# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface to the Second Edition</td>
<td>13</td>
</tr>
<tr>
<td>Preface</td>
<td>14</td>
</tr>
<tr>
<td>About the Author</td>
<td>15</td>
</tr>
<tr>
<td>A</td>
<td>17</td>
</tr>
<tr>
<td>Abnormal Value</td>
<td>17</td>
</tr>
<tr>
<td>Activity Disruption</td>
<td>18</td>
</tr>
<tr>
<td>Activity Divergence</td>
<td>20</td>
</tr>
<tr>
<td>Activity Overlap</td>
<td>21</td>
</tr>
<tr>
<td>Activity Region</td>
<td>23</td>
</tr>
<tr>
<td>Activity Theatre</td>
<td>24</td>
</tr>
<tr>
<td>Adjoint Message</td>
<td>25</td>
</tr>
<tr>
<td>Adjoint Space</td>
<td>27</td>
</tr>
<tr>
<td>Adjoint Thread of Activity</td>
<td>30</td>
</tr>
<tr>
<td>Anchor Messages</td>
<td>35</td>
</tr>
<tr>
<td>B</td>
<td>38</td>
</tr>
<tr>
<td>Back Trace</td>
<td>38</td>
</tr>
<tr>
<td>Background and Foreground Components</td>
<td>39</td>
</tr>
</tbody>
</table>
Defamiliarizing Effect
Density Distribution
Dialogue
Diegetic Messages
Discontinuity
Dominant Event Sequence
Empty Trace
Error Distribution
Error Message
Error Powerset
Error Thread
Event Sequence Order
Event Sequence Phase
Exception Stack Trace
Factor Group
False Positive Error
Fiber Bundle
Fiber of Activity 88
File Size 89
Focus of Tracing 90
Fourier Activity 91

G 93
Glued Activity 93
Gossip 94
Guest Component 95

H 96
Hidden Error 96
Hidden Facts 97

I 98
Identification Messages 98
Implementation Discourse 100
Impossible Trace 101
Incomplete History 102
Indexical Trace 103
Indirect Facts 104
Indirect Message 105
Inter-Correlation

Interspace

Intra-Correlation

L

Last Activity

Layered Periodization

Linked Messages

M

Macrofunction

Marked Message

Master Trace

Message Change

Message Context

Message Cover

Message Interleave

Message Invariant

Message Pattern

Message Set

Message Space
Meta Trace

Milestones

Missing Component

Missing Data

Missing Message

Motif

N

News Value

No Activity

No Trace Metafile

O

Opposition Messages

Original Message

P

Palimpsest Messages

Periodic Error

Periodic Message Block

Piecewise Activity

Pivot Message
Punctuated Activity  

Q  

Quotient Trace  

R  

Recovered Messages  

Relative Density  

Resume Activity  

Ruptured Trace  

S  

Sequence Repeat Anomaly  

Shared Point  

Sheaf of Activities  

Significant Event  

Silent Messages  

Singleton Event  

Small DA+TA  

Sparse Trace  

Split Trace  

State and Event
State Dump 177

Statement Density and Current 178

Surveyor 180

T 181

Thread of Activity 181

Time Delta 184

Timeout 185

Trace Acceleration 188

Trace Dimension 189

Trace Extension 191

Trace Frames 192

Trace Mask 194

Trace Partition 196

Trace Viewpoints 198

Traces of Individuality 200

Translated Message 201

Truncated Trace 203

U 204

UI Message 204
Preface to the Second Edition

33 new trace and log analysis patterns have been discovered since the publication of the first edition almost two years ago. Memory Dump Analysis Anthology has also grown to 3,800 pages with the publication of volumes 8b, 9a, and 9b. Significant advances were made in software diagnostics theory that is reflected in the added analysis patterns. This edition also features better index, minor corrections to the patterns from the first edition, and one pattern from the forthcoming volume 10a.

In addition to previous contact details, please also refer to Facebook trace analysis page, DA+TA group, and The Software Diagnostics Group on LinkedIn:

http://www.facebook.com/TraceAnalysis
http://www.facebook.com/groups/dumpanalysis
http://www.linkedin.com/groups/8473045
The need for this reference book arose when we started working on the next version of “Accelerated Windows Software Trace Analysis” training. The previous version was two years old, and Software Diagnostics Institute had already added 40 more trace and log analysis patterns to their catalog. All of them (almost 100 patterns in total) were scattered among 3,300 pages of various Memory Dump Analysis Anthology volumes (3 – 7, 8a), and a few found only in Software Diagnostics Library. So we decided to reprint all these patterns and their illustrations in one small book and full color for easy reference. During editing, we also corrected various mistakes.

If you encounter any error, please contact me using this form

http://www.dumpanalysis.org/contact

Alternatively, send me a personal message using this contact e-mail:

dmitry.vostokov@dumpanalysis.org

Alternatively, via Twitter @ DumpAnalysis
Dmitry Vostokov is an internationally recognized expert, speaker, educator, scientist and author. He is the founder of pattern-oriented software diagnostics, forensics and prognostics discipline and Software Diagnostics Institute (DA+TA: DumpAnalysis.org + TraceAnalysis.org). Vostokov has also authored more than 30 books on software diagnostics, forensics and problem-solving, memory dump analysis, debugging, software trace and log analysis, reverse engineering, and malware analysis. He has more than 20 years of experience in software architecture, design, development and maintenance in a variety of industries including leadership, technical and people management roles. Dmitry also founded DiaThings, Logtellect, OpenTask Iterative and Incremental Publishing (OpenTask.com), Software Diagnostics Services (former Memory Dump Analysis Services) PatternDiagnostics.com and Software Prognostics. In his spare time, he presents various topics on Debugging.TV and explores Software Narratology, an applied science of software stories that he pioneered, and its further development as Narratology of Things and Diagnostics of Things (DoT). His current area of interest is theoretical software diagnostics.