ESXi Install

HW requirements: HCL compliant (see link below), 64bit x86 CPUs min 2 cores, 2GB RAM, 5GB disk, , root password 6-64 characters. Set HW clock (BIOS) to UTC. VMFS only created on first disk.
ESXi Installable starts in evaluation mode (60 days) on first power-on even if host is licensed. If no DHCP at install, link local IP used 169.254.x.x/16. Installation log: /var/log/esx_install.log
Disconnect Fibre Channel connections prior to installation.

ESXi Partitions: • 2 boot banks • 4GB VFAT scratch (system swap & vm-support info) – not required but uses ramdisk if not present, or can use remote NFS partition • locker • 110MB diagnostic for core dumps (can redirect to ESXi Dump Collector) • VMFS5 on each disk's free space. Fresh install has GPT, upgraded has MBR style.

Not supported: • ESXi Installable & Embedded on same host • Booting multiple servers from 1 image
Sources: • Boot – CD, USB, PXE boot, remote boot from app??? • Script – CD, USB, NFS, HTTP(S), FT. Specify location in *kernelopts* line of boot.cfg, or boot option (Shift+O) ks= . ESXi5 cannot PXE boot from one image, then install different image. Boot image is always the installed image.
Default ks file at /etc/vmware/weasel/ks.cfg (password is *mypassword*) • Destination – SATA (considered remote – no scratch), SAS, SCSI disk, flash drive, FC or SW iSCSI (target IQN set in iBFT BIOS) SAN LUN, PXE stateless (Auto Deploy).
Default install scripts: • ks-first.cfg installs on 1st disk • ks-first-safe.cfg same but keeps VMFS. Interactive install creates /root/ks.cfg from choices made.

Image Builder: PowerCLI tool (server & cmdlets) to create images (Image Profile) with customized updates & drivers. Deploy image as regular install CD or Auto Deploy server. Include vmware-fdm VIB if host will be in HA cluster. VIBs must pass dependency check & meet acceptance level – VMwareCertified, VMwareAccepted, PartnerSupported, CommunitySupported. -AcceptanceLevel parameter changes level. Clone a published profile to create custom profile.

Auto Deploy (stateless): loads ESXi images into hosts' memory. Configuration can be set via Host Profile (see vCenter section). Server as Windows install or VCSA. 1-to-1 Auto Deploy registered to vCenter. Hosts need BIOS firmware (not UEFI). Host DCHP reservations recommended. VLAN tagged (trunked) boot NICs not recommended. Multiple hosts rebooting can cause boot storm for Auto Deploy server. Hosts require Dump Collector. Redirect logs to syslog server or NFS datastore.
PowerCLI Bulk Licensing useful for Auto Deploy. Rebooted host stays in maintenance mode if vDS is used & vCenter is unavailable. Can use VIBs (packages), Images Profiles & Software Depots (online - HTTP or offline - ZIP file) during install.
First boot • set DHCP for IP and points to TFTP server for gPXE. add rules to rules set • identify Image Profile • (optional) rule for Host Profile • apply Active Rule Set.
Re-provisioning (subsequent reboots) can change answer file, use different image or host profile.
Components: • Auto deploy server – manages state information, serves images & host profiles • Rules engine – manages rules & rule sets • Image Profile - matches sets of VIBs to host • Host Profile - machine specific information • Answer File - host specific information user provided during first boot (only access via Host Profiles UI).
Rules engine: • Rules – assigns Image Profiles, Host Profiles, location within vCenter hierarchy, identifies host via MAC address, SMBIOS asset tag, BIOS UIID or IP address • Active Rule Set – maps matching rules to hosts when image is requested • Working Rule Set - test rules before making active.
Deployment Information: • Image state - profile created by Image Builder PowerCLI tool. Contains executable software • Configuration state - from Host Profile • Dynamic state - runtime information in memory lost during reboot • VM state - VM auto-start info, managed by vCenter but locally stored if HA is enabled • User Input – host profile set to require user supplied host specific information stored in answer file.
Post install test cables are in correct VMNICs: `watch –n 1 'esxcli network nic list'`

Upgrade from ESX/ESXi 4.x: • vCenter Update Manager • Interactive upgrade from CD or USB drive • Scripted upgrade. 5.0 upgrades to 5.x can also use Auto Deploy (if used for 5.0 install) & `esxcli`.
Links: Installing ESXi 5.0 Best Practices http://kb.vmware.com/kb/2005099
Upgrading to ESXi 5.0 Best Practices http://kb.vmware.com/kb/2005102
Resolution Path – Troubleshooting Installs http://communities.vmware.com/docs/DOC-15789
Hardware Compatibility Guide www.vmware.com/go/hcl