

**NAME**

vfs\_freebsd - FreeBSD-specific VFS functions

**SYNOPSIS**

vfs objects = freebsd

**DESCRIPTION**

This VFS module is part of the **samba(7)** suite.

The `vfs_freebsd` module implements some of the FreeBSD-specific VFS functions.

This module is stackable.

**OPTIONS**

freebsd:extattr mode=[legacy|compat|secure]

This parameter defines how the emulation of the Linux `attr(5)` extended attributes is performed through the FreeBSD native `extattr(9)` system calls.

Currently the *security*, *system*, *trusted* and *user* extended attribute(xattr) classes are defined in Linux. Contrary FreeBSD has only *USER* and *SYSTEM* extended attribute(extattr) namespaces, so mapping of one set into another isn't straightforward and can be done in different ways.

Historically the Samba(7) built-in xattr mapping implementation simply converted *system* and *user* xattr into corresponding *SYSTEM* and *USER* extattr namespaces, dropping the class prefix name with the separating dot and using attribute name only within the mapped namespace. It also rejected any other xattr classes, like *security* and *trusted* as invalid. Such behavior in particular broke AD provisioning on UFS2 file systems as essential *security.NTACL* xattr was rejected as invalid.

This module tries to address this problem and provide secure, where it's possible, way to map Linux xattr into FreeBSD's extattr.

When *mode* is set to the *legacy (default)* then modified version of built-in mapping is used, where *system* xattr is mapped into *SYSTEM* namespace, while *secure*, *trusted* and *user* xattr are all mapped into the *USER* namespace, dropping class prefixes and mix them all together. This is the way how Samba FreeBSD ports were patched up to the 4.9 version and that created multiple potential security issues. This mode is aimed for the compatibility with the legacy installations only and should be avoided in new setups.

The *compat* mode is mostly designed for the jailed environments, where it's not possible to write

extattrs into the secure SYSTEM namespace, so all four classes are mapped into the USER namespace. To preserve information about origin of the extended attribute it is stored together with the class prefix in the *class.attribute* format.

The *secure* mode is meant for storing extended attributes in a secure manner, so that *security*, *system* and *trusted* are stored in the SYSTEM namespace, which can be modified only by root.

**Table 1. Attributes mapping**

	<b>built-in</b>	<b>legacy</b>	<b>compat/jail</b>	<b>secure</b>	
<b>user</b>	USER;  attribute	USER;  attribute	USER;  user.attribute	USER;  user.attribute	
<b>system</b>	SYSTEM;  attribute	SYSTEM;  attribute	USER;  system.attribute	SYSTEM;  system.attribute	
<b>trusted</b>	FAIL 	USER;  attribute	USER;  trusted.attribute	SYSTEM;  trusted.attribute	
<b>security</b>	FAIL 	USER;  attribute	USER;  security.attribute	SYSTEM;  security.attribute	

## EXAMPLES

Use secure method of setting extended attributes on the share:

```
[sysvol]
vfs objects = freebsd
freebsd:extattr mode = secure
```

## VERSION

This man page is part of version 4.10.5 of the Samba suite.

## AUTHOR

The original Samba software and related utilities were created by Andrew Tridgell. Samba is now developed by the Samba Team as an Open Source project similar to the way the Linux kernel is developed.

This module was written by Timur I. Bakeyev