NAME

guestfs−release−notes − libguestfs Release Notes

RELEASE NOTES FOR LIBGUESTFS 1.36

These release notes only cover the differences from the previous stable/dev branch split (1.34.0). For detailed changelogs, please see the git repository, or the ChangeLog file distributed in the tarball.

New features

New tools

Virt-tail is a new tool for following (tailing) log files within a guest, similar to the regular `tail -f` command.

New features in existing tools

Virt-customize, virt-get-kernel, virt-sparsify and virt-sysprep can now handle encrypted guests (Pino Toscano).

Virt-builder and virt-customize now support −−*append−line*, which is useful for adding lines to the end of configuration files.

Virt-resize can now shrink and expand swap partitions (Pino Toscano).

Virt-resize can now output to non-local disks (Pino Toscano).

Virt-sysprep has a new operation called `backup-files` for removing editor backups, and `passwd-backups` for removing */etc/passwd−* and similar.

Virt-dib can now create checksums using the new −−*checksum* option (Pino Toscano).

Virt-dib can now create tgz files. In addition, extended attributes and SELinux labels are preserved in the output tar file (Pino Toscano).

Virt-dib can now create squashfs files (Pino Toscano).

Bash tab-completion is now available in every command line tool that is shipped.

virt−v2v and virt−p2v

Conversions of Debian (6+) and Ubuntu (10.04+) guests are now supported (Tomáš Golembiovský, Pino Toscano).

Conversions from SUSE Xen hypervisor have now been tested (Cédric Bosdonnat).

Windows conversions may now install a program `pnp_wait.exe` which prevents conflicts between the Windows Plug-and-Play Manager and our own scripts that install virtio device drivers. Enabling this requires the `pnp_wait.exe` program to be built separately (Roman Kagan).

OVA files exported from AWS can now be converted (Shahar Havivi).

When converting OVA files, in some circumstances virt−v2v can now read disk images directly from the OVA input file instead of needing to unpack the OVA file to a temporary directory. This can save large amounts of disk space, and is quicker (Tomáš Golembiovský).

Virt−p2v can now be built on RHEL 5 (2007−era) Linux and RHEL 6, which means that 32 bit and hardware with ancient fakeraid disks can be virtualized. Binaries of virt−p2v based on these old versions of RHEL can be found at http://oirase.annexia.org/virt−p2v/

Virt−p2v can now use nbdkit (an NBD server) as an alternative to qemu-nbd. In addition, virt−p2v can use ‘‘socket activation’’ which is a more robust method for opening the NBD listening socket. Socket activation works with qemu-nbd or nbdkit, but requires the most up to date versions.

To prevent timeouts during P2V conversions, virt−p2v inhibits power saving on the physical machine, and also sends ping packets over the ssh control and data connections.

Virt−v2v no longer removes the `Processor` and `Intelppm` nodes from the Windows Registry.

Xen and vCenter conversions can now be done using the libvirt backend, provided libvirt ≥ 2.1.0 is used.

/dev/srX (SCSI CD-ROM) devices are ignored (Tomáš Golembiovský).

When converting SUSE Linux guests, use */etc/modprobe.conf.local* if it exists.

Removing VMware tools from Linux guests should now work reliably (Pino Toscano).

When converting OVA files, virt−v2v now checks the disk image hash contained in the manifest file, whereas previously it was ignored because of a mistake in the code. In addition, SHA256 hashes are now supported (Tomáš Golembiovský).

When converting OVA files that contain compressed disk images, we now trust the `ovf:compression` attribute from the metadata instead of using content sniffing on the disk image (Tomáš Golembiovský).

A new flag *−−vdsm−compat* has been added to *−o vdsm* mode, allowing more efficient qcow2 images to be generated.

Since the RHEV product [commercially supported version of oVirt] has now been renamed to RHV, ‘‘RHEV’’ was changed to ‘‘RHV’’ throughout the tooling. In particular, *−o rhev* becomes *−o rhv*, although the old name can be used for backwards compatibility.

The `RHEV−APT` utility is only installed when the output hypervisor is oVirt or RHV.

A problem with virt−v2v running out of memory when doing an SELinux relabel of the guest filesystem should now be resolved.

Language bindings

Setting `EXTRA_JAVAC_FLAGS` before *./configure* allows you to add arbitrary flags to `javac` when compiling the Java bindings.

Use of any libguestfs API which returned a single struct, from Perl or Java bindings, would have leaked memory. This has now been fixed (Pino Toscano).

Inspection

Inspection of Windows guests with mildly corrupted Windows Registry hives should now work instead of failing with an error. This feature requires hivex ≥ 1.3.14 (Dawid Zamirski).

For Debian guests, we can now read the URL, source name, summary and full description of installed packages. For RPM-based guests we can read the URL, summary and description (Pino Toscano).

Inspection of guest operating systems that use a separate */usr* partition should now work more reliably (Pino Toscano).

When parsing guest */etc/fstab*, paths are reduced to a canonical form (eg. `"///usr//local//"` → `"/usr/local"`).

Inspection of btrfs subvolumes now works where the */etc/fstab* options field contains commas.

/dev/cdN devices in guest */etc/fstab* are ignored (Pino Toscano).

Architectures and platforms

Stable releases are now tested on aarch64, ppc64 and ppc64le architectures.

The RISC-V architecture is now handled as a guest, and libguestfs will now at least compile on RISC-V (but probably not work as there is no usable qemu at the time of writing).

Detection of S/390 and S/390x binaries and guests is now supported.

Other

ExFAT filesystems are now supported (Miles Wolbe).

Security

See also **guestfs−security** (1).

There were no CVEs reported in this development cycle. However some security-related hardening was carried out as described below.

Temporary filenames are now always generated using randomness from */dev/urandom* (previously the C

function **random** (3) was used in one case).

The `$TERM` environment variable is now validated before passing it through to the appliance kernel command line.

API

New APIs

`guestfs_aug_transform`
Exposes the Augeas `aug_transform` API (Pino Toscano).

`guestfs_find_inode`
Find files by inode number (Matteo Cafasso).

`guestfs_inspect_get_windows_software_hive`
`guestfs_inspect_get_windows_system_hive`
Return the path to the Windows `HKLM\SYSTEM` and `HKLM\SOFTWARE` hives computed during inspection.

`guestfs_mksquashfs`
Create a squashfs filesystem from a path (Pino Toscano).

Other API changes

`guestfs_add_domain`
This call now handles libvirt file-based volumes correctly, where previously these would have been ignored. Also handled are disks which require libvirt authentication secrets to open (Pino Toscano).

`guestfs_canonical_device_name`
This call will no longer incorrectly modify Linux software RAID device names (like */dev/mdX*).

`guestfs_file_architecture`
Previously the `file_architecture` API could return either of the strings `i386` or `i486` for 32 bit x86 binaries. It now only returns `i386` (as documented).

This API can now return the following new values: `riscv32`, `riscv64`, `riscv128`, `s390`, `s390x`.

`guestfs_hivex_open`
This now has an optional `GUESTFS_HIVEX_OPEN_UNSAFE` flag which allows certain corrupted Windows Registry hives to be opened. This feature requires hivex ≥ 1.3.14 (Dawid Zamirski).

`guestfs_list_partitions`
This call now returns Linux software RAID partitions.

`guestfs_part_to_dev`
This call now correctly handles partition names which include `p<N>` (Pino Toscano).

`guestfs_set_label`
This call can now change the labels of swap partitions (Pino Toscano).

Build changes

libmagic, the library part of the `file` command, is now required at build time (previously optional).

GCC 7 is now supported.

‘‘Silent rules’’ are now used for OCaml programs, Java bindings. To show the full command line executed, add `V=1` on the make command line (Pino Toscano).

Slow testing (`make check-slow`) now covers: firstboot scripts in Linux guests; v2v conversion of a selection of real Linux guests; the virt-customize *--hostname* and *--timezone* settings; the *--root-password* parameter; that the serial console works in virt-builder guests.

Large generated C source files, eg. the list of commands found in *fish/cmds.c* (and many more), have been split into smaller files to speed parallel compilation.

`make maintainer-check-extra-dist`no w checks that all generated files are included in the

tarball.

The tests no longer assume that `.` is in Perl's `@INC`, as it is going to be removed soon (Pino Toscano).

Debian hosts using UsrMerge are now supported (Pino Toscano).

Header files and C structs can now have internal documentation using the special `/** ... */` comments.

`@VAR@` subtitutions in `./run` are now fully quoted. This is necessary so that (eg) `./configure PYTHON=/some/path` works robustly if `/some/path` contains characters that need to be quoted (Hilko Bengen).

gperf ≥ 3.1 is now supported.

Kraxel's old edk2 builds can no longer be used for UEFI support. UEFI code is now fully free software, so use the versions bundled with your Linux distro instead.

Virt−p2v can now be compiled on RHEL 5 (2007−era) Linux with Gtk 2.10.

Internals

The generator and mllib `Common_utils` modules are now shared from the same source file.

A considerable amount of common code has been moved into the *common* directory in the source and is now compiled only once. The mini-libraries located under here are: *common/edit*, *common/errnostring*, *common/miniexpect*, *common/options*, *common/parallel*, *common/progress*, *common/protocol*, *common/utils*, *common/visit*, *common/windows*.

The directory containing the main library code has moved from *src* → *lib*.

All tests written in shell script now use a common file of utility functions (*tests/test−functions.sh*). There are several new utility functions, mainly for skipping tests. Also these test scripts can now use autoconf-like path variables like `$abs_top_srcdir`.

UEFI paths are now stored in the generator (*generator/uefi.ml*).

The way the generator handles actions and procedure numbers was changed quite substantially. See *generator/actions_*.ml* and *generator/proc_nr.ml*.

The gnulib `getprogname` module is now used everywhere when needing/printing the program name (Pino Toscano).

perl/Guestfs.c is not translatable (Nikos Skalkotos).

Virt-builder templates moved from *builder/website* to *builder/templates* and there is now a single unified program which can build any template.

All Windows registry utilities used by virt-customize and virt−v2v have been moved to a common module called `Registry` under *mllib*.

All POSIX bindings have been moved to a new module called `Unix_utils` under *mllib*.

Inspection, virt-customize and virt−v2v no longer recompute the Windows `%systemroot%`, `CurrentControlSet` or paths to the `HKLM\SYSTEM` and `HKLM\SOFTWARE` hives in multiple places. Instead these are all computed once (during inspection) and passed to the other tools through various `guestfs_inspect_get_windows_*` APIs.

`/dev/pts` is now available inside the appliance, so any tools we run which require a pty will now work (Pino Toscano).

Most OCaml warnings have been fixed.

There is now a single common function for creating temporary files (`guestfs_int_make_temp_path`) (Matteo Cafasso).

The `$TERM` environment variable is now validated before passing it through to the appliance kernel command line.

Useless USB and memballoon devices are no longer created in the appliance (Laine Stump).

On aarch64 we now use virtio-pci for the appliance. This is somewhat faster than virtio-mmio.

Use of **srandom** (3) and **random** (3) has been minimized. In particular, temporary filenames are no longer created based on randomness returned by **random** (3), but */dev/urandom* is used instead.

Bugs fixed

https://bugzilla.redhat.com/1425306
typo error in virt-tail man page

https://bugzilla.redhat.com/1418283
virt−v2v: appliance runs out of memory running setfiles command

https://bugzilla.redhat.com/1417549
/usr/bin/x86_64−linux−gnu−ld.bfd.real:
../common/progress/.libs/libprogress.a(libprogress_la−progress.o): undefined reference to symbol 'UP@@NCURSES_TINFO_5.0.19991023'

https://bugzilla.redhat.com/1417444
*** No rule to make target '../perl/lib/Sys/Guestfs.c', needed by 'libguestfs.pot'

https://bugzilla.redhat.com/1416941
compile of 1.34.3 fails with gperf 3.1

https://bugzilla.redhat.com/1414682
guestfs_canonical_device_name incorrectly returns /dev/sd0 for MD devices (/dev/md0)

https://bugzilla.redhat.com/1414510
guestfs_list_filesystems does not recognize ddf partitions

https://bugzilla.redhat.com/1409023
[Debian] ldmtool not installed in the appliance

https://bugzilla.redhat.com/1404287
qemu-kvm cannot boot RHEL 7 kernel with TCG, hangs at ‘‘Probing EDD (edd=off to disable)...’’

https://bugzilla.redhat.com/1404182
RFE: virt-resize should support a URL as the outdisk

https://bugzilla.redhat.com/1401474
Importing VMs from VMware is failing with error ‘‘Inspection field 'i_arch' was 'unknown'’’

https://bugzilla.redhat.com/1401320
RFE: Increate virt-sysprep coverage a bit

https://bugzilla.redhat.com/1400205
Add −−vdsm−compat=1.1 flag for VDSM

https://bugzilla.redhat.com/1398070
typo error in man page

https://bugzilla.redhat.com/1392798
secrets from libvirt domains are not read

https://bugzilla.redhat.com/1390876
‘‘−−machine−readable’’ info should be updated in virt−v2v manual page

https://bugzilla.redhat.com/1379289
RFE: virt−p2v should support mnemonic operations

https://bugzilla.redhat.com/1378022
There is virt−v2v warning about <listen type='none'> during converting a guest which has listen type='none' in XML

https://bugzilla.redhat.com/1377081
virt−p2v manual should update the new dialog information

https://bugzilla.redhat.com/1375157
virt−v2v: −i ova: Permission denied when using libvirt and running as root

https://bugzilla.redhat.com/1374651
Can’t install qxl driver for display device in win7 guest after converting to glance by virt−v2v

https://bugzilla.redhat.com/1374405
There is HTTP 404 error info when convert guest to glance by virt−v2v

https://bugzilla.redhat.com/1374232
selinux relabel fails on RHEL 6.2 guests with ‘‘libguestfs error: selinux_relabel: : Success’’

https://bugzilla.redhat.com/1372668
Process status is not normal in windows guest after converted from kvm to rhev by virt−v2v

https://bugzilla.redhat.com/1372269
Builder does not set hostname properly for Debian 8 (Jessie)

https://bugzilla.redhat.com/1371843
Improve OVA import compatibility

https://bugzilla.redhat.com/1370424
virt-manager coredump when vm with gluster image exists

https://bugzilla.redhat.com/1367839
Cannot import VMs from Xen and VMware when using RHEL7.3 host.

https://bugzilla.redhat.com/1367738
Missing bash completion scripts for: virt-diff guestunmount virt-copy-in virt-copy-out virt-customize virt-get-kernel virt−p2v−make−disk virt−p2v−make−kickstart virt-tar-in virt-tar-out virt−v2v−copy−to−local virt-win-reg

https://bugzilla.redhat.com/1367615
OVMF file which is built for rhel7.3 can’t be used for virt−v2v uefi conversion

https://bugzilla.redhat.com/1366456
Converting rhel7 host installed on RAID:warning: fstrim: fstrim: /sysroot/: the discard operation is not supported

https://bugzilla.redhat.com/1366049
RFE: libvirt backend: support handling disks stored as volume name in a pool

https://bugzilla.redhat.com/1365005
Guest name is incorrect if convert guest from disk image by virt−v2v

https://bugzilla.redhat.com/1362649
RFE: virt-sysprep does not utilize libguestfs encryption support

https://bugzilla.redhat.com/1354507
virt−v2v conversions from vCenter do not consistently obey the proxy environment variables

https://bugzilla.redhat.com/1168144
warning: fstrim: fstrim: /sysroot/: FITRIM ioctl failed: Operation not supported (ignored) when convert win2003 guest from xen server

https://bugzilla.redhat.com/1161019
RFE: Only install RHEV-APT if virt−v2v −o rhev/−o vdsm option is used

https://bugzilla.redhat.com/1152369
virt−v2v failed to convert RHEL 6.7 UEFI guest: no grub1/grub−legacy or grub2 configuration file was found

https://bugzilla.redhat.com/1141631
[RFE] virt−v2v should support convert a guest to a dir-pool with using pool’s uuid

https://bugzilla.redhat.com/1134878
libvirt reports json ‘‘backing file’’ is missing

https://bugzilla.redhat.com/1019388
firstboot scripts (virt-builder, virt-sysprep) don’t work for Debian 6 & 7 guests

https://bugzilla.redhat.com/737600
virt−v2v windows xp − machine dies BSOD − processr,sys − workaround provided

SEE ALSO

guestfs−examples (1), **guestfs−faq** (1), **guestfs−performance** (1), **guestfs−recipes** (1), **guestfs−testing** (1), **guestfs** (3), **guestfish** (1), http://libguestfs.org/

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BUGS

To get a list of bugs against libguestfs, use this link: https://bugzilla.redhat.com/buglist.cgi?component=libguestfs&product=Virtualization+Tools

To report a new bug against libguestfs, use this link: https://bugzilla.redhat.com/enter_bug.cgi?component=libguestfs&product=Virtualization+Tools

When reporting a bug, please supply:

- The version of libguestfs.
- Where you got libguestfs (eg. which Linux distro, compiled from source, etc)
- Describe the bug accurately and give a way to reproduce it.
- Run **libguestfs−test−tool** (1) and paste the **complete, unedited** output into the bug report.