
4047 Fri Aug 8 13:32:23 2014

new/usr/src/man/man5/Makefile

5073 need ieee802.3(5) man page

5074 elx1(7D) page needed

5054 rtls(7D) needed

5053 need iprb(7D) man page

Reviewed by: Eric Sproul <esproul@omniti.com>

Approved by: TBD

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19 include \$(SRC)/Makefile.master

21 MANSECT= 5

23 MANFILES= Intro.5 //
24 acl.5 //
25 ad.5 //
26 ascii.5 //
27 attributes.5 //
28 audit_binfile.5 //
29 audit_remote.5 //
30 audit_syslog.5 //
31 brands.5 //
32 cancellation.5 //
33 charmap.5 //
34 condition.5 //
35 crypt_bsdbf.5 //
36 crypt_bsdmd5.5 //
37 crypt_sha256.5 //
38 crypt_sha512.5 //
39 crypt_sunmd5.5 //
40 crypt_unix.5 //
41 device_clean.5 //
42 dhcp.5 //
43 dhcp_modules.5 //
44 environ.5 //
45 eqn.5 //
46 eqnchar.5 //
47 extendedFILE.5 //
48 filesystem.5 //
49 fnmatch.5 //
50 formats.5 //
51 fsattr.5 //
52 grub.5 //
53 gss_auth_rules.5 //
54 hal.5 //
55 iconv.5 //
56 iconv_unicode.5 //

57 ieee802.3.5 //
58 ieee802.11.5 //
59 ipfilter.5 //
60 isalist.5 //
61 kerberos.5 //
62 krb5_auth_rules.5 //
63 krb5envvar.5 //
64 largefile.5 //
65 lf64.5 //
66 lfcompile.5 //
67 lfcompile64.5 //
68 locale.5 //
69 man.5 //
70 mandoc_char.5 //
71 mandoc_roff.5 //
72 mdoc.5 //
73 me.5 //
74 mech_spnego.5 //
75 mm.5 //
76 ms.5 //
77 mutex.5 //
78 nfssec.5 //
79 pam_allow.5 //
80 pam_authok_check.5 //
81 pam_authok_get.5 //
82 pam_authok_store.5 //
83 pam_deny.5 //
84 pam_dhkeys.5 //
85 pam_dial_auth.5 //
86 pam_krb5.5 //
87 pam_krb5_migrate.5 //
88 pam_ldap.5 //
89 pam_list.5 //
90 pam_passwd_auth.5 //
91 pam_rhosts_auth.5 //
92 pam_roles.5 //
93 pam_sample.5 //
94 pam_smb_passwd.5 //
95 pam_smbfs_login.5 //
96 pam_tsol_account.5 //
97 pam_unix_account.5 //
98 pam_unix_auth.5 //
99 pam_unix_cred.5 //
100 pam_unix_session.5 //
101 pkcs11_kernel.5 //
102 pkcs11_softtoken.5 //
103 pkcs11_tpm.5 //
104 privileges.5 //
105 prof.5 //
106 rbac.5 //
107 regex.5 //
108 regexp.5 //
109 resource_controls.5 //
110 smf.5 //
111 smf_bootstrap.5 //
112 smf_method.5 //
113 smf_restarter.5 //
114 smf_security.5 //
115 smf_template.5 //
116 standards.5 //
117 sticky.5 //
118 tbl.5 //
119 tecla.5 //
120 term.5 //
121 threads.5 //
122 trusted_extensions.5 //

new/usr/src/man/man5/Makefile

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123          vgrindefs.5          \
124          zones.5              \
125          zpool-features.5

127 MANLINKS= ANSI.5            \
128             C++.5            \
129             C.5              \
130             CSI.5            \
131             ISO.5            \
132             MT-Level.5       \
133             POSIX.1.5        \
134             POSIX.2.5        \
135             POSIX.5          \
136             RBAC.5           \
137             SUS.5            \
138             SUSv2.5          \
139             SUSv3.5          \
140             SVID.5           \
141             SVID3.5          \
142             XNS.5            \
143             XNS4.5           \
144             XNS5.5           \
145             XPG.5            \
146             XPG3.5           \
147             XPG4.5           \
148             XPG4v2.5         \
149             advance.5        \
150             architecture.5   \
151             availability.5    \
152             compile.5        \
153             intro.5          \
154             pthreads.5       \
155             stability.5      \
156             standard.5       \
157             step.5           \
158             teclarc.5

160 intro.5      := LINKSRC = Intro.5

162 CSI.5        := LINKSRC = attributes.5
163 MT-Level.5   := LINKSRC = attributes.5
164 architecture.5 := LINKSRC = attributes.5
165 availability.5 := LINKSRC = attributes.5
166 stability.5   := LINKSRC = attributes.5
167 standard.5   := LINKSRC = attributes.5

169 RBAC.5       := LINKSRC = rbac.5

171 advance.5    := LINKSRC = regexp.5
172 compile.5    := LINKSRC = regexp.5
173 step.5       := LINKSRC = regexp.5

175 ANSI.5       := LINKSRC = standards.5
176 C++.5        := LINKSRC = standards.5
177 C.5          := LINKSRC = standards.5
178 ISO.5        := LINKSRC = standards.5
179 POSIX.1.5    := LINKSRC = standards.5
180 POSIX.2.5    := LINKSRC = standards.5
181 POSIX.5      := LINKSRC = standards.5
182 SUS.5        := LINKSRC = standards.5
183 SUSv2.5      := LINKSRC = standards.5
184 SUSv3.5      := LINKSRC = standards.5
185 SVID.5       := LINKSRC = standards.5
186 SVID3.5      := LINKSRC = standards.5
187 XNS.5        := LINKSRC = standards.5
188 XNS4.5       := LINKSRC = standards.5

```

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189 XNS5.5       := LINKSRC = standards.5
190 XPG.5        := LINKSRC = standards.5
191 XPG3.5       := LINKSRC = standards.5
192 XPG4.5       := LINKSRC = standards.5
193 XPG4v2.5    := LINKSRC = standards.5

195 teclarc.5   := LINKSRC = tecla.5

197 pthreads.5  := LINKSRC = threads.5

199 .KEEP_STATE:

201 include      $(SRC)/man/Makefile.man

203 install:    $(ROOTMANFILES) $(ROOTMANLINKS)

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15144 Fri Aug 8 13:32:24 2014
 new/usr/src/man/man5/ieee802.3.5
 5073 need ieee802.3(5) man page
 5074 elxl(7D) page needed
 5054 rtls(7D) needed
 5053 need iprb(7D) man page
 Reviewed by: Eric Sproul <esproul@omniti.com>
 Approved by: TBD

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23 .Dd "Aug 7, 2014"
24 .Dt IEEE802.3 5
25 .Os
26 .Sh NAME
27 .Nm ieee802.3
28 .Nd IEEE 802.3 Ethernet parameters and statistics
29 .Sh DESCRIPTION
30 The IEEE 802.3 standard specifies the details for Ethernet
31 networking. This page describes the various statistics and tunables
32 that device drivers supporting Ethernet commonly offer.
33 .
34 Note that not every device or driver supports every one of these
35 values, and many devices offer additional statistics and tunables that
36 are specific to that hardware. See the device driver's documentation
37 for those specific details.
38 .
39 .Lp
40 Values that are statistics are visible
41 .Xr kstat 1M ,
42 whereas properties are visible using the
43 .Xr dladm 1M
44 .Sy show-linkprop
45 subcommand. Tunables are properties that can be changed using the
46 .Xr dladm 1M
47 .Sy set-linkprop
48 subcommand. A more useful summary of current operational
49 state can be seen with the
50 .Xr dladm 1M
51 .Sy show-ether
52 subcommand.
53 .
54 .Ss Statistics
55 The following statistics are accessible with
56 .Xr kstat 1M .

```

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57 Note that some statistics are available in both 32- and 64-bit counters,
58 in which case the name of the 64 bit statistic will be the same as the
59 32-bit, but with
60 .Dq Sy 64
61 appended. For example,
62 .Sy ipackets64
63 is the 64-bit version of the
64 .Sy ipackets
65 statistic. These are indicated with the special suffix
66 .Op Sy 64
67 in the table below.
68 .
69 .Bl -tag -width tx_late_collisions
70 .It Sy adv_cap_1000fdx
71 Advertises 1000 Mbps full-duplex support.
72 .It Sy adv_cap_1000hdx
73 Advertises 1000 Mbps half-duplex support.
74 .It Sy adv_cap_100fdx
75 Advertises 100 Mbps full-duplex support.
76 .It Sy adv_cap_100hdx
77 Advertises 100 Mbps half-duplex support.
78 .It Sy adv_cap_100T4
79 Advertises 100BASE-T4 support.
80 .It Sy adv_cap_10fdx
81 Advertises 10 Mbps full-duplex support.
82 .It Sy adv_cap_10gfdx
83 Advertises 10 Gbps support.
84 .It Sy adv_cap_10hdx
85 Advertises 10 Mbps half-duplex support.
86 .It Sy adv_cap_autoneg
87 Advertises auto-negotiation support.
88 .It Sy adv_cap_asmpause
89 Advertises asymmetric flow control support.
90 .It Sy adv_cap_pause
91 Advertises flow control support.
92 .It Sy adv_rem_fault
93 Remote fault status sent to peer.
94 .It Sy align_errors
95 Mis-aligned frames received.
96 .It Sy brdcstrcv
97 Broadcast frames received.
98 .It Sy brdcstxmt
99 Broadcast frames transmitted.
100 .It Sy cap_1000fdx
101 Device supports 1000 Mbps full-duplex.
102 .It Sy cap_1000hdx
103 Device supports 1000 Mbps half-duplex.
104 .It Sy cap_100fdx
105 Device supports 100 Mbps full-duplex.
106 .It Sy cap_100hdx
107 Device supports 100 Mbps half-duplex.
108 .It Sy cap_100T4
109 Device supports 100BASE-T4.
110 .It Sy cap_10fdx
111 Device supports 10 Mbps full-duplex.
112 .It Sy cap_10gfdx
113 Device supports 10 Gbps.
114 .It Sy cap_10hdx
115 Device supports 10 Mbps half-duplex.
116 .It Sy cap_asmpause
117 Device supports asymmetric flow control.
118 .It Sy cap_autoneg
119 Device supports auto-negotiation.
120 .It Sy cap_pause
121 Device supports symmetric flow control.
122 .It Sy cap_rem_fault

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123 Device supports remote fault notification.
124 .It Sy carrier_errors
125 Frames dropped due to loss of link.
126 .It Sy collisions
127 Collisions.
128 .It Sy defer_xmts
129 Transmits deferred due to link activity.
130 .It Sy ex_collisions
131 Frames dropped due to too many collisions.
132 .It Sy fcs_errors
133 Frames received with bad frame checksum.
134 .It Sy first_collisions
135 Frames with at least one collision.
136 .It Sy ierrors
137 Receive errors.
138 .It Sy ifspeed
139 Link speed in bits per second.
140 .It Sy ipackets Ns Op Sy 64
141 Frames received successfully.
142 .It Sy jabber_errors
143 Jabber errors.
144 .It Sy link_asmpause
145 Asymmetric flow control; works together with
146 .Sy link_pause .
147 See the description for it below.
148 .It Sy link_autoneg
149 Link was auto-negotiated.
150 .It Sy link_duplex
151 Link duplex status, values as follows:
152 .Bl -column "0" infinity
153 .It 0 Ta Unknown.
154 .It 1 Ta Half-duplex.
155 .It 2 Ta Full-duplex.
156 .El
157 .It Sy link_pause
158 Link flow control available; works together with
159 .Sy link_asmpause .
160 The meanings of these bits are:
161 .Bl -column "pause" "asmpause"
162 .It Sy pause Ta Sy asmpause Ta Sy meaning
163 .It 0 Ta 0 Ta "No flow control."
164 .It 1 Ta 0 Ta Symmetric flow control.
165 .It 0 Ta 1 Ta Honor received pause frames.
166 .It 1 Ta 1 Ta Send pause frames when congested.
167 .El
168 .It Sy link_state
169 Link state; 0 for down, 1 for up.
170 .It Sy link_up
171 Link is up if 1.
172 .It Sy lp_cap_1000fdx
173 Peer supports 1000 Mbps full-duplex.
174 .It Sy lp_cap_1000hdx
175 Peer supports 1000 Mbps half-duplex.
176 .It Sy lp_cap_100fdx
177 Peer supports 100 Mbps full-duplex.
178 .It Sy lp_cap_100hdx
179 Peer supports 100 Mbps half-duplex.
180 .It Sy lp_cap_100T4
181 Peer supports 100BASE-T4.
182 .It Sy lp_cap_10fdx
183 Peer supports 10 Mbps full-duplex.
184 .It Sy lp_cap_10gfdx
185 Peer supports 10 Gbps.
186 .It Sy lp_cap_10hdx
187 Peer supports 10 Mbps half-duplex.
188 .It Sy lp_cap_asmpause

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```

189 Peer supports asymmetric flow control.
190 .It Sy lp_cap_autoneg
191 Peer supports auto-negotiation.
192 .It Sy lp_cap_pause
193 Peer advertises flow control support.
194 .It Sy lp_rem_fault
195 Peer announces a remote fault.
196 .It Sy macrv_errors
197 Generic receive errors.
198 .It Sy macxmt_errors
199 Generic transmit errors.
200 .It Sy multi_collisions
201 Frames with more than one collision.
202 .It Sy multircv
203 Multicast frames received.
204 .It Sy multixmt
205 Multicast frames transmitted.
206 .It Sy norcvbuf
207 Receive frames dropped due to lack of resources.
208 .It Sy noxmtbuf
209 Transmit frames dropped due to lack of resources.
210 .It Sy obytes Ns Op Sy 64
211 Bytes (octets) transmitted successfully.
212 .It Sy oerrors
213 Transmit errors.
214 .It Sy oflo
215 Overflow errors.
216 .It Sy opackets Ns Op Sy 64
217 Frames successfully transmitted.
218 .It Sy promisc
219 Interface is in promiscuous mode.
220 .It Sy rbytes Ns Op Sy 64
221 Bytes (octets) received successfully.
222 .It Sy runt_errors
223 Frames received that were too short.
224 .It Sy sqe_errors
225 Squelch errors.
226 .It Sy toolong_errors
227 Frames received that were too long.
228 .It Sy tx_late_collisions
229 Late collisions on transmit.
230 .It Sy uflo
231 Underflow errors.
232 .It Sy unknowns
233 Frames received with no local recipient.
234 .It Sy xcvr_addr
235 Transceiver address.
236 .It Sy xcvr_id
237 Transceiver vendor and device ID.
238 .It Sy xcvr_inuse
239 Identifies the type of transceiver in use. Values are as follows:
240 .Bl -column "0"
241 .It 0 Ta Unknown or undefined.
242 .It 1 Ta None.
243 .It 2 Ta 10 Mbps
244 .It 3 Ta 100BASE-T4
245 .It 4 Ta 100BASE-X
246 .It 5 Ta 100BASE-T2
247 .It 6 Ta 100BASE-X
248 .It 7 Ta 100BASE-T
249 .El
250 .El
251 .Ss Properties
252 The following parameters are accessible with
253 .Xr dladm 1M .
254 Some of these are normally read-only. Other properties that are not

```

```

255 specific to IEEE 802.3 / Ethernet links are also available via
256 .Xr dladm 1M ,
257 and are documented in its man page rather than here.
258 .
259 .Bl -tag -width adv_1000hdx_cap
260 .It Sy speed
261 Link speed, in Mbps per second (dladm only).
262 .It Sy duplex
263 Link duplex, either "full" or "half".
264 .It Sy state
265 Link state, either "up" or "down".
266 .It Sy mtu
267 Maximum link frame size in bytes. See
268 .Sx Jumbo Frames .
269 .It Sy flowctrl
270 Flow control setting, one of \dqno\dq, \dqtx\dq, \dqrx\dq, or \dqbi\dq.
271 See
272 .Sx Flow Control .
273 .It Sy adv_10gfdx_cap
274 Advertising 10 Gbps support.
275 .It Sy en_10gfdx_cap
276 Enable 10 Gbps support.
277 .
278 .It Sy adv_1000fdx_cap
279 Advertising 1000 Mbps full-duplex support.
280 .It Sy en_1000fdx_cap
281 Enable 1000 Mbps full-duplex.
282 .
283 .It Sy adv_1000hdx_cap
284 Advertising 1000 Mbps half-duplex support.
285 .It Sy en_1000hdx_cap
286 Enable 1000 Mbps half-duplex.
287 .
288 .It Sy adv_100fdx_cap
289 Advertising 100 Mbps full-duplex support.
290 .It Sy en_100fdx_cap
291 Enable 100 Mbps full-duplex.
292 .
293 .It Sy adv_100hdx_cap
294 Advertising 100 Mbps half-duplex support.
295 .It Sy en_100hdx_cap
296 Enable 100 Mbps half-duplex.
297 .
298 .It Sy adv_10fdx_cap
299 Advertising 10 Mbps full-duplex support.
300 .It Sy en_10fdx_cap
301 Enable 10 Mbps full-duplex.
302 .
303 .It Sy adv_10hdx_cap
304 Advertising 10 Mbps half-duplex support.
305 .It Sy en_10hdx_cap
306 Enable 10 Mbps half-duplex.
307 .El
308 .Ss Auto-negotiation
309 With modern devices, auto-negotiation is normally handled automatically. With
310 10 Gbps and 1000 Gbps, it is mandatory. (10GBASE-T also requires full-duplex
311 operation.) It is also
312 .Em strongly
313 recommended for use whenever possible; without auto-negotiation the link
314 will usually not operate unless both partners are configured to use the
315 same link mode.
316 .Lp
317 Auto-negotiation, when enabled, takes place by comparing the local capabilities
318 that have been advertised (which must also be supported by the local device),
319 with the capabilities that have been advertised by the link partner (peer).
320 .

```

```

321 The first of the following modes that is supported by both partners is
322 selected as the link negotiation result:
323 .Lp
324 .Bl -bullet -offset indent -compact
325 .It
326 10 Gbps (10gfdx)
327 .It
328 1000 Mbps full-duplex (1000fdx)
329 .It
330 1000 Mbps half-duplex (1000hdx)
331 .It
332 100 Mbps full-duplex (100fdx)
333 .It
334 100BASE-T4 (100T4)
335 .It
336 100 Mbps half-duplex (100hdx)
337 .It
338 10 Mbps full-duplex (10fdx)
339 .It
340 10 Mbps half-duplex (10hdx)
341 .El
342 .Lp
343 Advertisement of these modes can be enabled or disabled by setting the
344 appropriate
345 .Sy en_
346 property in
347 .Xr dladm 1M .
348 .Lp
349 Auto-negotiation may also be disabled, by setting the
350 .Sy adv_autoneg_cap
351 property to 0. In this case, the highest enabled link mode (using the above
352 list) is
353 .Dq forced
354 for the link.
355 .Ss Flow Control
356 Link layer flow control is available on many modern devices, and is mandatory
357 for operation at 10 Gbps. It requires that the link be auto-negotiated, and
358 that the link be full-duplex, in order to function.
359 .Lp
360 Flow control is applied when a receiver becomes congested. In this case the
361 receiver can send a special frame, called a pause frame, to request its
362 partner cease transmitting for a short period of time.
363 .Lp
364 Flow control can be said to be either symmetric, in which case both partners
365 can send and honor pause frames, or asymmetric, in which case one partner
366 may not transmit pause frames.
367 .Lp
368 The flow control mode used is driven by the
369 .Sy flowctrl
370 property. It has the following meanings:
371 .Lp
372 .Bl -column -compact -offset indent Dv
373 .It \dqno\dq Ta Neither send, nor honor pause frames.
374 .It \dqtx\dq Ta Send pause frames, provided that the peer can support them,
375 but do not honor them.
376 .It \dqrx\dq Ta Receive and honor pause frames.
377 .It \dqbi\dq Ta Both send and receive (and honor) pause frames.
378 .El
379 .Lp
380 The statistics for flow control
381 .Po Sy adv_cap_pause , adv_cap_asmpause , lp_cap_pause , lp_cap_asmpause ,
382 .Sy link_pause ,
383 and
384 .Sy link_asmpause
385 .Pc
386 are based on the properties exchanged in the auto-negotiation and are

```

```

387 confusing as a result. Administrators are advised to use the
388 .Sy flowctrl
389 property instead.
390 .
391 .Ss Jumbo Frames
392 The IEEE 802.3 standard specifies a standard frame size of 1518 bytes,
393 which includes a 4-byte frame checksum, a 14-byte header, and 1500 bytes
394 of payload. Most devices support larger frame sizes than this, and
395 when all possible parties on the same local network can do so, it may be
396 advantageous to choose a larger frame size; 9000 bytes is the most common
397 option, as it allows a transport layer to convey 8 KB (8192) of data, while
398 leaving room for various link, network, and transport layer headers.
399 .Lp
400 Note that the use of frames carrying more than 1500 bytes of payload is
401 not standardized, even though it is common practice.
402 .Lp
403 The
404 .Sy mtu
405 property is used to configure the frame size. Note that this is the size of
406 the payload, and excludes the preamble, checksum, and header. It also excludes
407 the tag for devices that support tagging (see
408 .Sx Virtual LANs
409 below).
410 .Lp
411 Care must be taken to ensure that all communication parties agree on the same
412 size, or communication may cease to function properly.
413 .Lp
414 Note that the
415 .Sy mtu
416 property refers to the link layer property. It may be necessary to configure
417 upper layer protocols such as IP to use a different size when this changes.
418 See
419 .Xr ifconfig 1M .
420 .
421 .Ss Virtual LANs
422 Most devices support virtual LANs (and also priority control tagging) though
423 the use of a 4-byte tag inserted between the frame header and payload. The
424 details of configuration of this are covered in the
425 .Xr dladm 1M
426 manual.
427 .
428 .Ss Data Link Provider Interface (DLPI) Details
429 .
430 The correct method for applications to access Ethernet devices directly
431 is to use the DLPI. See
432 .Xr dlpi 7P
433 and
434 .Xr libdlpi 3LIB
435 for further information.
436 .Lp
437 The following DLPI parameters are presented to applications.
438 .Bl -column -offset indent "Broadcast address"
439 .It Maximum SDU Ta 1500 (or larger, as determined by the Sy mtu No property.)
440 .It Minimum SDU Ta 0
441 .It Address length Ta 6
442 .It MAC type Ta Dv DL_ETHER
443 .It SAP length Ta \mi2
444 .It Service mode Ta Dv DL_CLDLS
445 .It Broadcast address Ta Li ff:ff:ff:ff:ff:ff No (6 bytes with all bits set)
446 .El
447 .Lp
448 Note that if the application binds to SAP of 0, then standard IEEE 802.3
449 mode is assumed and the frame length is stored in place of the Ethernet type.
450 Frames that arrive with the type field set to 1500 or less, are delivered
451 to applications that bind to SAP 0.
452 .Lp

```

```

453 Ethernet drivers on the support both DLPI style 1 and style 2 operation.
454 Additionally, it is possible to configure provide
455 .Dq vanity
456 names to interfaces using the
457 .Xr dladm 1M
458 .Sy rename-link
459 subcommand. Such vanity names are only accessible using DLPI style 1.
460 .Sh NOTES
461 There may be other mechanisms available to configure link layer properties.
462 Historically the
463 .Xr ndd 1M
464 command, and
465 .Xr driver.conf 4
466 files could be used to do this. These methods are deprecated in favor of
467 .Xr dladm 1M
468 properties.
469 .
470 .Sh INTERFACE STABILITY
471 When present, the statistics and properties presented here
472 are
473 .Sy Committed .
474 However, note that not every Ethernet device supports all of these,
475 and some devices may support additional statistics and properties.
476 .Lp
477 The DLPI and IEEE 802.3 itself are
478 .Sy Standard .
479 .Sh SEE ALSO
480 .Xr dladm 1M ,
481 .Xr ifconfig 1M ,
482 .Xr kstat 1M ,
483 .Xr netstat 1M ,
484 .Xr ndd 1M ,
485 .Xr libdlpi 3LIB ,
486 .Xr driver.conf 4 ,
487 .Xr dlpi 7P
488 .Rs
489 .%T IEEE 802.3: Ethernet
490 .%Q IEEE Standards Association
491 .Re
492 .Rs
493 .%B Data Link Provider Interface (DLPI)
494 .%Q The Open Group
495 .%D 1997
496 .Re
497 .Rs
498 .%B STREAMS Programming Guide
499 .%Q Sun Microsystems, Inc.
500 .%D January 2005
501 .Re

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new/usr/src/man/man7d/Makefile

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new/usr/src/man/man7d/Makefile

5073 need ieee802.3(5) man page

5074 elx1(7D) page needed

5054 rtls(7D) needed

5053 need iprb(7D) man page

Reviewed by: Eric Sproul <esproul@omniti.com>

Approved by: TBD

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```

```
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16 #
```

```
18 include $(SRC)/Makefile.master
```

```
20 MANSECT= 7d
```

```
22 _MANFILES= aac.7d \
23 afe.7d \
24 audio.7d \
25 audio1575.7d \
26 audioens.7d \
27 audiols.7d \
28 audiopl6x.7d \
29 audiopci.7d \
30 audiot.7d \
31 av1394.7d \
32 bge.7d \
33 blkdev.7d \
34 bscv.7d \
35 chxge.7d \
36 console.7d \
37 cpuid.7d \
38 dca.7d \
39 dcam1394.7d \
40 devinfo.7d \
41 dmfe.7d \
42 dtrace.7d \
43 ehci.7d \
44 elx1.7d \
45 fasttrap.7d \
46 fbt.7d \
47 fcip.7d \
48 fcoe.7d \
49 fcoei.7d \
50 fcoet.7d \
51 fcp.7d \
52 fctl.7d \
53 fd.7d \
54 fp.7d \
55 gld.7d \
56 hcil394.7d \
```

new/usr/src/man/man7d/Makefile

2

```
57 hermon.7d \
58 hid.7d \
59 hme.7d \
60 hubd.7d \
61 hwahc.7d \
62 hwarc.7d \
63 hxge.7d \
64 ib.7d \
65 ibcm.7d \
66 ibd.7d \
67 ibdm.7d \
68 ibdma.7d \
69 ibt1.7d \
70 ieee1394.7d \
71 igb.7d \
72 ii.7d \
73 ipnet.7d \
74 iprb.7d \
75 iscsi.7d \
76 iser.7d \
77 ixgbe.7d \
78 kmdb.7d \
79 kstat.7d \
80 ksyms.7d \
81 llcl.7d \
82 lockstat.7d \
83 lofi.7d \
84 log.7d \
85 md.7d \
86 mediator.7d \
87 mem.7d \
88 mpt_sas.7d \
89 mr_sas.7d \
90 msglog.7d \
91 mt.7d \
92 mxfe.7d \
93 myril0ge.7d \
94 null.7d \
95 nulldriver.7d \
96 nxge.7d \
97 ohci.7d \
98 openprom.7d \
99 pcic.7d \
100 pcmcia.7d \
101 physmem.7d \
102 pm.7d \
103 poll.7d \
104 profile.7d \
105 ptm.7d \
106 pts.7d \
107 pty.7d \
108 qlc.7d \
109 ramdisk.7d \
110 random.7d \
111 rge.7d \
112 rtls.7d \
113 sad.7d \
114 sata.7d \
115 scsal394.7d \
116 scsa2usb.7d \
117 sd.7d \
118 sdp.7d \
119 sdt.7d \
120 ses.7d \
121 sfe.7d \
122 sgen.7d \
```

new/usr/src/man/man7d/Makefile

```

123 srpt.7d \
124 st.7d \
125 sv.7d \
126 sysmsg.7d \
127 systrace.7d \
128 ticlts.7d \
129 tty.7d \
130 ttymux.7d \
131 tzmon.7d \
132 ugen.7d \
133 uhci.7d \
134 usb_ac.7d \
135 usb_as.7d \
136 usb_ia.7d \
137 usb_mid.7d \
138 usba.7d \
139 usbftdi.7d \
140 usbprn.7d \
141 usbsacm.7d \
142 usbsksp.7d \
143 usbspri.7d \
144 usbvc.7d \
145 uwba.7d \
146 virtualkm.7d \
147 vni.7d \
148 vr.7d \
149 wscons.7d \
150 wusb_ca.7d \
151 wusb_df.7d \
152 xge.7d \
153 yge.7d \
154 zcons.7d \
155 zero.7d \

157 sparc_MANFILES= audiocs.7d \
158 bbc_beep.7d \
159 ctsmc.7d \
160 cvc.7d \
161 cvcredir.7d \
162 dad.7d \
163 dm2s.7d \
164 dr.7d \
165 eri.7d \
166 fas.7d \
167 gpio_87317.7d \
168 grbeep.7d \
169 idn.7d \
170 mc-opl.7d \
171 n2rng.7d \
172 ncp.7d \
173 ntwdt.7d \
174 oplkmdrv.7d \
175 oplmsu.7d \
176 oplpanel.7d \
177 pcicmu.7d \
178 pcipsy.7d \
179 pcisch.7d \
180 schpc.7d \
181 sf.7d \
182 smbus.7d \
183 socal.7d \
184 ssd.7d \
185 su.7d \
186 todopl.7d \
187 tsalarm.7d \
188 zs.7d \

```

3

new/usr/src/man/man7d/Makefile

```

189 zsh.7d \

191 i386_MANFILES= ahci.7d \
192 amd8111s.7d \
193 amr.7d \
194 arcmsr.7d \
195 arn.7d \
196 asy.7d \
197 ata.7d \
198 atge.7d \
199 ath.7d \
200 atu.7d \
201 audio810.7d \
202 audiocmi.7d \
203 audiocmihd.7d \
204 audioemu10k.7d \
205 audiohd.7d \
206 audioixp.7d \
207 audiosolo.7d \
208 audiovia823x.7d \
209 audiovia97.7d \
210 bcm_sata.7d \
211 bfe.7d \
212 cmdk.7d \
213 cpgary3.7d \
214 dnet.7d \
215 ecpp.7d \
216 heci.7d \
217 i915.7d \
218 ipmi.7d \
219 ipw.7d \
220 iwh.7d \
221 iwi.7d \
222 mega_sas.7d \
223 npe.7d \
224 ntxn.7d \
225 nv_sata.7d \
226 pcn.7d \
227 radeon.7d \
228 ral.7d \
229 rtw.7d \
230 rum.7d \
231 rwd.7d \
232 rwn.7d \
233 sda.7d \
234 sdhost.7d \
235 si3124.7d \
236 smbios.7d \
237 uath.7d \
238 ural.7d \
239 urtw.7d \
240 wpi.7d \
241 zyd.7d \

243 _MANLINKS= 1394.7d \
244 allkmem.7d \
245 bsdbus.7d \
246 fdc.7d \
247 firewire.7d \
248 hwa1480_fw.7d \
249 i2bsc.7d \
250 kmem.7d \
251 lo0.7d \
252 ticots.7d \
253 ticotsord.7d \
254 urandom.7d \

```

4

new/usr/src/man/man7d/Makefile

5

```
255         usb.7d      \
256         uwb.7d

258 sparc_MANLINKS= drmach.7d      \
259         ngdr.7d      \
260         ngdrmach.7d

262 MANFILES =      $_MANFILES) $($(MACH)_MANFILES)
263 MANLINKS =     $_MANLINKS) $($(MACH)_MANLINKS)

265 bscbus.7d      := LINKSRC = bscv.7d
266 i2bsc.7d      := LINKSRC = bscv.7d

268 drmach.7d      := LINKSRC = dr.7d
269 ngdr.7d        := LINKSRC = dr.7d
270 ngdrmach.7d    := LINKSRC = dr.7d

272 fdc.7d         := LINKSRC = fd.7d

274 ieee1394.7d   := LINKSRC = ieee1394.7d
275 firewire.7d   := LINKSRC = ieee1394.7d

277 lo0.7d        := LINKSRC = ipnet.7d

279 allkmem.7d     := LINKSRC = mem.7d
280 kmem.7d        := LINKSRC = mem.7d

282 urandom.7d     := LINKSRC = random.7d

284 ticots.7d      := LINKSRC = ticlts.7d
285 ticotsord.7d   := LINKSRC = ticlts.7d

287 usb.7d         := LINKSRC = usba.7d

289 uwb.7d         := LINKSRC = uwba.7d

291 hwa1480_fw.7d  := LINKSRC = wusb_df.7d

293 .KEEP_STATE:

295 include        $(SRC)/man/Makefile.man

297 install:       $(ROOTMANFILES) $(ROOTMANLINKS)
```

2458 Fri Aug 8 13:32:24 2014
 new/usr/src/man/man7d/afe.7d
 5073 need ieee802.3(5) man page
 5074 elx1(7D) page needed
 5054 rtls(7D) needed
 5053 need iprb(7D) man page
 Reviewed by: Eric Sproul <esproul@omniti.com>
 Approved by: TBD

```

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22 1.\"
23 .Dd "Aug 3, 2014"
24 .Dt AFE 7D
25 .Os
26 .Sh NAME
27 .Nm afe
28 .Nd ADMtek Fast Ethernet device driver
29 .Sh SYNOPSIS
30 .Pa /dev/afe
31 .Sh DESCRIPTION
32 The
33 .Nm
34 driver provides support for the Centaur and Comet families of Fast Ethernet
35 PCI controllers originally produced by ADMtek and Infineon.
36 .Lp
37 These devices generally support the standard Fast Ethernet features, including
38 10BASE-T and 100BASE-TX, both full and half duplex operation, IEEE 802.3
39 autonegotiation, etc. They also support full size MTUs (1500 bytes),
40 even when used with VLANs. Most of them also support flow control.
41 .
42 .Lp
43 The device driver supports the
44 .Xr ieee802.3 5
45 properties, which can be configured with
46 .Xr dladm 1M .
47 .
48 1.\" The driver also has a "forcefiber" driver.conf setting, but this is for
49 1.\" very very obscure hardware, and we are not documenting this option
50 1.\" for now.
51 .
52 .Sh FILES
53 .Bl -tag -width /dev/afe
54 .It Pa /dev/afe
55 1 1.\" te
56 2 1.\" Copyright (c) 2001-2007 by Garrett D'Amore.

```

```

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7 1.\" OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHE
8 1.\" Portions Copyright (c) 2007 by Sun Microsystems, Inc. All Rights Reserved.
9 .TH AFE 7D "Apr 1, 2007"
10 .SH NAME
11 afe \- ADMtek Fast Ethernet device driver
12 .SH SYNOPSIS
13 .Lp
14 .nf
15 \fB/dev/afe\fR
16 .fi
17 .
18 .SH DESCRIPTION
19 .sp
20 .Lp
21 The \fBafe\fR driver is a multi-threaded, loadable, clonable, GLD-based
22 STREAMS driver supporting the Data Link Provider Interface \fBdldpi\fR(7P) on
23 ADMtek (now Infineon) Centaur and Comet Fast Ethernet controllers.
24 .SH APPLICATION PROGRAMMING INTERFACE
25 .sp
26 .Lp
27 The \fBafe\fR driver can be used as either a "style 1" or a "style 2" Data Link
28 Service Provider. Physical points of attachment (PPAs) are interpreted as the
29 instance number of the \fBafe\fR controller as assigned by the Solaris
30 operating environment.
31 .sp
32 .Lp
33 The relevant fields returned as part of a \fBDDL_INFO_ACK\fR response are:
34 .RS +4
35 .TP
36 .ie t \(\bu
37 .el o
38 Maximum SDU is 1500.
39 .RE
40 .RS +4
41 .TP
42 .ie t \(\bu
43 .el o
44 Minimum SDU is 0.
45 .RE
46 .RS +4
47 .TP
48 .ie t \(\bu
49 .el o
50 The dlsap address length is 8.
51 .RE
52 .RS +4
53 .TP
54 .ie t \(\bu
55 .el o
56 MAC type is \fBDDL_ETHER\fR.
57 .RE
58 .RS +4
59 .TP
60 .ie t \(\bu
61 .el o
62 SAP length is -2. The 6-byte physical address is followed immediately by a
63 2-byte SAP.
64 .RE
65 .RS +4
66 .TP
67 .ie t \(\bu
68 .el o

```

```

69 Service mode is \fBDDL_CLDLS\fR.
70 .RE
71 .RS +4
72 .TP
73 .ie t \(\bu
74 .el o
75 Broadcast address is the 6-byte Ethernet broadcast address
76 (\fBff:ff:ff:ff:ff:ff\fR).
77 .RE
78 .sp
79 .LP
80 If the SAP provided is zero, then \fIIEEE 802.3\fR mode is assumed and outbound
81 frames will have the frame payload length written into the type field.
82 Likewise, inbound frames with a SAP between zero and 1500 are interpreted as
83 \fIIEEE 802.3\fR frames and delivered to any streams that are bound to SAP zero
84 (the \fI802.3\fR SAP).
85 .SH PROPERTIES
86 .sp
87 .LP
88 The following properties may be configured using either \fBndd\fR(1M) or
89 the \fBafe.conf\fR configuration file as described by \fBdriver.conf\fR(4):
90 .sp
91 .ne 2
92 .na
93 \fB\fBadv_autoneg_cap\fR\fR
94 .ad
95 .sp .6
96 .RS 4n
97 Enables (default) or disables \fIIEEE 802.3u\fR auto-negotiation of link speed
98 and duplex settings. If enabled, the device negotiates among the supported (and
99 configured, see below) link options with the link partner. If disabled, at
100 least one of the link options below must be specified. The driver selects the
101 first enabled link option according to the \fIIEEE 802.3u\fR specified
102 preferences.
103 .RE
104
105 .sp
106 .ne 2
107 .na
108 \fB\fBadv_100T4_cap\fR\fR
109 .ad
110 .sp .6
111 .RS 4n
112 Enables the 100 BaseT4 link option. (Note that most hardware does not support
113 this unusual link style. Also, this uses two pairs of wires for data, rather
114 than one.)
115 .RE
116
117 .sp
118 .ne 2
119 .na
120 \fB\fBadv_100fdx_cap\fR\fR
121 .ad
122 .sp .6
123 .RS 4n
124 Enables the 100 Base TX full-duplex link option. (This is generally the fastest
125 mode if both link partners support it. Most modern equipment supports this
126 mode.)
127 .RE
128
129 .sp
130 .ne 2
131 .na
132 \fB\fBadv_100hdx_cap\fR\fR
133 .ad
134 .sp .6

```

```

135 .RS 4n
136 Enables the 100 Base TX half-duplex link option. (Typically used when the link
137 partner is a 100 Mbps hub.)
138 .RE
139
140 .sp
141 .ne 2
142 .na
143 \fB\fBadv_10fdx_cap\fR\fR
144 .ad
145 .sp .6
146 .RS 4n
147 Enables the 10 Base-T full-duplex link option. (This less-frequently used mode
148 is typically used when the link partner is a 10 Mbps switch.)
149 .RE
150
151 .sp
152 .ne 2
153 .na
154 \fB\fBadv_10hdx_cap\fR\fR
155 .ad
156 .sp .6
157 .RS 4n
158 Enables the 10 Base-T half-duplex link option. (This is the fall-back when no
159 other option is available. It is typically used when the link partner is a 10
160 Mbps hub or is an older network card.)
161 .RE
162
163 .SH ATTRIBUTES
164 .sp
165 .LP
166 See \fBattributes\fR(5) for a description of the following attributes:
167 .sp
168
169 .sp
170 .TS
171 box;
172 c | c
173 l | l .
174 ATTRIBUTE TYPE      ATTRIBUTE VALUE
175 -
176 Architecture        SPARC, x86
177 -
178 Interface Stability  Committed
179 .TE
180
181 .SH FILES
182 .sp
183 .ne 2
184 .na
185 \fB\fB/dev/afe\fR\fR
186 .ad
187 .sp .6
188 .RS 4n
189 55 Special character device.
190 56 .El
191 57 .Sh SEE ALSO
192 58 .Xr dladm 1M ,
193 59 .Xr ifconfig 1M ,
194 60 .Xr pci 4 ,
195 61 .Xr ieee802.3 5 ,
196 62 .Xr dlpi 7P
197 63 .Rs
198 64 .%T IEEE 802.3: Ethernet
199 65 .%Q IEEE Standards Association
200 66 .Re

```

```
190 .RE
192 .sp
193 .ne 2
194 .na
195 \fB\fB/kernel/drv/afe\fR\fR
196 .ad
197 .sp .6
198 .RS 4n
199 32-bit driver binary (x86).
200 .RE

202 .sp
203 .ne 2
204 .na
205 \fB\fB/kernel/drv/amd64/afe\fR\fR
206 .ad
207 .sp .6
208 .RS 4n
209 64-bit driver binary (x86).
210 .RE

212 .sp
213 .ne 2
214 .na
215 \fB\fB/kernel/drv/sparcv9/afe\fR\fR
216 .ad
217 .sp .6
218 .RS 4n
219 64-bit driver binary (SPARC).
220 .RE

222 .sp
223 .ne 2
224 .na
225 \fB\fB/kernel/drv/afe.conf\fR\fR
226 .ad
227 .sp .6
228 .RS 4n
229 Configuration file.
230 .RE

232 .SH SEE ALSO
233 .sp
234 .LP
235 \fBbndd\fR(1M), \fBdriver.conf\fR(4), \fBattributes\fR(5), \fBstreamio\fR(7I),
236 \fBdmpi\fR(7P)
237 .sp
238 .LP
239 \fIIEEE 802.3\fR \fI(em Institute of Electrical and Electronics Engineers, 2002
```

3271 Fri Aug 8 13:32:24 2014
new/usr/src/man/man7d/elxl.7d
5073 need ieee802.3(5) man page
5074 elxl(7D) page needed
5054 rtls(7D) needed
5053 need iprb(7D) man page
Reviewed by: Eric Sproul <esproul@omniti.com>
Approved by: TBD

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22.\"
23.Dd \"Aug 7, 2014\"
24.Dt ELXL 7D
25.Os
26.Sh NAME
27.Nm elxl
28.Nd 3Com Etherlink XL device driver
29.Sh SYNOPSIS
30.Pa /dev/elxl
31.Sh DESCRIPTION
32.The
33.Nm
34.driver provides support for the 3Com Etherlink XL
35.family of Ethernet and Fast Ethernet PCI controllers. These are often known
36.by their part numbers, most often 3c905 or 3c900 variants.
37.Lp
38.The 3c905 devices generally support some form of 100 Mbps Ethernet,
39.whereas the 3c900 devices usually only support 10 Mbps. Some devices
40.support legacy media such as 10BASE-15, 10BASE-2, and even 10BASE-FL.
41.
42.Where applicable, the devices support auto-negotiation, both full and
43.half duplex, etc. They also support full size MTUs (1500 bytes),
44.even when used with VLANs.
45.
46.Lp
47.The device driver supports the
48.Xr ieee802.3 5
49.properties, which can be configured with
50.Xr dladm 1M .
51.Lp
52.In addition, for devices with multiple external media ports, the driver
53.supports a driver-specific
54.Xr dladm 1M
55.property called
56.Sy media ,

57 which can take one of the following values, depending on the available
58 media options on the device:
59.Lp
60.Bl -tag -compact -offset indent -width Sy
61.It Sy mii
62.Media Independent Interface (MII), also 100BASE-TX
63.It Sy tp-hdx
64.10 Mbps twisted pair, half-duplex
65.It Sy tp-fdx
66.10 Mbps twisted pair full-duplex
67.It Sy fx-hdx
68.100BASE-FX (fiber), half-duplex
69.It Sy fx-hdx
70.100BASE-FX (fiber), full-duplex
71.It Sy bnc
72.10BASE-2
73.Pq BNC, aka Dq thin-net
74.It Sy au1
75.10BASE-15
76.Pq aka Dq thick-net
77.It Sy fl-hdx
78.10BASE-FL (fiber), half-duplex
79.It Sy fl-fdx
80.10BASE-FL (fiber), full-duplex
81.El
82.Lp
83.The specific media options available can be queried with the
84.device-specific
85.Sy available_media
86.Xr dladm 1M
87.property.
88.Sh FILES
89.Bl -tag -width /dev/elxl
90.It Pa /dev/elxl
91.Special character device.
92.El
93.Sh SEE ALSO
94.Xr dladm 1M ,
95.Xr ifconfig 1M ,
96.Xr pci 4 ,
97.Xr ieee802.3 5 ,
98.Xr dlpi 7P
99.Rs
100.%T IEEE 802.3: Ethernet
101.%Q IEEE Standards Association
102.Re

```

*****
2424 Fri Aug 8 13:32:24 2014
new/usr/src/man/man7d/iprb.7d
5073 need ieee802.3(5) man page
5074 elx1(7D) page needed
5054 rtls(7D) needed
5053 need iprb(7D) man page
Reviewed by: Eric Sproul <esproul@omniti.com>
Approved by: TBD
*****

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23 .Dd "Aug 3, 2014"
24 .Dt IPRB 7D
25 .Os
26 .Sh NAME
27 .Nm iprb
28 .Nd Intel PRO/100 Fast Ethernet device driver
29 .Sh SYNOPSIS
30 .Pa /dev/iprb
31 .Sh DESCRIPTION
32 The
33 .Nm
34 driver provides support for the Intel PRO/100 family of Fast Ethernet
35 PCI controllers. This includes support for Intel 82558, 82559, 82550,
36 and 82551 parts, as well as certain controllers found on certain Intel
37 southbridge controllers (ICH2 and ICH3).
38 .Lp
39 These devices generally support the standard Fast Ethernet features, including
40 10BASE-T and 100BASE-TX, both full and half duplex operation, IEEE 802.3
41 autonegotiation, etc. They also support full size MTUs (1500 bytes),
42 even when used with VLANs. Some of them also support flow control.
43 .
44 .Lp
45 The device driver supports the
46 .Xr ieee802.3 5
47 properties, which can be configured with
48 .Xr dladm 1M .
49 .
50 .Sh FILES
51 .Bl -tag -width /dev/iprb
52 .It Pa /dev/iprb
53 Special character device.
54 .El
55 .Sh SEE ALSO
56 .Xr dladm 1M ,

```

```

57 .Xr ifconfig 1M ,
58 .Xr pci 4 ,
59 .Xr ieee802.3 5 ,
60 .Xr dlpi 7P
61 .Rs
62 .%T IEEE 802.3: Ethernet
63 .%Q IEEE Standards Association
64 .Re

```

2244 Fri Aug 8 13:32:24 2014
 new/usr/src/man/man7d/mxfe.7d
 5073 need ieee802.3(5) man page
 5074 elx1(7D) page needed
 5054 rtls(7D) needed
 5053 need iprb(7D) man page
 Reviewed by: Eric Sproul <esproul@omniti.com>
 Approved by: TBD

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23 .Dd "Aug 7, 2014"
24 .Dt MXFE 7D
25 .Os
26 .Sh NAME
27 .Nm mxfe
28 .Nd Macronix Fast Ethernet device driver
29 .Sh SYNOPSIS
30 .Pa /dev/mxfe
31 .Sh DESCRIPTION
32 The
33 .Nm
34 driver provides support for the
35 Macronix 98715 family (including the Lite-On PNIC-II) of Fast Ethernet
36 PCI controllers.
37 .Lp
38 These devices generally support the standard Fast Ethernet features, including
39 10BASE-T and 100BASE-TX, both full and half duplex operation, IEEE 802.3
40 autonegotiation, etc. They also support full size MTUs (1500 bytes),
41 even when used with VLANs.
42 .
43 .Lp
44 The device driver supports the
45 .Xr ieee802.3 5
46 properties, which can be configured with
47 .Xr dladm 1M .
48 .Sh FILES
49 .Bl -tag -width /dev/mxfe
50 .It Pa /dev/mxfe
51 Special character device.
52 .El
53 .Sh SEE ALSO
54 .Xr dladm 1M ,
55 .Xr ifconfig 1M ,
56 .Xr pci 4 ,

```

```

57 .Xr ieee802.3 5 ,
58 .Xr dlpi 7P
59 .Rs
60 .%T IEEE 802.3: Ethernet
61 .%Q IEEE Standards Association
62 .Re
63 .\" te
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70 .\" Portions Copyright (c) 2007 by Sun Microsystems, Inc. All Rights Reserved.
71 .TH MXFE 7D "Aug 31, 2007"
72 .SH NAME
73 mxfe \- MXFE Fast Ethernet device driver
74 .SH SYNOPSIS
75 .LP
76 .nf
77 \fB/dev/mxfe*\fR
78 .fi
79
80 .SH DESCRIPTION
81 .sp
82 .LP
83 The \fBmxfe\fR is a Solaris STREAMS hardware driver supporting the Data Link
84 Provider Interface (\fBdlpi\fR(7P)) over the Macronix 98715 family (including
85 the Lite-On PNIC-II) of Fast Ethernet controllers.
86 .SH DLPI SPECIFICATIONS
87 .sp
88 .LP
89 The \fBmxfe\fR driver supports both style 1 and style 2 modes of operation.
90 Physical points of attachment (PPAs) are interpreted as the instance number of
91 the \fBmxfe\fR controller as assigned by the operating system.
92 .sp
93 .LP
94 The relevant fields returned as part of a DL_INFO_ACK response are:
95 .RS +4
96 .TP
97 .ie t \(\bu
98 .el o
99 Maximum SDU is 1500.
100 .RE
101 .RS +4
102 .TP
103 .ie t \(\bu
104 .el o
105 Minimum SDU is 0.
106 .RE
107 .RS +4
108 .TP
109 .ie t \(\bu
110 .el o
111 DLSAP address length is 8.
112 .RE
113 .RS +4
114 .TP
115 .ie t \(\bu
116 .el o
117 MAC type is \fBBDL_ETHER\fR.
118 .RE
119 .RS +4
120 .TP
121 .ie t \(\bu
122 .el o

```

```

61 \fBSAP\fR length value is \fI-2\fR, meaning the physical address component is
62 followed immediately by a 2-byte \fBSAP\fR component within the \fBDLSAP\fR
63 address.
64 .RE
65 .RS +4
66 .TP
67 .ie t \(\bu
68 .el o
69 Service mode is DL_CLDLS.
70 .RE
71 .RS +4
72 .TP
73 .ie t \(\bu
74 .el o
75 Broadcast address value is the 6-byte Ethernet/IEEE broadcast address
76 (ff:ff:ff:ff:ff:ff).
77 .RE
78 .sp
79 .LP
80 If the SAP provided is zero, \fIIEEE 802.3\fR mode is assumed and outbound
81 frames will have the frame payload length written into the type field Likewise,
82 inbound frames with a SAP between zero and 1500 are interpreted as \fIIEEE
83 802.3\fR frames and delivered to streams that have bound to SAP zero (the
84 \fI802.3\fR SAP).
85 .SH FILES
86 .sp
87 .ne 2
88 .na
89 \fB\fB/dev/mxfe*\fR\fR
90 .ad
91 .RS 28n
92 Special character device
93 .RE

95 .sp
96 .ne 2
97 .na
98 \fB\fB/kernel/drv/mxfe\fR\fR
99 .ad
100 .RS 28n
101 32-bit driver binary (x86).
102 .RE

104 .sp
105 .ne 2
106 .na
107 \fB\fB/kernel/drv/amd64/mxfe\fR\fR
108 .ad
109 .RS 28n
110 64-bit ELF kernel module (x86).
111 .RE

113 .sp
114 .ne 2
115 .na
116 \fB\fB/kernel/drv/sparcv9/mxfe\fR\fR
117 .ad
118 .RS 28n
119 Driver binary (SPARC).
120 .RE

122 .SH ATTRIBUTES
123 .sp
124 .LP
125 See \fBattributes\fR(5) for a description of the following attributes:
126 .sp

```

```

128 .sp
129 .TS
130 box;
131 c / c
132 l / l .
133 ATTRIBUTE TYPE ATTRIBUTE VALUE
134 _
135 Architecture SPARC, x86
136 .TE

138 .SH SEE ALSO
139 .sp
140 .LP
141 \fBbifconfig\fR(1M), \fBbndd\fR(1M), \fBattributes\fR(5), \fBdlpi\fR(7P)
142 .sp
143 .LP
144 \fIIEEE 802.3\fR \(\em Institute of Electrical and Electronics Engineers, 2002

```



```

*****
2211 Fri Aug 8 13:32:24 2014
new/usr/src/man/man7d/rtls.7d
5073 need ieee802.3(5) man page
5074 elx1(7D) page needed
5054 rtls(7D) needed
5053 need iprb(7D) man page
Reviewed by: Eric Sproul <esproul@omniti.com>
Approved by: TBD
*****

```

```

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23 .Dd "Aug 3, 2014"
24 .Dt RTLS 7D
25 .Os
26 .Sh NAME
27 .Nm rtls
28 .Nd RealTek Fast Ethernet device driver
29 .Sh SYNOPSIS
30 .Pa /dev/rtls
31 .Sh DESCRIPTION
32 The
33 .Nm
34 driver provides support for the RealTek 8139 family of Fast Ethernet
35 PCI controllers.
36 .Lp
37 These devices generally support the standard Fast Ethernet features, including
38 10BASE-T and 100BASE-TX, both full and half duplex operation, IEEE 802.3
39 autonegotiation, etc. They also support full size MTUs (1500 bytes),
40 even when used with VLANs.
41 .
42 .Lp
43 The device driver supports the
44 .Xr ieee802.3 5
45 properties, which can be configured with
46 .Xr dladm 1M .
47 .
48 .Sh FILES
49 .Bl -tag -width /dev/rtls
50 .It Pa /dev/rtls
51 Special character device.
52 .El
53 .Sh SEE ALSO
54 .Xr dladm 1M ,
55 .Xr ifconfig 1M ,
56 .Xr pci 4 ,

```

```

57 .Xr ieee802.3 5 ,
58 .Xr dlpi 7P
59 .Rs
60 .%T IEEE 802.3: Ethernet
61 .%Q IEEE Standards Association
62 .Re

```

new/usr/src/pkg/manifests/driver-network-elx1.mf

1

2419 Fri Aug 8 13:32:24 2014

new/usr/src/pkg/manifests/driver-network-elx1.mf

5073 need ieee802.3(5) man page

5074 elx1(7D) page needed

5054 rtls(7D) needed

5053 need iprb(7D) man page

Reviewed by: Eric Sproul <esproul@omniti.com>

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28 # The default for payload-bearing actions in this package is to appear in the
29 # global zone only. See the include file for greater detail, as well as
30 # information about overriding the defaults.
31 #
32 <include global_zone_only_component>
33 set name=pkg.fmri value=pkg:/driver/network/elx1@$(PKGVERS)
34 set name=pkg.description value="3Com Etherlink XL Ethernet Driver"
35 set name=pkg.summary value="3Com Etherlink XL Ethernet Driver"
36 set name=info.classification \
37     value=org.opensolaris.category.2008:Drivers/Networking
38 set name=variant.arch value=i386
39 dir path=kernel group=sys
40 dir path=kernel/drv group=sys
41 dir path=kernel/drv/$(ARCH64) group=sys
42 dir path=usr/share/man
43 dir path=usr/share/man/man7d
44 driver name=elx1 clone_perms="elx1 0666 root sys" perms="* 0666 root sys" \
45     alias=pci10b7,9000 \
46     alias=pci10b7,9001 \
47     alias=pci10b7,9004 \
48     alias=pci10b7,9005 \
49     alias=pci10b7,9006 \
50     alias=pci10b7,9050 \
51     alias=pci10b7,9051 \
52     alias=pci10b7,9055 \
53     alias=pci10b7,9056 \
54     alias=pci10b7,905a \
55     alias=pci10b7,9200 \
56     alias=pci10b7,9201 \
```

new/usr/src/pkg/manifests/driver-network-elx1.mf

2

```
57     alias=pci10b7,9202 \
58     alias=pci10b7,9800 \
59     alias=pci10b7,9805
60 file path=kernel/drv/$(ARCH64)/elx1 group=sys
61 file path=kernel/drv/elx1 group=sys
62 file path=usr/share/man/man7d/elx1.7d
63 legacy pkg=SUNWelx1 desc="3Com Etherlink XL Ethernet Driver" \
64     name="3Com Etherlink XL Ethernet Driver"
65 license usr/src/uts/common/io/elx1/THIRDPARTYLICENSE \
66     license=usr/src/uts/common/io/elx1/THIRDPARTYLICENSE
```

new/usr/src/pkg/manifests/driver-network-iprb.mf

1

2452 Fri Aug 8 13:32:24 2014
new/usr/src/pkg/manifests/driver-network-iprb.mf
5073 need ieee802.3(5) man page
5074 elx1(7D) page needed
5054 rtls(7D) needed
5053 need iprb(7D) man page
Reviewed by: Eric Sproul <esproul@omniti.com>
Approved by: TBD

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27 #
28 #
29 # The default for payload-bearing actions in this package is to appear in the
30 # global zone only. See the include file for greater detail, as well as
31 # information about overriding the defaults.
32 #
33 <include global_zone_only_component>
34 set name=pkg.fmri value=pkg:/driver/network/iprb@$(PKGVERS)
35 set name=pkg.description value="Intel 8255x Fast Ethernet Driver"
36 set name=pkg.summary value="Intel 8255x Fast Ethernet Driver"
37 set name=info.classification \
38     value=org.opensolaris.category.2008:Drivers/Networking
39 set name=variant.arch value=i386
40 dir path=etc group=sys
41 dir path=kernel group=sys
42 dir path=kernel/drv group=sys
43 dir path=kernel/drv/$(ARCH64) group=sys
44 dir path=usr/share/man
45 dir path=usr/share/man/man7d
46 driver name=iprb clone_perms="iprb 0666 root sys" perms="* 0666 root sys" \
47     alias=pci8086,1029 \
48     alias=pci8086,1030 \
49     alias=pci8086,1031 \
50     alias=pci8086,1032 \
51     alias=pci8086,1038 \
52     alias=pci8086,1039 \
53     alias=pci8086,103d \
54     alias=pci8086,1050 \
55     alias=pci8086,1059 \
56     alias=pci8086,1068 \
```

new/usr/src/pkg/manifests/driver-network-iprb.mf

2

```
57     alias=pci8086,1069 \
58     alias=pci8086,1092 \
59     alias=pci8086,1209 \
60     alias=pci8086,1229 \
61     alias=pci8086,2449 \
62     alias=pci8086,27dc
63 file path=kernel/drv/$(ARCH64)/iprb group=sys
64 file path=kernel/drv/iprb group=sys
65 file path=usr/share/man/man7d/iprb.7d
66 license lic_CDDL license=lic_CDDL
67 license usr/src/uts/common/io/iprb/THIRDPARTYLICENSE \
68     license=usr/src/uts/common/io/iprb/THIRDPARTYLICENSE
```

new/usr/src/pkg/manifests/driver-network-rtls.mf

1

2026 Fri Aug 8 13:32:24 2014

new/usr/src/pkg/manifests/driver-network-rtls.mf

5073 need ieee802.3(5) man page

5074 elx1(7D) page needed

5054 rtls(7D) needed

5053 need iprb(7D) man page

Reviewed by: Eric Sproul <esproul@omniti.com>

Approved by: TBD

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27 #
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29 # global zone only. See the include file for greater detail, as well as
30 # information about overriding the defaults.
31 #
32 <include global_zone_only_component>
33 set name=pkg.fmri value=pkg:/driver/network/rtls@$(PKGVERS)
34 set name=pkg.description value="RTL Fast NIC"
35 set name=pkg.summary value="REALTEK Fast NIC"
36 set name=info.classification \
37     value=org.opensolaris.category.2008:System/Hardware
38 set name=variant.arch value=$(ARCH)
39 dir path=kernel group=sys
40 dir path=kernel/drv group=sys
41 dir path=kernel/drv/$(ARCH64) group=sys
42 dir path=usr/share/man
43 dir path=usr/share/man/man7d
44 driver name=rtls clone_perms="rtls 0666 root sys" perms="* 0666 root sys" \
45     alias=pci10ec,8139 \
46     alias=pci1113,1211 \
47     alias=pci1186,1300 \
48     alias=pci1186,1301
49 file path=kernel/drv/$(ARCH64)/rtls group=sys
50 $(i386_ONLY)file path=kernel/drv/rtls group=sys
51 file path=usr/share/man/man7d/rtls.7d
52 legacy pkg=SUNWrtls desc="RTL Fast NIC" name="REALTEK Fast NIC"
53 license cr_Sun license=cr_Sun
54 license lic_CDDL license=lic_CDDL
```

new/usr/src/pkg/manifests/system-kernel.man5.inc

1

610 Fri Aug 8 13:32:25 2014

new/usr/src/pkg/manifests/system-kernel.man5.inc

5073 need ieee802.3(5) man page

5074 elx1(7D) page needed

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15 file path=usr/share/man/man5/fsattr.5

16 file path=usr/share/man/man5/ieee802.11.5

17 file path=usr/share/man/man5/ieee802.3.5