Hewlett Packard Enterprise

HPE Synergy Image Streamer: Legacy and UEFI deployment paradigms

Capture and deployment paradigms

Legacy: Guestfish oriented – UEFI: OS script oriented

Legacy

- Capture and deployment processes uses guestfish to
  - Mount the root OS file system on /
  - Create/modify/delete configuration files within the OS volumes using comple guestfish commands
  - Post scripts in the root OS file system to be executed during first boot of the deployed system
  - Unmount the root OS file system
- OS Specific capture scripts provided to generalize the initial OS volume
  - Place OS volumes into a know state before Golden Image creation
    - Generalize users, network, hostname file, host file…

UEFI

- No OS specific capture scripts
  - Use of the generic “Capture As-Is” build plan
    - Using OS specific capture scripts breaks the paradigm
- Image Streamer uses guestfish to
  - Mount the UEFI partition
  - Post scripts in the UEFI partition to be launched during the first boot of the deployed system
  - Use of the Capture-As-Is Deployment Plan to create Golden Images (no specific capture Plan Scripts)
  - Unmount the UEFI partition

Legacy and UEFI oriented paradigms

Pros and Cons

Legacy deployment

Pros

- Allows the generation of Golden Images using a deployed volume (i.e. OS or application upgrade or patch).
  - Generalize capture Plan scripts place the OS volume in a known state regarding network, users, hostname...
- No need to execute OS dependent instructions/commands at the end of the first configuration on the empty OS volume
- Allows the generation of Plan Scripts supporting multiple distros

Cons

- Guestfish syntax and programming concept difficult for system managers and developers
  - Code to identify the OS type is complex due to guestfish limitation in IS version 4*
- File systems not supported (i.e. xfs, btrfs) by guestfish in IS version 4*
- Log records spread in both Image Streamer and deployed OS volume log files
- Troubleshooting process requires long operations like the de-assignment and re-assignment of Server Profiles

UEFI oriented deployment

Pros

- Support of all existing OS volume file system (btrfs, xfs, NTFS...), regardless the version of the Image Streamer
- Complexity of Plan Scripts reduced to the minimum
  - no complex guestfish operations
- Majority of the debug info in the OS log files (since no complex guestfish code)
- Reduce number of Server Profile assignment/de-assignment during debug phases; most of the debug process requires only warm reboots

Cons

- Prevent the use of already deployed OS volumes to create updated/patched/customized Golden Images, due to the absence of Generalization scripts before the capture process
- Requires OS dependent instructions during the initial OS configuration (i.e. Post of the wrapper script in the rc.local file)
- Difficult to create Plan Scripts supporting multiple distros (OS dependent config files syntax/location and processing)

HPE Image Streamer Community Samples

HewlettPackard GitHub repository

Provides

- Open to external contributors
- Legacy and UEFI oriented artifact bundles
- Build Plans and Plan Script extracted sources
- Scripts to extract artifact bundle sources and automatic creation of the Readme.md files
- Numerous Readme files
- Various collateral documentation