

11:07:41.8857853	AllocFree.exe	16548	24216	CreateFile
11:07:41.8858445	AllocFree.exe	16548	24216	CreateFile
11:07:41.8859881	AllocFree.exe	16548	24216	Load Image
11:07:41.8861523	AllocFree.exe	16548	24216	Load Image
11:07:41.8864469	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.8864669	AllocFree.exe	16548	24216	RegQueryValue
11:07:41.8864795	AllocFree.exe	16548	24216	RegQueryValue
11:07:41.8865211	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9534883	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9535211	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9535483	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9535976	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9536266	AllocFree.exe	16548	24216	RegQueryValue
11:07:41.9536453	AllocFree.exe	16548	24216	RegCloseKey
11:07:41.9536730	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9538059	AllocFree.exe	16548	24216	RegQueryValue
11:07:41.9538246	AllocFree.exe	16548	24216	RegCloseKey
11:07:41.9542755	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9543081	AllocFree.exe	16548	24216	RegOpenKey
11:07:41.9543359	AllocFree.exe	16548	24216	RegQueryValue
11:07:41.9549583	AllocFree.exe	16548	24216	QueryNameInformationFile
11:07:43.0624221	AllocFree.exe	16548	24216	QueryNameInformationFile
11:07:43.0835516	WerFault.exe	19852	9468	Process Start
11:07:43.0835764	WerFault.exe	19852	9468	Thread Create
11:07:43.0860141	WerFault.exe	19852	21920	Load Image
11:07:43.0862429	WerFault.exe	19852	21920	Load Image
11:07:43.0864898	WerFault.exe	19852	21920	CreateFile
11:07:43.0865749	WerFault.exe	19852	21920	QueryStandardInformationFile
11:07:43.0866365	WerFault.exe	19852	21920	ReadFile
11:07:43.0867578	WerFault.exe	19852	21920	CloseFile
11:07:43.0869613	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0870235	WerFault.exe	19852	21920	RegQueryValue
11:07:43.0870748	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0871219	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0871617	WerFault.exe	19852	21920	RegQueryValue
11:07:43.0871973	WerFault.exe	19852	21920	RegCloseKey
11:07:43.0876755	WerFault.exe	19852	21920	OpenFile
11:07:43.0880238	WerFault.exe	19852	21920	Load Image
11:07:43.0884053	WerFault.exe	19852	21920	Load Image
11:07:43.0894709	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0895355	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0895795	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0896200	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0896598	WerFault.exe	19852	21920	RegOpenKey
11:07:43.0897105	WerFault.exe	19852	21920	RegQueryValue
11:07:43.0897498	WerFault.exe	19852	21920	RegCloseKey

# Trace, Log, Text, Narrative

An Analysis Pattern Reference for Data Mining, Diagnostics, Anomaly Detection

Fourth Edition

Dmitry Vostokov

Software Diagnostics Institute

# Trace, Log, Text, Narrative

---

An Analysis Pattern Reference for  
Data Mining, Diagnostics, Anomaly Detection  
Fourth Edition

**Dmitry Vostokov**  
**Software Diagnostics Institute**

Published by OpenTask, Republic of Ireland

Copyright © 2020 by Dmitry Vostokov

Copyright © 2020 by Software Diagnostics Institute

All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of the publisher.

OpenTask books are available through booksellers and distributors worldwide. For further information or comments, send requests to [press@opentask.com](mailto:press@opentask.com).

Product and company names mentioned in this book may be trademarks of their owners.

A CIP catalog record for this book is available from the British Library.

ISBN-13: 978-1-912636-32-7 (Paperback)

Revision 4.00 (September 2020)

## Table of Contents

<b>Table of Contents</b>	<b>3</b>
<b>Preface to the Fourth Edition</b>	<b>17</b>
<b>Preface to the Third Edition</b>	<b>18</b>
<b>Preface to the Second Edition</b>	<b>19</b>
<b>Preface to the First Edition</b>	<b>20</b>
<b>About the Author</b>	<b>21</b>
<b>A</b>	<b>23</b>
<i>Abnormal Value</i>	23
<i>Activity Disruption</i>	24
<i>Activity Divergence</i>	26
<i>Activity Overlap</i>	27
<i>Activity Packet</i>	29
<i>Activity Quantum</i>	30
<i>Activity Region</i>	31
<i>Activity Theatre</i>	32
<i>Adjoint Message</i>	33
<i>Adjoint Space</i>	35

<i>Adjoint Thread of Activity</i>	38
<i>Anchor Messages</i>	43
<b>B</b>	<b>46</b>
<i>Back Trace</i>	46
<i>Background and Foreground Components</i>	47
<i>Basic Facts</i>	50
<i>Bifurcation Point</i>	51
<i>Blackout</i>	53
<i>Braid Group</i>	55
<i>Braid of Activity</i>	56
<i>Break-in Activity</i>	57
<b>C</b>	<b>58</b>
<i>Calibrating Trace</i>	58
<i>Cartesian Trace</i>	59
<i>Causal Chains</i>	60
<i>Causal History</i>	62
<i>Causal Messages</i>	63
<i>Characteristic Message Block</i>	64
<i>Circular Trace</i>	67

	5
<i>Combed Trace</i>	69
<i>Cord of Activity</i>	70
<i>Correlated Discontinuity</i>	72
<i>Corrupt Message</i>	73
<i>CoTrace (CoLog, CoData)</i>	74
<i>Counter Value</i>	77
<i>Coupled Activities</i>	78
<i>Critical Point</i>	79
<b>D</b>	<b>80</b>
<i>Data Association</i>	80
<i>Data Flow</i>	81
<i>Data Interval</i>	82
<i>Data Reversal</i>	83
<i>Data Selector</i>	85
<i>De Broglie Trace Duality</i>	86
<i>Declarative Trace</i>	88
<i>Defamiliarizing Effect</i>	89
<i>Defect Group</i>	91
<i>Delay Dynamics</i>	92

<i>Density Distribution</i>	93
<i>Dialogue</i>	94
<i>Diegetic Messages</i>	97
<i>Discontinuity</i>	99
<i>Dominant Event Sequence</i>	101
<i>Drone Message</i>	102
<b>E</b>	<b>103</b>
<i>Empty Trace</i>	103
<i>Equivalent Messages</i>	104
<i>Error Distribution</i>	105
<i>Error Message</i>	106
<i>Error Powerset</i>	107
<i>Error Thread</i>	108
<i>Event Sequence Order</i>	109
<i>Event Sequence Phase</i>	110
<i>Exception Stack Trace</i>	112
<i>Explanation Trace</i>	114
<b>F</b>	<b>115</b>
<i>Factor Group</i>	115

	<b>7</b>
<i>False Positive Error</i>	117
<i>Fiber Bundle</i>	118
<i>Fiber of Activity</i>	120
<i>File Size</i>	121
<i>Flag</i>	122
<i>Focus of Tracing</i>	123
<i>Fourier Activity</i>	124
<b>G</b>	<b>126</b>
<i>Galois Trace</i>	126
<i>Generative Trace</i>	127
<i>Glued Activity</i>	128
<i>Gossip</i>	130
<i>Guest Component</i>	131
<b>H</b>	<b>133</b>
<i>Hedges</i>	133
<i>Hidden Error</i>	135
<i>Hidden Facts</i>	136
<b>I</b>	<b>137</b>
<i>Identification Messages</i>	137

<i>Implementation Discourse</i>	139
<i>Impossible Trace</i>	140
<i>Incomplete History</i>	141
<i>Indexical Trace</i>	142
<i>Indirect Facts</i>	143
<i>Indirect Message</i>	144
<i>Inter-Correlation</i>	149
<i>Interspace</i>	151
<i>Intra-Correlation</i>	152
<i>Intrinsic ID</i>	155
<b>L</b>	<b>156</b>
<i>Last Activity</i>	156
<i>Layered Periodization</i>	157
<i>Linked Messages</i>	160
<b>M</b>	<b>162</b>
<i>Macrofunction</i>	162
<i>Marked Message</i>	163
<i>Master Trace</i>	164
<i>Message Annotations</i>	165

<i>Message Change</i>	166
<i>Message Context</i>	168
<i>Message Cover</i>	169
<i>Message Directory</i>	170
<i>Message Flow</i>	172
<i>Message Interleave</i>	173
<i>Message Invariant</i>	174
<i>Message Pattern</i>	175
<i>Message Set</i>	176
<i>Message Space</i>	177
<i>Meta Trace</i>	178
<i>Milestones</i>	179
<i>Minimal Trace</i>	180
<i>Missing Component</i>	181
<i>Missing Data</i>	183
<i>Missing Message</i>	184
<i>Moduli Trace</i>	185
<i>Motif</i>	188
<i>Motivic Trace</i>	189

<b>N</b>	<b>190</b>
<i>News Value</i>	190
<i>No Activity</i>	192
<i>No Trace Metafile</i>	195
<b>O</b>	<b>196</b>
<i>Opposition Messages</i>	196
<i>Original Message</i>	197
<i>Ornament</i>	198
<b>P</b>	<b>200</b>
<i>Palimpsest Messages</i>	200
<i>Periodic Error</i>	202
<i>Periodic Message Block</i>	204
<i>Phantom Activity</i>	205
<i>Phase Transition</i>	206
<i>Piecewise Activity</i>	209
<i>Pivot Message</i>	211
<i>Poincaré Trace</i>	215
<i>Polytrace</i>	217
<i>Projective Space</i>	218

	11
<i>Punctuated Activity</i>	220
<b>Q</b>	<b>221</b>
<i>Quotient Trace</i>	221
<b>R</b>	<b>222</b>
<i>Random Data</i>	222
<i>Recovered Messages</i>	223
<i>Relative Density</i>	224
<i>Renormalization</i>	225
<i>Resume Activity</i>	226
<i>Ruptured Trace</i>	228
<b>S</b>	<b>230</b>
<i>Script Messages</i>	230
<i>Sequence Repeat Anomaly</i>	231
<i>Semantic Field</i>	232
<i>Shared Point</i>	234
<i>Sheaf of Activities</i>	235
<i>Significant Event</i>	237
<i>Significant Interval</i>	238
<i>Silent Messages</i>	239

<i>Singleton Event</i>	241
<i>Singleton Trace</i>	242
<i>Small DA+TA</i>	243
<i>Sorted Trace</i>	245
<i>Sparse Trace</i>	246
<i>Split Message</i>	247
<i>Split Trace</i>	249
<i>State and Event</i>	250
<i>State Dump</i>	252
<i>Statement Density and Current</i>	253
<i>Strand of Activity</i>	257
<i>Surveyor</i>	258
<i>Signal</i>	259
<b>T</b>	<b>261</b>
<i>Tensor Trace</i>	261
<i>Text Trace</i>	263
<i>Thread of Activity</i>	265
<i>Time Delta</i>	267
<i>Time Scale</i>	268

<i>Timeout</i>	269
<i>Trace Acceleration</i>	272
<i>Trace Constants</i>	273
<i>Trace Contour</i>	274
<i>Trace D'Enfant</i>	275
<i>Trace Dimension</i>	276
<i>Trace Extension</i>	278
<i>Trace Fabric</i>	279
<i>Trace Field</i>	281
<i>Trace Flux</i>	282
<i>Trace Foliation</i>	283
<i>Trace Frames</i>	285
<i>Trace Homotopy</i>	287
<i>Trace Mask</i>	288
<i>Trace Partition</i>	290
<i>Trace Path</i>	292
<i>Trace Presheaf</i>	293
<i>Trace Shape</i>	294
<i>Trace Sharding</i>	295

<i>Trace Similarity</i>	296
<i>Trace String</i>	298
<i>Trace Summary</i>	300
<i>Trace Viewpoints</i>	301
<i>Traces of Individuality</i>	303
<i>Translated Message</i>	304
<i>Truncated Data</i>	306
<i>Truncated Trace</i>	307
<b>U</b>	<b>308</b>
<i>UI Message</i>	308
<i>Ultrasimilar Messages</i>	309
<i>Unsynchronized Traces</i>	310
<i>Use Case Trail</i>	312
<b>V</b>	<b>313</b>
<i>Visibility Limit</i>	313
<i>Visitor Trace</i>	314
<i>Vocabulary Index</i>	315
<b>W</b>	<b>316</b>
<i>Watch Thread</i>	316

	15
<i>Weave of Activity</i>	318
<i>Working Set</i>	319
<b>Appendix</b>	<b>321</b>
<i>Classification</i>	321
Activity	321
Block	322
Data	322
Error	323
Large Scale	323
Message	324
Trace as a Whole	325
Trace Set	326
Vocabulary	327
Memory	327
Code	327
Text	328
<i>Narratological and Mathematical Influences</i>	329
<b>Index of Patterns</b>	<b>333</b>
<b>Bibliography</b>	<b>341</b>

