Red Hat Enterprise Linux 7 (RHEL7) Migration Notes

There are a number of changes in the GUI when moving from Red Hat Enterprise Linux (RHEL) 6 to 7. RHEL6 used the old Gnome 2 while RHEL7 uses Gnome 3 which is a major change in the user interface. This page lists various tip and tricks that you may find useful as you make the switch to RHEL7.

Managing Settings

There is an unfortunate lack of a single mechanism for making settings changes and customizations. There are 3 primary mechanisms you will need to use to configure settings:

1. **Settings Application** - From the gnome Applications menu select System Tools > Settings. This gives you the ability to change a couple things like the background and some mouse/keyboard settings but, all in all, this is extremely limited. You will probably find this settings application to be somewhat limited and will want to move on to the Tweak Took and dconf Editor.

2. **Tweak Tool** - You can start the Tweak Tool from the Applications>Utilities menu or by running gnome-tweak-tool from a shell prompt. The tweak tool lets you control various gnome settings that can't be modified with the Settings app. It can be used, for example, to change fonts, pick themes, enable shell extensions, control window focus, and change the date formats. Click on the handy search icon to search for things.

3. **dconf Editor** - This allows fine grained control over a huge number of settings. You can start dconf Editor from the Applications>Sundry menu or by running dconf-editor from a shell prompt. Using this tool, you navigate to a particular schema (eg. org.gnome.desktop.session) and then you see all of the available keys that can be changed under that scheme. This is an incredibly powerful tool but it can sometimes be tricky to find what you are looking for. See the Tips and Tricks below for help making use of this tool. Also, note that you can search for keywords with Ctrl-F.

Tips and Tricks

- **Changing the Default Lockscreen Timeout** - The default idle timeout before the screen locks is 5 minutes (300 seconds). You can adjust this by running dconf-editor, navigating to org.gnome.desktop.session, and changing the idle-delay value. Note that, per IU IT policy, you should not set this to be greater than 15 minutes (900 seconds).
  
  Note that you are strongly discouraged from disabling the screen lock entirely. First of all, doing so is a significant security risk and against IU IT policy. Second, if you are using one of our unified linux systems with a network-mounted home directory they rely on kerberos authentication for access to your home directory. The lifetime of the kerberos authentication cache is 1 week and it is renewed every time you unlock the screen. So, if you never unlock your screen your kerberos cache will expire and you will lose access to your home directory which will cause you to be logged out.

- **Adding shortcuts to the top bar** - If you are used to pinning shortcuts to the top bar in RHEL6 to make it easy to start your favorite applications, you are in for a disappointment. This is no longer possible with GNOME 3 in RHEL7. The default way to accomplish this in RHEL7 is, IMHO, extremely annoying. If you agree, then you will almost certainly want to use the Dash to Dock extension explained below. However, if you want to use the default configuration you can just move the mouse into the upper left corner of the screen to bring up the Favorites menu (aka. the Dock) which is a bar along the left of the screen where you keep shortcuts to your favorite applications. You can then launch an application by just clicking on it from this Favorites bar. See the section below for information about customizing the Favorites bar.

- **Adding screen lock shortcut to top bar** - We have installed the Lock Screen gnome extension which allows you to put a screen lock icon in the top bar. Start up the Tweak Tool and go to Extensions and you will see the Lock Screen extension listed. Just enable the extension and it will appear.

- **Customizing the Applications Menu** - The Applications menu shows you various menus and applications but you may want to modify this. For example, you may want to add applications that aren't displayed by default or you may want to remove applications you never use. To customize this, go to Applications > Sundry > Main Menu. From there, you can click through the different menu levels and select the sub-menus and applications you want displayed.

- **Enabling the Dash to Dock Extension** - The gnome shell extension you are most likely to want to enable is called Dash to Dock. This puts the Favorites bar on your home screen so you have easy access to your favorite applications. You can enable this by running gnom e-tweak-tool from a shell prompt (or fire up the Tweak Tool app from gnome). From Tweak Tool, click on Shell Extensions and toggle Dash to Dock to enabled. Once you close the Tweak Tool, the favorites bar should appear on the left side of the screen. However, note that the default behavior is for this bar to hide when a window would be over it so it may not be visible if you have a window near the left edge of the screen. See the section below to customize the Dash to Dock properties.

- **Customizing Dash to Dock Behavior** - You can customize the behavior of this extension in many ways using dconf. Just fire up dconf-editor in a shell window or run the dconf Editor app from gnome and navigate to org.gnome.shell.extensions.dash-to-dock. You will find lots of customization parameters here and a couple of note are dock-fixed (the Dock is always visible) and intellihide (Dock dodges
applications). Your best bet is just to click through each option and see the description at the bottom.

- **Customizing the Favorites Bar** - Whether you decide to use the Dash to Dock extension or not, you are likely to want to customize the list of applications in your Favorites bar. This is easy to do and here are some operations you may want to perform:

  1. Remove an application - Just right click on an existing item and select 'remove from Favorites' to remove it
  2. Move an application - You can just drag and drop with the mouse to move an item
  3. Add an application - There are several ways to do this but one way is to move the mouse into the upper left corner to bring up the search, search for the desired application, and then right click on the icon and select "add to Favorites". You can also display all applications by selecting the grid icon at the bottom of the favorites bar. This listing toggles between frequent and all apps at the bottom.

- **Making Desktop Icons Smaller** - Starting with RHEL 7.4, the gnome desktop icons have gotten quite large and chunky. If you want to reduce the size you can up a Gnome file manager window (ie. showing something like your home directory). While holding down the CTRL key, use the mouse scroll wheel to adjust the size of the icons in the file manager window. That will also adjust the size of the desktop icons.

- **Setting Default Applications** - There are default applications that are used when you do things like open a web link or click a mailto: link. You can control the default applications by opening the Settings Application and then going to Details > Default Applications.

- **Making Title Bars Smaller** - Starting with RHEL 7.4, the gnome window title bars got a bit fatter and there is a line between the title bar and the window. Some people find this annoying so you can eliminate the line and minimize the height of the title bar by creating a file named ~/.config/gtk-3.0/gtk.css that contains the following snippet. Once that is done, you can activate it by resetting the window manager without logging out by hitting ALT-F2 and then entering 'r' to reset in the pop-up box.

```css
window.ssd headerbar.titlebar {
    padding-top: 0px;
    padding-bottom: 0px;
    border: none;
    box-shadow: none;
    background-image: linear-gradient(to bottom,
        shade(@theme_bg_color, 1.05),
        shade(@theme_bg_color, 1.00));
}
```

- **Turn off Edge-Tiling** - Gnome 3 has a feature called edge-tiling that many people find annoying. The behavior is that when you are moving a window and push it against one of the screen edges, it will automatically resize it. If you push it into the top of the screen it wants to make it fullscreen and when you push it to the left or right edge it wants to resize to be half the screen. This can make it easy to set up to windows that are each half the screen side-by-side but it can also be annoying if you don't want it. If you want to disable this, fire up the dconf-editor and navigate to org.gnome.shell.overrides and disable edge-tiling. This change should take effect the next time you log in.

- **Creating a custom Launcher** - Let's say you want to add a shortcut to the favorites dock for a custom application. For example, let's say you want to add a launcher to ssh into a particular system. You can create the launcher for this as follows.

  1. create an executable shell script that launches the command you want this launcher to run (eg. "ssh username@some.host"). When you create the launcher, you can't provide a command with arguments so you can do this via a shell script and you may want to put that into your ~/.bin directory. If you are just wanting to run a command with no arguments then this step is not necessary.
  2. run alacarte from the shell prompt or run the Main Menu gnome app.
  3. Click, New Menu to add a new menu and call it whatever you want (eg. "My Apps"). The comment is optional so you can leave it blank.
  4. Click on the folder you just created to open it
  5. Click on New Item to add the new app. For the Command, you can give it the shell script you created in step 1 or just the path to the executable if you don't need to provide arguments.
  6. Check Launch in terminal if this is something that has to run inside a terminal. In our ssh example, you would want to check this.
  7. If you want to change the icon, click on the little icon next to Name and browse to the desired icon
  8. Click OK to save and it should show up in the applications menu

- **Include Month/Day in time display** - By default, you will get a time display in the upper right corner but it will not include the month and day. You can change this from the Tweak Tool under Shell by enabling “Show date in clock”. You can also add that by going to the dconf-editor, navigating to org.gnome.desktop.interface, and checking clock-show-date or by running this from the command line:

  ```bash
gsettings set org.gnome.desktop.interface clock-show-date true
  ```
**Keyboard and Mouse Customization** - There are various keyboard behaviors and shortcuts you can set up. Here are a few places to look:
- **Settings > Keyboard** - You can set things like key repeat speeds and also set all kinds of keyboard shortcuts
- **Settings > Mouse & Touchpad** - Adjust mouse and double click speeds.
- **Tweak Tool > Keyboard and Mouse** - Not much here but a few mouse behaviors that may be of interest
- **Tweak Tool > Typing** - There are lots of goodies here including Ctrl and Caps Lock key behavior. For example, you can make Caps Lock another Control key here.

**Disabling the Top-Left Hot Corner** - When you drive your mouse into the top-left corner of the screen it will take you to the gnome overview screen. Many people find this feature annoying so we have the `No Topleft Hot Corner` gnome extension installed. To enable it, just do the following:

1. Start up the gnome Tweak Tool (see above)
2. Click on Extensions
3. Look for `No topleft hot corner` and toggle that on

**Finding keys in gsettings** - The gsettings system can be rather hard to navigate. It is comprised of `schemas` and, within each schema, a list of `keys`. Sometimes it is helpful to just get a listing of all the keys in gsettings so you can grep for some keyword you are looking for. You can get the complete list of schema and keys as follows:

```bash
for i in `gsettings list-schemas`
do
echo "=== $i"
gsettings list-keys $i
done
```

**You receive a popup window asking you to "Unlock your login keyring" when you log in** - When you log in, gnome wants to unlock your keyring (where you store saved passwords). If you get this prompt it generally means that your login password does not match your keyring password. You have 2 options to get rid of this error:

1. **Remove your keyring entirely** - If you don’t use the keyring (or don’t have anything stored there you care about), you can just remove the old one. Just remove the file `~/.gnome2/keyrings/login.keyring` or the entire `~/.gnome2/keyrings` directory. If you don’t have that directory, an alternate location might be `~/.local/share/keyrings`.

2. **Reset your keyring password** - If you know the current keyring password (which is very likely to be a previous login password), you can change it to match your current login password as follows:
   1. Fire up Applications > Utilities > Passwords and Keys
   2. Right click on "Login" and select Change Password
   3. This should prompt for the current keyring password. Enter that if you know it. If you don’t know it, it will likely be some old login password so you may want to try old passwords and see if you can guess it.
   4. If you enter the correct password, you will have the option to change it. Just change it to your current login password. If you can’t guess the old one, then you are pretty much stuck and you will have to remove it (as noted above) and start over with a new keyring.

**Weather Display** - If you want to display the temperature and a weather summary in the gnome toolbar you can do that using the openweather gnome extension we have installed as follows

1. Start up the gnome Tweak Tool (see above)
2. Click on Extensions
3. Look for Openweather and toggle that on
4. Click the settings gear for Openweather
5. Go to the Locations tab and click the + at the bottom of the page
6. Search for your desired city and click Save
7. Click on any default location that was listed there and click the - at the bottom of the page to remove that location
8. You can go through the other tabs (Units, Layout, etc) and make any other preference changes you want. For example, the default will be to place it in the center of the toolbar but you can select right or left under Layout.

Once you have it in the toolbar, you can click it to get more information and also click the tool icon to make further preference changes.

**Workspace switcher only switches primary screen with dual monitor** - When you have dual monitors, you will probably want to switch both monitors when you change workspaces. This was the default in RHEL6 but with RHEL7 the new default is just to switch the primary screen. You can change this by firing up dconf-editor, navigating to the 2 places you need to change this, and making the property changes. Or, you can just run these 2 commands to set them from the command prompt:
Known Issues

- **gnome-shell memory leak** - It appears there is a memory leak in gnome-shell which is the main window management process. If you stay logged in for a long time and open lots of windows, you may notice things getting sluggish. The most noticeable symptom is probably that you will see a significant delay when locking and unlocking the screen. When this happens the simple fix is to just log out and back in again. An alternate fix that *might* work is to restart the window manager which you can do with Alt-F2 and then entering ‘r’ to restart. If that doesn’t help, you can restart gnome-shell entirely from the command line by running “gnome-shell -r &”.

- **Missing acroread** - The Adobe acroread application for viewing pdf files is no longer supported on linux. You can use the default Document Viewer application (evince) to view pdf files.