Ghost Cloud - Imaging and installing different Operating Systems using Cloud

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Abstract: We have a problem while installing operating systems on PCs in masses. We need people to manually insert bootable drives into the system so as to boot it. It takes a lot of time as well as memory devices. Another problem with this approach is that whenever a system is replaced or needs a change in OS, we manually have to reboot the system with another OS. This can be overcome by implementing a hybrid technology consisting of Ghost Imaging, LAN booting and Cloud service. We will be creating a centralized cloud where the users will create accounts. We will have different OS for motherboards preinstalled with user specified software and drivers on this server. User can be able to save their own image files on this cloud. Users will be able to select the system that needs to be booted, the operating system which needs to installed on it to a desired system through Cloud. This System can be used in: Different Schools and Colleges, Various Organizations, Personal Work places, offices, etc. This idea will prove to be helpful for system administrators to perform OS related tasks by just sitting at one PC.
Keywords: booting, cloud, imaging, LAN booting, PXE.

I. INTRODUCTION

As we all know that in today's world how time is important and redundancy is required in work, and to reduce the burden of human work with the technology known as ghosting I.e. "CLOUD GHOSTING". This idea will prove to be helpful for system administrators to perform OS related tasks by just sitting at one PC, the purpose is as follows, we have a problem while installing operating systems on PCs in masses. We need people to manually insert bootable drives into the system so as to boot it. It takes a lot of time as well as memory devices. Another problem with this approach is that whenever a system is replaced or needs a change in OS, we manually have to reboot the system with another OS. This can be overcome by implementing a hybrid technology consisting of Ghost Imaging, LAN booting and Cloud service. We will be creating a centralized cloud where the users will create accounts. We will have different OS for motherboards preinstalled with user specified software and drivers on this server. User can be able to save their own image files on this cloud. Users will be able to select the system that needs to be booted, the operating system which needs to installed on it to a desired system through Cloud.

II. DOCUMENT CONVENTIONS

1) *OS:* Operating System
2) *System / Software:* The product being discussed
3) *Machine:* User's Computer
4) *Source Machine:* The PC from where the imaging is to be done
5) *Target Machine:* The PC on which the image is to be installed
6) *PC:* Personal Computer
7) *UML:* Unified Modelling Language

III. DESIGN & METHODOLOGY

A. *Creating Images of OS and Configurations*
The user desires to change his/her workstation so he opts to create the image of his/her machine so as to relocate the entire system and its contents to another PC to which the software responds as per the feature.
The system will create image files of the target machine and also of the configuration files in it. The image creation script will be responsible for this.
The priority of this function is high as it's one of the main functions of the software.

B. Uploading the Image over the Cloud

The created image is then uploaded on the cloud and stored in the database.

The priority of this function is high as it's one of the main functions of the software.

C. Managing the images

The user decides to manage the existing images.

The system can create, update and delete the images from the cloud. It can also modify the image as per the target machine requirements. The configuration files can be modified and then installed on the target machine.

The image management script will be responsible for this job.

D. Installing and Running the OS

The modified image then can be downloaded on target machine then installed and run on it so as to boot the target machine with the desired OS.

IV. CONCLUSION

As we all know that in today's world how time is important and redundancy is required in work, and to reduce the burden of human work with the technology known as ghosting I.e. "CLOUD GHOSTING". This idea will prove to be helpful for system administrators to perform OS related tasks by just sitting at one PC, the purpose is as follows, we have a problem while installing operating systems on PCs in masses. We need people to manually insert bootable drives into the system so as to boot it. It takes a lot of time as well as memory devices. Another problem with this approach is that whenever a system is replaced or needs a change in OS, we manually have to reboot the system with another OS. This can be overcome by implementing a hybrid technology consisting of Ghost Imaging, LAN booting and Cloud service. We will be creating a centralized cloud where the users will create accounts. We will have different OS for motherboards preinstalled with user specified software and drivers on this server. User can be able to save their own image files on this cloud. Users will be able to select the system that needs to be booted, the operating system which needs to installed on it to a desired system through Cloud.

V. APPENDIX

A. What is Network Booting?

Network booting, or booting from LAN as it is also called, is a process which allows a computer to start up and load an operating system or other program directly from the network without any locally attached storage device, like a floppy, CDROM, USB stick or hard drive. On Intel architecture computers this is made possible with the PXE standard. PXE extends the features of the BIOS so that it can run software directly from the network. PXE support is now so common that you can expect it to be present in any reasonably modern computer that comes with an Ethernet jack (commonly known as RJ45). This fact alone makes it possible to boot an Intel-based computer from the network without having to burn an EEPROM on your network card, like you had to do in the past.

B. The BIOS boot process

When your computer powers on and starts running your operating system, it goes through a series of operations before it actually starts your operating system. Your operating system is a very sophisticated boot program that takes total control over your computer. But a boot program can also be a fairly simple program, like a memory diagnostics program, a hardware stability checker, or even a simple game like Pong or Tetris.

VI. ACKNOWLEDGMENT

It is optional. The preferred spelling of the word "acknowledgment" in American English is without an "e" after the "g." Use the singular heading even if you have many acknowledgments. Avoid expressions such as "One of us (S.B.A.) would like to thank ... ." Instead, write "F. A. Author thanks " *Sponsor and financial support acknowledgments are placed in the unnumbered footnote on the first page.*

REFERENCES

[1] Tong-S Chen, Kuang-Shin Lin (2000),"METHOD OF CLONING THE FILE SYSTEM OF A WINDOW WEB OPERATING SYSTEM BY USING A BTMAP FILE", 28 Feb 2020,https://patents.google.com/

[2] Joseph J. Fitzgerald, Franklin Lakes,Edward Kahn,Phillip Burgard,Harry Moeller (2005), "SYSTEM AND METHOD FOR MANAGEMENT AND INSTALLATION OF OPERATING SYSTEM IMAGES FOR COMPUTERS", 27 Feb 2020, https://patents.google.com/

[3] Robert S Raymond, Blaine S Dennis,Eric J. Ruff (1998), "ONE-TO-MANY DISKIMAGING TRANSFER OVER A NETWORK", United States Patent, Patent No. 6,108,697, Date of Patent Aug. 22, 2000

[4] Ostrowick, John. (2004). Network Booting versus hard disks: Costs and Implications. Conference Paper. 10.6084/M9.FIGSHARE.769336.

[5] Liu, Hongzhou & Roeder, Tom & Walsh, Kevin & Barr, Rimon & Sirer, Emin. (2005). Design and implementation of a single system image operating system for ad hoc networks. 149-162. 10.1145/1067170.1067187.

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