



Distributed Systems: Concepts and Design

Edition 3

By George Coulouris, Jean Dollimore and Tim Kindberg
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Errata List

As with virtually all books, some bugs were discovered after printing. These errors will be corrected in subsequent printings (impressions). The corrections recorded to date are listed below.

Second, third, fourth, fifth, sixth and seventh impressions

<i>Page</i>	<i>existing version</i>	<i>correction</i>	<i>date</i>					
93	Figure 3.15	Class E addresses need no have a 0 in the fifth binary digit. Delete the box containing a 0 in the row for Class E addresses and replace 27 by 28 in the arrow label. Class E (reserved): <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>1</td><td>1</td><td>1</td><td style="width: 100px;">unused</td></tr></table>	1	1	1	1	unused	15-03-02
1	1	1	1	unused				
94	line 5	replace “set to 1” by “set to 0”	26-02-03					
108	line 4	replace “model” by “modem”	20-2-03					
141	line -5	insert “unsigned” before “long year”	9-10-04					
152	Figure 4.15	replace “//www.dcs.qmw.ac.uk/index.html” by “http://www.dcs.qmw.ac.uk/index.html”	2-3-02					
205	last line	replace “Exercise 5.13” by “Exercise 5.15”	27-11-01					
209	line -16	replace “Section 6.2” by “Section 6.3”	8-2-04					
218	line 24	replace first two sentences of paragraph 4 by: “ <i>Migratory</i> load-sharing systems can shift load at any time, not just when a new process is created. They use a mechanism called <i>process migration</i> : the transfer of an executing process from one node to another.”	15-10-01					
274	line 5	replace “idempotent” by “self-inverse”	17-01-02					

326	Figure 8.9	replace <i>link(newdirfh, newname, dirfh, name)→ status</i> Creates an entry <i>newname</i> in the directory <i>newdirfh</i> which refers to file <i>name</i> in the directory <i>dirfh</i> . with <i>link(newdirfh, newname, fh)→ status</i> Creates an entry <i>newname</i> in the directory <i>newdirfh</i> which refers to the file or directory <i>fh</i> .	02-04-03
328	lines 14-16	replace The file handle returned in the previous step is used as a parameter in the next <i>lookup</i> step; the file system identifier in the file handle is first compared with the entries in the remote mount table held in the client to see whether another remote-mounted file store should be accessed. with The file handle returned in the previous step is used as a parameter in the next lookup step. Since file handles are opaque to NFS client code, the virtual file system is responsible for resolving file handles to a local or a remote directory and performing the necessary indirection when it references a local mount point.	09-04-03
330	line -8	insert at start of paragraph There is one value of Tm_{server} for all the data blocks in a file and another for the file attributes.	09-04-03
341	line 9	replace “For each file with a valid token, Venus must send a cache validation request ...” by “Before the first use of each cached file or directory after a restart, Venus therefore generates a cache validation request ... “	8-11-01
366	line 10	replace “IP” by “IN”	19-4-01
387	line 16	replace “17” by “16”	8-11-01
429	line -3	replace “to all other K-1 members of Vi” by “all K members of Vi (including itself)”	8-2-04
429	line -2	replace “all K-1 reply messages” by “all K reply messages”	8-2-04
430	Fig 11.6 line 6	delete “- {pi}”	8-2-04
430	Fig 11.6 line 7	replace “(K-1)” by “K”	8-2-04
430	Fig 11.6 line 9	delete “(i != j)”	8-2-04
430	Fig 11.6 line 19	delete “- {pi}”	8-2-04
430	Fig 11.6 line 20	delete “(i != j)”	8-2-04
430	line -8	replace “all the other K - 1 members of Vi” by “all K members of Vi (including itself)”	8-2-04

431	lines 1-2	replace “then it is possible for p_1 to reply to p_2 but hold off p_3 ; for p_2 to reply to p_3 but hold off p_1 ; and for p_3 to reply to p_1 and hold off p_2 ” by “it is possible for p_1 to reply to itself and hold off p_2 ; for p_2 to reply to itself and hold off p_3 ; for p_3 to reply to itself and hold off p_1 ”	16-4-04
446	Figure 11.14	replace <i>On B-deliver</i> (\langle “order”, i , S \rangle) with $g = \text{group}(m)$ <i>wait until</i> $\langle m, i \rangle$ in hold-back queue and $S = r_g + 1$; <i>TO-deliver</i> m ; // (after deleting it from the hold-back queue) $r_g = S$; by <i>On B-deliver</i> ($m_{\text{order}} = \langle$ “order”, i , S \rangle) with $g = \text{group}(m_{\text{order}})$ <i>wait until</i> $\langle m, i \rangle$ in hold-back queue and $S = r_g$; <i>TO-deliver</i> m ; // (after deleting it from the hold-back queue) $r_g = S + 1$	20-03-01
449	Figure 11.16	replace “ <i>On B-deliver</i> ($\langle V_j^g, m \rangle$) from p_j , with $g = \text{group}(m)$ ” by “ <i>On B-deliver</i> ($\langle V_j^g, m \rangle$) from p_j ($j \neq i$), with $g = \text{group}(m)$ ”	10-04-03
454	line -10	Insert “For the case where a majority of processes are correct,” before “we construct a solution to C from IC...”.	23-07-02
455	line 4	Insert “In systems with crash failures,” before beginning of paragraph “Solving consensus is equivalent...”.	23-07-02
457	line 3	replace “Figure 11.18” by “Figure 11.19”	27-10-02
481	line 19	Insert “(and their descendants)” after “1. Subtransactions at one level “	15-04-04
482	line 9	replace “Transfer \$100 from A to B” by “Transfer \$100 from B to A”	16-8-02
498	line 22	replace “ T_v ” by “ T_j ”	12-11-01
524	paragraph 2	replace with “When a subtransaction completes, it makes an independent decision either to commit provisionally or to abort. A provisional commit is different from being prepared to commit: it is not backed up on permanent storage. If the server crashes subsequently, its replacement will not be able to commit. After all subtransactions have completed, the provisionally committed ones participate in a two-phase commit protocol, in which servers of provisionally committed subtransactions express their intention to commit – or abort if an ancestor has aborted. A prepared commit guarantees a subtransaction will be able to commit, whereas a provisional commit only means it has finished correctly.”	15-04-04

562	lines -5 to -11	replace paragraphs on Agreement and Integrity with:	26-2-03
		<i>Agreement:</i> Correct processes deliver the same sequence of views (starting from the view in which they join the group), and the same set of messages in any given view. That is, if a correct process delivers message m in view $v(g)$, then all other correct processes that deliver m also do so in the view $v(g)$.	
		<i>Integrity:</i> If a correct process p delivers message m , then it will not deliver m again. Furthermore, $p \in group(m)$ and the process that sent m is in the view in which p delivers m .	
670	line -3	replace “Seetharamanan” by “Seetharaman”	19-7-02
673	Section 17.2.1	This example is described for Java 2 version 1.3 or earlier. See ‘Java CORBA with Java 2 version 1.4’ under ‘Additional Material’ on www.cdk3.net . (under Supplementary Material for Chapter 17.)	2-4-03
714	line 14	insert the following: “a ‘copy-inherited’ region is one that is” after “copied:”	6-9-01
744	Insert additional reference	Mockapetris 1987,” Mockapetris, P. (1987). <i>Domain names - concepts and facilities</i> . Internet RFC 1034.November.	15-4-04
751	fifth reference	replace “Seetharamanan” by “Seetharaman” (twice)	19-7-02
752	fourth reference	replace “Srinivasa” by “Srinivasan”	15-04-04
759	Under CORBA	replace “interoperable Inter-ORB protocol (IIOP)” by “Internet Inter-ORB protocol (IIOP)”	15-4-04

Most recently reported error 9 October 2004©George Coulouris, Jean Dollimore and Tim Kindberg 2000