

1 / *Technical Standard*

2 **Rationale (Informative)**

3 *The Open Group*
4 *The Institute of Electrical and Electronics Engineers, Inc.*

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Contents

18

19	Part	A	Base Definitions	3309
20	Appendix	A	Rationale for Base Definitions	3311
21		A.1	Introduction	3311
22		A.1.1	Scope.....	3311
23		A.1.2	Conformance	3313
24		A.1.3	Normative References	3313
25		A.1.4	Terminology	3313
26		A.1.5	Portability	3315
27		A.1.5.1	Codes	3315
28		A.1.5.2	Margin Code Notation.....	3316
29		A.2	Conformance	3317
30		A.2.1	Implementation Conformance.....	3317
31		A.2.1.1	Requirements	3317
32		A.2.1.2	Documentation.....	3317
33		A.2.1.3	POSIX Conformance	3318
34		A.2.1.4	XSI Conformance	3319
35		A.2.1.5	Option Groups.....	3319
36		A.2.1.6	Options.....	3319
37		A.2.2	Application Conformance.....	3319
38		A.2.2.1	Strictly Conforming POSIX Application.....	3320
39		A.2.2.2	Conforming POSIX Application.....	3320
40		A.2.2.3	Conforming POSIX Application Using Extensions	3320
41		A.2.2.4	Strictly Conforming XSI Application	3320
42		A.2.2.5	Conforming XSI Application Using Extensions.....	3320
43		A.2.3	Language-Dependent Services for the C Programming Language	3320
44		A.3	Definitions	3321
45		A.4	General Concepts.....	3342
46		A.4.1	Concurrent Execution.....	3342
47		A.4.2	Extended Security Controls.....	3342
48		A.4.3	File Access Permissions	3342
49		A.4.4	File Hierarchy	3342
50		A.4.5	File Names.....	3342
51		A.4.6	File Times Update.....	3344
52		A.4.7	Measurement of Execution Time.....	3344
53		A.4.8	Memory Synchronization.....	3344
54		A.4.9	Path Name Resolution.....	3346
55		A.4.10	Process ID Reuse	3347
56		A.4.11	Scheduling Policy.....	3347
57		A.4.12	Seconds Since the Epoch	3347
58		A.4.13	Semaphore.....	3347
59		A.4.14	Thread-Safety.....	3347

60	A.4.15	Utility.....	3348
61	A.4.16	Variable Assignment	3348
62	A.5	File Format Notation.....	3349
63	A.6	Character Set.....	3350
64	A.6.1	Portable Character Set.....	3350
65	A.6.2	Character Encoding.....	3350
66	A.6.3	C Language Wide-Character Codes	3350
67	A.6.4	Character Set Description File.....	3350
68	A.6.4.1	State-Dependent Character Encodings	3350
69	A.7	Locale.....	3353
70	A.7.1	General.....	3353
71	A.7.2	POSIX Locale	3353
72	A.7.3	Locale Definition.....	3353
73	A.7.3.1	LC_CTYPE.....	3354
74	A.7.3.2	LC_COLLATE.....	3355
75	A.7.3.3	LC_MONETARY.....	3357
76	A.7.3.4	LC_NUMERIC.....	3357
77	A.7.3.5	LC_TIME.....	3357
78	A.7.3.6	LC_MESSAGES.....	3358
79	A.7.4	Locale Definition Grammar.....	3358
80	A.7.4.1	Locale Lexical Conventions.....	3358
81	A.7.4.2	Locale Grammar.....	3358
82	A.7.5	Locale Definition Example.....	3358
83	A.8	Environment Variables	3359
84	A.8.1	Environment Variable Definition	3359
85	A.8.2	Internationalization Variables.....	3359
86	A.8.3	Other Environment Variables.....	3360
87	A.9	Regular Expressions.....	3362
88	A.9.1	Regular Expression Definitions	3362
89	A.9.2	Regular Expression General Requirements.....	3363
90	A.9.3	Basic Regular Expressions	3364
91	A.9.3.1	BREs Matching a Single Character or Collating Element.....	3364
92	A.9.3.2	BRE Ordinary Characters.....	3364
93	A.9.3.3	BRE Special Characters.....	3364
94	A.9.3.4	Periods in BREs.....	3364
95	A.9.3.5	RE Bracket Expression	3364
96	A.9.3.6	BREs Matching Multiple Characters.....	3364
97	A.9.3.7	BRE Precedence	3365
98	A.9.3.8	BRE Expression Anchoring.....	3365
99	A.9.4	Extended Regular Expressions	3366
100	A.9.4.1	EREs Matching a Single Character or Collating Element.....	3366
101	A.9.4.2	ERE Ordinary Characters.....	3366
102	A.9.4.3	ERE Special Characters.....	3366
103	A.9.4.4	Periods in EREs.....	3366
104	A.9.4.5	ERE Bracket Expression.....	3366
105	A.9.4.6	EREs Matching Multiple Characters.....	3366
106	A.9.4.7	ERE Alternation.....	3366
107	A.9.4.8	ERE Precedence	3367

Contents

108	A.9.4.9	ERE Expression Anchoring.....	3367
109	A.9.5	Regular Expression Grammar.....	3367
110	A.9.5.1	BRE/ERE Grammar Lexical Conventions.....	3367
111	A.9.5.2	RE and Bracket Expression Grammar	3367
112	A.9.5.3	ERE Grammar.....	3367
113	A.10	Directory Structure and Devices	3368
114	A.10.1	Directory Structure and Files	3368
115	A.10.2	Output Devices and Terminal Types.....	3368
116	A.11	General Terminal Interface	3369
117	A.11.1	Interface Characteristics.....	3370
118	A.11.1.1	Opening a Terminal Device File	3370
119	A.11.1.2	Process Groups.....	3370
120	A.11.1.3	The Controlling Terminal.....	3371
121	A.11.1.4	Terminal Access Control	3371
122	A.11.1.5	Input Processing and Reading Data.....	3372
123	A.11.1.6	Canonical Mode Input Processing	3372
124	A.11.1.7	Non-Canonical Mode Input Processing.....	3372
125	A.11.1.8	Writing Data and Output Processing	3373
126	A.11.1.9	Special Characters.....	3373
127	A.11.1.10	Modem Disconnect.....	3373
128	A.11.1.11	Closing a Terminal Device File	3373
129	A.11.2	Parameters that Can be Set	3373
130	A.11.2.1	The termios Structure	3373
131	A.11.2.2	Input Modes.....	3373
132	A.11.2.3	Output Modes	3374
133	A.11.2.4	Control Modes.....	3374
134	A.11.2.5	Local Modes	3374
135	A.11.2.6	Special Control Characters	3374
136	A.12	Utility Conventions.....	3375
137	A.12.1	Utility Argument Syntax.....	3375
138	A.12.2	Utility Syntax Guidelines	3376
139	A.13	Headers.....	3378
140	A.13.1	Format of Entries.....	3378
141	Part B	System Interfaces.....	3379
142	Appendix B	Rationale for System Interfaces	3381
143	B.1	Introduction	3381
144	B.1.1	Scope.....	3381
145	B.1.2	Conformance	3381
146	B.1.3	Normative References	3381
147	B.1.4	Changes from Issue 4.....	3381
148	B.1.4.1	Changes from Issue 4 to Issue 4, Version 2.....	3381
149	B.1.4.2	Changes from Issue 4, Version 2 to Issue 5.....	3381
150	B.1.4.3	Changes from Issue 5 to Issue 6 (IEEEStd.1003.1-200x)	3381
151	B.1.5	New Features.....	3381
152	B.1.5.1	New Features in Issue 4, Version 2.....	3381
153	B.1.5.2	New Features in Issue 5.....	3381

154	B.1.5.3	New Features in Issue 6.....	3381
155	B.1.6	Terminology.....	3382
156	B.1.7	Definitions.....	3382
157	B.1.8	Relationship to Other Formal Standards.....	3382
158	B.1.9	Portability.....	3382
159	B.1.9.1	Codes.....	3382
160	B.1.10	Format of Entries.....	3382
161	B.2	General Information.....	3383
162	B.2.1	Use and Implementation of Functions.....	3383
163	B.2.2	The Compilation Environment.....	3384
164	B.2.2.1	POSIX.1 Symbols.....	3384
165	B.2.2.2	The Name Space.....	3384
166	B.2.3	Error Numbers.....	3388
167	B.2.3.1	Additional Error Numbers.....	3391
168	B.2.4	Signal Concepts.....	3391
169	B.2.4.1	Signal Generation and Delivery.....	3393
170	B.2.4.2	Realtime Signal Generation and Delivery.....	3394
171	B.2.4.3	Signal Actions.....	3397
172	B.2.4.4	Signal Effects on Other Functions.....	3400
173	B.2.5	Standard I/O Streams.....	3400
174	B.2.5.1	Interaction of File Descriptors and Standard I/O Streams.....	3400
175	B.2.5.2	Stream Orientation and Encoding Rules.....	3400
176	B.2.6	STREAMS.....	3400
177	B.2.6.1	Accessing STREAMS.....	3401
178	B.2.7	XSI Interprocess Communication.....	3401
179	B.2.7.1	IPC General Information.....	3401
180	B.2.8	Realtime.....	3402
181	B.2.8.1	Realtime Signals.....	3407
182	B.2.8.2	Asynchronous I/O.....	3409
183	B.2.8.3	Memory Management.....	3412
184	B.2.8.4	Process Scheduling.....	3425
185	B.2.8.5	Clocks and Timers.....	3431
186	B.2.9	Threads.....	3447
187	B.2.9.1	Thread-Safety.....	3460
188	B.2.9.2	Thread IDs.....	3463
189	B.2.9.3	Thread Mutexes.....	3464
190	B.2.9.4	Thread Scheduling.....	3464
191	B.2.9.5	Thread Cancelation.....	3468
192	B.2.9.6	Thread Read-Write Locks.....	3472
193	B.2.9.7	Thread Interactions with Regular File Operations.....	3474
194	B.2.10	Sockets.....	3474
195	B.2.10.1	Protocol Families.....	3474
196	B.2.10.2	Protocols.....	3474
197	B.2.10.3	Addressing.....	3474
198	B.2.10.4	Routing.....	3474
199	B.2.10.5	Interfaces.....	3474
200	B.2.10.6	Socket Types.....	3474
201	B.2.10.7	Socket I/O Mode.....	3474

Contents

202	B.2.10.8	Socket Owner.....	3474
203	B.2.10.9	Socket Queue Limits	3474
204	B.2.10.10	Pending Error.....	3474
205	B.2.10.11	Socket Receive Queue.....	3474
206	B.2.10.12	Socket Out-of-Band Data State	3474
207	B.2.10.13	Connection Indication Queue	3475
208	B.2.10.14	Signals	3475
209	B.2.10.15	Asynchronous Errors	3475
210	B.2.10.16	Use of Options.....	3475
211	B.2.10.17	Use of Sockets for Local UNIX Connections.....	3475
212	B.2.10.18	Use of Sockets over Internet Protocols Based on IPv4.....	3475
213	B.2.10.19	Use of Sockets over Internet Protocols Based on IPv6.....	3475
214	B.2.11	Tracing.....	3475
215	B.2.11.1	Objectives	3475
216	B.2.11.2	Trace Model.....	3480
217	B.2.11.3	Trace Programming Examples	3485
218	B.2.11.4	Rationale on Trace for Debugging.....	3493
219	B.2.11.5	Rationale on Trace Event Type Name Space.....	3493
220	B.2.11.6	Rationale on Trace Events Type Filtering	3495
221	B.2.11.7	Tracing, pthread API.....	3497
222	B.2.11.8	Rationale on Triggering	3498
223	B.2.11.9	Rationale on Timestamp Clock.....	3498
224	B.2.11.10	Rationale on Different Overrun Conditions	3499
225	B.2.12	Data Types.....	3500
226	B.3	System Interfaces	3502
227	B.3.1	Examples for Spawn.....	3502
228	Part C	Shell and Utilities.....	3511
229	Appendix C	Rationale for Shell and Utilities	3513
230	C.1	Introduction	3513
231	C.1.1	Scope.....	3513
232	C.1.2	Conformance	3513
233	C.1.3	Normative References	3513
234	C.1.4	Changes from Issue 4.....	3513
235	C.1.4.1	Changes from Issue 4 to Issue 4, Version 2.....	3513
236	C.1.4.2	Changes from Issue 4, Version 2 to Issue 5.....	3513
237	C.1.4.3	Changes from Issue 5 to Issue 6.....	3513
238	C.1.5	Terminology	3513
239	C.1.6	Definitions.....	3513
240	C.1.7	Relationship to Other Documents.....	3513
241	C.1.7.1	System Interfaces	3513
242	C.1.8	Portability	3514
243	C.1.8.1	Codes.....	3514
244	C.1.9	Utility Limits.....	3514
245	C.1.10	Grammar Conventions.....	3517
246	C.1.11	Utility Description Defaults.....	3517
247	C.1.12	Considerations for Utilities in Support of Files of Arbitrary Size ..	3520

248	C.2	Shell Command Language.....	3522
249	C.2.1	Shell Introduction	3522
250	C.2.2	Quoting	3522
251	C.2.2.1	Escape Character (Backslash).....	3522
252	C.2.2.2	Single-Quotes.....	3522
253	C.2.2.3	Double-Quotes	3522
254	C.2.3	Token Recognition	3524
255	C.2.3.1	Alias Substitution	3524
256	C.2.4	Reserved Words	3525
257	C.2.5	Parameters and Variables.....	3525
258	C.2.5.1	Positional Parameters.....	3525
259	C.2.5.2	Special Parameters.....	3525
260	C.2.5.3	Shell Variables.....	3526
261	C.2.6	Word Expansions.....	3528
262	C.2.6.1	Tilde Expansion.....	3528
263	C.2.6.2	Parameter Expansion	3529
264	C.2.6.3	Command Substitution	3529
265	C.2.6.4	Arithmetic Expansion	3530
266	C.2.6.5	Field Splitting.....	3532
267	C.2.6.6	Path Name Expansion.....	3532
268	C.2.6.7	Quote Removal.....	3532
269	C.2.7	Redirection	3532
270	C.2.7.1	Redirecting Input	3533
271	C.2.7.2	Redirecting Output.....	3533
272	C.2.7.3	Appending Redirected Output	3533
273	C.2.7.4	Here-Document.....	3534
274	C.2.7.5	Duplicating an Input File Descriptor.....	3534
275	C.2.7.6	Duplicating an Output File Descriptor	3534
276	C.2.7.7	Open File Descriptors for Reading and Writing.....	3534
277	C.2.8	Exit Status and Errors	3534
278	C.2.8.1	Consequences of Shell Errors	3534
279	C.2.8.2	Exit Status for Commands	3534
280	C.2.9	Shell Commands.....	3535
281	C.2.9.1	Simple Commands	3535
282	C.2.9.2	Pipelines.....	3537
283	C.2.9.3	Lists.....	3538
284	C.2.9.4	Compound Commands.....	3539
285	C.2.9.5	Function Definition Command.....	3540
286	C.2.10	Executable Script.....	3542
287	C.2.11	Shell Grammar.....	3542
288	C.2.11.1	Shell Grammar Lexical Conventions.....	3543
289	C.2.11.2	Shell Grammar Rules	3543
290	C.2.12	Signals and Error Handling	3543
291	C.2.13	Shell Execution Environment.....	3543
292	C.2.14	Pattern Matching Notation	3544
293	C.2.14.1	Patterns Matching a Single Character	3544
294	C.2.14.2	Patterns Matching Multiple Characters	3544
295	C.2.14.3	Patterns Used for File Name Expansion	3545

296	C.2.15	Special Built-In Utilities.....	3545
297	C.3	Batch Environment Services and Utilities	3546
298	C.3.1	Batch General Concepts	3549
299	C.3.2	Batch Services	3551
300	C.3.3	Common Behavior for Batch Environment Utilities	3552
301	C.4	Utilities.....	3553
302	Part D	Portability Considerations	3555
303	Appendix D	Portability Considerations (Informative)	3557
304	D.1	User Requirements	3557
305	D.1.1	Configuration Interrogation	3558
306	D.1.2	Process Management	3558
307	D.1.3	Access to Data	3558
308	D.1.4	Access to the Environment	3558
309	D.1.5	Access to Determinism and Performance Enhancements.....	3558
310	D.1.6	Operating System-Dependent Profile	3558
311	D.1.7	I/O Interaction	3559
312	D.1.8	Internationalization Interaction.....	3559
313	D.1.9	C-Language Extensions.....	3559
314	D.1.10	Command Language.....	3559
315	D.1.11	Interactive Facilities.....	3559
316	D.1.12	Accomplish Multiple Tasks Simultaneously	3559
317	D.1.13	Complex Data Manipulation.....	3559
318	D.1.14	File Hierarchy Manipulation	3559
319	D.1.15	Locale Configuration	3560
320	D.1.16	Inter-User Communication.....	3560
321	D.1.17	System Environment.....	3560
322	D.1.18	Printing.....	3560
323	D.1.19	Software Development	3560
324	D.2	Portability Capabilities	3560
325	D.2.1	Configuration Interrogation	3561
326	D.2.2	Process Management	3561
327	D.2.3	Access to Data	3562
328	D.2.4	Access to the Environment	3562
329	D.2.5	Bounded (Realtime) Response	3563
330	D.2.6	Operating System-Dependent Profile	3563
331	D.2.7	I/O Interaction	3563
332	D.2.8	Internationalization Interaction.....	3563
333	D.2.9	C-Language Extensions.....	3564
334	D.2.10	Command Language.....	3564
335	D.2.11	Interactive Facilities.....	3564
336	D.2.12	Accomplish Multiple Tasks Simultaneously	3565
337	D.2.13	Complex Data Manipulation.....	3565
338	D.2.14	File Hierarchy Manipulation	3565
339	D.2.15	Locale Configuration	3566
340	D.2.16	Inter-User Communication.....	3566
341	D.2.17	System Environment.....	3566

342	D.2.18	Printing.....	3566
343	D.2.19	Software Development.....	3567
344	D.2.20	Future Growth.....	3567
345	D.3	Profiling Considerations.....	3567
346	D.3.1	Configuration Options.....	3568
347	D.3.2	Configuration Options (Shell and Utilities).....	3568
348	D.3.3	Configurable Limits.....	3569
349	D.3.4	Configuration Options (System Interfaces).....	3570
350	D.3.5	Configurable Limits.....	3575
351	D.3.6	Optional Behavior.....	3578
352		Index.....	3579
353		List of Figures	
354	B-1	Example of a System with Typed Memory.....	3420
355	B-2	Trace System Overview: for Offline Analysis.....	3481
356	B-3	Trace System Overview: for Online Analysis.....	3482
357	B-4	Trace System Overview: States of a Trace Stream.....	3483
358	B-5	Trace Another Process.....	3493
359	B-6	Trace Name Space Overview: With Third-Party Library.....	3494
360		List of Tables	
361	A-1	Historical Practice for Symbolic Links.....	3338

363 This document is being jointly developed by the IEEE and The Open Group and is intended to
364 become both IEEE Std. 1003.1-200x and an Open Group Technical Standard, making up the base
365 volumes of the Single UNIX Specification, Version 3.

366 **General**

367 This Rationale (Informative) volume of IEEE Std. 1003.1-200x is being published to assist in the
368 process of review. It contains historical information concerning the contents of
369 IEEE Std. 1003.1-200x and why features were included or discarded by the standard developers.
370 It also contains notes of interest to application programmers on recommended programming
371 practices, emphasizing the consequences of some aspects of IEEE Std. 1003.1-200x that may not
372 be immediately apparent.

373 **Development of IEEE Std. 1003.1-200x**

374 This portion of the Rationale (Informative) volume of IEEE Std. 1003.1-200x outlines the
375 organizations and documents involved in developing IEEE Std. 1003.1-200x.

376 This revision was developed by a joint working group known as the Austin Common Standards
377 Revision Group, or *Austin Group* for short. This joint technical working group was convened in
378 late 1998 to consider the matter of a common revision of ISO/IEC 9945-1 (POSIX.1),
379 ISO/IEC 9945-2 (POSIX.2), IEEE Std. 1003.1, IEEE Std. 1003.2, and appropriate parts of the Single
380 UNIX Specification. The approach to specification development was to *write once, adopt*
381 *everywhere*, with the deliverables being a single set of specifications that carry both the IEEE
382 POSIX designation and The Open Group's Technical Standard designation, and, if adopted, an
383 ISO/IEC designation.

384 The base document for the revision was The Open Group's Base volumes of its Single UNIX
385 Specification, Version 2. These were selected since they were a superset of the existing POSIX.1
386 and POSIX.2 specifications and had some organizational aspects that would benefit the audience
387 for the new revision.

388 **Organization of the Rationale**

389 Within the Rationale (Informative) volume of IEEE Std. 1003.1-200x, the following terms are
390 used:

391 **base standard**

392 The portions of IEEE Std. 1003.1-200x that are not optional, equivalent to the definitions of
393 *classic* POSIX.1 and POSIX.2.

394 **XSI extension**

395 The portions of IEEE Std. 1003.1-200x addressing the extension added for support of the
396 Single UNIX Specification.

397 **standard developers**

398 The individuals and companies in the development organizations responsible for
399 IEEE Std. 1003.1-200x: the IEEE P1003.1 working groups, The Open Group Base working
400 group, advised by the hundreds of individual technical experts who balloted the draft
401 standards within the Austin Group, and the member bodies and technical experts of
402 ISO/IEC JTC 1/SC22/WG15.

403 The remainder of the Rationale (Informative) volume of IEEE Std. 1003.1-200x is organized in
404 parallel to the normative volumes of IEEE Std. 1003.1-200x, with a separate part for each of the
405 three normative volumes.

406 **Organization of This Document**

407 IEEE Std. 1003.1-200x is organized into sections. Some of these, such as the Scope, are mandated
408 by ISO/IEC, the IEEE, and other standards bodies. Due to the size of the overall document,
409 IEEE Std. 1003.1-200x has been divided logically into three normative volumes, for the
410 convenience of the standards developers and others. The alphabetical ordering of the large
411 sections including system interfaces and utilities was to make it easier for the documents to be
412 used as reference documents.

413 The three volumes are as follows:

- 414 • **Base Definitions (this volume)**

415 This volume of IEEE Std. 1003.1-200x is organized in chapters as follows:

- 416 — Introduction (including Scope and Normative References)
- 417 — Conformance
- 418 — Definitions
- 419 — General Concepts
- 420 — File Format Notation
- 421 — Character Set
- 422 — Locale
- 423 — Environment Variables
- 424 — Regular Expressions
- 425 — Directory Structure and Devices
- 426 — General Terminal Interface
- 427 — Utility Conventions
- 428 — Headers (organized alphabetically)

429 The presence of this volume of IEEE Std. 1003.1-200x this volume reduces duplication in the
430 other volumes and ensures consistency of use of terminology. Where terminology and
431 definitions common to both the System Interfaces volume of IEEE Std. 1003.1-200x and Shell
432 and Utilities volume of IEEE Std. 1003.1-200x occurs, then additions have been made to this
433 volume of IEEE Std. 1003.1-200x.

- 434 • **System Interfaces**

435 This volume of IEEE Std. 1003.1-200x is organized as follows:

- 436 — Introduction
- 437 — General Information
- 438 — System Interfaces (organized alphabetically)

- 439 • **Shell and Utilities**

440 This volume of IEEE Std. 1003.1-200x is organized as follows:

Introduction

- 441 — Introduction
- 442 — Shell Command Language
- 443 — Batch Environment Services
- 444 — Utilities (organized alphabetically)

445 **Abbreviations**

446 **POSIX.0**

447 Although this term is not used in the normative text of IEEE Std. 1003.1-200x, it is used in
448 the Rationale (Informative) volume of IEEE Std. 1003.1-200x to refer to
449 IEEE Std. 1003.0-1995.

450 **POSIX.1b**

451 Although this term is not used in the normative text of IEEE Std. 1003.1-200x, it is used in
452 the Rationale (Informative) volume of IEEE Std. 1003.1-200x to refer to the elements of the
453 POSIX Realtime Extension amendment. (This was earlier referred to as POSIX.4 during the
454 standard development process.)

455 **POSIX.1c**

456 Although this term is not used in the normative text of IEEE Std. 1003.1-200x, it is used in
457 the Rationale (Informative) volume of IEEE Std. 1003.1-200x to refer to the POSIX Threads
458 Extension amendment. (This was earlier referred to as POSIX.4a during the standard
459 development process.)

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477 The Open Group gratefully acknowledges:

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485 TBD

Referenced Documents

487 **Notes to Reviewers**

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489 Do we need to include the common references file as it appears in the other 3 volumes?

490 **Notes to Reviewers**

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492 The following are referenced in this volume and full details are needed:

- 493 • IEEE Std. 1003.0-1995
- 494 • POSIX.0
- 495 • POSIX.1
- 496 • POSIX.1b
- 497 • POSIX.1c
- 498 • POSIX.2
- 499 • POSIX.4
- 500 • POSIX.4a
- 501 • UNIX Programmer's Manual
- 502 • Almasi and Gottlieb (1989)

503 **Notes to Reviewers**

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505 The following is a new reference for this volume. Should it be added to the common references
506 file?

507 Sprunt, B.; Sha, L.; and Lehoczky, J.P. "Aperiodic Task Scheduling for Hard Real-Time Systems".
508 The Journal of Real-Time Systems, Vol. 1, 1989, pages 27-60.

