

1. #####	2
2. #####	2

3. #####	2
4. #####: ##### & #####	3
5. ##### #####	5
6. ##### # #####	9
7. #####	13

1.

#####.

2.

#####. #### ##### ##### ##### ##### ## ##—
#####. ##### # ##### ##### ##### ## ##—

#####. ## ##### # ##### ## ##### ## ##

#####.

3.

##.

- # ##### #####.



####

#####, ##### ##### ##### ## # ##### ##—

#####.

- # ##### ##### ## ## ##### 4 ## ## #####. ##### ##### ## ##—
7.1 ## 7.2, ## ## ##### #####
#####.

- ## **##(1)** ##### ## # ##### ##### ## #####.

- # ### #####, #### #####, #### ## ## ## ## ## ## ## ## ##
#####, #### ##### ## 7.1 ## 7.2 ##### # ##### ## 4 ##, ## ##
2.6 ##.
- ##### ## ##### ##### ## ##, #(1).

```
##### ## #####/##### ,
#####:
```

```
##### ## ### ##### build.conf, ##### ##### ## ##### ## ##### #####.
```

##:

3

#####: ##### & #####

```
##### ## ### fetchiso() ##### ## ##### ## #####  
build.subr ##### ## ### ##### ##### ## scripts/RE-  
LEASE/ARCHITECTURE/build.subr ### ##### #####.
```

```
②  ### ##### # # ##### #####. ##### ##### # # ##### # # #####
##### # # #####:
```

```
% uname -v
```

```
#####  
#####  
##### ssh-keygen -t dsa. #####; #####  
#####  
##### SSHKEY  
#####
```

#####(1) #####
#####.

④ ##### ### ##### ##### ## ### ##### #####.

#####

```
### ##### build.conf ### ##### ### ##### ##### #
##### ### ##### #386 ##### ## #####. ## ## ##### ## ##### ## #—
##### ### ##### #####, ### ##### ##### ##### ## #####—
##### ##### ##### ## ##64:
```

1. ##### # ##### #####64:

```
% mkdir --p -/usr/local/freebsd-update-server/scripts/7.2-RELEASE/amd64
```

```
2. ##### # build.conf ##### ## ### ##### ##### #####. ### ##### ##-
##### ##### ##### 7.2##### ## ##64 ##### ## ##### #:

```

```
# SHA256 hash of RELEASE disc1.iso image.
export RELH=1ea1f6f652d7c5f5eab7ef9f8edbed50cb664b08ed761850f95f48e86cc71ef51
```

```
# Components of the world, source, and kernels
export WORLDPARTS="base catpages dict doc games info manpages proflibs lib32"
export SOURCEPARTS="base bin contrib crypto etc games gnu include krb5 \
    lib libexec release rescue/sbin secure share sys tools \
    ubin usbin cddl"
export KERNELPARTS="generic"
```

```
# EOL date
export EOL=1275289200❷
```

① ### ##256(1) #### ## ## ## ##### ##, ## ##### ##
##.

```
② ## ##### ## ##### ## ##### ##### ## build.conf, ##### ## ## #####
##### ## ## ## #####. ##### ## EOL ## ##
```

```
#####
```

```
#####  
#####(1)#####  
#####:
```

```
% date --j -f -'%Y%m%d-%H%M%S' -'20090401-000000' -'+%s'
```

5.

```
##### scripts/make.sh. #####  
#####  
#####  
#####
```

```
# sh scripts/make.sh
```

```
cc --O2 --fno-strict-aliasing --pipe findstamps.c --o findstamps  
findstamps.c: In function 'usage':  
findstamps.c:45: warning: incompatible implicit declaration of built-in function 'exit'  
cc --O2 --fno-strict-aliasing --pipe unstamp.c --o unstamp  
install findstamps ../bin  
install unstamp ../bin  
rm -f findstamps unstamp  
Generating RSA private key, 4096 bit long modulus  
.....++  
.....++  
e is 65537 (0x10001)
```

```
Public key fingerprint:
```

```
27ef53e48dc869eea6c3136091cc6ab8589f967559824779e855d58a2294de9e
```

```
Encrypting signing key for root
```

```
enter aes-256-cbc encryption password:
```

```
Verifying -- enter aes-256-cbc encryption password:
```



```
####
```

```
#####  
#####  
##### /etc/freebsd-update.conf #####
```

```
#####
```

```
# cd -/usr/local/freebsd-update-server  
# sh scripts/init.sh amd64 7.2-RELEASE
```

```
##### initial #####
```

```
# sh scripts/init.sh amd64 7.2-RELEASE
```

```
Mon Aug 24 16:04:36 PDT 2009 Starting fetch for FreeBSD/amd64 7.2-RELEASE
```

#####

```
/usr/local/freebsd-update-server/work/7.2-RELEASE100% of 588 MB 359 kBps 00m00s
Mon Aug 24 16:32:38 PDT 2009 Verifying disc1 hash for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 16:32:44 PDT 2009 Extracting components for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 16:34:05 PDT 2009 Constructing world+src image for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 16:35:57 PDT 2009 Extracting world+src for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 23:36:24 UTC 2009 Building world for FreeBSD/amd64 7.2-RELEASE
Tue Aug 25 00:31:29 UTC 2009 Distributing world for FreeBSD/amd64 7.2-RELEASE
Tue Aug 25 00:32:36 UTC 2009 Building and distributing kernels for FreeBSD/amd64 7.2-RELEASE
Tue Aug 25 00:44:44 UTC 2009 Constructing world components for FreeBSD/amd64 7.2-RELEASE
Tue Aug 25 00:44:56 UTC 2009 Distributing source for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 17:46:18 PDT 2009 Moving components into staging area for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 17:46:33 PDT 2009 Identifying extra documentation for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 17:47:13 PDT 2009 Extracting extra docs for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 17:47:18 PDT 2009 Indexing release for FreeBSD/amd64 7.2-RELEASE
Mon Aug 24 17:50:44 PDT 2009 Indexing world0 for FreeBSD/amd64 7.2-RELEASE
```

```
Files built but not released:
Files released but not built:
Files which differ by more than contents:
Files which differ between release and build:
kernel|generic|GENERIC|hptrr.ko
kernel|generic|GENERIC|kernel
src|sys|sys/conf/newvers.sh
world|base|boot/loader
world|base|boot/pxeboot
world|base|etc/mail/freebsd.cf
world|base|etc/mail/freebsd.submit.cf
world|base|etc/mail/sendmail.cf
world|base|etc/mail/submit.cf
world|base|lib/libcrypto.so.5
world|base|usr/bin/ntpq
world|base|usr/lib/libalias.a
world|base|usr/lib/libalias_cuseeme.a
world|base|usr/lib/libalias_dummy.a
world|base|usr/lib/libalias_ftp.a
...
```

```
#####
##### scripts/build.subr.
```



#####

```
#####
##### (8), ##
<cperciva@FreeBSD.org>,
#####
#####
```

#####

```
## #####. #####  
400 #####
```

```
Mon Aug 24 17:54:07 PDT 2009 Extracting world+src for FreeBSD/amd64 7.2-RELEASE  
Wed Sep 29 00:54:34 UTC 2010 Building world for FreeBSD/amd64 7.2-RELEASE  
Wed Sep 29 01:49:42 UTC 2010 Distributing world for FreeBSD/amd64 7.2-RELEASE  
Wed Sep 29 01:50:04 UTC 2010 Building and distributing kernels for FreeBSD/amd64 7.2-RELEASE  
Wed Sep 29 02:02:56 UTC 2010 Constructing world components for FreeBSD/amd64 7.2-RELEASE  
Wed Sep 29 02:03:08 UTC 2010 Distributing source for FreeBSD/amd64 7.2-RELEASE  
Tue Sep 28 19:04:31 PDT 2010 Moving components into staging area for FreeBSD/amd64 7.2-  
RELEASE  
Mon Aug 24 19:04:46 PDT 2009 Extracting extra docs for FreeBSD/amd64 7.2-RELEASE  
Mon Aug 24 19:04:51 PDT 2009 Indexing world1 for FreeBSD/amd64 7.2-RELEASE  
Mon Aug 24 19:08:04 PDT 2009 Locating build stamps for FreeBSD/amd64 7.2-RELEASE  
Mon Aug 24 19:10:19 PDT 2009 Cleaning staging area for FreeBSD/amd64 7.2-RELEASE  
Mon Aug 24 19:10:19 PDT 2009 Preparing to copy files into staging area for FreeBSD/amd64 7.2-  
RELEASE  
Mon Aug 24 19:10:20 PDT 2009 Copying data files into staging area for FreeBSD/amd64 7.2-  
RELEASE  
Mon Aug 24 12:16:57 PDT 2009 Copying metadata files into staging area for FreeBSD/amd64 7.2-  
RELEASE  
Mon Aug 24 12:16:59 PDT 2009 Constructing metadata index and tag for FreeBSD/amd64 7.2-  
RELEASE
```

Files found which include build stamps:

```
kernel|generic/GENERIC/hptrr.ko  
kernel|generic/GENERIC/kernel  
world|base/boot/loader  
world|base/boot/pxeboot  
world|base/etc/mail/freebsd.cf  
world|base/etc/mail/freebsd.submit.cf  
world|base/etc/mail/sendmail.cf  
world|base/etc/mail/submit.cf  
world|base/lib/libcrypto.so.5  
world|base/usr/bin/ntpq  
world|base/usr/include/osreldate.h  
world|base/usr/lib/libalias.a  
world|base/usr/lib/libalias_cuseeme.a  
world|base/usr/lib/libalias_dummy.a  
world|base/usr/lib/libalias_ftp.a  
...
```

#####.

Values of build stamps, excluding library archive headers:

```
v1.2 (Aug 25 2009 00:40:36)  
v1.2 (Aug 25 2009 00:38:22)  
@(#)FreeBSD 7.2-RELEASE #0: Tue Aug 25 00:38:29 UTC 2009  
FreeBSD 7.2-RELEASE #0: Tue Aug 25 00:38:29 UTC 2009  
root@server.myhost.com:/usr/obj/usr/src/sys/GENERIC  
7.2-RELEASE
```

```

Mon Aug 24 23:55:25 UTC 2009
Mon Aug 24 23:55:25 UTC 2009
##### built by root@server.myhost.com on Tue Aug 25 00:16:15 UTC 2009
##### built by root@server.myhost.com on Tue Aug 25 00:16:15 UTC 2009
##### built by root@server.myhost.com on Tue Aug 25 00:16:15 UTC 2009
##### built by root@server.myhost.com on Tue Aug 25 00:16:15 UTC 2009
Mon Aug 24 23:46:47 UTC 2009
ntpq 4.2.4p5-a Mon Aug 24 23:55:53 UTC 2009 (1)
* Copyright (c) 1992-2009 The FreeBSD Project.
Mon Aug 24 23:46:47 UTC 2009
Mon Aug 24 23:55:40 UTC 2009
Aug 25 2009
ntpd 4.2.4p5-a Mon Aug 24 23:55:52 UTC 2009 (1)
ntpddate 4.2.4p5-a Mon Aug 24 23:55:53 UTC 2009 (1)
ntpdcc 4.2.4p5-a Mon Aug 24 23:55:53 UTC 2009 (1)
Tue Aug 25 00:21:21 UTC 2009
Tue Aug 25 00:21:21 UTC 2009
Tue Aug 25 00:21:21 UTC 2009
Mon Aug 24 23:46:47 UTC 2009

```

FreeBSD/amd64 7.2-RELEASE initialization build complete. Please review the list of build stamps printed above to confirm that they look sensible, then run

```
# sh --e approve.sh amd64 7.2-RELEASE
```

to sign the release.

```
##### ## ## ##### ## #####.### ##### ## ##### ##
## ## ##### ## ## ##### ##### ## ## ## USAGE. ##### scripts/approve.sh,
## #####.### ## ## ## ## ##, ## ## ##### ## ## ##
##### ## #####.
```

```
# sh --e scripts/approve.sh amd64 7.2-RELEASE
```

```
Wed Aug 26 12:50:06 PDT 2009 Signing build for FreeBSD/amd64 7.2-RELEASE
Wed Aug 26 12:50:06 PDT 2009 Copying files to patch source directories for FreeBSD/amd64 7.2-RELEASE
Wed Aug 26 12:50:06 PDT 2009 Copying files to upload staging area for FreeBSD/amd64 7.2-RELEASE
Wed Aug 26 12:50:07 PDT 2009 Updating databases for FreeBSD/amd64 7.2-RELEASE
Wed Aug 26 12:50:07 PDT 2009 Cleaning staging area for FreeBSD/amd64 7.2-RELEASE
```

#####, ## #####.

```
# cd -/usr/local/freebsd-update-server
# sh scripts/upload.sh amd64 7.2-RELEASE
```


- #####
- ##### 7.1#####

```
% mkdir -p -/usr/local/freebsd-update-server/patches/7.1-RELEASE/
% cd -/usr/local/freebsd-update-server/patches/7.1-RELEASE
```

```
##### #####, ##### SA-09:12.bind. #####  
####, ## ## ##### ## ##### ## ## ##### ## ## ##  
##### ## ##### ##### ##### ##### ## ## ##  
## ## #####. ## ## #####, ## ## #####  
##### ## ##### ## ## p7. ##### ## ##:
```



#####, ## ## ##### #####
#####. ##### # ##### ## ##, ## #####
#####.



```
#####
#####
#####
#####.
```

10

#####

```
# sh scripts/diff.sh amd64 7.1-RELEASE 7
```

differential

```
# sh --e scripts/diff.sh amd64 7.1-RELEASE 7
```

```
Wed Aug 26 10:09:59 PDT 2009 Extracting world+src for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 17:10:25 UTC 2009 Building world for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 18:05:11 UTC 2009 Distributing world for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 18:06:16 UTC 2009 Building and distributing kernels for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 18:17:50 UTC 2009 Constructing world components for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 18:18:02 UTC 2009 Distributing source for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 11:19:23 PDT 2009 Moving components into staging area for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 11:19:37 PDT 2009 Extracting extra docs for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 11:19:42 PDT 2009 Indexing world0 for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 11:23:02 PDT 2009 Extracting world+src for FreeBSD/amd64 7.1-RELEASE-p7
Thu Sep 30 18:23:29 UTC 2010 Building world for FreeBSD/amd64 7.1-RELEASE-p7
Thu Sep 30 19:18:15 UTC 2010 Distributing world for FreeBSD/amd64 7.1-RELEASE-p7
Thu Sep 30 19:19:18 UTC 2010 Building and distributing kernels for FreeBSD/amd64 7.1-RELEASE-p7
Thu Sep 30 19:30:52 UTC 2010 Constructing world components for FreeBSD/amd64 7.1-RELEASE-p7
Thu Sep 30 19:31:03 UTC 2010 Distributing source for FreeBSD/amd64 7.1-RELEASE-p7
Thu Sep 30 12:32:25 PDT 2010 Moving components into staging area for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:32:39 PDT 2009 Extracting extra docs for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:32:43 PDT 2009 Indexing world1 for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:35:54 PDT 2009 Locating build stamps for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:36:58 PDT 2009 Reverting changes due to build stamps for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:37:14 PDT 2009 Cleaning staging area for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:37:14 PDT 2009 Preparing to copy files into staging area for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:37:15 PDT 2009 Copying data files into staging area for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:43:23 PDT 2009 Copying metadata files into staging area for FreeBSD/amd64 7.1-RELEASE-p7
Wed Aug 26 12:43:25 PDT 2009 Constructing metadata index and tag for FreeBSD/amd64 7.1-RELEASE-p7
...
Files found which include build stamps:
kernel|generic/GENERIC/hptrr.ko
kernel|generic/GENERIC/kernel
world|base/boot/loader
world|base/boot/pxeboot
world|base/etc/mail/freebsd.cf
world|base/etc/mail/freebsd.submit.cf
world|base/etc/mail/sendmail.cf
world|base/etc/mail/submit.cf
world|base/lib/libcrypto.so.5
world|base/usr/bin/ntpqq
world|base/usr/include/osreldate.h
```

#####

```
world|base|usr|lib|libalias.a
world|base|usr|lib|libalias_cuseeme.a
world|base|usr|lib|libalias_dummy.a
world|base|usr|lib|libalias_ftp.a
...
Values of build stamps, excluding library archive headers:
v1.2 (Aug 26 2009 18:13:46)
v1.2 (Aug 26 2009 18:11:44)
@(#)FreeBSD 7.1-RELEASE-p7 #0: Wed Aug 26 18:11:50 UTC 2009
FreeBSD 7.1-RELEASE-p7 #0: Wed Aug 26 18:11:50 UTC 2009
  root@server.myhost.com:/usr/obj/usr/src/sys/GENERIC
7.1-RELEASE-p7
Wed Aug 26 17:29:15 UTC 2009
Wed Aug 26 17:29:15 UTC 2009
##### built by root@server.myhost.com on Wed Aug 26 17:49:58 UTC 2009
##### built by root@server.myhost.com on Wed Aug 26 17:49:58 UTC 2009
##### built by root@server.myhost.com on Wed Aug 26 17:49:58 UTC 2009
##### built by root@server.myhost.com on Wed Aug 26 17:49:58 UTC 2009
Wed Aug 26 17:20:39 UTC 2009
ntpq 4.2.4p5-a Wed Aug 26 17:29:42 UTC 2009 (1)
* Copyright (c) 1992-2009 The FreeBSD Project.
Wed Aug 26 17:20:39 UTC 2009
Wed Aug 26 17:29:30 UTC 2009
Aug 26 2009
ntpd 4.2.4p5-a Wed Aug 26 17:29:41 UTC 2009 (1)
ntpdate 4.2.4p5-a Wed Aug 26 17:29:42 UTC 2009 (1)
ntpd 4.2.4p5-a Wed Aug 26 17:29:42 UTC 2009 (1)
Wed Aug 26 17:55:02 UTC 2009
Wed Aug 26 17:55:02 UTC 2009
Wed Aug 26 17:55:02 UTC 2009
Wed Aug 26 17:20:39 UTC 2009
...
```

#####, ### ##### ## #####.

```
New updates:
kernel|generic|GENERIC|kernel.symbols|f|0|0|0555|0|
7c8dc176763f96ced0a57fc04e7c1b8d793f27e006dd13e0b499e1474ac47e10|
kernel|generic|GENERIC|kernel|f|0|0|0555|0|
33197e8cf15bbbac263d17f39c153c9d489348c2c534f7ca1120a1183dec67b1|
kernel|generic|/d|0|0|0755|0||
src|base|/d|0|0|0755|0||
src|bin|/d|0|0|0755|0||
src|cddl|/d|0|0|0755|0||
src|contrib|contrib|bind9|bin|named|update.c|f|0|10000|0644|0|
4d434abf0983df9bc47435670d307fa882ef4b348ed8ca90928d250f42ea0757|
src|contrib|contrib|bind9|lib|dns|openssldsa_link.c|f|0|10000|0644|0|
c6805c39f3da2a06dd3f163f26c314a4692d4cd9a2d929c0acc88d736324f550|
src|contrib|contrib|bind9|lib|dns|opensslrsa_link.c|f|0|10000|0644|0|
fa0f7417ee9da42cc8d0fd96ad24e7a34125e05b5ae075bd6e3238f1c022a712|
...
FreeBSD/amd64 7.1-RELEASE update build complete. Please review
the list of build stamps printed above and the list of updated
```

files to confirm that they look sensible, then run

```
# sh --e approve.sh amd64 7.1-RELEASE
```

to sign the build.

```
# sh --e scripts/approve.sh amd64 7.1-RELEASE
Wed Aug 26 12:50:06 PDT 2009 Signing build for FreeBSD/amd64 7.1-RELEASE
Wed Aug 26 12:50:06 PDT 2009 Copying files to patch source directories for FreeBSD/amd64 7.1-RELEASE
Wed Aug 26 12:50:06 PDT 2009 Copying files to upload staging area for FreeBSD/amd64 7.1-RELEASE
Wed Aug 26 12:50:07 PDT 2009 Updating databases for FreeBSD/amd64 7.1-RELEASE
Wed Aug 26 12:50:07 PDT 2009 Cleaning staging area for FreeBSD/amd64 7.1-RELEASE
```

```
# cd -/usr/local/freebsd-update-server
# sh scripts/upload.sh amd64 7.1-RELEASE
```

7. #####

- ```
Compare ${WORKDIR}/release and ${WORKDIR}/${1}, identify which parts
of the world/doc subcomponent are missing from the latter, and
build a tarball out of them.
findextradocs () {
}

Add extra docs to ${WORKDIR}/${1}
addextradocs () {
}
```

