AWIPS Build 17.2.1
Informational Overview

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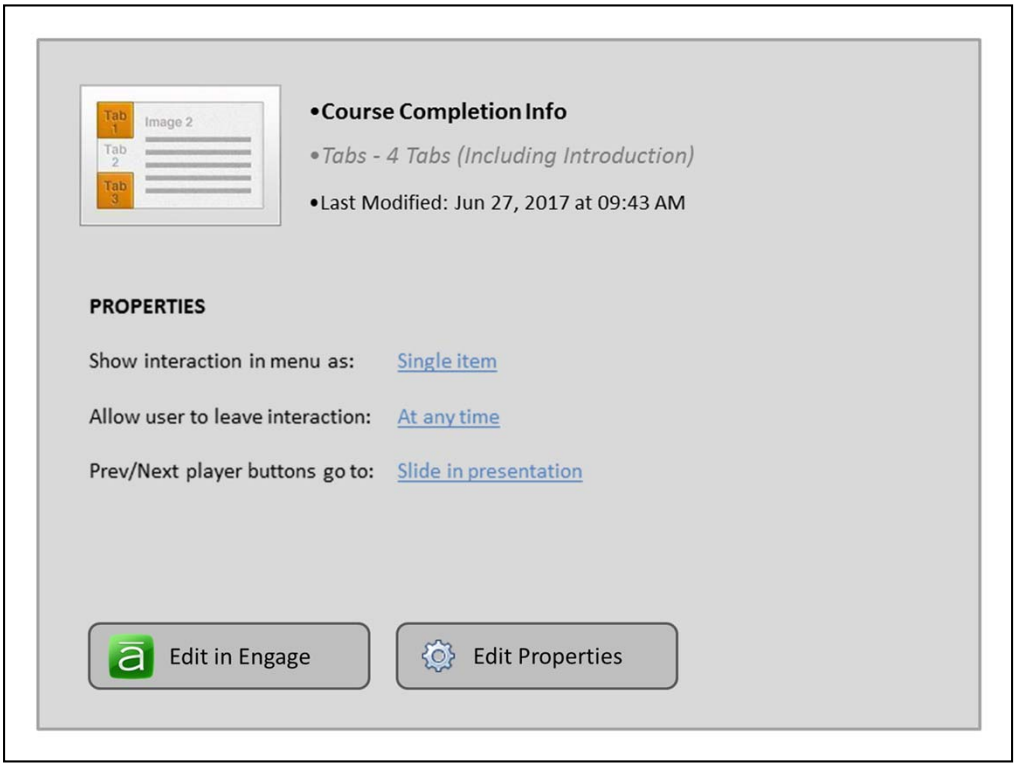
Warning Decision Training Division

Welcome to the AWIPS Build 17.2.1 Informational Overview. I'm Stas Speransky from WDTD, and I will be introducing you to some of the significant changes in 17.2.1.



Go ahead and review the slides, and then access the references pages in the VLab from AWIPS LX workstations or the Internet. For a comprehensive list of all enhancements and bug fixes in 17.1.1, see the Resources tab in the upper-right part of the player.

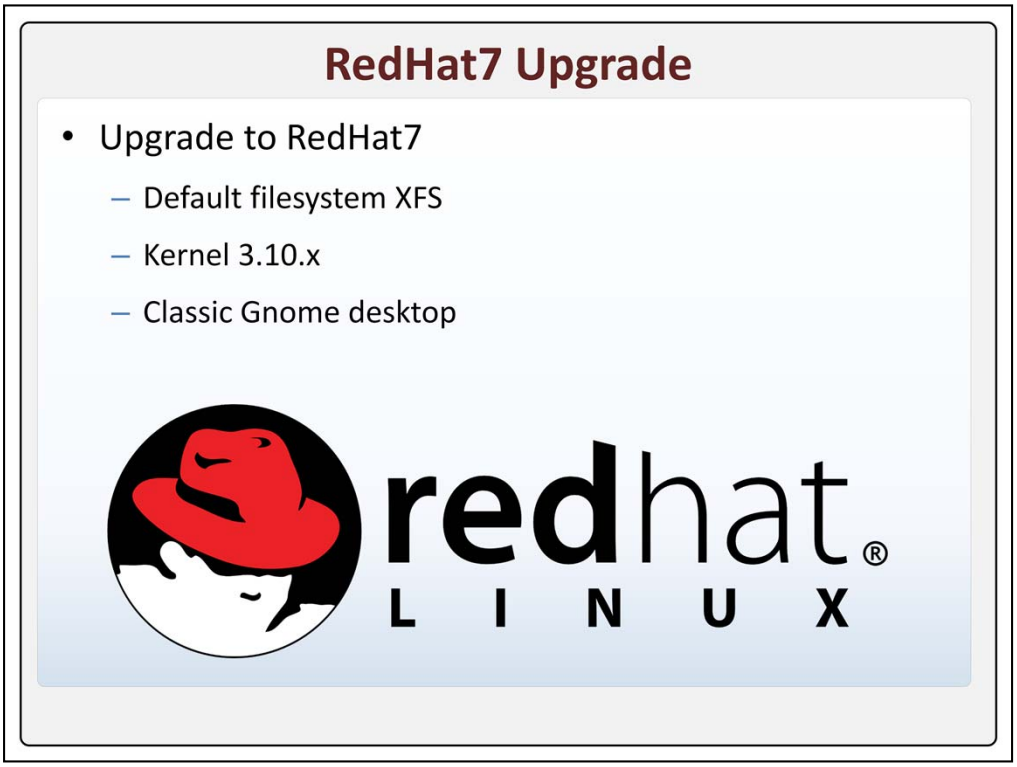
Learning Objectives

After taking this training you will be able to identify some of the more notable AWIPS changes in 17.2.1:

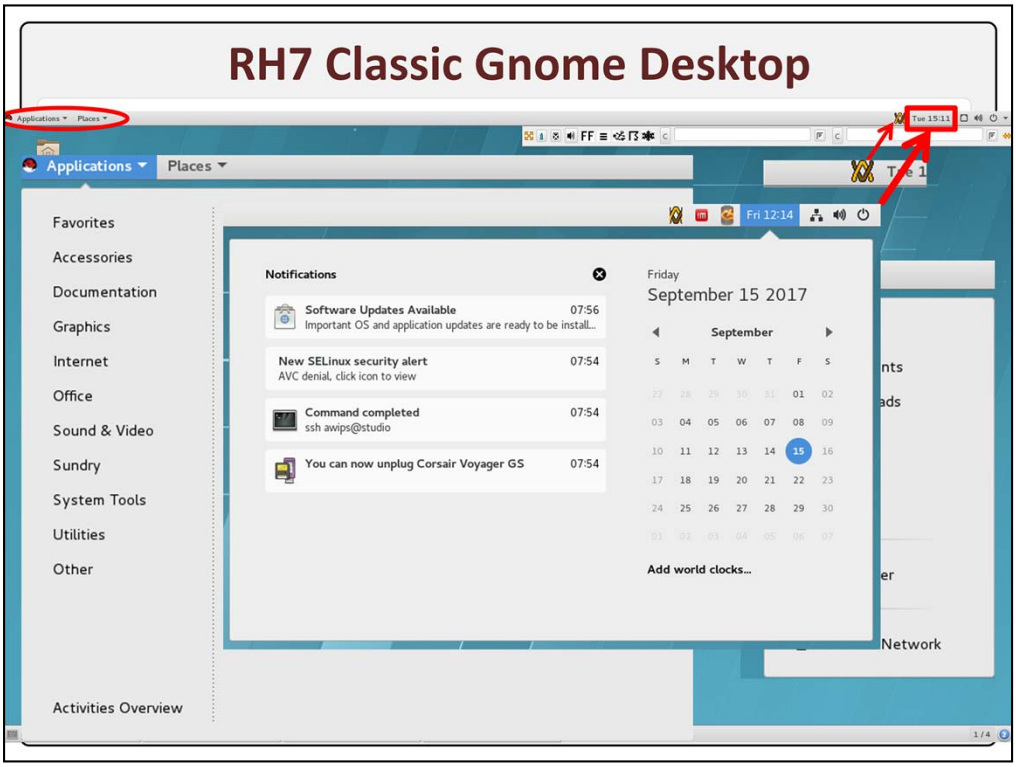
- Upgrade to Redhat 7
  - Classic Gnome desktop layout
  - Extended 3-monitor display
  - Windows maximize by monitor
- Alertviz Bar sometimes freezes
- CAVE product layering variance
- FFmpeg video capture on LXs
- MPE fixes
- Under the hood changes
- SCAN DMD SAILS update
- Permissions and local application authentication

~ 10 min

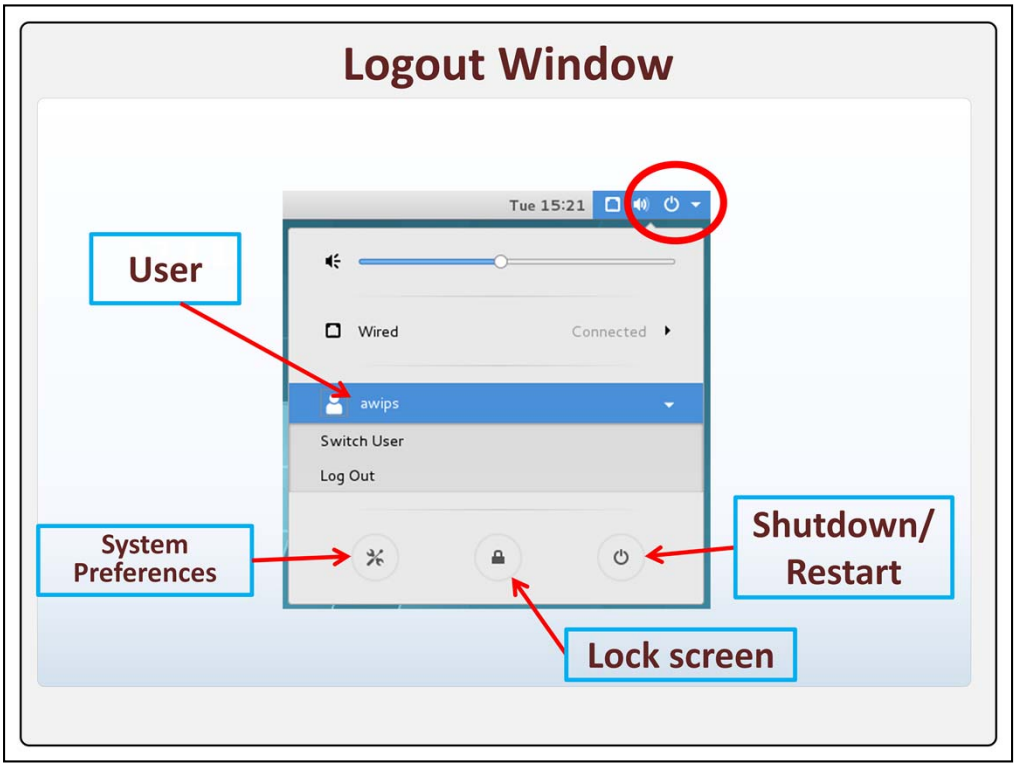
The goal of this training is to provide a general awareness of the following new capabilities and recent changes in around 10 minutes.



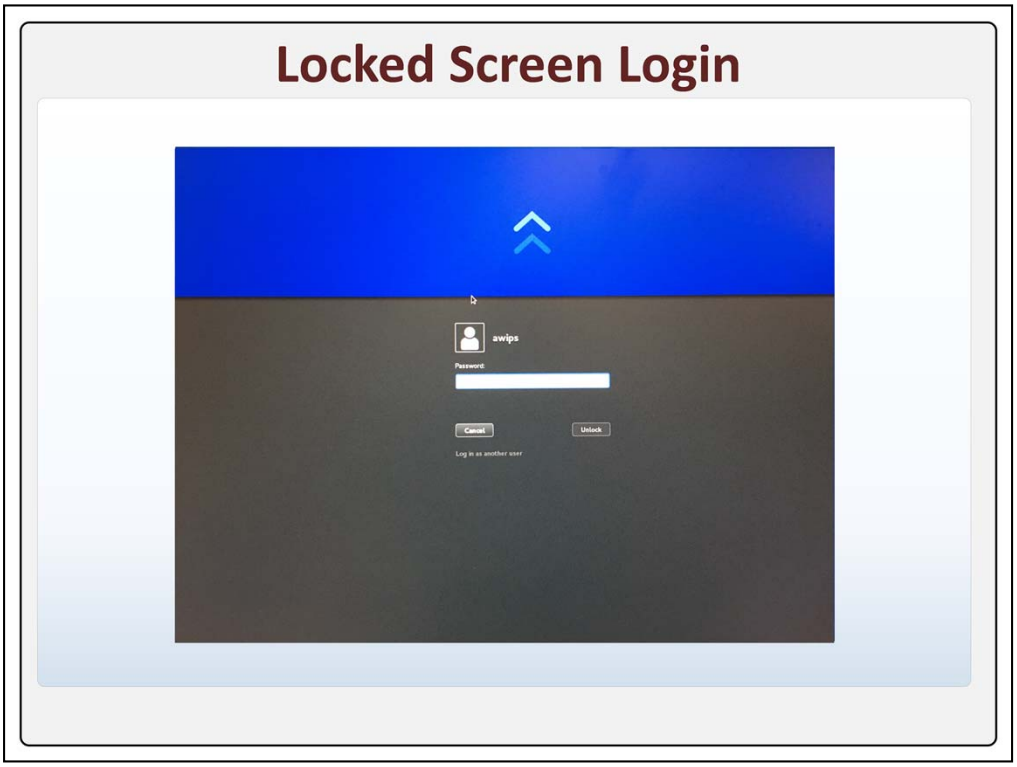
The major change introduced in Build 17.2.1 is the upgrade to the Redhat7 operating system. This includes the change to the XFS filesystem, a new kernel, and a new desktop layout.



The new Classic Gnome desktop layout will take some time getting used to. The Applications and Places dropdown menus can be found in the top left of the desktop, while the System dropdown menu that appears in the previous version of Redhat is missing. This is the Classic Gnome layout that has been modified for AWIPS. Utilities such as the hot corner and search tool have been blocked from this AWIPS version to make this similar to the previous AWIPS desktop. Additionally, the desktop has been further configured so that Applications such as AlertViz will remain docked in the task bar at the top of the desktop. Another variance of Redhat7 is the clock display in the upper right corner. You can no longer see the date unless you click on the time.

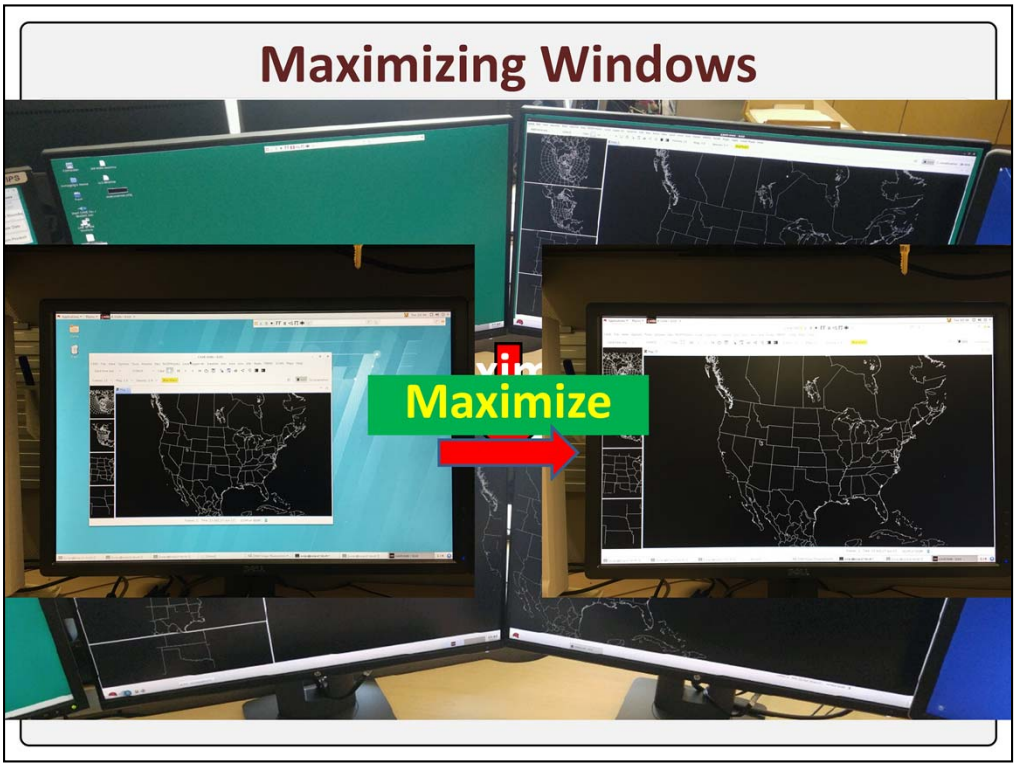


Since the System pulldown menu no longer exists on the Classic Gnome desktop, logging out of your Linux session, locking the screen, and powering off the machine has to be done through the pulldown menu that has a power button icon in the top right corner of the desktop.

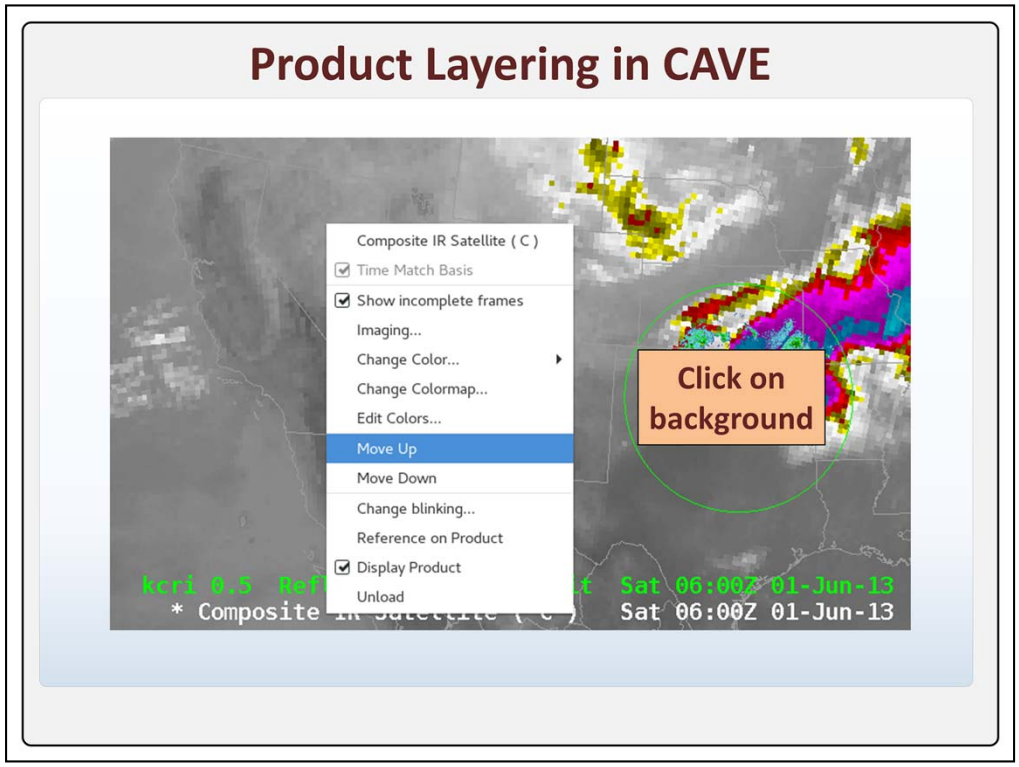


When the screen is locked, clicking the mouse on the screen won’t trigger the login. There are two options to get to the log-in screen from the screen saver. You can either press any key on the keyboard or drag from the bottom of the screen to the top with the mouse, much like unlocking a phone or tablet.

The AlertViz bar occasionally freezes in Build 17.2.1. This prevents any further interaction with the bar including moving it and expanding the logs on any error messages that may appear. The workaround is to uncheck and recheck “Show Alert Dialog” under the AlertViz icon in the top right of the desktop to restore AlertViz bar mobility and select “Acknowledge All Messages” to restore AlertViz dialog mobility.



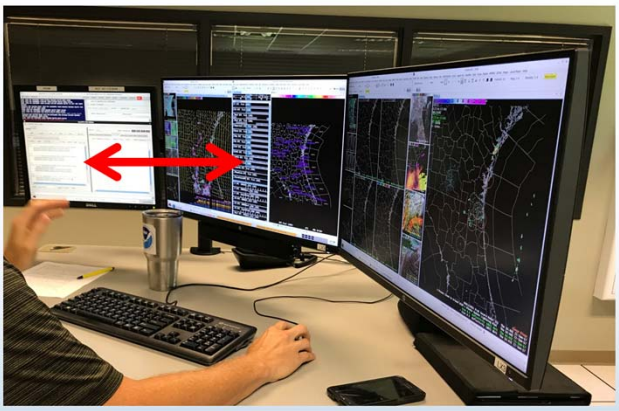
In previous builds, maximizing a window led to the window getting blown up and stretched out over 2 monitors. In Build 17.2.1, that issue is resolved as maximizing a window will only maximize it to cover a single monitor display.



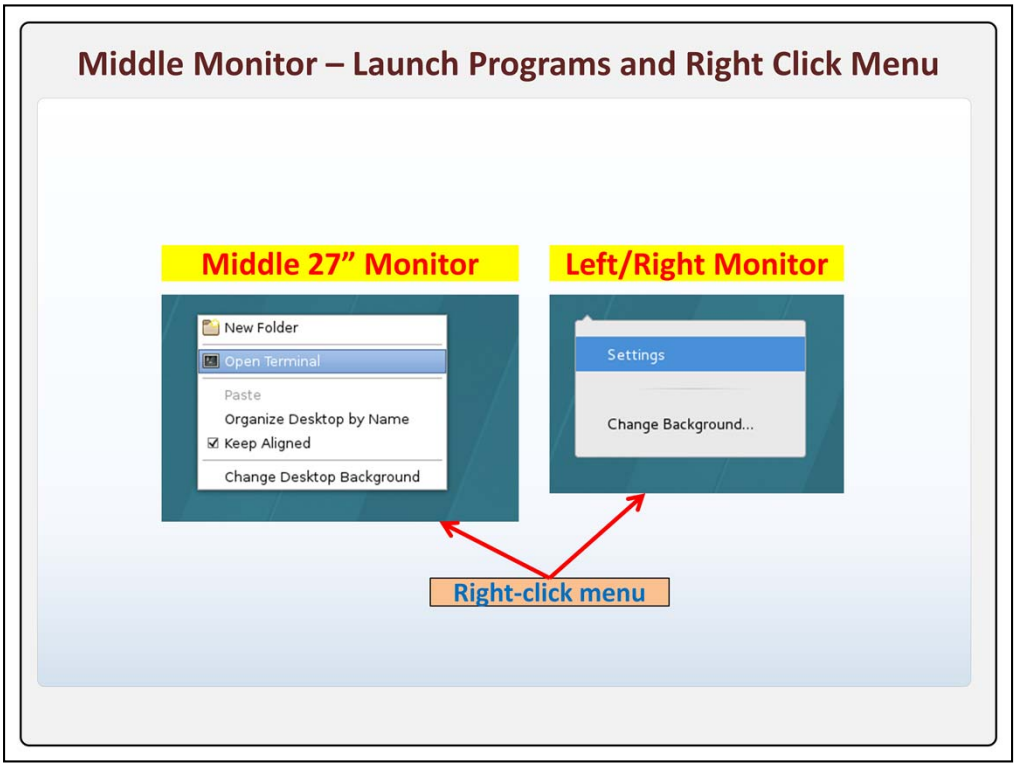
Product layering in CAVE takes an extra step in this build. After selecting Move Up or Move Down when right-clicking on a product in the Product Legend, you must also then left click back in the map editor display for those changes to take effect.

Extended 3-Monitor Display

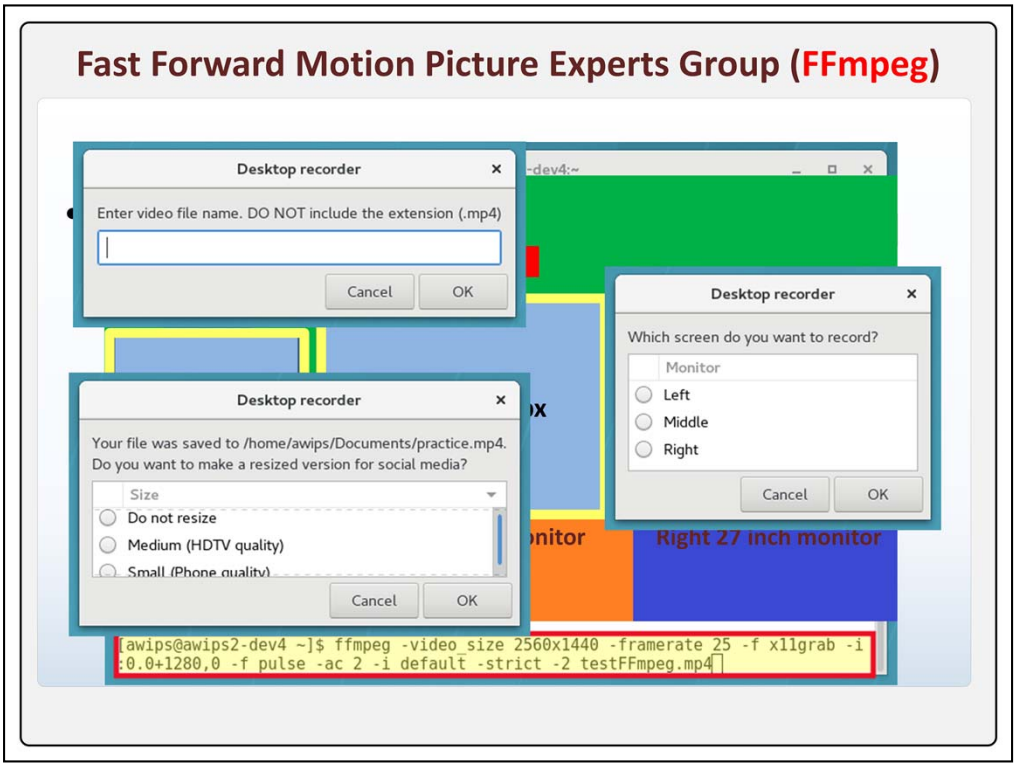
- Drag windows between 27 inch and 19 inch monitors
- Different resolution leads to distortion



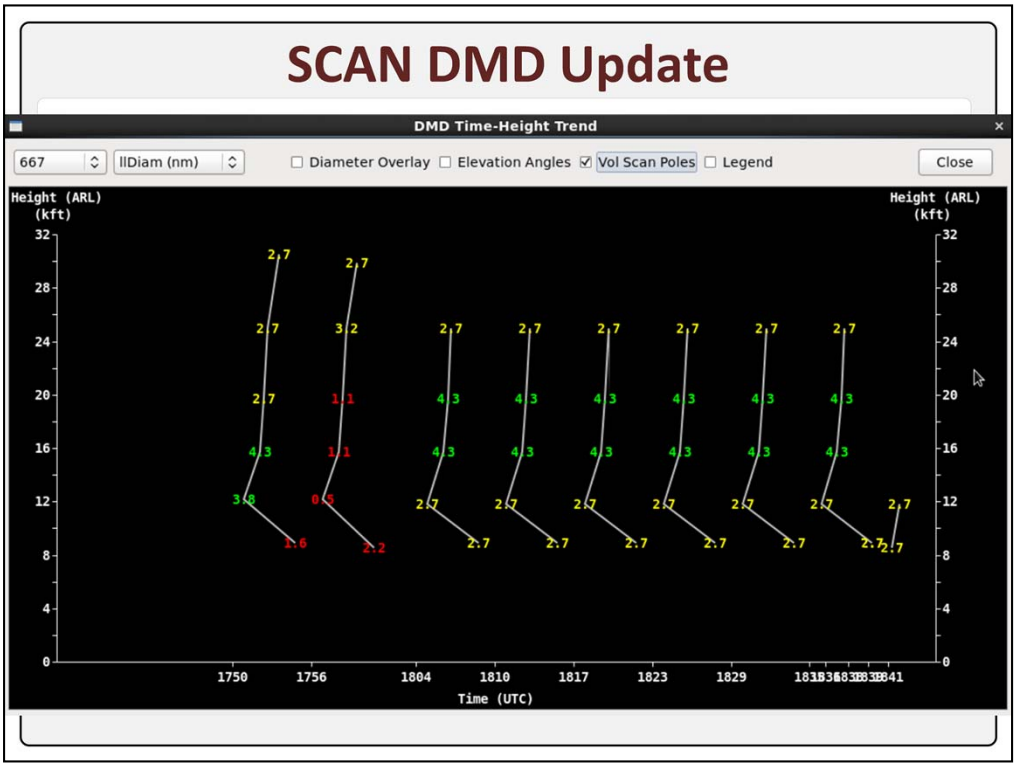
You can now drag window displays from the 27 inch monitors to the 19 inch monitor and vice versa. However because of the different resolutions involved, there will be some distortion. Take the time to experiment moving windows between monitors to see what you're comfortable with.



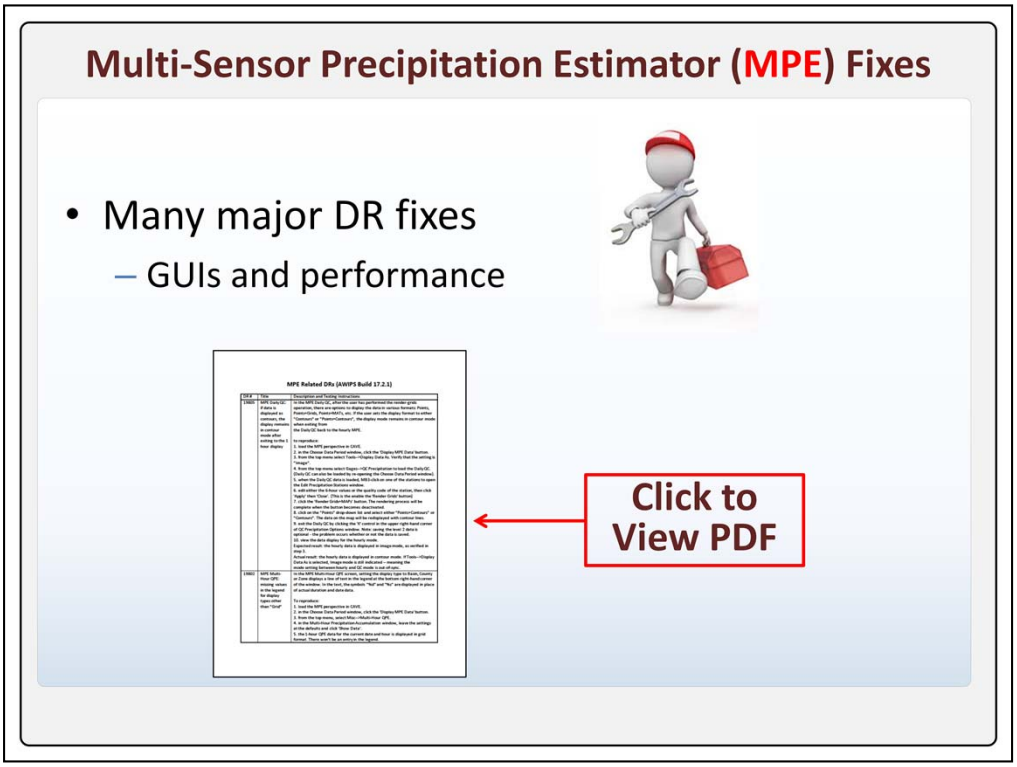
Launching programs and accessing the complete right-click menu, including opening the Terminal can only be done using the Middle 27 inch monitor in a 3 monitor setup. The left and right monitors can only display already opened programs. Right clicking on either the left or right monitor only allows the user access to settings and changing the desktop background.



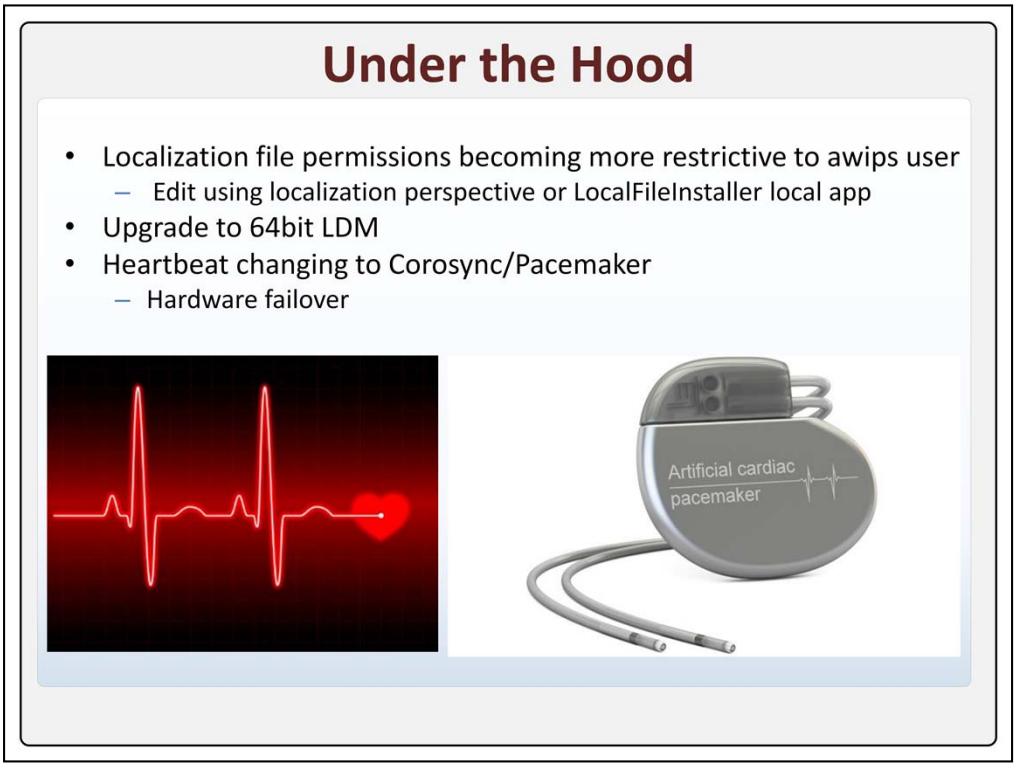
FFmpeg is a video conversion and recording software that can be used to record your desktop with audio if you have a microphone. It has existed on the PXs, but as of 17.2.1 this is being installed on the LXs to support forecasters generating videos for social media and other case archiving and training needs. Originally there was no GUI for this application, so users had to use the command line. However, Jake Wimberley from the Greer WFO has developed a GUI. The download link is included on the FFmpeg page in the VLab. Using the command line, the user can specify the dimensions used to capture video and the screen capture window can be moved around using pixel location values relative to the shared screen space to record each of the two 27” inch monitors as well as the 19” monitor. For example, to record the middle 27 inch monitor in a triple monitor setup, the user would add the value of 1280 to the horizontal position of the recording window. This is because that’s exactly how many pixels across the 19 inch monitor is and we want to skip it and just record the middle 27 inch monitor. Additionally, to record the left 19 inch monitor, you must offset the vertical position by 150 pixels to account for NVIDIA X Server Display Configuration settings that place the left monitor below each of the 27 inch monitors. Using the GUI, just follow the prompts from a series of popup windows. Please check out the FFmpeg page and accompanying jobsheet in the VLab, mentioned at the end of this presentation, for more information on how to use this application.



With RPG Build 18, due early 2018, the Digital Mesocyclone Detection product will use SAILS and MESO SAILS data. After reviewing some of the early data, we have a small refinement to how this behaves with SCAN. In the DMD table, the older 0.5 degree tilt is removed from the display when the extra SAILS tilt arrives, causing the 0.5 degree tilt to be mapped farther to the right in the time/height trend plot.



The AWIPS Multi-sensor Precipitation Estimator, or MPE, allows hydro focal points to interrogate precipitation estimates, and in 17.2.1, MPE has received additional enhancements. In this build, AWIPS 17.2.1 MPE was the subject of many critical DR fixes to the GUIs and performance. If you're an MPE user, please click on this minimized pdf object to view all the 17.2.1 MPE related DRs.



In Build 17.2.1, localization file permissions are becoming more restrictive with the awips user owning all the files. Localization files now need to be edited using the localization perspective or via ThriftClient using the LocalFileInstaller local application that is installed with the NIC.

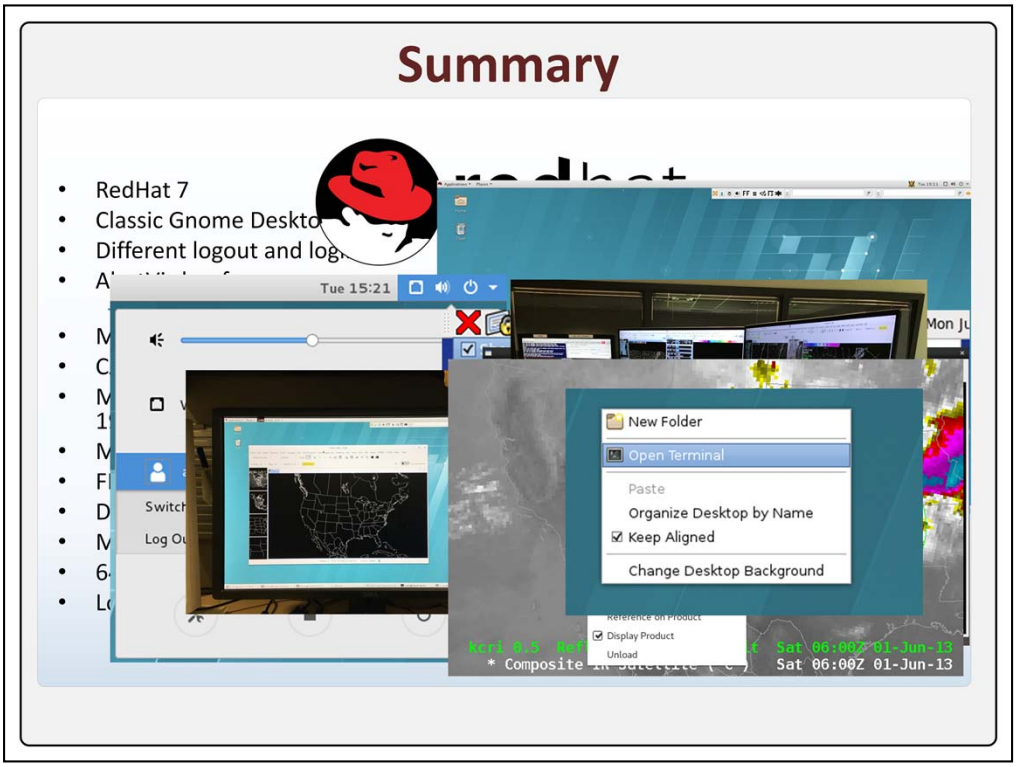
64bit LDM software is replacing the old 32bit version. Additionally, Heartbeat software found in previous AWIPS builds is not compatible with RedHat 7. To maintain local hardware failover capability, Heartbeat is replaced with Corosync also known as Pacemaker. Please see the link to the AWIPS Release Notes in the Resources tab for more information of Pacemaker.

Local Apps- Authentication and Transition

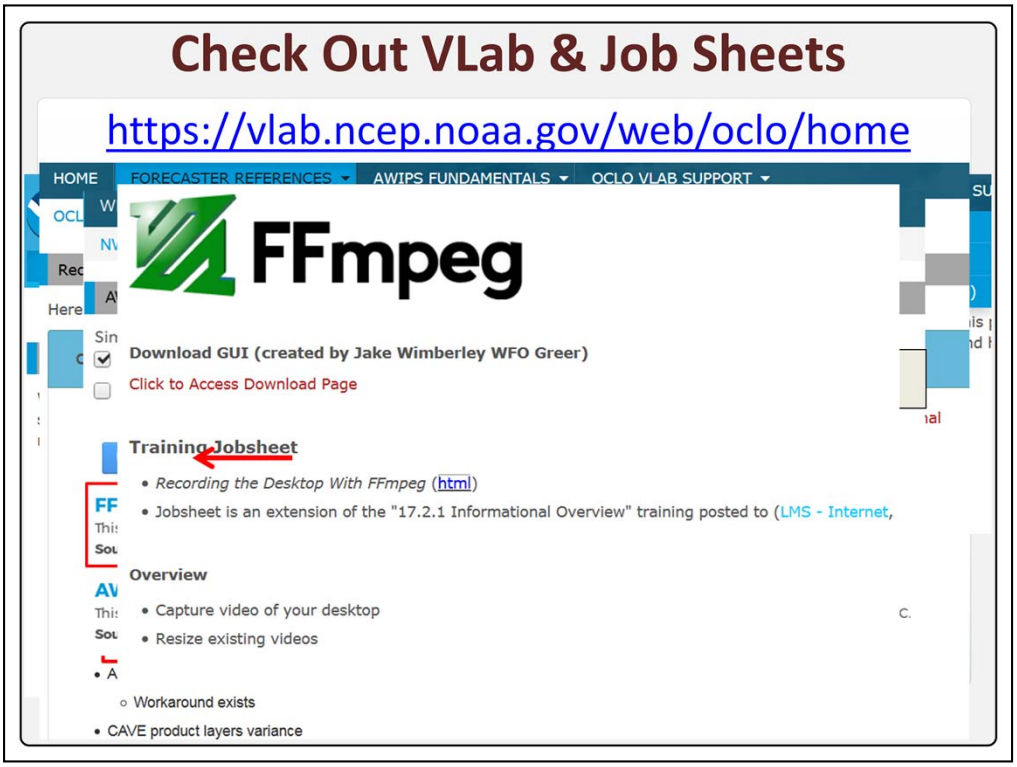
- 17.2.1 Postgres authentication enforced
  - Local applications must use new SSL Postgres access

- Start transitioning applications from µEngine to the Data Access Framework (DAF) in Fall 2017 in preparation for 18.2.1

Another thing to be aware of is that the Postgres authentication implemented in build 17.1.1 is now being enforced in 17.2.1, which means all local applications must use the new SSL Postgres access or they will not work in 17.2.1. Additionally local application developers should start migrating any µEngine usage to the Data Access Framework, or DAF, in fall of 2017 to prepare for the µEngine being removed in 18.2.1 next year. See the Resources tab for links to the documentation.



To summarize, the major enhancement in Build 17.2.1 is the upgrade to the RedHat 7 operating system. The desktop looks a little different but with some customizations for AWIPS that have already been done for you, it will not look as drastic as RedHat 7 straight out of the box. Logging out of your session is different, as is waking the machine up to log in from the screen saver. The AlertViz bar occasionally freezes but there is a workaround. Also, when you maximize a window, it will no longer get blown up and stretched over multiple monitors, as was the problem in previous AWIPS builds. Product layering in CAVE takes an extra click back in the map editor. You can now drag window displays from the 27” to the 19” monitor and vice versa. However because of the different resolutions involved, there will be some distortion. Launching programs and accessing the complete right-click menu can only be done using the Middle 27 inch monitor. 17.2.1 comes with a new application called FFmpeg, which allows you to record your desktop. DMD will use SAILS and MESO SAILS once RPG Build 18 is released in early 2018, and the SCAN DMD time-height trend will filter out the initial 0.5 degree 2D feature once the new 0.5 degree 2D feature arrives. There have been many MPE fixes for this build. Please click on the 17.2.1 MPE DR list in the Resources tab to review the DRs fixed. 17.2.1 upgrades the LDM to 64 bit and replaces heartbeat with pacemaker. In this build, permissions are becoming more restrictive and local applications must now use Postgres authentication to work. And finally, local applications need to start migrating from µEngine to the DAF before 18.2.1.



You are now done with the AWIPS 17.2.1 Informational Overview.

Just enter this address in a browser on your LX workstation or on the Web and select the AWIPS Build Changes VLab page from the Forecaster References. From there you can access the FFmpeg page, which includes the jobsheet along with reference information. Alternatively, you can right click on a product in the Product Legend in CAVE and select Reference on Product. This will bring up the AWIPS Interactive Reference search page. Type FFmpeg in the Keywords search then click Update and you should see the FFmpeg page as the top hit. You may also type AWIPS Builds Changes to access the summary page. Let me know if you have any further questions, and good luck with the new 17.2.1 capabilities.