

NAME

guestfs-release-notes – libguestfs Release Notes

RELEASE NOTES FOR LIBGUESTFS 1.38

These release notes only cover the differences from the previous stable/dev branch split (1.36.0). For detailed changelogs, please see the git repository, or the ChangeLog file distributed in the tarball.

New features*New tools*

Virt-builder-repository is a new tool allowing end users to create and update virt-builder repositories (Cédric Bosdonnat).

Virt-rescue (while not a new tool) has been substantially rewritten, implementing job control, *-m* and *-i* options, escape keys, etc.

New features in existing tools

Virt-builder planner has been improved so that faster and more efficient build plans are chosen for complex cases, especially when either the tmpdir or output is on networked storage.

New virt-builder Fedora templates (starting with Fedora 26) will have plain partition layout and use GPT for partitions.

Virt-customize “firstboot” scripts in guests using systemd are now installed under the `multi-user.target` instead of `default.target` so they will only run when the system is booted normally.

Virt-customize now sets a random `/etc/machine-id` for Linux guests, if one is not already set.

Virt-df now works correctly on filesystems with block sizes smaller than 1K (Nikolay Ivanets).

Virt-dib has further compatibility enhancements with diskimage-builder (Pino Toscano).

Virt-sysprep removes `DHCP_HOSTNAME` from `ifcfg-*` files.

Virt-sysprep now works on Oracle Linux (Jamie Iles).

Virt-resize now correctly copies GPT partition attributes from the source to the destination (Cédric Bosdonnat).

Bash tab completion implemented or enhanced for: `virt-win-reg`, `virt-v2v-copy-to-local`.

virt-v2v and virt-p2v

Virt-v2v can now read VMware VMX files directly, either from local disk, NFS storage, or over SSH from an ESXi hypervisor.

Virt-v2v can now use VDDK as an input source.

Both virt-v2v and virt-p2v are now able to pass through the source CPU vendor, model and topology. However unfortunately not all source and target hypervisors are able to provide or consume this data at present (Tomáš Golembiovský).

Virt-v2v now supports encrypted guests (Pino Toscano).

Virt-v2v can now handle VMware snapshots. Note that the snapshots are collapsed — it *does not* convert the chain of snapshots into a chain of snapshots.

Virt-v2v now installs Windows 10 / Windows Server 2016 virtio block drivers correctly (Pavel Butsykin, Kun Wei).

Virt-v2v now installs virtio-rng, balloon and pypanic drivers, and correctly sets this in the target hypervisor metadata for hypervisors which support that (Tomáš Golembiovský).

Virt-v2v now installs both legacy and modern virtio keys in the Windows registry (Ladi Prosek).

Virt-p2v can now preserve (in some cases) the offset of the Real Time Clock from UTC.

Virt-p2v now combines several scp commands to the conversion server into a single command, improving

conversion times.

Virt-v2v now detects the special Linux Xen PV-only kernels correctly (Laszlo Ersek).

Virt-v2v *-o glance* now generates the right properties for UEFI guests (Pino Toscano).

Virt-v2v *-o null* now avoids spooling the guest to a temporary file, instead it writes to the qemu “null block device”. This makes it faster and use almost no disk space.

Virt-v2v *-o rhv* now supports Windows 2016 Server guest type.

Virt-v2v *-i libvirtxml* can now open network disks over http or https.

Virt-v2v will now give a warning about host passthrough devices (Pino Toscano).

The virt-v2v *--machine-readable* output has been enhanced so it includes vcenter-https, xen-ssh and in-place facts (Pino Toscano).

Language bindings

Fix multiple memory leaks and other data corruption problems in the Java bindings (Pino Toscano).

Perl %guestfs_introspection has been dropped.

Inspection

Inspection support was rewritten in OCaml and included inside the daemon. This makes inspection considerably faster, more robust and more easily extensible in future.

Better icon support for ALT Linux guests (Pino Toscano).

Better support for NeoKylin (Qingzheng Zhang).

Can handle OSes like Void Linux which do not include VERSION_ID in */etc/os-release* (Pino Toscano).

Add support for Microsoft MS-DOS (Daniel Berrangé).

Architectures and platforms

Multiple fixes for S/390 architecture. Libguestfs and all the tools should now compile and run on this architecture.

Other

The libguestfs API is now thread-safe (although not parallel). You can call APIs on the same handle from multiple threads without needing to take a lock.

Security

There were multiple vulnerabilities in the `icoutils wrestool` program which is run by libguestfs to create icons for Windows guests. Using the latest `wrestool` is recommended.

API

New APIs

`hivex_value_string`

This replaces the deprecated `hivex_value_utf8` API, but does the same thing.

`part_get_gpt_attributes`

`part_set_gpt_attributes`

Read and write GPT partition attribute flags (Cédric Bosdonnat).

`part_resize`

Enlarge or shrink an existing partition (Nikos Skalkotos).

`yara_destroy`

`yara_load`

`yara_scan`

Support for the Yara malware scanning engine (Matteo Cafasso).

Other API changes

APIs implemented in the daemon can now be written in either C or OCaml. Several APIs were rewritten in OCaml, although we are not planning to rewrite all of them.

You will now get a clear error message if you try to add too many disks to the appliance, instead of getting a peculiar failure from qemu.

Certain APIs accidentally allowed you to use `/dev/urandom` as an input “device”, eg. `g.copy_device_to_device("/dev/urandom", "/dev/sda")`. The code has been modified to *forbid* this usage.

All APIs for inspecting installer CDs have been deprecated. Use `libosinfo` for this task.

Build changes

A working OCaml compiler ≥ 4.01 is now required for building `libguestfs`. The `./configure --disable-ocaml` option remains but is only used to disable the OCaml language bindings.

Add `RELEASES` file which lists release dates for each version of `libguestfs`. You must update this file when making a new release.

Documentation generated by `gtk-doc` has been removed. `./configure --enable-gtk-doc` now does nothing.

`Libtirpc` is now used for XDR functions and `rpcgen`. Note that `glibc` has deprecated and in most Linux distros dropped these, so for most people this will be an extra dependency (Martin Kletzander).

`Libxcrypt` is now used for **crypt**(3). This is required if using `glibc` ≥ 2.27 .

`ocaml-hivex` is now required.

`Libvirt` $\geq 1.2.20$ is now required.

There is now a `make check-root` target for tests which need to be run as root (analogous to `make check-slow`).

`./configure` time check for `__attribute__((cleanup))` now works in the cross-compilation case (Yann E. Morin).

The `AUTHORS` and `p2v/about-authors.c` files are now generated from a single place.

Either `GnuPG v1` or `v2` can be used.

`./configure --with-guestfs-path` may be used to set the default `LIBGUESTFS_PATH`. In addition the way that the path is searched has changed slightly so that all types of appliances are searched in each path element separately (Pavel Butsykin).

`GUESTFSD_EXT_CMD` which was used to mark external commands in the daemon has been removed. It was originally used by SUSE builds, but they have not been using it for a while.

The output from `./configure` is now visually grouped under headings related to what it is doing, making it much easier to scan (Pino Toscano).

OCaml dependencies are now generated from a single script instead of multiple not-quite-the-same Makefile fragments.

`./configure --with-distro=ID` can be used to override automatic Linux distro detection at build time (Pino Toscano).

`qemu` ≥ 2.10 is supported (but not required). This adds mandatory locking to disks and `libguestfs` turns this off in certain circumstances when it is known to be safe (Lars Seipel, Peter Krempa, Daniel Berrangé, Pino Toscano, Fam Zheng, Yongkui Guo, Václav Kadlík).

Internals

Most common code has been moved to the `common/` subdirectory, with OCaml common code being in `common/ml*` directories (eg. `common/visit` and `common/mlvisit` contain the visitor library in C and OCaml respectively). The `mllib` directory has been deleted and replaced by `common/mltools`.

There is now a lightweight OCaml binding for PCRE, see `common/mlpcre`. Use of OCaml `Str` library has been mostly replaced with PCRE.

Add more calls to `udev_settle` to improve stability of partition code (Dawid Zamirski).

Run `udev_settle` with `--exit-if-exists` option, which improves the speed of this command (Pavel Butsykin).

Detect new locations of **major** (3), **minor** (3), **makedev** (3).

Actions can now be deprecated with no suggested replacement, for APIs such as `guestfs_wait_ready` that should simply be removed from client code.

Use `gnulib_set_nonblocking_flag` wrapper instead of calling `fcntl` (2) with `O_NONBLOCK` (Eric Blake). Similarly `set_cloexec_flag`.

Fix memory leak in XFS version of `guestfs_vfs_minimum_size` (Pino Toscano).

Valgrind checks now run on the `virt-p2v` binary.

Unicode single quotes (`' '`) and now used in place of `' '` or `` '` throughout the code and documentation. Similarly for `'s` instead of `'s`.

The `is_zero` function has been reimplemented for greater speed (Eric Blake).

In the direct backend, `virtio-blk` support has been removed. `Virtio-scsi` is now the only supported way to add disks.

Generator string parameter and return types have been rationalised so there are only two types (`String`, `StringList`) with many subtypes eg. `FileIn` becomes `String (FileIn, ...)`.

The appliance disk image can now be in formats other than raw (Pavel Butsykin).

Multiple improvements to how we automatically build Debian templates for `virt-builder` (Pino Toscano). Enable serial console for these templates (Florian Klink).

In the daemon, instead of making a private copy of `lvm.conf` and modifying it (eg for filters), start with an empty file since LVM understands that to mean “all defaults” (Alasdair Kergon, Zdenek Kabelac).

The `direct` backend can now run QMP queries against the QEMU binary, enhancing the kinds of information we can detect. In addition the code to query QEMU has been made more robust for handling multiple parallel queries of different versions of QEMU.

OCaml Augeas bindings are bundled under `common/mlaugeas`. The long term plan is to remove this and use system ocaml-augeas when it is more widely available in distros (Pino Toscano).

All OCaml modules (`*.ml` files) are now required to have an interface file (`*.mli`). If they don't export anything then the interface will be empty except for comments.

Certain OCaml features in OCaml ≥ 4.01 are used throughout the code, including replacing `{ field = field }` with `{ field }`.

`Virt-builder make-template` utility now uses the `virt-install --transient` option so that we should never need to clean up left over domains after a crash. It also saves kickstarts and `virt-install` commands, which are committed to git for future reference.

`/dev/shm` is now created in the appliance (Nicolas Hicher).

In verbose mode on Fedora guests, `virt-customize` will now use `dnf --verbose` enabling better debugging output.

`Virt-v2v` input and output classes now contain a `#precheck` method which is used to perform environmental checks before conversion starts.

`Virt-p2v` enables `miniexpect` debugging. It is written to `stderr` (of `virt-p2v`).

`Virt-v2v` free space checks are more liberal especially for smaller guests (Pino Toscano).

Bugs fixed

<https://bugzilla.redhat.com/1540535>

Example URI of “Convert from ESXi hypervisor over SSH to local libvirt” is incorrect in `v2v` man page

- <https://bugzilla.redhat.com/1539395>
virt-customize segfaults after upgrading to 1.37.35-3
- <https://bugzilla.redhat.com/1536765>
Libguestfs Perl bindings can leak a small amount of memory on error
- <https://bugzilla.redhat.com/1536763>
libguestfs Lua bindings use **strerror()**, which isn't thread safe
- <https://bugzilla.redhat.com/1536603>
man page makes no mention of using '---' when trying to change exit on error behavior
- <https://bugzilla.redhat.com/1525241>
virt-df displays zeros for filesystems with block size =512
- <https://bugzilla.redhat.com/1519204>
v2v should improve the result when convert a rhel7.4 guest with no available kernels found in the bootloader
- <https://bugzilla.redhat.com/1518517>
virt-v2v fails with "unsupported configuration: shared access for disk 'sdb' requires use of supported storage format"
- <https://bugzilla.redhat.com/1516094>
Mere presence of QEMU file locking options breaks NBD (Block protocol 'nbd' doesn't support the option 'locking')
- <https://bugzilla.redhat.com/1514756>
./configure --disable-ocaml breaks building common/mlpre which breaks building daemon
- <https://bugzilla.redhat.com/1513884>
[RFE]Should update some vddk info in v2v man page
- <https://bugzilla.redhat.com/1508874>
virt-v2v: warning: ova disk has an unknown VMware controller type (20)
- <https://bugzilla.redhat.com/1506572>
virt-v2v '-i ova' is not parsing the MAC address from the source OVF
- <https://bugzilla.redhat.com/1506511>
virt-builder fails to parse repo file if it has blank space after the repository identifier
- <https://bugzilla.redhat.com/1503958>
Failed to convert the rhel5 guest with kmod-xenpv installed from xen server by virt-v2v
- <https://bugzilla.redhat.com/1503497>
qemu-kvm fails to open qcow2 files in read-only mode with qemu-kvm 1.5.3
- <https://bugzilla.redhat.com/1500673>
Error info shows wrong sometimes when ssh to conversion server using non-root user with sudo on p2v client
- <https://bugzilla.redhat.com/1500537>
/dev/shm does not exist in the appliance environment
- <https://bugzilla.redhat.com/1497475>
guestfish cannot list commands from interactive mode
- <https://bugzilla.redhat.com/1493048>
Unbound constructor Hivex.OPEN_UNSAFE
- <https://bugzilla.redhat.com/1484957>
bump debian images to use single-partition layout

- <https://bugzilla.redhat.com/1482737>
virt-resize failed to expand swap partition for RHEL5.11 guest image with “parsing UUID failed”
- <https://bugzilla.redhat.com/1477623>
Running file API on a special chardev may hang forever
- <https://bugzilla.redhat.com/1476081>
inspect-os report error: could not parse integer in version number: V7Update2
- <https://bugzilla.redhat.com/1472719>
[RFE]Add warning in process of v2v converting guest which has pci passthrough device
- <https://bugzilla.redhat.com/1472208>
virt-v2v fails on opensuse 13.2 guest with error: statns: statns_stub: path must start with a / character
- <https://bugzilla.redhat.com/1469655>
firstboot scripts are not correctly installed in Fedora 26
- <https://bugzilla.redhat.com/1466563>
Libguestfs should pass copyonread flag through to the libvirt XML
- <https://bugzilla.redhat.com/1465665>
1.36.x build failure: gtkdocize fails using newer autotools due to missing GTK_DOC_CHECK in configure.ac
- <https://bugzilla.redhat.com/1460338>
guestfs_shutdown hangs if main process sets signal handlers
- <https://bugzilla.redhat.com/1459979>
guestfs_add_domain_argv fails with readonly option when vdi/vhd disk is attached to libvirt domain
- <https://bugzilla.redhat.com/1451665>
RFE: Virt-v2v can't convert the guest which has encrypted partition
- <https://bugzilla.redhat.com/1450325>
document URI format for -a parameters of tools
- <https://bugzilla.redhat.com/1448739>
RFE: Support multicore decompression for OVA files using pigz and pxz
- <https://bugzilla.redhat.com/1447202>
Win 2016 guest is described as Win 10 after imported to RHEVM
- <https://bugzilla.redhat.com/1441197>
RFE: ability to convert VMware virtual machines via vmx
- <https://bugzilla.redhat.com/1438939>
Please drop or update GnuPG (1.4.x) dependency
- <https://bugzilla.redhat.com/1438794>
[RFE] Install Windows virtio-rng drivers on VMs imported
- <https://bugzilla.redhat.com/1433937>
virt-inspector can't get icon info from altlinux-centaurus
- <https://bugzilla.redhat.com/1433577>
policycoreutils setfiles >= 2.6 does .. nothing
- <https://bugzilla.redhat.com/1431579>
Windows 8 UEFI from VMware to KVM fails to boot after conversion
- <https://bugzilla.redhat.com/1430680>
There is error info about “No such file or directory” when convert a guest from ova file by v2v
- <https://bugzilla.redhat.com/1430184>
virt-dib should generate sha256 checksum instead of sha512

- <https://bugzilla.redhat.com/1429506>
RFE: OVMF should be detected on conversion server to prevent failed conversion
- <https://bugzilla.redhat.com/1429491>
Should rename network name of rhv in virt-v2v man page
- <https://bugzilla.redhat.com/1427529>
virt-sysprep should remove DHCP_HOSTNAME
- <https://bugzilla.redhat.com/1417306>
QEMU image file locking (libguestfs)
- <https://bugzilla.redhat.com/1409024>
[Debian] Missing db_dump abort inspection
- <https://bugzilla.redhat.com/1406906>
Segmentation fault when reading corrupted path with Python 3 bindings
- <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/1376547>
qemu-system-s390x: -device isa-serial,chardev=charserial0,id=serial0: 'isa-serial' is not a valid device model name
- <https://bugzilla.redhat.com/1374232>
selinux relabel fails on RHEL 6.2 guests with “libguestfs error: selinux_relabel: : Success”
- <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/1362649>
RFE: virt-sysprep does not utilize libguestfs encryption support
- <https://bugzilla.redhat.com/1172425>
[RFE]virt-v2v failed to convert VMware ESX VM with snapshot
- <https://bugzilla.redhat.com/1171654>
Modify a file in virt-rescue with vi on some linux terminal such as yakuake, can lead to abnormal display in virt-rescue shell
- <https://bugzilla.redhat.com/1167623>
Remove “If reporting bugs, run virt-v2v with debugging enabled ..” message when running virt-p2v
- <https://bugzilla.redhat.com/1152819>
Can not end a running command in virt-rescue by press ^C or other keys, the only way is to exit virt-rescue

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.