NAME

guestfs−release−notes − libguestfs Release Notes

RELEASE NOTES FOR LIBGUESTFS 1.30

These release notes only cover the differences from the previous stable/dev branch split (1.28.0). For detailed changelogs, please see the git repository, or the ChangeLog file distributed in the tarball.

New features

New tools

virt−dib (1) is a secure and safe alternative to the OpenStack "diskimage-builder" tool. It is compatible with diskimage-builder elements. (Pino Toscano)

virt−get−kernel (1) extracts the kernel and ramdisk from a disk image. Previously this functionality was part of **virt−builder** (1), but the new tool is more featureful. (Pino Toscano)

New features in existing tools

virt−v2v (1) *−i ova* mode can now read a wider range of OVA files, and also unpacked files (directories).

virt−v2v now securely passes options to curl, so passwords, cookies and so on cannot be seen by users with shell access on the same machine.

virt−v2v has a new *−−password−file* option to allow you to securely pass in a password, and to avoid an interactive prompt.

virt−v2v disables Windows autoreboot, making debugging conversion failures on Windows easier.

virt−v2v now comes with an extensive external test suite. See **virt−v2v−test−harness** (1).

virt−v2v allows virtio drivers to come from any location (Roman Kagan), and drivers can be read directly from the virtio ISO.

virt−v2v supports conversion of Windows ≥ 8. Note this is experimental, and possibly broken. Use with caution.

virt−v2v can now convert UEFI guests.

virt−p2v (1) adds a network configuration dialog.

virt−p2v now has `p2v.pre`, `p2v.post` and `p2v.fail` triggers, allowing arbitrary scripts for preparing the host for conversion and tidying up post-conversion.

virt−p2v now uses the more advanced metacity window manager (instead of matchbox).

virt−sysprep (1) will remove `/var/spool/mail/username` for non-root accounts (Hu Tao).

virt−customize (1), **virt−builder** (1) and virt-sysprep have the following new options:

−−commands−from−file
   allow long lists of commands to be read from a file instead of from the command line (Pino Toscano)

−−copy
   copy files inside the guest (Maros Zatko)

−−copy−in
   copy host files recursively into the guest (Pino Toscano)

−−move
   move files inside the guest (Maros Zatko)

−−ssh−inject
   inject SSH keys into a guest (Pino Toscano)

−−sm−attach
−−sm−credentials
−−sm−register

−−sm−remove
−−sm−unregister
     register and unregister a guest from subscription-manager (Pino Toscano)

−−touch
     touch a file in the guest (Pino Toscano)

−−truncate
−−truncate−recursive
     truncate files (Maros Zatko)

Improvements to virt-customize firstboot support. In particular, Windows firstboot should work as well as Linux (Roman Kagan).

virt−df (1) can now use PolicyKit, SASL and other authentication methods when getting the list of domains from libvirt.

Improvements to guestfish bash completion (Pino Toscano).

Bash completion now completes short options as well as long options (Pino Toscano).

guestfish (1) now displays a command synopsis if the number of parameters given to a command is wrong (Hu Tao).

virt-builder now supports Red Hat Enterprise Linux versions back to RHEL 3.

virt-builder supports SUSE guests using zypper (Cédric Bosdonnat).

Language bindings

The Java bindings now include validated Javadoc, and other improvements (Pino Toscano).

Multiple fixes and improvements to the PHP bindings (Pino Toscano).

Inspection

Inspection can now get icons from RHEL 7 and CentOS 7.

/etc/favicon.png is now allowed to be a symbolic link.

For RPM-based guests, inspection now returns RPM Epoch fields.

Debian packages now have separate Epoch and Version fields (Nikos Skalkotos).

OpenBSD detection added, FreeBSD and NetBSD added as separate ''distros'', and other BSD inspection improvements and bug fixes (Nikos Skalkotos).

CoreOS detection added (Nikos Skalkotos).

The package manager in Fedora ≥ 22 is `dnf`.

ReactOS guests can be inspected (Maros Zatko).

Add support for UEFI guests.

Inspection now works when kernel modules are gzip or xz compressed (Pino Toscano).

Inspection now recognizes ppc64 and ppc64le guests (Maros Zatko).

Inspection lists the installed applications on Archlinux guests (Nikos Skalkotos).

Architectures and platforms

PPC64 (POWER7) and PPC64LE (POWER8) architectures are now much better supported, and should work out of the box.

For aarch64, we use AAVMF (an open source UEFI implementation based on OVMF) if available to run the appliance.

For armv7, we now use the *−M virt* machine type by default.

There is better support for compiling on non-Linux platforms (Pino Toscano, Margaret Lewicka).

Libguestfs should now work on MIPS 32 bit little endian ("mipsel"). I have not been able to try 64 bit or big endian.

Security

CVE–2014–8484
CVE–2014–8485

Libguestfs previously ran the **strings** (1) utility on untrusted files. Strings could parse BFD headers in an unsafe way, leading to possible arbitrary code execution. Libguestfs now runs strings with a flag to ensure it does not try to parse BFD headers. This could have led to exploitation of the libguestfs appliance, but since libguestfs further constrains the appliance through virtualization, SELinux and other techniques, it was unlikely to have caused any privilege escalation on the host.

XPath injection in virt–v2v

One possible XPath injection vulnerability was fixed in virt–v2v. This might have allowed a malicious guest which was being converted by virt–v2v to construct an arbitrary XPath expression which would have been evaluated on the host (by the libxml2 library linked to the virt–v2v binary). It is not clear what the effects of this might be.

For further information, see upstream commit https://github.com/libguestfs/libguestfs/commit/6c6ce85f94c36803fe2db35a98db436bff0c14b0

Denial of service problems when using `qemu-img info`

When using the American Fuzzy Lop fuzzer (`afl-fuzz`) on the `qemu-img info` command, Richard W.M. Jones found that certain files can cause the `qemu-img` program to use lots of memory and time (for example 6GB of heap and 14 seconds of CPU time on a fast Intel processor), and in some cases to crash. Since libguestfs may run `qemu-img info` on disk images to find out what they contain, this transitively could cause libguestfs to hang or consume lots of memory.

Libguestfs was modified so that it uses resource limits to limit the space and time used by `qemu-img info`, to avoid this problem. If a malicious user tries to pass one of these disk images to libguestfs, `qemu-img` will crash and the crash is reported back to libguestfs callers as an error message.

API

New APIs

`guestfs_add_libvirt_dom`

This exposes a previously private API that allows you to pass a `virDomainPtr` object directly from libvirt to libguestfs.

`guestfs_blockdev_setra`

Adjust readahead parameter for devices. See `blockdev --setra` command.

`guestfs_btrfs_balance`
`guestfs_btrfs_balance_cancel`
`guestfs_btrfs_balance_pause`
`guestfs_btrfs_balance_resume`
`guestfs_btrfs_balance_status`

Balance support for Btrfs filesystems (Hu Tao).

`guestfs_btrfs_filesystem_defragment`

Filesystem defragmentation support for Btrfs filesystems (Hu Tao).

`guestfs_btrfs_image`

Create an image of a Btrfs filesystem (Chen Hanxiao)

`guestfs_btrfs_qgroup_assign`
`guestfs_btrfs_qgroup_create`
`guestfs_btrfs_qgroup_destroy`
`guestfs_btrfs_qgroup_limit`

```
guestfs_btrfs_qgroup_remove
guestfs_btrfs_qgroup_show
guestfs_btrfs_quota_enable
guestfs_btrfs_quota_rescan
```
    Quote support for Btrfs filesystems (Hu Tao).

```
guestfs_btrfs_rescue_chunk_recover
```
    Scan and recover the chunk tree in Btrfs filesystems (Hu Tao).

```
guestfs_btrfs_rescue_super_recover
```
    Restore superblocks in Btrfs filesystems (Hu Tao).

```
guestfs_btrfs_replace
```
    Replace a device in a Btrfs filesystem (Cao Jin).

```
guestfs_btrfs_scrub
guestfs_btrfs_scrub_cancel
guestfs_btrfs_scrub_resume
guestfs_btrfs_scrub_status
```
    Scrub a Btrfs filesystem (Hu Tao).

```
guestfs_btrfs_subvolume_get_default
```
    Get the default subvolume of a Btrfs filesystem (Hu Tao).

```
guestfs_btrfs_subvolume_show
```
    List detailed information about the subvolume of a Btrfs filesystem (Hu Tao).

```
guestfs_btrfstune_enable_extended_inode_refs
guestfs_btrfstune_enable_skinny_metadata_extent_refs
guestfs_btrfstune_seeding
```
    Various tuning parameters for Btrfs filesystems (Chen Hanxiao).

```
guestfs_c_pointer
```
    Return the C pointer to the underlying `guestfs_h *`. This allows interworking of libguestfs bindings with bindings from other libraries. For further information see https://bugzilla.redhat.com/1075164

```
guestfs_copy_in
guestfs_copy_out
```
    Flexible APIs for recursively copying directories of files between the host and guest filesystem. Previously these were available only as guestfish commands, but now any API users can call them (Pino Toscano).

```
guestfs_part_get_gpt_guid
guestfs_part_set_gpt_guid
```
    Get and set the GPT per-partition GUID.

```
guestfs_part_get_mbr_part_type
```
    Get MBR partition type (Chen Hanxiao).

```
guestfs_set_uuid_random
```
    Set the UUID of a filesystem to a randomly generated value; supported filesystems currently are ext2/3/4, XFS, Btrfs, and swap partitions. (Chen Hanxiao).

Other API changes

`guestfs_disk_create` can now use VMDK files as backing files.

`guestfs_btrfs_subvolume_snapshot` takes extra optional parameters (all added by Hu Tao):

`ro`   for creating a read-only Btrfs snapshot

`qgroupid`
    for adding the snapshot to a qgroup

`guestfs_btrfs_subvolume_create` can also take the optional `qgroupid` parameter (Hu Tao).

`guestfs_set_uuid` can set UUID of swap partitions, Btrfs (Hu Tao, Chen Hanxiao).

`guestfs_copy_device_to_file` and `guestfs_copy_file_to_file` have a new optional `append` parameter, allowing you to append to the output file instead of truncating it.

`guestfs_mkfs` has a new optional `label` parameter to set the initial label of the new filesystem (Pino Toscano).

`guestfs_set_label` and `guestfs_set_uuid` now set `ENOTSUP` as errno when there is no implemented support for the filesystem of the specified mountable (Chen Hanxiao).

Environment variables now let you write `LIBGUESTFS_DEBUG=true`, `LIBGUESTFS_DEBUG=0` and so on.

All `guestfs_sfdisk*` APIs have been deprecated. Because **sfdisk** (8) was rewritten, incompatibly, upstream, we don't recommend using these APIs in future code. Use the `guestfs_part*` APIs as replacements.

APIs such as `guestfs_download` do not truncate */dev/stdout* or */dev/stderr* when writing to them, meaning that if you redirect stdout or stderr to a file, the file is no longer truncated.

Build changes

The daemon no longer uses its own separate copy of gnulib. Instead it shares a single copy with the library.

OCaml *.annot* files are now created, so IDEs and editors like emacs and vi can browse OCaml types in the source code.

Various fixes to allow different host/appliance architecture builds (Pino Toscano).

Automake is now used directly to build all the OCaml programs, instead of ad hoc Makefile rules. One side effect of this is to enable warnings in all the C code used by OCaml programs.

`-fno-strict-overflow` is used throughout the build to avoid dubious GCC optimizations.

Multiple cleanups to support GCC 5.

OCaml OUnit2 is needed to run some OCaml tests.

Creating a statically linked *libguestfs.a* should work again.

The *src/api−support* subdirectory and its scripts are no longer used. Instead we store in the *generator/actions.ml* when the API was added to libguestfs.

Internationalization

The translation service has changed from Transifex to Zanata.

Many more translations are available now, for both library and tools messages and documentation.

Internals

In all OCaml tools, there are now common `error`, `warning`, `info` functions, and common way to set and get the *−−quiet*, *−x* (trace) and *−v* (verbose) flags, and colour highlighting used consistently.

`COMPILE_REGEXP` macros are used to simplify PCRE constructors and destructors.

In the generator, `Pointer` arguments have finally been implemented.

Internal identifiers no longer use double and triple underscores (eg. `guestfs___program_name`). These identifiers are invalid for C99 and C++ programs, although compilers would accept them.

The daemon no longer parses `guestfs_*` options from */proc/cmdline*. Instead it only takes ordinary command line options. The appliance init script turns */proc/cmdline* into daemon command line options.

The tests can now run the daemon as a "captive process", allowing it to be run directly on the host. The main advantage of this is we can run valgrind directly on the daemon during testing.

Bugs fixed

https://bugzilla.redhat.com/1239053
        virt−v2v error reporting when grub.conf cannot be parsed by Augeas

https://bugzilla.redhat.com/1238053
        v2v:Duplicate disk target set when convert guest with cdrom attached

https://bugzilla.redhat.com/1237869
        Virtio drivers are not installed for windows 2008 guests by virt−v2v

https://bugzilla.redhat.com/1234351
        virt−v2v Support for Fedora virtio-win drivers

https://bugzilla.redhat.com/1232192
        Virt−v2v gives an error on a blank disk: part_get_parttype: unknown signature, of the output: BYT;

https://bugzilla.redhat.com/1229385
        virt−p2v in kernel command line mode should power off the machine after conversion

https://bugzilla.redhat.com/1229340
        virt−p2v no GUI mode appends \n to the final command line parameter

https://bugzilla.redhat.com/1229305
        virt-sysprep at cleanup deletes /var/spool/at/.SEQ which results in failing at

https://bugzilla.redhat.com/1226794
        ''Doing conversion……'' still shows after cancel the conversion from virt−p2v client

https://bugzilla.redhat.com/1215042
        Memory leak in virNetSocketNewConnectUNIX

https://bugzilla.redhat.com/1213324
        virt−v2v: warning: unknown guest operating system: windows windows 6.3 when converting win8,win8.1,win2012,win2012R2 to rhev

https://bugzilla.redhat.com/1213247
        virt tools should print the same format of version string

https://bugzilla.redhat.com/1212808
        RFE: virt-builder −−touch

https://bugzilla.redhat.com/1212807
        virt-builder −−selinux−relabel flag fails on cross-architecture builds

https://bugzilla.redhat.com/1212680
        RFE: virt-inspector xpath query should output a neat format of the query element

https://bugzilla.redhat.com/1212152
        virt-builder firstboot-command fails: File name too long

https://bugzilla.redhat.com/1211996
        virt-inspector gives incorrect arch (ppc64) for ppc64le guest

https://bugzilla.redhat.com/1203817
        RFE: virt-customize −−move and −−copy

https://bugzilla.redhat.com/1201526
        index-parser can't parse systemd mount files properly

https://bugzilla.redhat.com/1196101
        virt-builder −−upload option doesn't work to a FAT partition

https://bugzilla.redhat.com/1196100
        virt-builder −x option on its own does not enable tracing

https://bugzilla.redhat.com/1195204
    'virt−builder' should create $HOME/.cache directory if it already doesn't exist

https://bugzilla.redhat.com/1193237
    Virt-builder fingerprint is required even when no check desired

https://bugzilla.redhat.com/1189284
    virt-resize should preserve GPT partition UUIDs, else EFI guests become unbootable

https://bugzilla.redhat.com/1188866
    Performance regression in virt-builder when uncompressing image

https://bugzilla.redhat.com/1186800
    virt−v2v should support gzip format ova as input

https://bugzilla.redhat.com/1185561
    virt-sparsify should ignore read-only LVs

https://bugzilla.redhat.com/1182463
    "mknod-b", "mknod-c", and "mkfifo" do not strip non-permissions bits from "mode"

https://bugzilla.redhat.com/1176493
    virt−v2v ignores sound device when convert xen guest to local kvm

https://bugzilla.redhat.com/1175676
    Typo error in 'help ping−daemon'

https://bugzilla.redhat.com/1175196
    "parse-environment" and "parse-environment-list" fail to parse "LIBGUESTFS_TRACE = 0"

https://bugzilla.redhat.com/1175035
    "is−blockdev"/"is−blockdev−opts" fail to detect "/dev/sda"

https://bugzilla.redhat.com/1174280
    RFE: Allow v2v conversion of Oracle Linux 5.8 VMware VM

https://bugzilla.redhat.com/1174200
    New virt−v2v failure: CURL: Error opening file: NSS: client certificate not found (nickname not specified): Invalid argument

https://bugzilla.redhat.com/1174123
    Graphics password disappear after conversion of virt−v2v

https://bugzilla.redhat.com/1174073
    The listen address for vnc is changed after conversion by virt−v2v

https://bugzilla.redhat.com/1171666
    inspection thinks EFI partition is a separate operating system

https://bugzilla.redhat.com/1171130
    virt−v2v conversion of RHEL 3 guest fails with: All of your loopback devices are in use

https://bugzilla.redhat.com/1170685
    Conversion of RHEL 4 guest fails: rpm −ql 1:kernel−utils−2.4−23.el4: virt−v2v: error: libguestfs error: command_lines:

https://bugzilla.redhat.com/1170073
    virt−v2v picks debug kernels over non-debug kernels when versions are equal

https://bugzilla.redhat.com/1169045
    virt-sparsify: libguestfs error: qemu-img info: 'virtual−size' is not representable as a 64 bit integer

https://bugzilla.redhat.com/1169015
    virt-resize −−expand fails on ubuntu−14.04.img image (regression)

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/1167921
　　　p2v: No Network Connection dialog

https://bugzilla.redhat.com/1167774
　　　virt−p2v fails with error:"nbd.**c:nbd_receive_negotiate**():L501: read failed"

https://bugzilla.redhat.com/1167623
　　　Remove "If reporting bugs, run virt−v2v with debugging enabled .." message when running virt−p2v

https://bugzilla.redhat.com/1167601
　　　"Conversion was successful" pop out even virt−p2v fails

https://bugzilla.redhat.com/1167302
　　　virt−v2v: warning: ova hard disk has no parent controller when convert from a ova file

https://bugzilla.redhat.com/1166618
　　　virt-resize should give out the detail warning info to let customers know what's going wrong

https://bugzilla.redhat.com/1165975
　　　File "/boot/grub2/device.map" showing is not right after converting a rhel7 guest from esx server

https://bugzilla.redhat.com/1165785
　　　mount-loop command fails: mount failed: Unknown error −1

https://bugzilla.redhat.com/1165569
　　　Disable "cancel conversion" button after virt−p2v conversion finished

https://bugzilla.redhat.com/1165564
　　　Provide Reboot/Shutdown button after virt−p2v

https://bugzilla.redhat.com/1164853
　　　Booting in qemu found no volume groups and failed checking the filesystems

https://bugzilla.redhat.com/1164732
　　　The description of 'help append' is not accurately, it add the kernel options to libguestfs appliance not the guest kernel

https://bugzilla.redhat.com/1164697
　　　typo errors in man pages

https://bugzilla.redhat.com/1164619
　　　Inspect-get-icon failed on RHEL7 guest

https://bugzilla.redhat.com/1162966
　　　xfs should also give a warning out to let customer know the limitation

https://bugzilla.redhat.com/1161575
　　　Failed to import guest with "rtl8139" nic to openstack server after converted by v2v

https://bugzilla.redhat.com/1159651
　　　virt-sysprep firstboot script is not deleted if it reboot a RHEL 7 guest

https://bugzilla.redhat.com/1159258
　　　esx win2008 32 bit guest fail to load after conversion because the firmware isn't ACPI compatible

https://bugzilla.redhat.com/1159016
　　　libvirt backend does not set RBD password

https://bugzilla.redhat.com/1158526
　　　Use password file instead of process interaction

https://bugzilla.redhat.com/1157679
> virt−p2v−make−disk should add firmwares

https://bugzilla.redhat.com/1156449
> libguestfs FTBFS on f21 ppc64le

https://bugzilla.redhat.com/1156301
> virt-inspector support adding a remote disk, but in its man page −a URI / −−add URI is missing

https://bugzilla.redhat.com/1155121
> Virt−v2v will fail when using relative path for −i ova

https://bugzilla.redhat.com/1153844
> Redundancy whitespace at the end of directory name when use <TAB> to complete the directory name in guestfish with a xfs filesystem in guest

https://bugzilla.redhat.com/1153589
> virt−v2v will hang when converting esx guest before disk copy phase

https://bugzilla.redhat.com/1152998
> virt−v2v / qemu-img fails on ova image

https://bugzilla.redhat.com/1151910
> virt-ls should remove '/' in the output when specify the directory name as /etc/

https://bugzilla.redhat.com/1151900
> Should also add a field for directory files when run virt-ls with −−csv option

https://bugzilla.redhat.com/1151033
> virt−v2v conversions from VMware vCenter server run slowly

https://bugzilla.redhat.com/1146832
> virt−v2v fail to convert guest with disk type volume

https://bugzilla.redhat.com/1146007
> Input/output error during conversion of esx guest.

https://bugzilla.redhat.com/1135585
> [RFE] virt-builder should support copying in a directory/list of files

https://bugzilla.redhat.com/1089566
> [abrt] livecd-tools: kickstart.py:276:apply:IOError: [Errno 2] No such file or directory: '/run/media/jones/2tp001data/createlive/temp/imgcreate−_dX8Us/install_root/etc/rpm/macros.imgcreate'

https://bugzilla.redhat.com/1079625
> virt-sparsify fails if a btrfs filesystem contains readonly snapshots

https://bugzilla.redhat.com/1075164
> RFE: allow passing in a pre-opened libvirt connection from python

https://bugzilla.redhat.com/912499
> Security context on image file gets reset

https://bugzilla.redhat.com/889082
> [RFE] virt−v2v should check whether guest with same name exist on target first then transfer the disk

https://bugzilla.redhat.com/855059
> RFE: virt−p2v: display more information about network devices such as topology, bonding, etc.

https://bugzilla.redhat.com/823758
> p2v client should have largest number restrictions for CPU and Memory settings

https://bugzilla.redhat.com/709327
> hivex cannot read registry hives from ReactOS

https://bugzilla.redhat.com/709326
> virt-inspector cannot detect ReactOS

https://bugzilla.redhat.com/119673
> installation via NFS doesn't seem to work

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.