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Installing and Administering Samba for IRIX

Samba for IRIX is a suite of programs implementing a subset of the Server Message Block (SMB) protocol, the file sharing protocol used by Microsoft Windows operating systems. Samba for IRIX allows a machine running the IRIX operating system to provide file system and printer services to Windows clients. Clients can be running any of the following operating systems: Windows, Windows 95, Windows 98, Windows NT, Windows for Workgroups, or MS-DOS. The Silicon Graphics Samba for IRIX implementation allows these clients to share resources, get transparent access to files, and operate as a fully-unified network environment.

SMB is a client/server, request-response protocol. The Samba for IRIX implementation of SMB protocol uses NetBIOS over TCP/IP. Clients and servers exchange request and response protocol elements called SMBs. After establishing a network connection and successfully logging on, clients send the server commands (SMBs) to access directories, open, read, write, and close files, and utilize IRIX printer services.

Samba for IRIX allows Silicon Graphics systems to be viewed and accessed like any NT server in the network. Users can directly access UNIX file systems and print services using standard PC local area network (LAN) commands and conventions.

SMB protocol supports the Common Internet File System (CIFS) which is being developed to provide a standard method for sharing file systems across the Internet.

A Samba for IRIX server provides services to Windows clients that are similiar to services offered to UNIX clients: file system access similar to that provided by the Network File System (NFS), print services like those of the `lpsched` or `lpd` printer daemons, and distributed access control analogous to the Distributed Computing Environment (DCE) or Kerberos.

Samba for IRIX enables you to mount UNIX disks and printers on Windows clients. For example, you can define access to SMB shares (for a definition of a Windows operating system *share*, see "Windows Networking Terms," page 7) on a UNIX system with NFS-like export permissions, such as granting access to groups of users based on IP addresses.

In short, you can use Samba for IRIX software to provide seamless network connectivity between IRIX and Windows environments.

> **Note:** For more information on Samba for IRIX, see the *Samba for IRIX* data sheet at:
>
> `http://www.sgi.com/software/`

About This Guide

This guide documents the installation, configuration, and administration of Samba for IRIX product running on the IRIX 6.5.2f release (or later) of the operating system on Silicon Graphics Origin200 or Origin2000 systems.

> **Note:** You must be running the IRIX 6.5.2f release (or later) in order for kernel oplocks to be supported.

This guide was prepared in conjunction with the 2.0.0 release of Samba for IRIX.

This guide is intended as a road map into publicly available information about using Samba for Windows and UNIX connectivity and interoperability. It is not intended as a detailed, comprehensive guide.

This guide contains the following sections:

- Audience
- Finding Information You May Need Before Installation
- Windows Networking Terms
- Installing Samba for IRIX Software
- Starting and Stopping Samba for IRIX Software

- Administering Samba for IRIX

Audience

This guide is written for system administrators who are responsible for installing, configuring, and administering a Samba for IRIX server in an IRIX computing environment.

Finding Information You May Need Before Installation

For information on how to use Samba for IRIX software to provide Windows networking services from an IRIX machine, see the following:

- *Samba for IRIX* data sheet available at:

  `http://www.sgi.com/software/`

  This data sheet provides information about Samba for IRIX technical specifications and describes support coverage provided by the Silicon Graphics Global Product Support organization.

- *Samba: Integrating UNIX and Windows*, John D. Blair, published by Specialized Systems Consultants, Inc. (SSC), 1998

  This book is a comprehensive technical guide which describes in detail how to install and configure Samba software.

- *Just what is SMB*, Richard Sharpe

This document explains what the SMB protocol is and describes client and server implementations of SMB. This document is available at:

```
http://samba.anu.edu.au/cifs/docs/what-is-smb.html
```

- Samba for IRIX Release Notes

  To view the Samba for IRIX Release Notes before installing the Samba for IRIX software, install the *samba.man.relnotes* module (see "Installing Samba for IRIX Software," page 9).

- Samba for IRIX Man Pages

  To view the Samba for IRIX man pages before installing the Samba for IRIX software, install the *samba.man.manpages* module (see "Installing Samba for IRIX Software," page 9). You may want to read the following man pages before you proceed with installing Samba for IRIX software:

`smbd`(8)	Provides SMB (compatible with LanManager protocol) services to clients
`nmbd`(8)	Provides NetBIOS nameserver support to clients
`smb.conf`(5)	Configuration file for the Samba for IRIX suite of programs

- Samba for IRIX documentation

To view Samba for IRIX documentation, install the *samba.man.doc* module. This module contains a number of useful documents as follows:

Samba FAQ	Provides answers for common questions about Samba
`announce`	Provides a description of the SMB file server
`history`	Provides a history of Samba
`DIAGNOSIS.txt`	Contains a list of tests you can perform to validate a Samba server
`HINTS.txt`	Useful hints about setting up a Samba server
`BROWSING.txt`	Describes the SMB networking mechanism that allows clients to access a list of machines that are available within a network
`DOMAIN.txt`	Describes a *domain* and a *workgroup* in the context of network browsing and Samba

Note: HTML versions of the documents in the *samba.man.doc* module and the Samba for IRIX man pages are available in the `/usr/samba/html` directory. To access these documents, point your Web browser at this directory.

- Samba Home page

The Samba FAQ, man pages, and additional Samba documentation are also available off the Samba Home Page at:

```
http://samba.isca.uiowa.edu/samba/samba.html
```

Windows Networking Terms

This section describes some common Windows networking terms and when possible provides their equivalent UNIX terms. These terms were culled from sources listed previously (Blair, Sharpe, and the Samba documentation in the *samba.man.doc* module). For more complete description of these terms, you may want to refer to those sources.

Windows Terms	Description
share	A Windows operating system **share** is a directory, which is made available to clients. A share includes the contents of the directory and all of its subdirectories.
share level	An SMB security level applied on a server. Each share can have a password. A client only needs the password to access all of the files under that share.
user level	An SMB security level applied to individual files in each share that is based on user

	access rights. Each client must log in to the server and be authenticated by the server. The client is given a user identification (UID) which is required for all subsequent access requests to the server.
WINS	Windows Internet Name Service (WINS) is a dynamically updated, central database used to resolve host names into IP addresses.
`LMHOSTS`	LanManager Hosts file which allows specific host names to be mapped to IP addresses. The `LMHOSTS` file is like an `/etc/hosts` file for the WINS name service.
workgroup	A collection of computers where each machine maintains its own security information. Windows for Workgroups is an example of share level security. Windows 95 software can pass user authentication off to an NT or LanManager server.
Domain	An NT Domain is a collection of computers where security is handled in a central location by one or more domain controllers. The domain controller maintains a database of information for each user

	including account names, groups a user belongs to, encrypted passwords, and so on. An NT Domain provides for the centralized administration of user accounts. Do not confuse the Internet domain naming convention with an NT Domain.
browsing	In a Windows network, viewing the resources available.
browse list	List of hosts and domains available on a network as seen on a Windows system.
master browser	The system on which the browse list is maintained.

Installing Samba for IRIX Software

Use the `inst`(1M) software installation tool or the `swmgr`(1M) software management tool to install Samba for IRIX software. For more information on `inst`(1M) and `swmgr`(1M), see *IRIX Admin: Software Installation and Licensing* in the *IRIX Admin* manual set and their respective man pages.

To install the Samba for IRIX release 2.0.0 software suite (`samba-irix`) for SMB/CIFS on IRIX systems, install these subsystems:

samba	Samba release 2.0.0

samba.man	Samba online documentation
samba.man.doc	Samba documentation
samba.man.manpages	Man pages for Samba software
samba.man.relnotes	Release notes for Samba supported on Silicon Graphics systems
samba.sw	Samba execution environment
samba.sw.base	Samba execution environment base

Starting and Stopping Samba for IRIX Software

You can use the `/etc/init.d/samba` script with the `start` or `stop` argument to start or stop execution of the Samba for IRIX daemons. If your system reboots, the Samba for IRIX daemons will be started automatically provided the `chkconfig`(1M) option `samba` is `on`. See the `chkconfig`(1M) man page, for more information.

Administering Samba for IRIX

The Samba for IRIX Web Administration Tool (SWAT) allows you to change fields in the `smb.conf`(5) configuration file and manage user passwords. The `smb.conf`(5) configuration file defines options to control SMB networking services such as access to an IRIX file system, use of IRIX print services, appearance on the browse list, and so on. For more information on these services, see chapter 6 “Service Configuration Options”, in *Samba: Integrating UNIX and Windows*.

The SWAT password tools allows you to change server and client/server passwords.

You can use the SWAT to perform the following tasks:

- Create and view the Samba for IRIX configuration file.
- Set and view global variables for base, security, logging, tuning, printing, browse, and Windows Internet Name Service (WINS) options.
- Set and view share parameters.
- Set and view printer parameters.
- Change user passwords and disable and enable users.