
   hastop -local -force
   ```

10. Upgrade the Vormetric agent on Host2.

    ```
    ./vee-fs-5.2.3-79-rh5-x86_64.bin
    ```

NOTE: The “VCS ERROR V-16-1-10600” message is expected since we brought VCS down on this host.

11. Once the agent upgrade completes, start VCS on Host2 and wait until it is up.

    ```
    hastart
    ```

12. Initiate a switchover from Host1 to Host2.

    Verify that the switchover is successful. Verify that files in Guard Points can be accessed. Verify that as files are read, the appropriate agent logs are displayed including listing the correct encryption key in the DSM GUI (assumes policy rules contain audit and the agent is configured to upload logs to the DSM).

13. Initiate a switchover from Host2 to Host1.

    Verify that the switchover is successful. Verify that files in Guard Points can be accessed. Verify that as files are read, the appropriate agent logs are displayed including listing the correct encryption key in the DSM GUI (assumes policy rules contain audit and the agent is configured to upload logs to the DSM).

(AGT-10605) [Support Desk 16955] VTE Agent fails to list users on Linux system where third-party name services application provides integration with Windows AD server.

Symptom

A situation in which a 3rd party product (PBIS) was being used to provide name services on Linux by integrating with Windows Active Directory.

Although the user wanted to browse all users on the Linux system—including those mapped via PBIS—the agent solution for local browsing looked only in the `/etc/passwd` file for users, and failed to find all those made available from AD via PBIS.

Solution

The solution was for the agent to interrogate the local name services to get the list of users, and fall back to `/etc/passwd` if the name service interrogation failed. By doing this, all user names, from any source, should be visible.

(AGT-10638) Avoid logging error messages in secfsd.log when child processes terminate normally with exit code == 0.

Symptom

Certain events and activities in secfsd.log generated messages that are indicated as error messages.

Solution

Fixes have been made so these events and activities now generate messages that are indicated as information messages.

Patch Note 5.2.3.64

- **(AGT-9642) [Support Desk 15928]: Performance degraded 20 - 40% when encrypting MYSQL.**

  Symptoms

  Under heavy write with kernels before 3.0 (mainly RHEL6), system may experience heavy lock use and slow performance when doing an xattr check for every page written.

  Solution

  This issue was resolved and fixed with Patch 5.2.3.64.

Patch Note 5.2.3.49

- **(AGT-9714) [Support Desk 14803] NFS client directory page invalidations caused kernel crash due to triggering secfs code path.**

  Symptoms

  In an RHEL release 6.5 environment with an NFS client implementation, NFS directory page invalidation may occur. The directory page invalidations could lead to a kernel crash under some circumstances.

Solution

This issue was resolved and fixed in Patch 5.2.3.49.

- **(AGT-9586) When domain user is part of large number of groups, users are not able to access GuardPoints, despite a policy allowing read operations for those users.**

  Symptoms

  A domain user of a large number of groups (~1000 in this case) was not able to see and access the GuardPoints despite the policy allowing read operations.

  Solution

  This issue was resolved and fixed in Patch 5.2.3.49.

- **(AGT-9743) NIS user processing fails to allow for password fields being optional.**

  Symptoms

  NIS user information may be provided with no password field, as in this example:

  `user6::10006:1000::/:`

  The vmd scan incorrectly skips the `10006` above, and produces an invalid gid value of "`/`", which makes the DSM reject all following entries.

  Solution

  This issue was resolved and fixed in Patch 5.2.3.49.

- **(AGT-9726) [Support Desk 14781]: SUSE server crashing after agent installation.**

  Symptoms

  SuSE host is an NFS client. NFS server is AIX. File systems on both AIX (NFS server) and Linux (NFS client) are `/export/HRD`.

  Both `/export/HRD` on AIX and `/export/HRD` on Linux are guarded. After agent installation, SUSE server crashed.

  Solution

  This issue was resolved and fixed in Patch 5.2.3.49.

- **(AGT-8698) Ubuntu—Modules not loaded after installing SE Linux, even in permissive mode.**

  Symptoms

  Installation of SE Linux and rebooting the machines affected Vormetric modules. Upon reboot, the Vormetric modules were not loaded, even when in "`permissive`" mode and `getenforce` showed as "`Disabled`".

  Solution

  This issue was resolved and fixed in Patch 5.2.3.49.

Patch Note 5.2.3.43

- **(AGT-9662) When installed with -d option, new directory could not be created as base install directory.**

  Symptoms

  If '-d' is specified during installation and the new installation directory does not exist, the directory is automatically created.

  However, during package deinstallation, if the installation directory is empty (after the agent uninstallation), the VTE installer will also remove this empty directory. If the directory is not empty, only the agent install directory is removed.

  Solution

  This issue was resolved and fixed in Patch 5.2.3.43.

- **(AGT-9479) Memory leak with BigData on Mongo runs.**

  Symptoms

  Under heavy pressure with call to `vm_map_ram` of varying sizes, `vm_map_ram` seems to leak memory. Problem is caused by `vm_map_ram` calls.

  Solution

  This issue was resolved and fixed in Patch 5.2.3.43.

- **(AGT-9212) MapR Sandbox with VTE 5.2.2.42 crashes during reboot.**

  Symptoms

  The MapR sandbox with VTE 5.2.2.42 installed shows the following error message during reboot:

  "`Unmounting NFS filesystems: umount.nfs: /mapr: device is busy umount.nfs: /mapr: device is bus`"

  And then crashes.

  Solution

  Race conditions during unguard operations issued while the VTE agent is being stopped has been addressed for all LInux VTE agents.

- **(AGT-9595) Load average with secfs running is 1 on idle system.**

  Symptoms

  The Linux VTE agent exhibited a high CPU load average.

  Solution

  This issue has been addressed and resolved in the 5.2.3.43 patch.

Known Issues

- (AGT-9012) While only SLES 11 SP3 and SLES 12 will be supported, for SLES 11 SP3 and beyond, sles11sp2plus-x86_64.bin package will now only apply for SLES 11 SP3 agents.
- (AGT-8682) Lack of full atomic open capabilities for agents guarding on NFSv4 file systems on 3.10 or greater kernel environments (RHEL 7, SLES 12 and Ubuntu 14) can result in problems with file open, create, delete, removal of silly rename files, and so on.
- (AGT-9020) The 5.2.3 agent will not permit guarding of BTRFS file systems.
- (AGT-9452) 5.2.3 agent installations check for the presence of the `lsof` utility on RHEL 7, SLES 12, and Ubuntu 12/14 environments. If this `lsof` utility is absent, agent installations will fail.

Limitations

- secvm devices using the raw binding and command set have been deprecated. Non-supported OS include RHEL 7, CENTOS 7, SLES 12.
- Storage Foundation 6.2 is supported only with RHEL 7.0.
- Storage Foundation 6.2 is NOT supported with RHEL 7.1 and SLES 12.
- The following XFS features are not supported in version 5.2.3:
  - CLI defragmentation using `xfs_fsr`(8).
  - Backup utilities `xfs_dump` and `xfs_restore`.
  - XFS file systems mounted in the following modes:
    - Supplied protofile during `mkfs.xfs -p <protofile>`
    - `nosuid` mount option
    - DMAPI enabled storage management.
    - A class of XFS `ioctls`.
    - XFS snapshots.
    - XFS cloning.
    - XFS with Informix IDS.
    - XFS with IBM DB2.
    - XFS with Oracle DBMS.

End of Life Notification

Release 5 will be the last major release to support the following:

- Redhat 5

Discontinued Features

As of Release 5.2.3, there will be no support for the following:

- Vormetric DB2 backup agent
- Vormetric IDS backup agent
- SLES 10
- SLES 11 SP1, 11 SP2

VTE Agent v5.2.4 Linux Compatibilities Matrix

Interoperability

Table 2: Linux interoperability with IBM Infosphere Guardium and Imperva Securesphere

Product	Version	OS	Notes
IBM Infosphere Guardium	v8.0, v9.0	Linux	Compatible
Imperva Securesphere	v9.0, v9.5, v10.5, v11.5 (VTE 5.2.4.37)	Linux	Compatible

v5.2.4 Linux Agent Raw Device Support Matrix

The maximum number of logical volumes supported is 6000.

Red Hat and CentOS 5.5-5.11 Raw Device Support

Table 3: Red Hat 5.5-5.11, CentOS 5.5-5.11 (x86_64)

Database			
Oracle 10gR2/ 11gR1/11gR2/12c	**DB2 9.5/9.7 10.1/10.5**	**Informix 11.5/11.7/12.1**	**Sybase ASE 15**
RAW	RAW	RAW[1]	RAW[1]

Native LVM	Native LVM	Native LVM	Native LVM
ASM/ASMLib			
VxVM V5/V6	VxVM V5/V6		VxVM V5/V6

1: Support for RAW Character Devices must be configured manually. For more information see System User Guide, “Linux raw character devices”.

Red Hat and CentOS 6.0-6.7 Raw Device Support

Table 4: Red Hat 6.0-6.7, CentOS 6.0-6.7 (x86_64)

Database			
Oracle 11gR2/12c	**DB2 9.7/10.1/10.5**	**Informix 11.5/11.7/12.1**	**Sybase ASE 15**
RAW	RAW	RAW[1]	RAW[1]
Native LVM	Native LVM	Native LVM	Native LVM
ASM/ASMLib			
VxVM V6	VxVM V6		VxVM V6

1. Support for RAW Character Devices must be configured manually. For more information see System User Guide, “Linux raw character devices”.

Red Hat and CentOS 7.0-7.1 Raw Device Support

Table 5: Red Hat 7.0-7.1, CentOS 7.0-7.1 (x86_64)

Database	
Oracle 11gR2/12c	**DB2 9.7/10.1/10.5**
RAW	RAW
Native LVM	
ASM/ASMLib	

Oracle Enterprise Linux/Unbreakable Enterprise Kernel (OEL/UEK) 6.3-6.4 Raw Device Support

Table 6: OEL 6.3-6.4, Unbreakable Enterprise Kernel (UEK) 6.3-6.4 (x86_64)

Database
Oracle 11gR2 12c
RAW
Native LVM
ASM/ASMLib

a: OEL6 update 3 kernel support is limited to 2.6.39-200.X kernels. UEK2 with 2.6.39300.X kernels and UEK3 are not supported.

b: OEL 6 update 4 kernel support is limited to 2.6.39-400.X kernels. UEK3 is not supported.

SLES 11 Raw Device Support

Table 7: SLES 11 SP3 and SP3 Xen (X86_64)

Database			
Oracle 11gR2 12c	**DB2 9.7 10.1/10.5**	**Informix 11.5 11.7/12.1**	**Sybase ASE 15**
RAW	RAW	RAW[1]	RAW[1]
Native LVM	Native LVM	Native LVM	Native LVM
ASM			
VxVM V6	VxVM V6		VxVM V6

1. Support for RAW Character Devices must be configured manually. For more information see System User Guide, “Linux raw character devices”.

SLES 12 Raw Device Support

Table 8: SLES 12 (X86_64)

Database	
DB2 9.7 10.1/10.5	**Informix 11.5 11.7/12.1**
RAW	RAW
	Native LVM

Red Hat and CentOS 5.5-5.11 File System Support

Table 9: Red Hat 5.5-5.11 CentOS 5.5-5.11 (X86_64)

File System	Database					
Unstructured data	**Oracle 10gR2 11gR1/11gR2 12c**	**DB2 9.5/9.7 10.1/10.5**	**Informix 11.5/11.7 12.1**	**MySQL 5.5/5.6**	**MongoDB**	**Cassandra**
EXT3	EXT3	EXT3	EXT3	EXT3	EXT3	EXT3
VxFS V5	VxFS V5	VxFS V5				
NFS V4/V3	NFS V4/V3	NFS V4/V3		NFS V4/V3		

OEL 5.5-5.11 non-UEK File System Support

Table 10: OEL 5.5-5.11 (X86_64)[1,2]

File System	Database			
Unstructured data	**Oracle 10gR2 11gR1/11gR2 12c**	**DB2 9.5/9.7 10.1/10.5**	**Informix 11.5/11.7 12.1**	**MySQL 5.5/5.6**
EXT 3	EXT 3	EXT 3	EXT 3	EXT 3
VxFS V5	VxFS V5	VxFS V5		
NFS V4/V3	NFS V4/V3	NFS V4/V3		NFS V4/V3

1. Oracle unbreakable kernels (2.6.32) are not supported. Only unmodified enterprise kernels are supported.

2.In OEL 5.8, the following 2 kernels are not supported (2.6.18-308.0.0.0.1.el5 and 2.6.18-308.1.1.0.1.el5).

Red Hat and CentOS 6.0-6.7 File System Support

Table 11: Red Hat 6.0-6.7 and CentOS 6.0-6.7 (X86_64)

File System	Database						Applications
Unstructured data	**Oracle 11gR2 12c**	**DB2 9.7 10.1 10.5**	**Informix 11.5 11.7 12.1**	**MySQL 5.5 5.6**	**MongoDB**	**Cassandra**	**Cloudera/ Hadoop (CDH) Hortonworks (HDP)**
EXT3	EXT3	EXT3	EXT3	EXT3			
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
VxFS V6	VxFS V6	VxFS V6		XFS	XFS		XFS
NFS V4/V3	NFS V4/ V3	NFS V4/V3		NFS V4/V3			
XFS	XFS	XFS		XFS	XFS		XFS

Red Hat and CentOS 7.0-7.1 File System Support

Table 12: Red Hat 7.0-7.1 and CentOS 7.0-7.1 (X86_64)

File System	Database						Applications
Unstructured data	**Oracle 11gR2 12c**	**DB2 9.7 10.1 10.5**	**Informix 11.5 11.7 12.1**	**MySQL 5.5 5.6**	**MongoDB**	**Cassandra**	**Cloudera/ Hadoop (CDH) Hortonworks (HDP)**
EXT3	EXT3	EXT3	EXT3	EXT3			
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4

VxFS V6[a]	VxFS V6	VxFS V6		VxFS V6			
NFS V4/V3	NFS V4/ V3	NFS V4/V3		NFS V4/V3			
XFS	XFS	XFS		XFS	XFS		

a. VxFS V6 is supported only with RHEL 7.0 and not REHL 7.1.

Note: Refer to the below table for kernel versions supported with RHEL 7.0 and RHEL 7.1.

Red Hat Kernel Support

Table 13: Red Hat Kernels Supported

Red Hat Kernels Supported (by Version)		
6.7	**7.0**	**7.1**
2.6.32-573.el6.x86_64	3.10.0-123.el7.x86_64	3.10.0-229.el7.x86_64
2.6.32-573.1.1.el6.x86_64	3.10.0-123.1.2.el7.x86_64	3.10.0-229.1.2.el7.x86_64
2.6.32-573.3.1.el6.x86_64	3.10.0-123.4.2.el7.x86_64	3.10.0-229.4.2.el7.x86_64
2.6.32-573.7.1.el6.x86_64 (VTE 5.2.3.73)	3.10.0-123.4.4.el7.x86_64	3.10.0-229.7.2.el7.x86_64
2.6.32-573.8.1.el6.x86_64 (VTE 5.2.3.76) / (VTE 5.2.4.37 GA)	3.10.0-123.6.3.el7.x86_64	3.10.0-229.11.2.el7.x86_64
	3.10.0-123.8.1.el7.x86_64	3.10.0-229.14.2.el7.x86_64
	3.10.0-123.9.2.el7.x86_64	3.10.0-229.20.1.el7.x86_64 (VTE 5.2.3.76) / (VTE 5.2.4.37 GA)
	3.10.0-123.9.3.el7.x86_64	
	3.10.0-123.13.1.el7.x86_64	
	3.10.0-123.13.2.el7.x86_64	
	3.10.0-123.20.1.el7.x86_64	

SLES 11 File System Support

Table 14: SLES 11 SP3-SP4 and SP3-SP4 Xen (X86_64)

File System	Database						Applications
Unstructured data	**Oracle 11gR2 12c**	**DB2 9.7 10.1 10.5**	**Informix 11.5 11.7 12.1**	**MySQL 5.5/5.6**	**MongoDB**	**Cassandra**	**Cloudera/ Hadoop (CDH) Hortonworks (HDP)**
EXT3	EXT3	EXT3	EXT3	EXT3	EXT3	EXT3	
VxFS V6	VxFS V6	VxFS V6					
NFS V4/V3	NFS V4/V3	NFS V4/ V3		NFS V4/V3			
XFS	XFS	XFS		XFS	XFS		XFS

SLES 12 File System Support

Table 15: SLES 12 and SLES 12 Xen (X86_64)

File System	Database						Applications
Unstructured data	**Oracle 11gR2 12c**	**DB2 9.7 10.1 10.5**	**Informix 11.5 11.7 12.1**	**Maria DB**	**MongoDB**	**Cassandra**	**Cloudera/ Hadoop (CDH) Hortonworks (HDP)**
EXT3				EXT3			
EXT4	EXT4			EXT4			
NFS V4/V3				NFS V4/V3			
XFS	XFS	XFS		XFS			

Note: Refer to the following tables for kernel versions supported.

SLES Kernel Support

Table 16: SLES Kernels Supported (SLES 11 SP3)

SLES 11 SP3 Kernels Supported	SLES 11 SP3 Xen Kernels Supported
All previous versions released by SUSE 3.0.101-0.47.67-default (VTE 5.2.3.73) 3.0.101-0.47.71-default (VTE 5.2.3.80) / (VTE 5.2.4.37 GA)	All previous versions released by SUSE 3.0.101-0.47.67-xen (VTE 5.2.3.73) 3.0.101-0.47.71-xen (VTE 5.2.3.80) / (VTE 5.2.4.37 GA)

Table 17: SLES Kernels Supported (SLES 11 SP4)

SLES 11 SP4 Kernels Supported	SLES 11 SP4 Xen Kernels Supported
3.0.101-63-default 3.0.101-65-default (VTE 5.2.3.76) / (VTE 5.2.4.37 GA)	3.0.101-63-xen 3.0.101-65-xen (VTE 5.2.3.76) / (VTE 5.2.4.37 GA)

Table 18: SLES Kernels Supported (SLES 12

SLES 12 Kernels Supported	SLES 12 Xen Kernels Supported
3.12.28-4-default	3.12.28-4-xen
3.12.32-33-default	3.12.39-47-xen
3.12.36-38-default	3.12.43-52.6-xen
3.12.38-44-default	3.12.44-52.10-xen
3.12.39-47-default	3.12.44-52.18-xen (VTE 5.2.3.76)
3.12.43-52.6-default	3.12.48-52.27-xen (VTE 5.2.3.76)
3.12.43-52.10-default	3.12.51-52.31-xen (VTE 5.2.3.80) / (VTE 5.2.4.37 GA)
3.12.44-52.18-default (VTE 5.2.3.76)	
3.12.48-52.27-default (VTE 5.2.3.76)	
3.12.51-52.31-default (VTE 5.2.3.80) / (VTE 5.2.4.37 GA)	

Ubuntu 12.04 File System Support for EXT4 and NFS V3/V4

Table 19: Ubuntu 12.04.2 LTS, 12.04.3 LTS, 12.04.4 LTS(x86_64)[a]

File System	Database					
Unstructured data	**DB2 10.1 10.5**	**Informix 12.1**	**MySQL 5.5/5.6**	**MongoDB**	**Cassandra**	**Cloudera CDH4 CDH5**
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
NFS V3/V4	NFS V3/V4		NFS V4/V3			

a. Supported Kernels on Ubuntu—see the following tables.

Ubuntu 12.04 File System Support for XFS

Table 20: Ubuntu 12.04 LTS, 12.04.1 LTS, 12.04.2 LTS, 12.04.3 LTS, 12.04.4 LTS, 12.04.5 LTS (x86_64) [a]

File System	Database			
Unstructured data	**DB2 10.1 10.5**	**MySQL 5.5/5.6**	**MongoDB**	**Cassandra**
XFS[b]	XFS[b]	XFS[b]	XFS[b]	XFS[b]

a. Supported Kernels on Ubuntu

b. XFS is supported only on kernels 3.11 and greater.

Table 21: Ubuntu Kernels Supported

Ubuntu Kernels Supported (by Version)		
12.04.1/12.04.1	**12.04.2 LTS**	**12.04.3**
3.2.0-23-generic to 3.2.0-27-generic 3.2.0-29-generic to 3.2.0-41-generic 3.2.0-43-generic to 3.2.0-45-generic 3.2.0-48-generic to 3.2.0-49-generic 3.2.0-51-generic to 3.2.0-60-generic 3.2.0-76-generic	3.5.0-23-generic 3.5.0-44-generic 3.5.0-45-generic	3.8.0-19-generic 3.8.0-21-generic to 3.8.0-23-generic 3.8.0-25-generic to 3.8.0-27-generic 3.8.0-29-generic to 3.8.0-39-generic 3.8.0-41-generic to 3.8.0-42-generic 3.8.0-44-generic

Table 22: Ubuntu Kernels Supported

Ubuntu Kernels Supported (by Version)	
12.04.4	**12.04.5**
3.11.0-15-generic 3.11.0-17-generic to 3.11.0-20-generic 3.11.0-22-generic to 3.11.0-24-generic 3.11.0-26-generic	3.13.0-24-generic 3.13.0-27-generic 3.13.0-29-generic 3.13.0-30-generic 3.13.0-32-generic to 3.13.0-37-generic 3.13.0-39-generic to 3.13.0-41-generic 3.13.0-43-generic 3.13.0-44-generic to 3.13.0-46-generic

Ubuntu 14.04 LTS File System Support

Table 23: Ubuntu 14.04, 14.04.1, 14.04.2, 14.04.3 (x86_64)

File System	Database				
Unstructured data	**DB2 10.1 10.5**	**Informix 12.1**	**MySQL 5.5/5.6**	**MongoDB**	**Cassandra**
EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
NFS V3/V4	NFS V3/V4		NFS V4/V3		
XFS	XFS		XFS	XFS	XFS

Table 24: Ubuntu Kernels Supported

Ubuntu Kernels Supported (by Version)		
14.04/14.04.1	**14.04.2**	**14.04.3**
3.13.0-24-generic	3.16.0-25-generic	3.19.0-24-generic to 3.16.0-29-generic
3.13.0-27-generic	3.16.0-26-generic	3.19.0-30-generic to 3.19.0-31-generic (VTE 5.2.3.73)
3.13.0-29-generic	3.16.0-28-generic to 3.16.0-31-generic	3.19.0-32-generic to 3.19.0-33-generic (VTE 5.2.3.76)
3.13.0-30-generic	3.16.0-33-generic to 3.16.0-34-generic	3.19.0-36-generic (VTE 5.2.3.76)
3.13.0-32-generic to 3.13.0-37-generic	3.16.0-36-generic to 3.16.0-41-generic	3.19.0-37-generic (VTE 5.2.3.80) / (VTE 5.2.4.37 GA)
3.13.0-39-generic to 3.13.0-41-generic	3.16.0-43-generic to 3.16.0-46-generic	3.19.0-39-generic (VTE 5.2.3.80) / (VTE 5.2.4.37 GA)
3.13.0-43-generic	3.19.0-17-generic to 3.19.0-18-generic	
3.13.0-44-generic to 3.13.0-46-generic	3.19.0-20-generic to 3.19.0-21-generic	
	3.19.0-21-generic to 3.19.0-27-generic	

Getting Help

To get help from Vormetric Support:

- Open a help ticket at https://help.vormetric.com
- Email us at support@vormetric.com
- Call us at 877-267-3247