Accessing Active Directory from SUSE Linux Enterprise Server for NVIDIA

Active Directory (AD) is a directory service based on LDAP and Kerberos that manages resources, services and users in a network. SUSE Linux Enterprise Server for NVIDIA integrates into a Windows environment by joining an existing AD domain. This allows users to benefit from offline authentication, corporate password policy enforcement and seamless single sign-on (SSO).

Prerequisites

- DNS configured to forward requests to the AD DNS server
- Time synchronization using a central NTP server
- Valid credentials to access the Active Directory domain
- Firewall disabled or configured for the internal zone

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1 What is Active Directory

Active Directory* (AD) is a directory-service based on LDAP, Kerberos, and other services. It is used by Microsoft* Windows* to manage resources, services, and people. In a Microsoft Windows network, Active Directory provides information about these objects, restricts access to them, and enforces policies. SUSE Linux Enterprise Server for NVIDIA lets you join existing Active Directory domains and integrate your Linux machine into a Windows environment.

SUSE Linux Enterprise Server for NVIDIA offers you the following benefits when integrated with Active Directory

Offline authentication

Users can log in and access their local data on the Linux machine even if they are offline or the Active Directory server is unavailable for other reasons.

Windows password change

This port of Active Directory support in Linux enforces corporate password policies stored in Active Directory. The console support password change messages and accept your input. You can even use the Linux **`passwd`** command to set Windows passwords.

Single-sign-on through Kerberos

`adcli` can transparently handle authentication for the user without the need for password reentry at Web servers, proxies, groupware applications, or other locations.

To communicate with the directory service, the client needs to share at least two protocols with the server:

LDAP

LDAP is a protocol optimized for managing directory information. A Windows domain controller with Active Directory can use the LDAP protocol to exchange directory information with the clients.

Kerberos

Kerberos is a third-party trusted authentication service. All its clients trust Kerberos authorization of another client's identity, enabling kerberized single-sign-on (SSO) solutions. Windows supports a Kerberos implementation, making Kerberos SSO possible even with Linux clients.

2 Prerequisites needed to join Active Directory

Before you try to join an Active Directory domain, make sure that the following requirements are met:

DNS

DNS is configured to forward DNS requests to the Active Directory DNS server. Alternatively, configure your client to use the Active Directory DNS.

NTP

Make sure that the time is properly synchronized when using Kerberos. It is highly recommended to use a central NTP time server for this purpose (this can be also the NTP server running on your Active Directory domain controller). For details, refer to NTP time synchronization (https://documentation.suse.com/sl-micro/6.0/).

Firewall

Either disable the firewall entirely or mark the interface used for browsing as part of the internal zone. You can use Cockpit to configure the internal firewall zone.

Active Directory account

Make sure that you have proper credentials to access the Active Directory domain.

3 Joining an Active Directory domain

On SUSE Linux Enterprise Server for NVIDIA you need to first join an active directory domain. To do so, use the **`adcli`** command, which creates a computer account for the machine joining the domain and if Kerberos is used, a keytab is created for the machine.

To join a domain, proceed as follows:

1. *(Optional)* To use offline authentication using `SSSD`, install it first:

    a. Run the command:

    ```
    > sudo  transactional-update pkg install sssd
    ```

    b. Reboot the system.

    c. Review the `/etc/sssd/sssd.conf` if it needs any adjustment.

    d. To allow `SSSD` to use Kerberos, switch on the `kerberos_enabled` boolean by running:

    ```
    > sudo setsebool -P kerberos_enabled 1
    ```

2. Run the **`adcli`** command as follows:

    ```
    > sudo adcli join -d DOMAIN_NAME
    ```

3. Provide your credentials for the domain.

After you join a domain, you can login to Active directory and you can use offline authentication.

4 Logging to the Active Directory domain

You can log in to the Active Directory client machine either using the text-based console or even remotely using SSH

To login via the console, enter at the `login:` prompt:

```
DOMAIN_NAME\USER_NAME
```

Then provide the password.

For remote login, use the SSH as follows:

```
    > sudo ssh DOMAIN_NAME\\USER_NAME@HOST_NAME
```

The `\` domain and login delimiter is escaped with another `\` sign.

Then provide your password to login.

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