

The Virtual Laptop **Secure, Portable Business Computing**

Prudential Virtual Launchpad

Prudential Financial

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Introduction

- Ida Machuca - work in the Insurance Department for Prudential, specifically in the Individual Life Insurance Systems area supporting our Agency Distribution field force
- Currently have responsibility for:
 - The infrastructure support for all Prudential field offices across the US
 - For the Field Technology Help Desk, the dedicated team supporting all Prudential field associates and their staff for both hardware and applications
 - Oversight of the Agent web portal called Navigator which integrates our local and web based solutions in a single interface



Agency Distribution Environment History

- Laptops were provided for all field associates as part of a full upgrade to all field offices 10 years ago and we have refreshed the hardware 4 times since then
- The “LaunchPad Laptop” is a laptop with a specific image that is maintained and supported by a depot process, a software distribution system and a dedicated Help Desk
- We remain one of the few carriers who still provide the hardware and software to all of our agents
- We are still in the process of migrating some of our applications to the web. The few remaining locally installed applications and our need for security are what drive the need for providing hardware



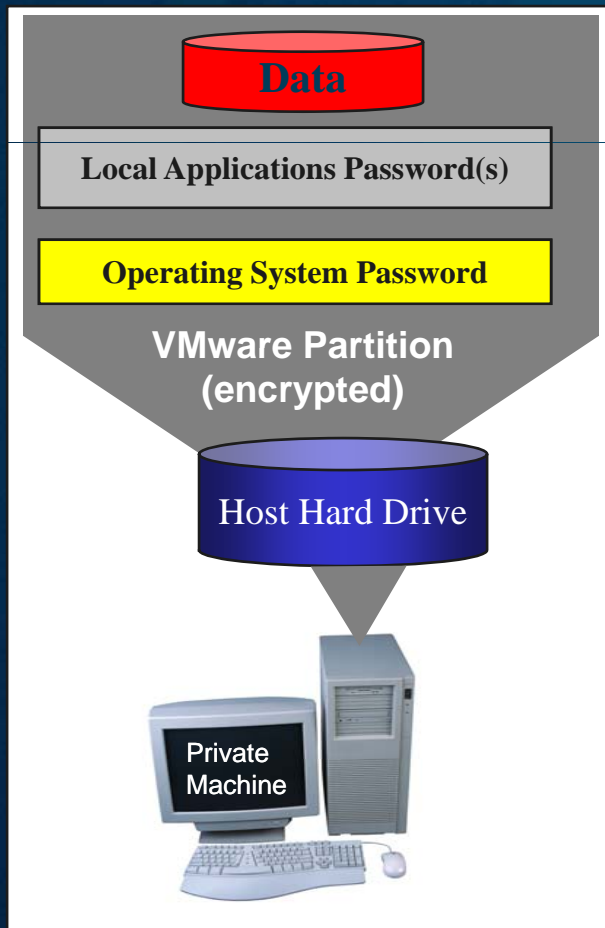
Project History

- In the past our applications were allowed to be installed on private machines in addition to what we provided on company issued laptops
- Due to GLB legislation Prudential is required to protect client data no matter where it is located
- Certain applications, like our client management system & Illustrations software, have their own limited security and are able to protect client data, others like our Electronic Application do not
- Prudential first started using VMware with its sales force personal machines in 2003 to protect the client data in our Electronic Application
- The software used was Workstation 4.04. Prudential worked with VMware to have 4.04 customized to meet our security and user experience needs. This customized version is what is now called VMware Ace.



Project History

- Installed on the hard drive of the computer owned by the agent it contained the full laptop image so it could be used in place of a laptop for someone like a Marketing Assistant or Associate Producer



While initially meeting our privacy goals this version had some challenges

- Data still remained on a non-Pru machine
- Relied on the agent to remove software upon leaving the company as part of policy & procedure
- Performance was not optimal

Project Goals

- Protect Prudential owned client and user data
- Secure Network and Infrastructure thru Network Quarantine.
- Performance of a Prudential imaged laptop
- Mimic the laptop processes. Ordering, build, shipping, support, recovery, data retention.
- Drive can be configured for the user in Depot before it ships. Ships ready to use.
- Minimal host based machine requirements.
- One click install and setup. No user impact. Setup time is less then 5 minutes.
- Can be sent to Depot or Field Technology Support Help Desk for troubleshooting and repair. Just like a laptop.



The new Prudential Virtual Launchpad (PVL)

The benefits of the new version:

- Portable
- Secure/encrypted
- Maintainable via Radia
- Configured for use by agent, MA or Associate Producer

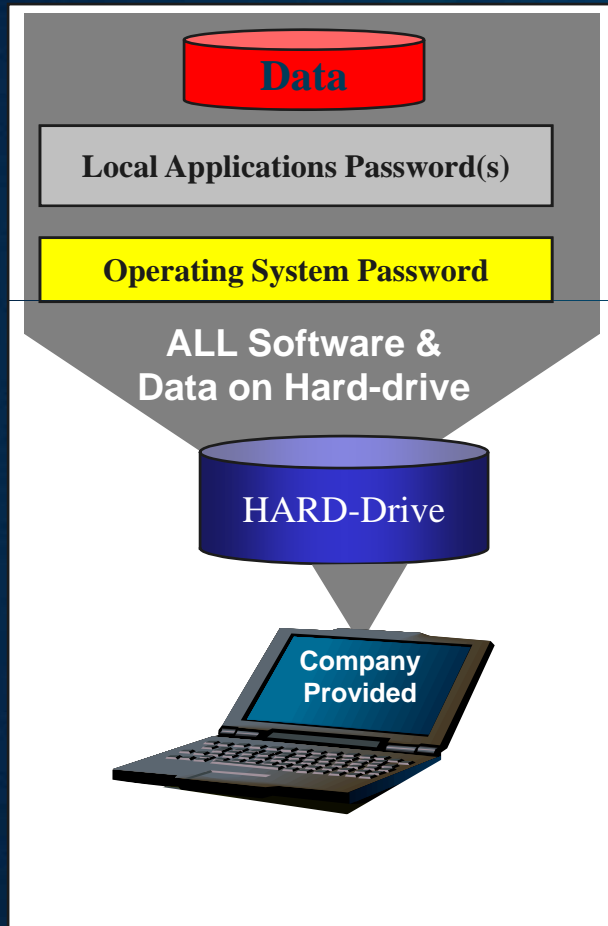
Private machine requirements (may require new purchase or upgrade):

- Microsoft Windows XP Professional or Windows Vista operating system
- At least two gigabytes (GB) of RAM (memory) available
- Two USB 2.0 Ports
- 150 MB of free space on the hard drive
- CD Read/Write
- A screensaver set up with a password



Addressing The Physical Risk

Company Hardware



Layers of Security

Application Passwords
Expires every 30 days

Operating System Password
– expires every 30 days

One Password for both Device & encryption.

You CANNOT get to anything on either device without this Password.

Encryption “KILL” pill - set at 45 days (can be changed on demand)

Private Hardware



Architecture

VMware Ace 2.0

- Supports all retail machine Operating Systems and Hardware.
- Only virtualization software designed to run from a USB drive
- Supports network quarantine or network filtering
- Supports easy printer setup. Allows the virtual machine to print to the host-based printer.

Apricorn Aegis 60gig USB Drive

- We did a bakeoff of 8 different vendor drives. The Apricorn Aegis drive was picked based on speed, footprint, price, and architecture
- Drive is self-powered. Drive only uses one USB port on the user host machine
- Drive is a solid protected easy to use enclosure

Data Encryption Software

- Supports VMware Images/Drives
- Same user interface as our laptop encryption software
- No negative impact on performance
- Same support model as a laptop or desktop
- Locks users out if they have not reported in over the last 30 days



Technology Set Up

- Policy settings are set on the master machine
 - Cannot copy data to host
 - Launch in full screen
 - Network Quarantine settings
 - User locked out of configuration settings
 - Memory to be used is 1 gig
 - Soft Shut down
- VMware Ace Player software automatically installs upon installation to users host machine.
- Drive is pre-configured as the P: drive to ease support and installation
- VMware Virtual LaunchPad image files housed on drive. Thirty gig PVL image file
- Support and troubleshooting folder with utilities and applications that are used by our helpdesk



Project Roll Out

- Our roll out started at the end of November 2007 and continued through March 2008
- We have 1500 PVL drives out in the field
- Feedback has been good
- Some issues with situations that are specialized or unique
- We have an upgrade to ACE that is in the process of being tested that will resolve some minor issue encountered during roll out
- Overall, the project has been deemed a success and a first of it's kind
- We expect to continue to enhance it and make it more user friendly

