



Pulse Secure Virtual Traffic Manager: Release Notes

Supporting Pulse Secure Virtual Traffic Manager 18.2r3

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Release Notes

About this Release

Pulse Secure Virtual Traffic Manager 18.2r3 is a maintenance release of the Pulse Secure Virtual Traffic Manager product family, containing a number of bug fixes and security updates. Customers are recommended to upgrade to this version to take advantage of the changes.

Platform Availability

Virtual Traffic Manager software

- Linux x86_64: Kernel 2.6.32 - 4.15, glibc 2.12+
For Route Health Injection: ncurses 5 (libncurses.so.5, libtinfo.so.5)

Virtual Traffic Manager containers

- Docker: 1.13.0 or later recommended

Virtual Traffic Manager virtual appliances

- VMware vSphere 6.0, 6.5
- XenServer 7.1
- Microsoft Hyper-V Server 2016
- Microsoft Hyper-V under Windows Server 2016
- QEMU/KVM (RHEL/CentOS 6.x, 7.x; Ubuntu 16.04)

Virtual Traffic Manager cloud platforms

- Amazon EC2 - as a virtual appliance or native software install
- Microsoft Azure - as a virtual appliance
- Google Compute Engine - as a virtual appliance or native software install

Virtual Traffic Manager physical appliances

- Bare Metal Server - for information on qualified servers, see the Pulse Secure vTM Hardware Compatibility List at <https://www.pulsesecure.net/techpubs>

Resource Requirements

Virtual appliances should be allocated a minimum of 2 GB of RAM.

For a virtual appliance upgrade to succeed, a minimum of 2.7GB must be available on the `/logs` partition. To confirm the available free disk space, use the **System > Traffic Managers** page of the Admin UI.

Upgrading to 18.2r3

18.2r3 can be installed directly using any supported installation mechanism.

Traffic Manager software installations can be upgraded directly to 18.2r3 using any supported upgrade mechanism, except those running Traffic Manager version 17.2 which must be upgraded to some other version (for example, 18.2) before upgrading.

Traffic Manager instances (appliance or cloud) running release 18.2 can be upgraded directly to 18.2r3 using any supported upgrade mechanism.

Traffic Manager instances (appliance or cloud) running versions prior to 18.2 must first be upgraded to 18.2.

Changes in 18.2r3

Configuration

- **VTM-15765, SR19864** Fixed an intermittent failure during configuration replication caused by transient temporary configuration files.
- **VTM-43955** Two virtual server settings **http2_client_buffer_multiplier** and **http2_server_buffer_multiplier** have been added to limit the amount of in-process memory allocated by Traffic Manager to buffer data for a HTTP/2 connection. **http2_client_buffer_multiplier** limits HTTP/2 data received from clients not yet sent to pool nodes and **http2_server_buffer_multiplier** limits the HTTP/2 data received from pool nodes not yet sent to clients.
- **VTM-43954** A global setting **max_tcp_buff_mem** is added to limit the total amount of in-process memory allocated by Traffic Manager to buffer TCP data for all TCP connections. The Traffic Manager buffers TCP data received from pool nodes not yet sent to clients or received from clients not yet sent to pool nodes.

SNMP

- **VTM-16220, SR20354** Fixed an issue where SNMPv2 TRAPs emitted by the Traffic Manager did not confirm to RFC 2578 because they had a superfluous ".0" (zero) appended to the OID.

Connection Processing

- **VTM-44178** Fixed an issue where, when HTTP/2 was enabled, memory could be gradually leaked if a malicious client caused a very large number frames to be queued, as a previous update in 17.2r2 to mitigate CVE-2019-9517 was ineffective.
- **VTM-44147** Fixed an issue that the memory used to buffer TCP data for a HTTP/2 request could be uncapped. Such uncapped TCP buffer could cause excessive memory usage.

- **VTM-42577** When receiving a request from an HTTP/2 client with no request body, the Traffic Manager no longer sends a "Content-Length: 0" header to an HTTP/1.1 back-end node. Whilst the previous behavior was valid in RFE 7241, some servers were confused by the additional header.
- **VTM-44133** Fixed an issue that some buffered data for closed TCP connections might not be deallocated promptly
- **VTM-44110** Periodically logged diagnostics have been enhanced to include information of memory usages for different purposes.
- **VTM-43882** Periodically logged diagnostics have been enhanced to include information of the size of internal queues for HTTP requests and TCP connections.
- **VTM-44088** Fixed an issue that the memory used by HTTP/2 streams which are blocked by protection class could be held by the Traffic Manager until either the Traffic Manager is restarted or the corresponding virtual server's configuration is changed.
- **VTM-43887** Fixed an issue whereby the Traffic Manager would incorrectly handle an excessive number of outstanding HTTP/2 frames, resulting in connections being dropped or denied.

Connection Debugging and Tracing

- **VTM-43925** Periodically logged diagnostics have been enhanced to include information of the memory usage for network connection buffers.

DNS Server

- **VTM-43675** Fixed an issue that virtual servers using the DNS protocol could wrongly append a byte to DNS responses with client subnet option. This applies both to responses generated by the built-in DNS server and to responses generated by DNS backend nodes.

Technical Support Report

- **VTM-43883** Periodically logged diagnostics have been enhanced to provided memory heap statistics.
- **VTM-43744** Updated top command to run twice and show full command in periodic-log, procmon and technical support report. Added the following additional information to Technical Support Report:
 1. GeolP version to new file `support/geolp_version.txt`.
 2. `/proc/<PID>/smaps` to new file `/proc/<PID>/smaps`.
 3. NIC rx-flow-hash for TCP4, UDP4, TCP6 and UDP6 to existing file `support/networking.txt`.
 4. Current CPU frequency settings to new file `support/cpufreq.txt`.

Telemetry

- **VTM-44019** Fixed an issue that the telemetry script `zxtm-crash` could consume too much memory if the event log file size is large.

Virtual Traffic Manager Appliance Updates

No updates in this release.

Known Issues in 18.2r3

KVM Network Interface Card renaming

- **VTM-34654** In rare circumstances a KVM host may change the PCI addresses of a virtual appliance's network cards after a reboot, resulting in the network interface labels changing. This can be fixed by removing the configuration from the non-existent card on the Traffic Manager Admin UI **System > Networking** page and re-adding it to the correct card.

Obsolete counters are missing from old REST API versions

- **VTM-38881** Obsolete counters removed from version 6.0 of the status API are missing in versions 5.X and 4.0, despite the schemata published with the product claiming they are still present.

The format of encrypted bootloader passwords has changed in version 18.2

- **VTM-38948** When upgrading from an earlier version with a bootloader password set, the bootloader will be unprotected, and a configuration error will be reported until the password is re-entered. It can be set on the **System > Global Settings** page of the Admin UI.

After VA rollback from 18.2 the rollback UI widget doesn't appear

- **VTM-38962** After rolling back from 18.2 to an earlier Traffic Manager version the rollback version selector on the **System > Traffic Managers** page of the Admin UI will not offer version 18.2 as an option. Use `$ZEUSHOME/zxtm/bin/rollback` from the command line to switch back to 18.2 instead.

Contacting Support

Visit the Pulse Secure Web site to download software updates and documentation, browse our library of Knowledge Center articles and manage your account.

To request support, go to <https://www.pulsesecure.net/support>

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