

Similar Files

[V1/init.s](#) and [V2/cmd/init.s](#) have the following similarities:

Length	V1/init.s	V2/cmd/init.s
101	lines 65-90	lines 91-116
59	lines 102-126	lines 123-142
43	lines 129-138	lines 146-155
42	lines 150-165	lines 185-200
36	lines 8-18	lines 9-19
31	lines 55-64	lines 78-86
28	lines 19-26	lines 23-30
20	lines 39-42	lines 62-65

V1/init.s

```

0001: / init -- process control initialization
0002:
0003: mount = 21.
0004:
0005: sys    intr; 0 / turn off interrupts
0006: sys    quit; 0
0007: cmp    csw,$73700 / single user?
0008: bne    1f / no
0009: help:
0010: clr     r0 / yes
0011: sys     close / close current read
0012: mov     $1,r0 / and write
0013: sys     close / files
0014: sys     open; cty; 0 / open control tty
0015: sys     open; cty; 1 / for read and write
0016: sys     exec; shell; shellp / execute shell
0017: br      help / keep trying
0018: 1:
0019: mov     '$0,r1 / prepare to change
0020: 1 :
0021: movb    r1,tapx+8 / mode of dec tape drive x, where
0022: sys     chmod; tapx; 17 / x=0 to 7, to read/write by owner or
0023: inc     r1 / non-owner mode
0024: cmp     r1,$'8 / finished?
0025: blo     1b / no
0026: sys     mount; rk0; usr / yes, root file on mounted rko5
0027:                / disk ls /usr
0028: sys     creat; utmp; 16 / truncate /tmp/utmp
0029: sys     close / close it
0030: movb    '$x,zero+8. / put identifier in output buffer
0031: jsr     pc,wtmprec / go to write accting info
0032: mov     $itab,r1 / address of table to r1
0033:
0034: / create shell processes
0035:
0036: 1:
0037: mov     (r1)+,r0 / 'x, x=0, 1... to r0
0038: beq     1f / branch if table end
0039: movb    r0,ttix+8 / put symbol in ttix
0040: jsr     pc,dfork / go to make new init for this ttix
0041: mov     r0,(r1)+ / save child id in word offer '0, '1,...etc.
0042: br      1b / set up next child
0043:

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0044: / wait for process to die
0045:
0046: 1:
0047: sys    wait / wait for user to terminate process
0048: mov    $itab,r1 / initialize for search
0049:
0050: / search for process id
0051:
0052: 2:
0053: tst    (r1)+ / bump r1 to child id location
0054: beq    1b / ? something silly
0055: cmp    r0,(r1)+ / which process has terminated
0056: bne    2b / not this one
0057:
0058: / take name out of utmp
0059:
0060: sub    $4, r1 / process is found, point x' to 'x
0061:        / for it
0062: mov    r1,-(sp) / save address on stack
0063: mov    (r1),r1 / move 'x to r1
0064: sub    '$0,r1 / remove zone bits from character
0065: asl    r1 / generate proper
0066: asl    r1 / offset
0067: asl    r1 / for
0068: asl    r1 / seek
0069: mov    r1,0f / move it to offset loc for seek
0070: mov    $zero,r1
0071: 2:
0072: clr    (r1)+ / cclear-
0073: cmp    r1,$zero+16. / output buffer
0074: blo    2b / area
0075: sys    open; utmp; 1 / open file for writing
0076: bes    2f / if can't open, create user anyway
0077: mov    r0,r1 / save file desc
0078: sys    seek; 0:.; 0 / move to proper pointer position
0079: mov    r1,r0 / not required
0080: sys    write; zero; 16. / zero this position in
0081: mov    r1,r0 / restore file descriptor
0082: sys    close / close file
0083:
0084: / re-create user process
0085:
0086: 2:
0087: mov    (sp)+,r1 / restore 'x to r1
0088: mov    (r1)+,r0 / move it to r0
0089: movb   r0,ttys+8 / get correct ttyx
0090: movb   r0,zero+8 / move identifier to output buffer
0091: jsr    pc,wtmprec / go to write accting into
0092: jsr    pc,dfork / fork
0093: mov    r0,(r1)+ / save id of child
0094: br     1b / go to wait for next process end
0095:
0096: dfork:
0097: mov    r1,r2
0098: sub    $itab+2,r2 / left over
0099: asl    r2 / from previous
0100: asl    r2 / version of code
0101: mov    r2,offset
0102: sys    fork
0103: br     1f / to new copy of init
0104: bes    dfork / try again
0105: rts    pc / return
0106: 1 :
0107: sys    quit; 0 / new init turns off
0108: sys    intr; 0 / interrupts
0109: sys    chown; ttyx; 0 / change owner to super user
0110: sys    chmod; ttyx; 15 / changemode to read/write owner,
0111:        / write non-owner
0112: sys    open; ttyx; 0 / open this ttyx for reading

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0113:          / and wait until someone calls
0114:  bes      help1 / branch if trouble
0115:  sys      open; ttyx; 1 / open this ttyx for writing after
0116:          / user call
0117:  bes      help1 / branch if trouble
0118:  sys      exec; getty; gettyp / getty types <login> and
0119:          / executes login which logs user
0120:          / in and executes sh-
0121:  sys      exit / HELP!
0122:
0123: help1:
0124:  jmp      help / trouble
0125:
0126: wtmprec:
0127:  sys      time / get time
0128:  mov      ac,zero+10. / more to output
0129:  mov      mq,zero+12. / buffer
0130:  sys      open; wtmp; 1 / open accounting file
0131:  bes      2f
0132:  mov      r0,r2 / save file descriptor
0133:  sys      seek; 0; 2 / move pointer to end of file
0134:  mov      r2,r0 / not required
0135:  sys      write; zero; 16. / write accting info
0136:  mov      r2,r0 / restore file descriptor
0137:  sys      close / close file
0138: 2:
0139:  rts      pc
0140:
0141: ctty:      </dev/tty\0>
0142: shell:     </bin/sh\0>
0143: shellm:    <-\0>
0144: tapx:      </dev/tapx\0>
0145: rk0:       </dev/rk0\0>
0146: utmp:      </tmp/utmp\0>
0147: wtmp:      </tmp/wtmp\0>
0148: ttyx:      </dev/ttyx\0>
0149: getty:     </etc/getty\0>
0150: usr:       </usr\0>
0151: .even
0152:
0153: shellp:    shellm
0154: 0
0155: gettyp:    getty
0156: 0
0157: itab:
0158: '0; ..
0159: '1; ..
0160: '2; ..
0161: '3; ..
0162: '4; ..
0163: '5; ..
0164: '6; ..
0165: '7; ..
0166: 0
0167:
0168: offset:    .+.2
0169: zero:      .+.8; .+.6; .+.2

```

V2/cmd/init.s

```

0001: / init -- process control initialization
0002:
0003:
0004:
0005:  sys      intr; 0
0006:  sys      quit; 0
0007:  sys      38. / get console switches

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0008:  cmp    r0,$173030
0009:  bne    1f
0010: help:
0011:  clr    r0
0012:  sys    close
0013:  mov    $1,r0
0014:  sys    close
0015:  sys    open; cty; 0
0016:  sys    open; cty; 1
0017:  sys    exec; shell; shellp
0018:  br     help
0019: 1:
0020:  sys    mount; rk1; usr
0021:  sys    mount; rk2; ssys
0022:  sys    mount; rk3; crp
0023:  mov    '$0',r1
0024: 1:
0025:  movb   r1,tapx+8
0026:  sys    chmod; tapx; 17
0027:  inc    r1
0028:  cmp    r1,$'8
0029:  blo    1b
0030:  sys    creat; utmp; 16
0031:  sys    close
0032:  sys    unlink; dpdlock
0033:  sys    fork
0034:      br  daemon
0035:  sys    fork
0036:      br  dirass
0037:  sys    fork
0038:      br  dds
0039:  movb   '$x,zero+8.
0040:  jsr    pc,wtmprec
0041:  mov    $itab,r1
0042:  br     1f
0043:
0044: daemon:
0045:  sys    exec; etcdpd; etcdpd
0046:  sys    exit
0047:
0048: dirass:
0049:  sys    chdir; usrmel
0050:  sys    exec; melda; melda
0051:  sys    exit
0052:
0053: dds:
0054:  sys    exec; usrdd; usrdd
0055:  sys    exit
0056:
0057: / create shell processes
0058:
0059: 1:
0060:  mov    (r1)+,r0
0061:  beq    pwait
0062:  movb   r0,ttys+8
0063:  jsr    pc,dfork
0064:  mov    r0,(r1)+
0065:  br     1b
0066:
0067: / wait for process to die
0068:
0069: pwait:
0070:  sys    wait
0071:  mov    $itab,r1
0072:
0073: / search for process id
0074:
0075: 2:
0076:  tst    (r1)+

```

```

0077: beq    pwait
0078: cmp     r0,(r1)+
0079: bne     2b
0080:
0081: / take name out of utmp
0082:
0083: sub     $4,r1
0084: mov     r1,-(sp)
0085: mov     (r1),r1
0086: sub     $'0,r1
0087: cmp     r1,$'a-'0
0088: blo     2f
0089: sub     $'a-'0-10.,r1    / map a-z into 10. on
0090: 2:
0091: asl     r1
0092: asl     r1
0093: asl     r1
0094: asl     r1
0095: mov     r1,0f
0096: mov     $zero,r1
0097: 2:
0098: clr     (r1)+
0099: cmp     r1,$zero+16.
0100: blo     2b
0101: sys     open; utmp; 1
0102: bes     2f
0103: mov     r0,r1
0104: sys     seek; 0:..; 0
0105: mov     r1,r0
0106: sys     write; zero; 16.
0107: mov     r1,r0
0108: sys     close
0109:
0110: / re-create user process
0111:
0112: 2:
0113: mov     (sp)+,r1
0114: mov     (r1)+,r0
0115: movb    r0,ttvx+8
0116: movb    r0,zero+8.
0117: jsr     pc,wtmprec
0118: jsr     pc,dfork
0119: mov     r0,(r1)+
0120: br      pwait
0121:
0122: dfork:
0123: sys     fork
0124: br      1f
0125: bes     dfork
0126: rts     pc
0127: 1:
0128: sys     quit; 0
0129: sys     intr; 0
0130: sys     chown; ttvx; 0
0131: sys     chmod; ttvx; 15
0132: sys     open; ttvx; 0
0133: bes     help1
0134: sys     open; ttvx; 1
0135: bes     help1
0136: sys     exec; getty; gettyp
0137: sys     exit                / HELP!
0138:
0139: help1:
0140: jmp     help
0141:
0142: wtmprec:
0143: mov     r1,-(sp)
0144: sys     time
0145: mov     r0,zero+10.

```

```
0146:  mov    r1,zero+12.
0147:  sys    open; wtmp; 1
0148:  bes    2f
0149:  mov    r0,r2
0150:  sys    seek; 0; 2
0151:  mov    r2,r0
0152:  sys    write; zero; 16.
0153:  mov    r2,r0
0154:  sys    close
0155:  2:
0156:  mov    (sp)+,r1
0157:  rts    pc
0158:
0159:  etcdpdp:
0160:  etcdpdp; 0
0161:  meldap:
0162:  melda; 0
0163:  usrddp:
0164:  usrdd; 0
0165:  usrdd:    </usr/demo/dds\0>
0166:  melda:    </usr/mel/da\0>
0167:  usrmel:    </usr/mel\0>
0168:  rk1:      </dev/rk1\0>
0169:  rk2:      </dev/rk2\0>
0170:  rk3:      </dev/rk3\0>
0171:  usr:      </usr\0>
0172:  ssys:     </sys\0>
0173:  crp:      </crp\0>
0174:  cttty:    </dev/tty\0>
0175:  shell:    </bin/sh\0>
0176:  shellm:   <-\0>
0177:  dpdlock:
0178:    </usr/dpd/lock\0>
0179:  etcdpdp:
0180:    </etc/dpd\0>
0181:  tapx:     </dev/tapx\0>
0182:  utmp:     </tmp/utmp\0>
0183:  wtmp:     </tmp/wtmp\0>
0184:  ttyx:     </dev/ttyx\0>
0185:  getty:    </etc/getty\0>
0186:  .even
0187:
0188:  shellp:   shellm
0189:  0
0190:  gettyp:   getty
0191:  0
0192:  itab:
0193:    '0; ..
0194:    '1; ..
0195:    '2; ..
0196:    '3; ..
0197:    '4; ..
0198:    '5; ..
0199:    '6; ..
0200:    '7; ..
0201:    '8; ..
0202:    'a; ..
0203:    'b; ..
0204:    0
0205:
0206:  .bss
0207:  offset:  .=.+2
0208:  zero:    .=.+8.; .=.+6; .=.+2.
```