Encryption on Linux

Encryption

- **Encryption: The process of converting information or data into a code, especially to prevent unauthorized access.**

Encryption methods

- **Container Encryption**
- **Full disk Encryption**

Container Encryption

- **Container based encryption is where there is an encrypted file that when unencrypted reveals a directory.**

- **Such common programs are Veracrypt or 7zip**

- **Container files can be portable since they are just files. Making them easier to share with people who have the password.**

Full disk encryption

- **Full disk is where the entire disk is encrypted. To be able to read the contents of the disk it must first be decrypted.**

- **Full disk encryption is the most secure method of encryption as it encrypts the full disk including caches. Unencrypted caches while using container based encryption is a leading attack for data leakage.**

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Future of Encryption and Linux

- **In the past when installing Ubuntu you had the option of also encrypting your home directory. This had been removed from Ubuntu starting with 18.04 due to vulnerabilities. It is now suggested one install Ubuntu with full disk encryption.**

Future of Encryption and Linux

- **The leaves open the possibility of someone who obtains physical access to the machine while it is powered on and decrypted, to get the contents of the home directory. This can happen even if you have your user account locked.**

- **Powering off your machine after use will alleviate this and secure your computer again.**

Future of Encryption and Linux

- **You could also use container encryption within full disk encryption to create a encrypted directory containing files you want extra secure from the previous mentioned attack method.**

- **Just make sure you use a separate password for the container.**

How to install Veracrypt

- **Open up the terminal:**
- **wget https://launchpad.net/veracrypt/ trunk/1.23/+download/veracrypt-1.23-setup.tar.bz2**
- **tar -xjf veracrypt-1.23-setup.tar.bz2**
- **sudo ./veracrypt-1.23-setup-gui-x64**

How to install Veracrypt

- **You will now be able to see the Veracrypt icon in your application listing.**

Questions?