

Xen Shell - Feature # 208: Allow customers to provide their own cloud-init data for cloud-init installs such as

Status:	New	Priority:	Normal
Author:	admin	Category:	
Created:	2022-04-29	Assigned to:	
Updated:	2022-05-03	Due date:	
Subject:	Allow customers to provide their own cloud-init data for cloud-init installs such as Ubuntu 22.04		
Description:	<p>The current implementation of cloud-init installs at bitfolk simply asks the customer for the minimum required information (hostname and password) and then proceeds with an automated install.</p> <p>It would be possible to allow customers to provide their own cloud-init data so they could have a repeatable and automated customised install.</p> <p>h2. cloud-init data</p> <p>This data consists of three files in YAML format. At the moment these are stored on the Xen Shell side as template files and the things between <code>@[%@</code> and <code>@%]@</code> markers are directives in that templating language.</p> <p>After the files are templated they are shoved into a VFAT disk image and attached to the customer's VM as it boots. The cloud-init package finds the filesystem by label (<code>@CIDATA@</code>) and looks inside it for its instructions.</p> <p>h3. <code>@meta-data@</code></p> <p>This just provides a unique identifier within BitFolk's cloud for this VM. As such this probably doesn't need to be user-supplied.</p> <p>h3. <code>@network-config@</code></p> <p>The VM's network configuration in "netplan":<code>https://netplan.io/</code> format.</p> <p>Example template:</p> <pre><pre>version: 2 ethernets: eth0: dhcp4: false dhcp6: false addresses: [% ip_list %] gateway4: '85.119.80.1' gateway6: "[% ip6_gateway %]" nameservers: addresses: ['85.119.80.232','85.119.80.233','2001:ba8:1f1:f205::53','2001:ba8:1f1:f206::53'] </pre></pre> <p>h3. <code>@user-data@</code></p> <p>The main customisation of the operating system takes place here. Very little of what is done here is actually essential, they're just niceties for running on BitFolk's network.</p> <p>Example template:</p>		

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<pre>
users:
  - name: 'ubuntu'
    lock_passwd: false
    shell: '/bin/bash'
    groups: 'sudo'
[% IF ssh_public_keys.size -%]
  ssh_authorized_keys:
[% FOREACH item IN ssh_public_keys -%]
    - '[% item %]'
[% END -%]
[% END -%]

chpasswd:
  list:
    - 'ubuntu:[% crypted_passwd %]'
  expire: false

timezone: 'Etc/UTC'

bootcmd:
  - [ cloud-init-per, instance, wipefs-swap, wipefs, -a, /dev/xvdb ]

disk_setup:
  /dev/xvdb:
    table_type: 'mbr'
    layout:
      - [ 100, 82 ]
    overwrite: true

fs_setup:
  - label: SWAP
    filesystem: swap
    device: '/dev/xvdb'
    partition: 1

mounts:
  - [ 'LABEL=SWAP', 'none', 'swap', 'sw', '0', '0' ]

write_files:
  - path: '/root/bitfolk_post_install.sh'
    permissions: '0755'
    content: |
      #!/bin/sh

      echo "$0 Starting BitFolk cloud-init post-install script"

      echo "$0: Enabling swap"
      swapon -a

      echo "$0: Disabling online discard"
      sed -i 's/discard,//' /etc/fstab

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echo "$0: Removing EFI boot mountpoint"
sed -i '/^LABEL=UEFI/d' /etc/fstab

echo "$0: Disabling time-based fsck"
for DEV in $(blkid -s TYPE -t TYPE=ext2 -o device) \
            $(blkid -s TYPE -t TYPE=ext3 -o device) \
            $(blkid -s TYPE -t TYPE=ext4 -o device); do
    echo "  $DEV"
    tune2fs -i 0 "$DEV"
done

echo "$0: Removing /etc/default/grub.d/50-cloudimg-settings.cfg"
rm -f /etc/default/grub.d/50-cloudimg-settings.cfg

echo "$0: Unhiding GRUB boot menu"
sed -i -e 's/GRUB_TIMEOUT_STYLE=hidden/GRUB_TIMEOUT_STYLE=menu/' /etc/default/grub

echo "$0: 5 second GRUB timeout.."
sed -i -e 's/GRUB_TIMEOUT=0/GRUB_TIMEOUT=5/' /etc/default/grub

echo "$0: Removing 'quiet splash' from kernel cmdline"
sed -i -e 's/GRUB_CMDLINE_LINUX_DEFAULT="quiet
splash"/GRUB_CMDLINE_LINUX_DEFAULT="console=hvc0"/' /etc/default/grub
update-grub

echo "$0: Fixing up /etc/apt/sources.list for apt-cacher"
sed -i -e 's#http://(security.ubuntu.com/)#http://apt-cacher.lon.bitfolk.com/ubuntu/1#'
/etc/apt/sources.list
sed -i -e 's#http://(archive.ubuntu.com/)#http://apt-cacher.lon.bitfolk.com/ubuntu/gb.1#'
/etc/apt/sources.list
apt-get update
echo "$0: Done."

# Hostname is set here as "fqdn:" happens on every boot.
runcmd:
- [ hostnamectl, hostname, [% fqdn %] ]
- /root/bitfolk_post_install.sh
</pre>

```

The SSH public keys come from those stored in the Panel.

h2. Interested in this feature?

If you're interested in seeing this happen, I would first suggest that you vote this issue up and follow it.

Next could you think about how you would like to get your @network-config@ and @user-data@ in to the Xen Shell?

Your @user-data@ could be pointed to by URL, but in that case the @network-config@ would have to be stock in order to get the network set up.

The Xen Shell could be told to download a copy of these files by URL.

I suppose copy and paste is an option, but that seems rather unweidly and error-prone, especially for a file format that is so sensitive to indentation (YAML).

The maximum size of all cloud-init data is 16KiB.

History
