FreeBSD Tweaks

Maybe useful to some...

ZeroConf

- avahi & multicast dns

```
pkg install -y avahi nss_mdns
```

- enable avahi daemon in `rc.conf`:

```
avahi_daemon_enable="YES"
```

- modify the `hosts:` line in `nsswitch.conf`:

```
hosts: files dns mdns
```

User Account

- by default root shell is csh and user is sh - edit .shrc to get prettier prompt

```
  PS1="`whoami`@\H:\w\$ "
```

- (IF using slim) to enable x environment after slim login, create `~/.xinitrc` for each user:

```
  exec /usr/local/bin/mate-session
```

Git

1. 'git log' output does not show colorized output
    - can see the escape sequence
    - so, as user, type

```
git config --global core.pager "ls -r"
```

Network Configuration

Note *DHCP client is dhclient - simply run `dhclient <interface>` when booting to console and using something like USB tethering.*

Configure (wireless) network interface (in case was not done during installation)

- FreeBSD has network interface name - based on the driver name (e.g. sis, re)
  - to find this, use `pciconf -lv`
- for normal wired connection (e.g. re0), add to 'rc.conf'

```
ifconfig_re0="DHCP"
```

- for a wireless connection (e.g. ath0), add in

```
wlan_ath0="wlan0"
ifconfig_wlan0="DHCP"
```

- for a secured wireless connection (e.g. WPA protected), add in

```
wlan_ath0="wlan0"
  ifconfig_wlan0="WPA SYNCDHCP"
```

  also, append '/ etc/wpa_supplicant.conf'

```
  network={
      ssid="the_ssid"
      psk="the_psk"
  }
```

- not sure why but `wlan0` was not auto-created?
  - from official handbook, do `ifconfig wlan0 create wlandev ath0`
  - to start up and scan, do `ifconfig wlan0 up scan`
  - or just scan, do `ifconfig wlan0 list scan`

Graphics

Driver for ASUS E5450 Graphics Card (based on Radeon 5450?)

- install driver

```
pkg install -y xf86-video-ati
```

- to load on startup, edit `rc.conf`:

```
kld_list="radeonkms"
```

For Intel Graphics (Asus H81M-K Motherboard)

- install driver

```
pkg install -y xf86-video-intel
```

- to load on startup, edit `rc.conf`:

```
kld_list="i915kms"
```

- install something? (for kernel?)

```
pkg install -y drm-kmod
```

- some older ones require `drm-fake-kmod` instead

Web Server

Web Server (Apache)

- find apache package(s)

```
pkg search apache2 | grep -e "^apache2"
```

- install apache package(s)

```
pkg install -y php56 mod_php56 php56-mbstring php56-mcrypt php56-zlib
php56-curl php56-gd php56-json
```

- to load on startup, edit `rc.conf`:

```
apache24_enable="YES"
```

- default document path is `/usr/local/www/apache24/data/`

Server Script (PHP)

- find php package(s)

```
pkg search php5 | grep -e "^php5"
```

- install php package(s)

```
pkg install -y apache24
```

- configure `/usr/local/ etc/apache24/Includes/php.conf`:

```
  <IfModule dir_module>
    DirectoryIndex index.php index.html
    <FilesMatch "\.php$">
      SetHandler application/x-httpd-php
    </FilesMatch>
    <FilesMatch "\.phps$">
      SetHandler application/x-httpd-php-source
    </FilesMatch>
  </IfModule>
```

- copy template configuration file *`# cp /usr/local/ etc/php .ini-production /usr/local/ etc/php .ini`*

Data-base (mysql/mariadb)

- install package(s)

```
pkg install mariadb103-server mariadb103-client php56-mysqli
```

- to load on startup, edit `rc.conf`:

```
mysql_enable="YES"
```

- by default, it listens to remote request at port 3306. to check:

```
# lsof -i4 -i6
# sockstat -4 -6
```

- to allow local access only, edit `rc.conf`:

```
mysql_args="--bind-address=127.0.0.1"
```

- now, to make sure all is okay:

```
# lsof -i4 -i6 | grep mysql
# netstat -an | grep 3306
# sockstat -4 -6 | grep 3306
```

Label for Partitions/Slices

This is nice to have in / etc/ fstab when device assignment may change (e.g. usb drive on different machine may be assigned differently)

For ufs,

```
# tunefs -L <label> /dev/da0p?
```

To check if assigned,

```
# ls /dev/ufs
```

For swap,

```
# glabel label <label> /dev/da0p?
```

To check if assigned,

```
# ls /dev/label
```

Then, / etc/ fstab entry can be like,

```
/dev/label/<label>    none    swap    sw    0    0
/dev/ufs/<label>  /        ufs        rw    1    1
```

Disk Utility ''gpart''

Show partition

```
# gpart show
```

Resize partition

```
# gpart resize -i 3 da0
```

Not really gpart stuff, but don't forget to grow FS to fit new size

```
# growfs /dev/da0p3
```

Access to Linux ExtFS

At the moment, full R/W access for Ext2, Journal-less for Ext3 and R/O for Ext4.

```
# kldload ext2fs
# mount -t ext2fs /dev/<slice> <mount-path>
```

Creating Disk Layout for Bootable USB

Using GPT

freebsd_gpt_disk_layout.txt

```
creating disk layout (gpt) for freebsd
- assuming disk is da0 (change accordingly for other designation)

0- clean existing partitions/slices

# gpart destroy -F da0

(manual op)
find total sector count using diskinfo
# diskinfo -v da0
backup/secondary gpt table is at the last 34 sector
# echo '<total> - 34' | bc
<offset>
# dd if=/dev/zero of=/dev/da0 bs=512 seek=<offset>

1- create gpt and bios boot scheme

# gpart create -s gpt da0
```

```
da0 created
# gpart add -t freebsd-boot -l gpboot -b 40 -s 1004K da0
da0p1 added
# gpart bootcode -b /boot/pmbr -p /boot/gptboot -i 1 da0
partcode written to da0p1
bootcode written to da0

2- create efi partition

# gpart add -t efi -l gpefiboot -s 127M da0
da0p2 added
# newfs_msdos /dev/da0p2
...

3- copy efi binary

# mount -t msdosfs /dev/da0p2 /mnt
# mkdir -p /mnt/EFI/BOOT
# cp /boot/boot1.efi /mnt/EFI/BOOT/
# umount /mnt

4- create partition/slice for root and swap

# gpart add -t freebsd-ufs -l gprootfs -s 14G da0
da0p3 added
# gpart add -t freebsd-swap -l gpswap da0
da0p4 added

5- format/prepare fs for root

# newfs -U /dev/da0p3
```

Using MBR (just in case... :p)

freebsd_mbr_disk_layout.txt

```
# gpart create -s mbr da0
# gpart bootcode -b /boot/mbr da0
# gpart add -t freebsd da0
# gpart set -a active -i 1 da0
# gpart create -s bsd da0s1
# gpart bootcode -b /boot/boot da0s1
```

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