



5 MAY 2021

Group Policy

Applying Group Policy via
Winbind or SSSD

Presentation Agenda

1. Introduction

Brief introduction to Group Policy

2. Samba Group Policies

Policies currently available in 4.14, and soon to be released in 4.15

3. ALT Linux Group Policy Integration

Policies expected to be integrated in a future release of Samba.

4. Getting Started

How to get started with Group Policy on Linux



Group Policy



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What is a Group Policy Object (GPO)?

A GPO is a group of settings created using the Microsoft Management Console.
Or, in Samba's case, using the ``samba-tool gpo`` command.

Group Policies are stored on the SYSVOL network share.

GPOs are associated with Active Directory containers, such as sites, domains, and Ous.

GPOs are applied to clients in logical order; local polices, site polices, domain policies, then OU policies.



What is a Server Side Extension?

Microsoft provided two mechanisms for extending Group Policy.

ADMX: Administrative Templates. These xml files are placed in a specific directory on the SYSVOL, and indicate how the GPMC will display policy options.

GPMC Extension: These follow a specific C++ template to generate dialogs which integrate with the GPMC. Some Group Policy vendors (such as Vintela) use this extension method.

In Samba 4.15, we have the ``samba-tool gpo manage`` command, which implements the features of a GPMC Server Side Extension.

ALT Linux provides an ADMC graphical interface, which mimics the behavior of ADUC and GPMC.

SUSE Linux provides a YaST GPMC module for modifying some policies.



What is a Client Side Extension?

Client Side Extensions transfer policies from the SYSVOL to local policies on the machine.

Microsoft defines Client Side Extension libraries which must export specific function calls in order to apply policies on a Windows client.

In Samba, Client Side Extensions are implemented by inheriting from the ``gp_ext`` class and implementing the abstract methods of the class. Scan the QR code to learn more about creating a Samba Client Side Extension.



Samba Group Policies



What's new?

smb.conf Policies

These policies allow you to distribute smb.conf parameters to Linux clients from a GPO. Just as in Windows, the parameters are processed for clients nested in or below the OU with which the GPO is linked.

Script Policies

These policies allow you to execute scripts on the clients. It creates Hourly, Daily, Weekly, and Monthly cron jobs on the client to execute the script. The script must already be present on the machine, or somewhere accessible to the client (such as on a network share).

Sudoers Policies

This policy distributes sudoer entries to clients. Entries are added to `/etc/sudoers.d`



What's new?

Message Policies

These policies allow you to set the contents of `/etc/motd` and `/etc/issue` on the clients.



Available in Samba 4.14

These new policies are already available in Samba 4.14.

Next, some new policies which will be available in Samba 4.15.



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What's in the pipeline?

Host Access Policies

These policies control user account access to the host. It generates entries in `/etc/security/access.d` for the `pam_access` module.

Files Policies

These policies distribute files to clients. When creating the policy, files are uploaded to the `SYSVOL` share to be distributed to the client.

OpenSSH Policies

These policies apply OpenSSH settings to `/etc/ssh/sshd_config.d`.



What's in the pipeline?

Startup Scripts Policies

Unlike the existing Scripts policy, when setting Startup Scripts, they are uploaded to the SYSVOL share, allowing distribution of the scripts to clients. This policy also allows you to specify a single run of the script, meaning it will be executed once and not scheduled for running regularly.

Symlink Policies

Creates a symlink on the host.

Additional VGP Policies (duplicates)

These new policies in 4.15 mimic the behavior of Vintela's proprietary Group Policy implementation, so there is some duplication via sudoers, and motd/issue messages policies.

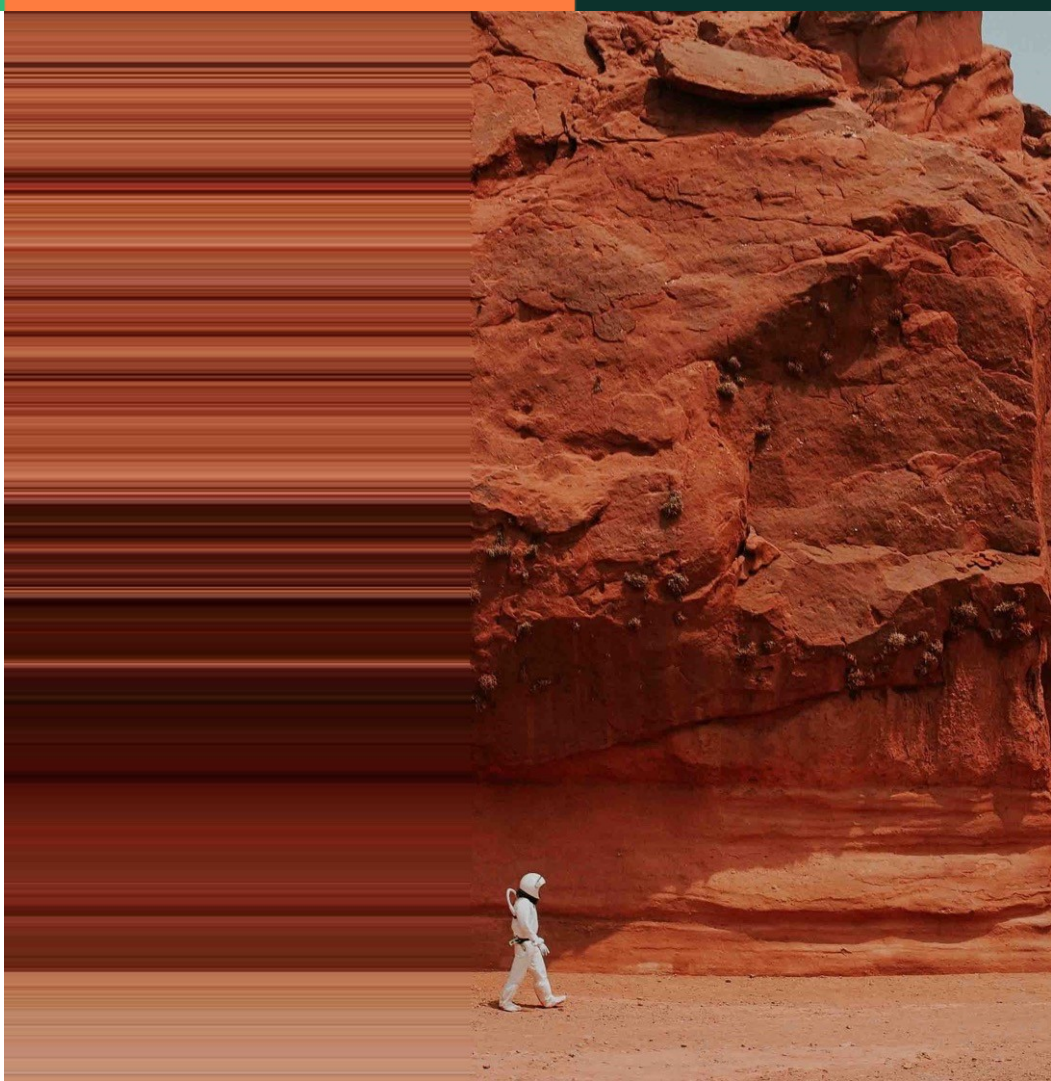


Migration from Vintela Group Policy

The purpose of the new policies added in 4.15 are to provide a migration path from the proprietary Vintela authentication and Group Policy tool, to either Winbind or SSSD.



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ALT Linux Group Policy Integration



Integration in progress



Igor and I have been working together to merge the ALT Linux gpupdate code into Samba's Group Policy.

- Joining efforts allows us to bring more features to everybody.



What does ALT Linux gpupdate bring to Samba?

User Policy

While Samba's Group Policy is capable of User Policy application, my efforts have focused on Machine Policy. ALT Linux has developed a number of User Policies which will be integrated into Samba.

Local Policy

ALT Linux developed an approach to Local Policy application, which will be integrated into Samba's Group Policy.

Registry Application

ALT Linux retrieves policies from the SYSVOL, and stores them in the local Samba 3 Registry prior to deploying the policy on the system. This better aligns with the way policy is applied on Windows.



What policies?

Firefox/Chromium Policies

These policies apply the browser home page, and carries the potential for much more (using Mozilla's ADMX preferences, for example).

CIFS Mount Policies

This policy mounts network drives specified in GPME/Preferences/Windows Settings/Drive Maps as CIFS mounts on the client.

Printer Policies

This policy configures network printers via CUPS.



What policies?

Environment Variable Policies

This policy adds environment variables to the client which are specified in GPME/Preferences/Windows Settings/Environment.

Firewall Policies

This policy adds firewall rules to the client which are specified in GPME/Policies/Windows Settings/Security Settings/Windows Firewall.

Folder Policies

This policy creates folders on the client which are specified in GPME/Preferences/Windows Settings/Folders.



What policies?

Time Server Policies

This policy adds time servers to the client NTP configuration which are specified in GPME/Administrative Templates/System/Windows Time Service/Time Providers.

RPM Package Policies

This policy installs rpm packages as specified by the ALT ADMX package templates.

Shortcut Policies

This policy adds shortcuts to the client which are specified in GPME/Preferences/Windows Settings/Shortcuts.



Getting Started



Enabling Group Policy

Computer Group Policy is enabled on Winbind by setting:

```
apply group policies = yes
```

In `smb.conf`, Group Policy is applied using the command specified in `smb.conf` ``gpo update command``.
By default this is `samba-gpupdate`

Policy is applied every 90 to 120 minutes.

Currently there is no mechanism for automatically applying policy on SSSD (although this is easily accomplished with a cronjob).



Enabling Group Policy in the Future

ALT Linux provides a utility called `oddjob-gpupdate` for applying User and Computer policies.

Eventually this will probably be the standard for policy application, since it handles both User and Computer policy application, as well as providing a utility for both Winbind and SSSD.

`oddjob-gpupdate` also allows regular users to force Computer Policy application without requiring root access.



Enabling Group Policy DEMO



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Loading ADMX Templates

Samba ADMX Templates (Samba 4.14)

```
samba-tool gpo admx load
```

Windows ADMX Templates

Download from:

```
https://www.microsoft.com/en-us/download/102157
```

Then run:

```
samba-tool gpo admx load --admx-dir=/location/of/windows/templates
```

ALT Linux Templates

(gpupdate, and Samba >4.15)

Download from:

```
https://github.com/altlinux/admx-basealt/archive/refs/tags/0.1.4-alt1.zip
```

Then run:

```
samba-tool gpo admx load --admx-dir=/location/of/altlinux/templates
```



Loading ADMX Templates DEMO

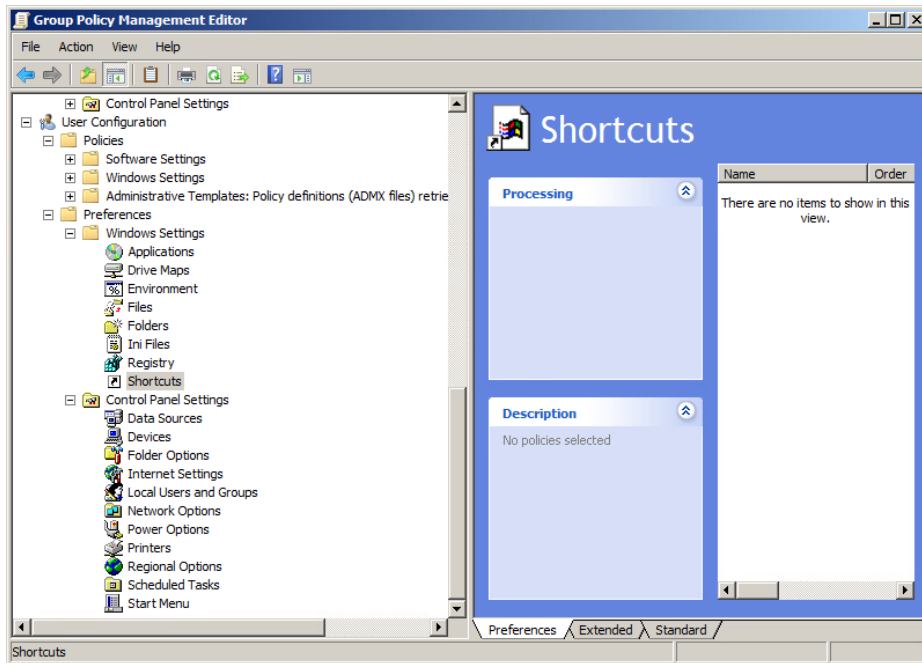


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Using Group Policy Management Console

- Allows the modification of policies
- ALT Linux provides an alternative, but is still in development



Policies using samba-tool (Samba 4.15)

As of Samba 4.15, there is a new samba-tool command for modifying policies.

```
> samba-tool gpo manage
```



Modifying Policies DEMO



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Thank you

For more information, contact SUSE at:

+1 800 796 3700 (U.S./Canada)

+49 (0)911-740 53-0 (Worldwide)

Maxfeldstrasse 5

90409 Nuremberg

www.suse.com

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