3. ENGINEERING CANDIDATE

Given the fact that there are two major types of installs, Net Installs vs Physical Installs, in this tutorial I will chose to focus on one of them. I have more experience with Physical, so I discuss Physical primarily. I also will go to additional lengths to insure security, for illustrative purposes of an environment where my actions reflect on and impact the US Government.

My final goals are a single multi-bootable USB device with both Windows 7 and Server 2012, containing all drivers/programs/security features necessary and Microsoft Office, to allow physical customizable installs to fit each computer system and OS and easily distribute the work via multiple identical devices while being able to adapt to different hardware/software configurations. You can easily burn each final ISO creation to disk if necessary.

First, download the latest images of the Microsoft Office of choice, Microsoft Windows 7, and Microsoft Server 2012 from Digital River, Microsoft’s official digital distribution service, then check the MD5 checksums of each file. Checking the MD5/SHA-1 checksums of my downloads is important to insure the downloads were not tampered with while being transmitted to my computer via MitM attack and are error free, plus downloading each file will insure I have the most recent security updates.

Then, download/MD5 checksum Yumi, a Linux multiboot tool that will allow my final product to give the installer a choice between OS’s upon booting, download/SHA-1 Checksum NTLite, a program that allows me to slipstream Windows updates/add drivers to each ISO to insure I don’t have to spend excess insecure time applying Windows Updates, and download/SHA-1 all necessary Windows Updates beforehand (as needed from the Microsoft Website), and acquire all necessary programs and drivers for every unique install of Server 2012 or Windows 7.

Organize your updates for Server and Windows 7 in two separate folders, organize your drivers for every applicable Hardware configuration in two separate folders (or only add Network drivers and let Driver Booster auto-detect and update each computer to the latest drivers, depending on the knowledge of your intended range of systems), and organize your security solutions and applications in separate folders for Server and Windows 7.

Use NTLite to add the required drivers and updates to each ISO from the created folders so they are pre-installed, then automate the OS installation. Use 7Zip to open each ISO and move security software and applications folders created prior into each base directory, so they are bundled and easily installed/configured. Extract your ISO of your chosen Microsoft Office product (which could also be slipstreamed although it is not as important as the OS’s) to a folder, then copy the folder into the Windows 7 ISO only, so it can be easily installed. Create a folder with CD keys, install instructions, and whatever else might be needed for setup in the base directory also.

Now that your ISO’s are up to date with Windows Update and every possible driver situation, contain all applications/security features as required, have Office easily installable, instructions on case-specific applications and CD keys, use Yumi to add both ISO’s to your USB stick. Then, you will be able to choose which install to run on each computer and it will do it all automated, even auto-detecting and installing drivers, all from the same usb stick!

Once each respective ISO is installed automatically, install applications/security solutions as necessary, harden the install by removing the default admin account and other OS and install-specific customizations, then repeat. You can use the created ISO’s for Net Installs if desired, but this tutorial focuses primarily on a physical install using USB sticks.