About the Series

This is the eleventh in a series of booklets that SAGE is presenting to the system administration community. They are intended to fill a void in the current information structure, presenting topics in a thorough, refereed fashion but staying small enough and flexible enough to grow with the community.

Series Editor: Rik Farrow

- #1: See #8 below
- #2: A Guide to Developing Computing Policy Documents

Edited by Barbara L. Dijker

#3: System Security: A Management Perspective

By David Oppenheimer, David Wagner, and Michele D. Crabb Edited by Dan Geer

#4: Educating and Training System Administrators: A Survey

By David Kuncicky and Bruce Alan Wynn

#5: Hiring System Administrators

By Gretchen Phillips

#6: A System Administrator's Guide to Auditing

By Geoff Halprin

#7: System and Network Administration for Higher Reliability

By John Sellens

#8: Job Descriptions for System Administrators, Revised and Expanded Edition

Edited by Tina Darmohray

#9: Backups and Recovery

By W. Curtis Preston and Hal Skelly

#10: Budgeting for SysAdmins

By Adam Moskowitz

#11: Documentation Writing for System Administrators

By Mark C. Langston

About SAGE and USENIX

SAGE, the System Administrators Guild, is a Special Technical Group within the USENIX Association dedicated to advancing the profession of system administration.

USENIX is the Advanced Computing Systems Association.

1 1 System Administration

Rik Farrow, Series Editor

Documentation Writing for System Administrators

Mark C. Langston

© Copyright 2003 by the USENIX Association. All rights reserved. ISBN 1-931971-16-1

To purchase additional copies and for membership information, contact:

The USENIX Association 2560 Ninth Street, Suite 215 Berkeley, CA USA 94710 orders@sage.org http://www.sage.org/

First Printing 2003

USENIX and SAGE are registered trademarks of the USENIX Association. USENIX acknowledges all trademarks herein.

Printed in the United States of America on 50% recycled paper, 10–15% post-consumer waste.



Foreword by Rik Farrow

	Introduction (a.k.a. "Documentation: Why?")	1
	But Nobody Reads Documentation! 2	
	Preview 4	
	Presuppositions 4	
1.	Documentation Content 5	
	Procedural Documentation 5	
	Informational Documentation 9	
2.	Writing Good Documentation 11	
	Know Your Audience 11	
	The Keys to Good Documentation 12	
3.	Documentation Format 16	
	The Habit of Documenting 16	
	Paper Documentation 17	
	Web-based Documentation 19	
	Flat-File Documentation 24	
	Recommendations 27	
4.	Documentation Tools 29	
	Flat-File and Paper Documentation Tools 29	
	Web-based Documentation Tools 32	

5.	Documentation	Strategy	34
----	---------------	----------	----

The Most Common Scenario: Documentation Without Policy 34

Documentation Maintenance and the DRI 40

6. Examples 42

The Run Book (Procedural) 42

The Build Book (Procedural) 43

System Configuration Documentation (Informational) 43

Maintenance Logs (Informational and Procedural) 44

Solution Databases (Informational and Procedural) 44

Network Maps (Informational) 45

Disaster Recovery Procedures (Procedural) 46

7. Documentation Case Study: Amanda Backup Administration 49

- 8. Conclusion 54
- 9. Resources 55



Foreword

Documentation is a critical skill for system administrators. I really do not think that it generally comes into consideration when senior sysadmins get hired or when they interview prospective junior sysadmins. But after having read Mark Langston's excellent booklet, I find myself convinced that the ability to document well and the habit of thorough documentation should be considered essential qualifications for any sysadmin position.

I once asked someone in my group to resign, because he refused to document his work. This young man was brilliant, a genius, as well as a hard worker. Yet he believed that the solutions he came up with were his own and not to be shared, even though he was working as part of a team in a support group. The young man did resign. Although I regretted losing such a talented person, I felt relieved that I no longer had someone on our team who hoarded everything he learned.

Having worked as a solitary system administrator, I can confess to having done a poor job of documentation. I could argue that the place where I worked was not large, and that what I was doing appeared so obvious that it did not require documentation. But the truth was that it was obvious only to me. Tasks such as getting an early version of AIX or Apollo's DomainIX participating in NFS file sharing really deserved proper documentation. No one should have to go through those experiences again. Once was surely enough.

Mark Langston provides clear, friendly, and helpful guidance, not only in the techniques of writing documentation, but also in building the habit of good documentation. Even though I now work alone, I have begun documenting the changes I make in the systems I manage, because life really is easier when I can refer to good notes that remind me of the clever, or necessary, things I have done.

Good documentation leaves you, the practicing sysadmin, with more time to devote to really interesting tasks or projects. I heartily recommend that you read this booklet and learn to practice the art of documentation.

Rik Farrow