Operating Systems and Software Diagnostics





RAMESH BANGIA

BALVIR SINGH

FIREWALL MEDIA

Trend Micro, Inc.
EX1008-1

Published by :

FIREWALL MEDIA

(An Imprint of Laxmi Publications Pvt. Ltd.)

113, Golden House, Daryaganj,

New Delhi-110002

Phone : 011-43 53 25 00

Fax : 011-43 53 25 28

www.laxmipublications.com

info@laxmipublications.com

Copyright © 2007 by Firewall Media (An imprint of Laxmi Publications Pvt. Ltd.). All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the publisher.

Price : **Rs. 160.00** *Only.* *First Edition : 2007*

OFFICES

India

✆ **Bangalore**	080-26 61 15 61
✆ **Chennai**	044-24 34 47 26
✆ **Cochin**	0484-239 70 04
✆ **Guwahati**	0361-254 36 69, 251 38 81
✆ **Hyderabad**	040-24 65 23 33
✆ **Jalandhar**	0181-222 12 72
✆ **Kolkata**	033-22 27 37 73, 22 27 52 47
✆ **Lucknow**	0522-220 95 78
✆ **Mumbai**	022-24 91 54 15, 24 92 78 69
✆ **Ranchi**	0651-230 77 64

USA

Boston

11, Leavitt Street, Hingham,

MA 02043, USA

FOP-2932-160-OPER SYS AND SOFTWARE DIAGN **C—14265/07/05**

Typesetting by : Goswami Associates, Delhi. *Printed at* : Sanjeev Offset, Delhi.

Trend Micro, Inc.
EX1008-2

Copyrighted material

IP breaks up information and puts it into software packets that can move across networks. As long as machines on each end of the connection understand IP, they can accept packets from other computers and they can send packets simultaneously. A computer that wants to send information on the Internet uses IP to encapsulate the information into packets. A computer that receives information reassembles it from the packets it receives.

TCP works with the IP protocol to guarantee that information is transmitted correctly across the Internet. The TCP software makes sure that the packets of information get properly reassembled when they reach their Internet destination. TCP also requests that lost or damaged packets be resent to the destination computer.

IP ADDRESSING

Each computer on the Internet is assigned a unique numerical address, called its IP address. Each packet moving around the Internet contains the IP addresses of the sender computer and the destination computer. Using the IP addresses, the routers move the packets across the Internet until they reach their destination machines.

SERVERS AND CLIENTS

Every computer program that communicates on the Internet is either a server or a client.

A *server* offers a service to other machines on the network. For example, a *file server* contains files of interest to users around the network — the service it offers is the storage and retrieval of the files. There are thousands of file servers on the Internet, some offering files of a particular type, such as artwork (a file can contain an image), weather maps, or tourism information.

A *client* requests for a service to a server. Most services are designed so that specialized client software must be running to interact with the server. For example, to get a file from a file server, a client program on your machine must format and send the request to a program running on the server. The server program locates the file on the server machine and sends a copy of it back to the client program which saves it or opens it for immediate use. The client and the server use a common method for communicating and for passing the file from one machine to another, called a *protocol*.

INTRANETS

An *intranet* is a network that exists exclusively within an organization and that is based on Internet technology. It delivers an organization's informational resources to each member's desktop quickly and inexpensively but protects the information from unauthorized access. Because an intranet is based on Internet technology, it can have thousands of users across many locations and still be private.

An intranet can be set up inside a *firewall*, a software mechanism that blocks unwanted access to the intranet from outside while giving the users of the intranet access to the global Internet.

WELCOME TO THE WORLD WIDE WEB

The World Wide Web is the graphical Internet service that provides a network of interactive documents and the software to access them. It is based on documents called *pages* that combine text, pictures, forms, sound, animation, and hypertext links called *hyperlinks*. To navigate the World Wide Web, users "surf" from one page to another by pointing and clicking on hyperlinks in text or graphics.

Trend Micro, Inc.
EX1008-3
Copyrighted material