VIRTUAL CABLE

UDS Enterprise 4.0
New Functionalities

Index

INTRODUCTION

The objective of this document is to expose the **new implementations** made in **version 4.0 of UDS Enterprise**.

It describes important improvements in **security** and in the **administration interface** of the software, the integration of new **service providers**, **authenticators**, etc.

Only the differences that exist with respect to previous versions at the **front-end** level are described. There are many changes at the **back-end** level that are transparent to users and administrators.

COMPONENTS

UDS Appliances

- The **operating system** that hosts the UDS components: "UDS Server" and "UDS Tunnel" has been **updated to Debian 12** and all security patches available to date have been applied.

- The Database server: "**UDS Dbserver**", which is provided as an example, has also been updated to the latest version of Debian 12.
- All UDS appliances have been expanded at the resource level to provide them with higher performance in environments with a high number of users and to guarantee stable operation. The new minimum machine requirements compared to UDS Enterprise version 3.6 are:

	UDS Enterprise 3.6			UDS Enterprise 4.0		
	vCPUs	vRAM	vDisk	vCPUs	vRAM	vDisk
UDS-Server	2	2	8	4	4	16
UDS-Tunnel	2	2	14	4	4	20
UDS-Dbserver	2	1	10	2	3	24

NOTE: As in previous versions, it is not possible to update the "UDS Server" and "UDS Tunnel" components through commands (apt update / apt upgrade), nor the installation of new software without first consulting with the UDS Enterprise support team. These two actions could cause these two components to malfunction.

NOTE: The "UDS-DbServer" component does allow these actions (apt update / apt upgrade, etc...).

UDS Client

- **Update of the "UDS client" component** for all supported OS, increasing the security level of these and adding new dependencies of minimum Python version for Linux OS.
- Added **compatibility between versions**, it is now possible to use a UDS 3.6 client version with a UDS 4.0 environment and as in previous versions, a UDS 4.0 client will also be compatible with a lower environment, in this case UDS 3.6.
- The UDS client for MacOS OS now natively supports Microsoft's new RDP client "Windows APP".

UDS Client

Windows (exe)	MacOS (pkg)	Linux (deb)	Linux (rpm)	Linux (gz)
Windows client	Mac OS X client	Debian based Linux client (requires Python-3.9 or newer)	RPM based Linux client (Fedora, Suse, ...) (requires Python-3.9 or newer)	Binary appimage X86_64 Linux client

Linux (gz)	Linux (gz)
Binary appimage ARMHF Linux client (Raspberry, ...)	Generic .tar.gz Linux client (requires Python-3.9 or newer)

- Download UDS client for your platform

UDS Actor and UDS Server

- **Update of the "UDS Actor" component** for all supported OS, increasing the security level of these and adding new dependencies of minimum Python version for Linux OS.
- **New server agent for Windows applications** (UDSRDSServer), which will allow advanced actions such as server load reporting, user session termination, etc.
- **The Actor (RDSActor) for Windows Version** 3.6 applications can also be used in the new version if needed.
- As in other versions, **support for actors from previous versions from version 3.0** (including this one) is maintained.


Downloads

🐧 **udsactor_4.0.0_all.deb** UDS Actor for Debian, Ubuntu, ... Linux machines **(Requires python >= 3.9)**	🐧 **udsactor-4.0.0-1.noarch.rpm** UDS Actor for Centos, Fedora, RH, Suse, ... Linux machines **(Requires python >= 3.9)**
🐧 **udsactor-unmanaged_4.0.0_all.deb** UDS Actor for Debian based Linux machines. Used ONLY for static machines. **(Requires python >= 3.9)**	🐧 **udsactor-unmanaged-4.0.0-1.noarch.rpm** UDS Actor for Centos, Fedora, RH, Suse, ... Linux machines. Used ONLY for static machines. **(Requires python >= 3.9)**
⊞ **UDSRDSServerSetup-4.0.0.exe** UDS RDS Server (for remote apps on Windows Server)	⊞ **UDSActorSetup-4.0.0.exe** UDS Actor for windows machines
⊞ **UDSActorUnmanagedSetup-4.0.0.exe** UDS Actor for Unmanaged windows machines. Used ONLY for static machines.	⊞ **RDSActorSetup-4.0.0.exe** RDS UDS Actor (legacy, use UDS RDS Server instead)

- Always download the UDS actor matching your platform

- In the "UDS Server" component, **the logs** of the solution **have been integrated with those of the Debian operating system**, so that they can be managed by a syslog. In addition to their usual route, they will now be available in /var/log/uds.
- A new log file **is added** to the "UDS Server" component, called: **operations.log**, where tasks and operations carried out in service providers and pools will be recorded. This log will also allow you to detect existing problems in the environment by providing additional details to the usual logs: uds.log and services.log.

APPEARANCE

- **Updating** of the version of the **Framework** (Angular) used in the user and administration portals, also allowing the user services portal to load services more efficiently in the face of the possibility of hundreds of them.
- **Improvement** of the treatment of **statistics in administration**. The charts that appear in the "**Dashboard**" and in the "**Charts**" section have been **optimized** and loading **times** are **shorter**. In addition, the data shown better reflects the use of the platform and the service pools respectively.
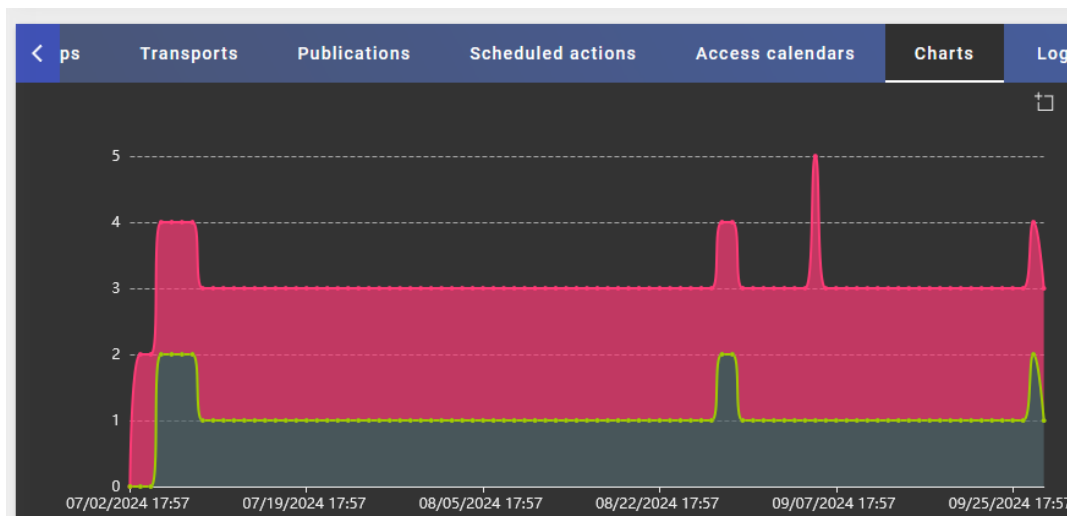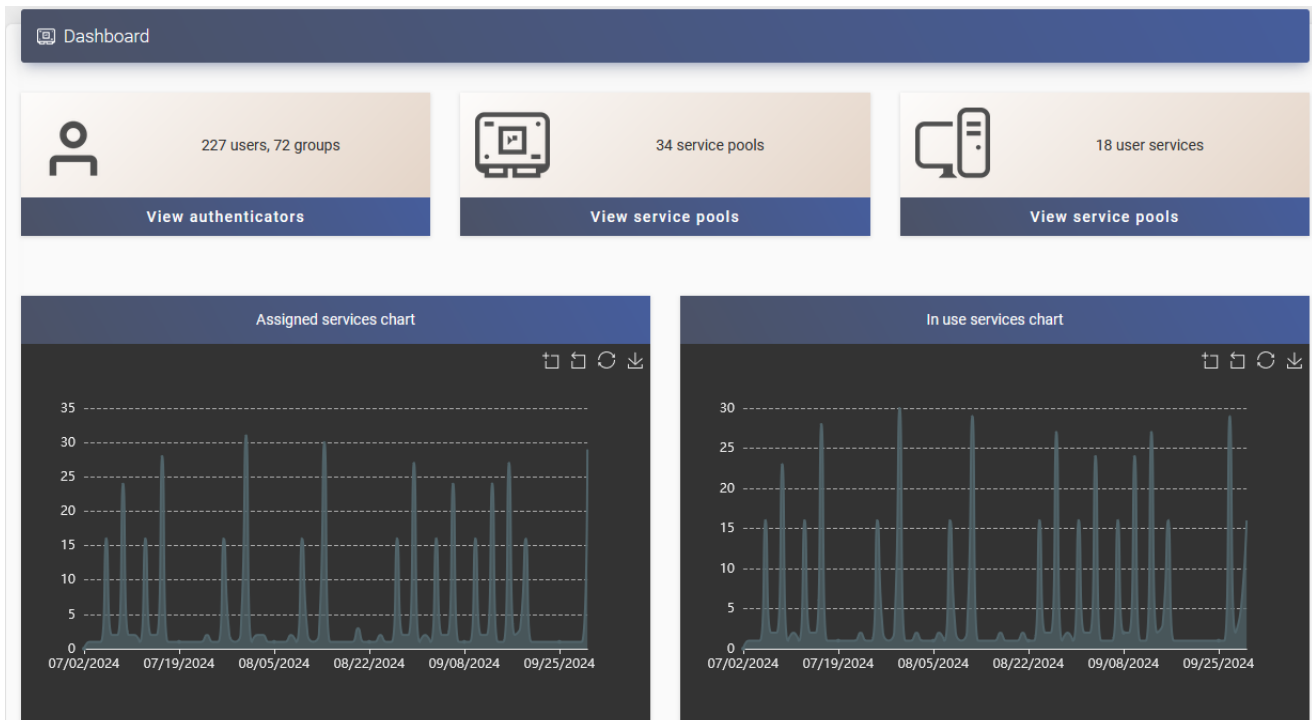
SERVICE PROVIDERS

New Service Providers

Two new service providers are added to the already extensive existing list, one of them aimed at running cloud services and the other at running On-Prem services with hyperconverged infrastructure (HCI):

- Google Cloud Platform (GCP)
- Scale Computing (SC)

These two new providers will have all the existing and new functionalities that have been applied to the rest of the providers, allowing the deployment of self-generated services on demand (VDI) and connecting to existing services on the platform (Fixed).
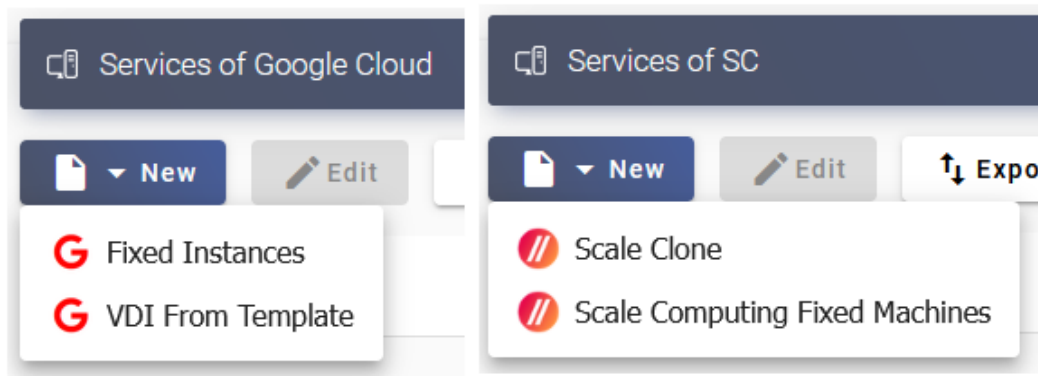
Extended support for OpenStack-based Providers

Existing support for the **Huawei Cloud** platform is expanded, and support for **OVH Cloud** is added.

Both providers will have all the existing and new functionalities that have been applied to the rest of the providers, allowing self-generated on-demand (VDI) services to be deployed and to connect to existing services on the platform (Fixed).
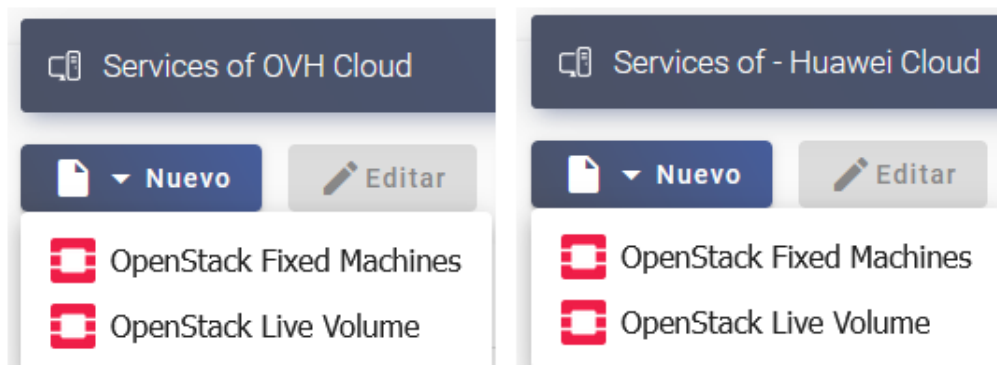
## Advanced functionalities in existing Providers

In version 4.0 of UDS Enterprise, numerous advanced features common to most service providers supported by UDS have been added, among them are:

- **Return of machines to the cache.** This new functionality, applied to the base services of most vendors where virtual desktops are auto-generated, allows you to return already used machines to the cache. This greatly speeds up machine setup time and also saves on read and write IOPs.
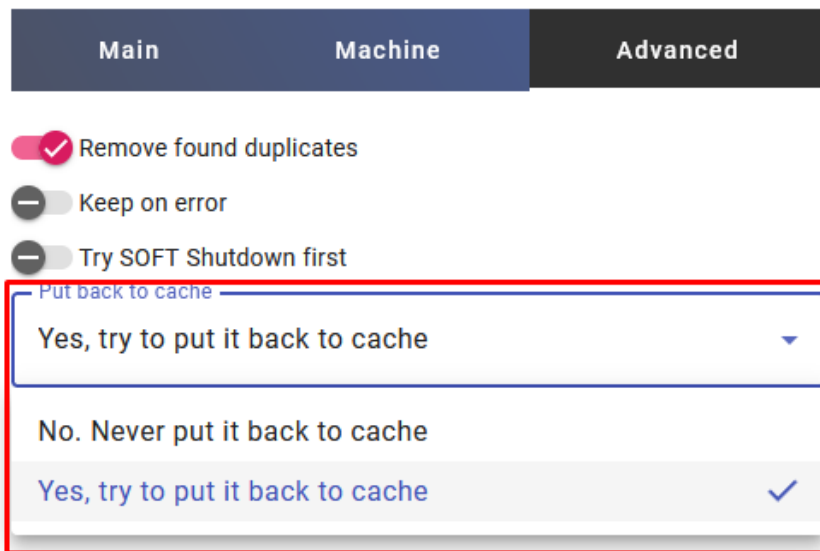
- **Connection to existing machines.** Most service providers include the possibility of providing existing machines (fixed) as a base service, also allowing the user's session to be controlled through the "unmanaged" actor and giving the possibility of using snapshots (on the platforms that support it) to return to a specific state.
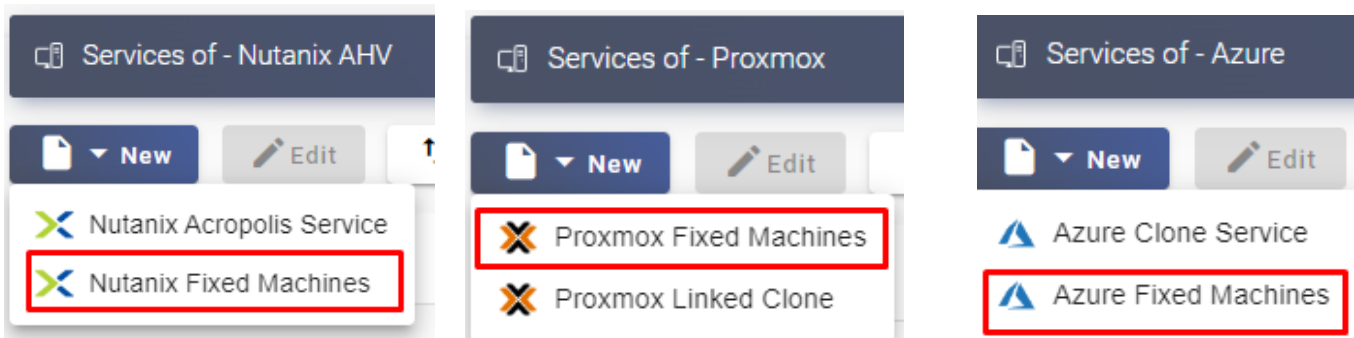
- **New method of counting the maximum number of services.** Depending on the mode chosen, the system will generate machines differently:
  - The "Standard" mode will have the usual operation of previous versions, the
  - "Conservative" mode will take into account the maximum number of machines indicated in the "Service pool" and until the machines have been permanently deleted from the virtualization platform, no new ones will be generated, always complying with that maximum number (cache – max. Services to be provided) of machines at the same time on the platform.


New service: Proxmox Linked Clone

- **Remove duplicates and "soft" shutdown of desktops.** Two of the existing capabilities in a VMware vSphere service provider auto-generation machine base service have been extended to most UDS-supported vendors. These functionalities are:
  - Elimination of duplicate machines, which allows the system, automatically, to delete existing machines with the same name that is going to be generated by UDS (eliminating possible orphan, "zombie" or erroneous machines that are not used by the system and is consuming resources)
  - "Correct" shutdown of the desktops that are going to be destroyed (by default a forced shutdown is performed so that this task will be faster to avoid consumption of read IOPs, but if necessary, a "soft" shutdown can be indicated).

New service: Proxmox Linked Clone

RDS provider and new "Servers" section

A **new element is added in UDS Enterprise**, within the services section, the "**Servers**", which will mainly be used to configure service providers of type "RDS" (it will also be necessary to use it for the type "Static IP") in a more efficient way:
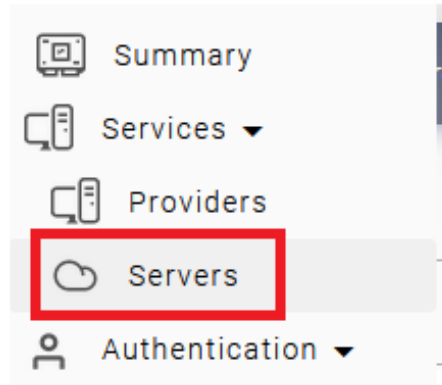
Within this new element, we will select the type of server to be deployed:

- **"Managed"** will use the new server agent ("UDSRDSServer") available in the download section, providing the service with more and better functionalities.
- **"Unmanaged"** will use the "RDS actor" and "Unmanaged actor" in the same way as in previous versions.

Within the RDS service provider, we will use the new element mentioned above: "Servers" and we will also have a variable to configure the load limits applied in the balancing, as long as a "Managed" server type is used.
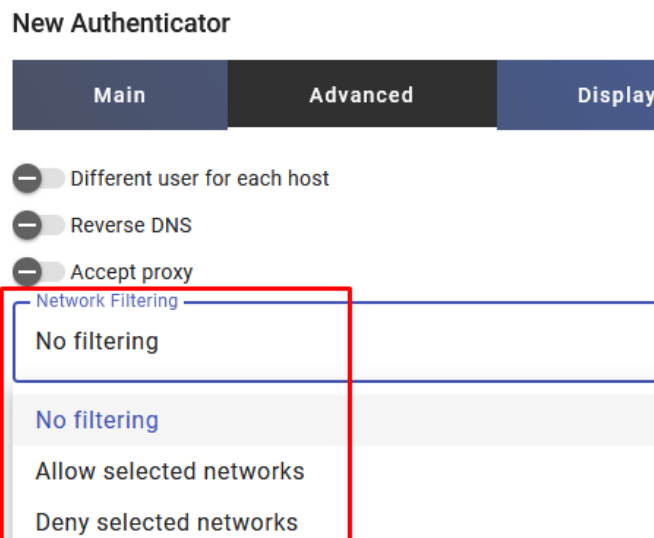
AUTHENTICATION

- **New authenticator supported**. To increase the number of options available when choosing a user validation system, full support for the OAuth2 protocol has been added.
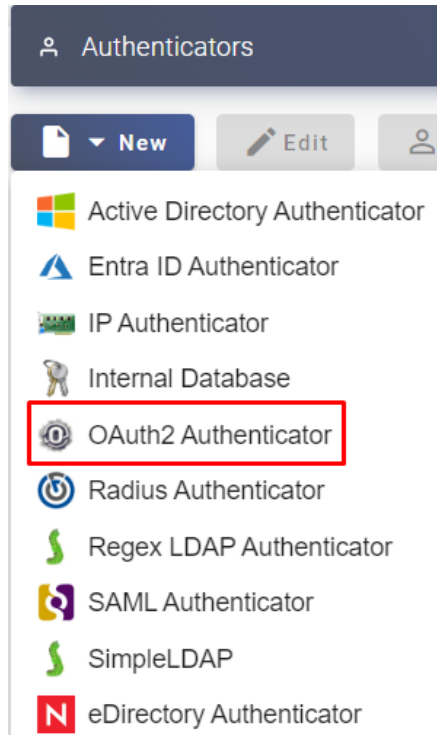
- **Network filtering.** In addition to all authenticators, the possibility of being filtered by source network is added, this will allow more flexibility and security in user access.

- Indicating the action:

o We will select the network (or networks) on which the chosen action applies:

- Added **support for external users** in Microsoft's "Enter ID" (formerly "Azure AD") authenticator. This will allow you to validate external users, but with an invitation to a directory configured in the "Enter ID" authenticator.

- In the "Radius" authenticator, the MFA attribute is enabled to be used (in previous versions it did not perform any function) and to be mapped with the username provided by the authentication system

- New **authenticator visibility management**. All authenticators have the possibility to choose whether the authenticator will be visible or hidden in the login portal, allowing access via tag, even if it is configured as hidden. The "Disabled" option completely eliminates access with this authenticator.
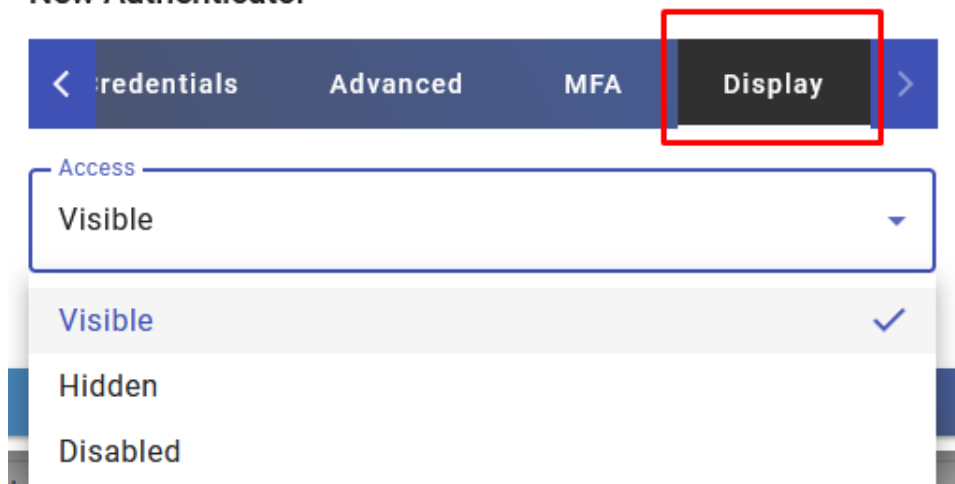
- Added **user log system**. The possibility for an administrator to temporarily enable (by default, for 48 hours) the sending of the logs of the user's UDS client in "Debug" mode is added. These logs can be viewed within the service log and in the "uds.log" log file within the server.
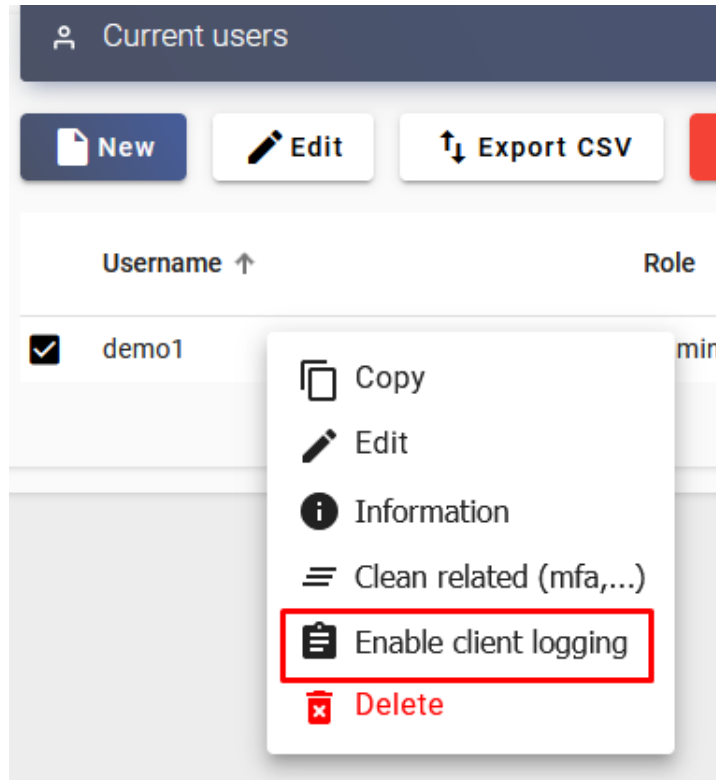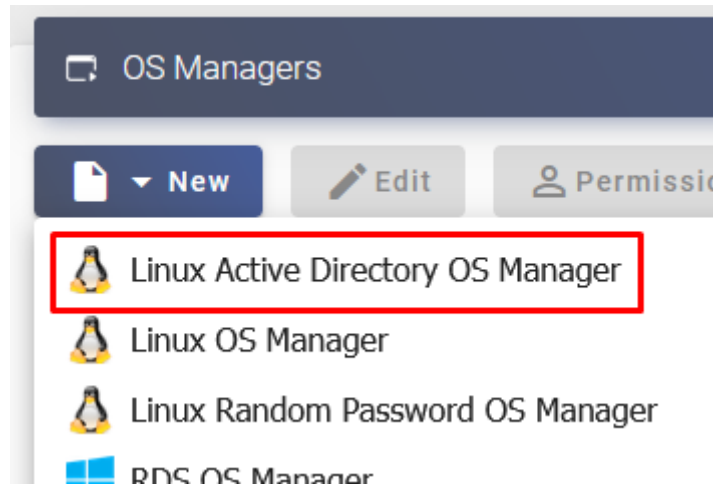

Multi Factor Authentication

- It is added in all supported MFA modes (previously it was only available for the type: "TOTP Based") the possibility for users who are in the selected (and predefined) networks to be able to bypass MFA.
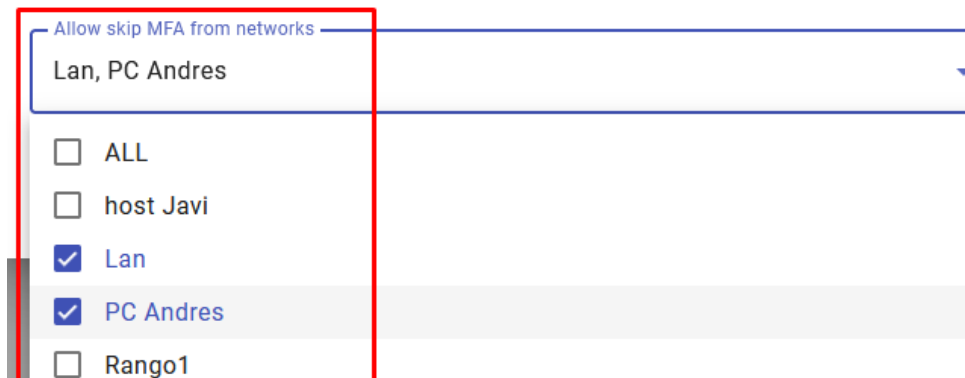
OS MANAGERS

- Added a new OS Manager to allow the generation of Linux machines that are attached to an "Active Directory" domain:

- In the "Windows Domain" OS Manager, it is now possible to put more than one suggested server (in the previous version only one could be added) in addition to being able to specify a different listening port than the standard one.

CONNECTIVITY

- In the "connectivity" section, a new element called "Tunnels" is added, this new element will allow you to register all our Tunnel servers, both to use tunneled protocols and HTML5 connections. We will then assign them to the transports that need it.

  This new way of defining tunnel servers will help us reduce errors when registering them in transports and will also simplify the task of remembering URLs or names.
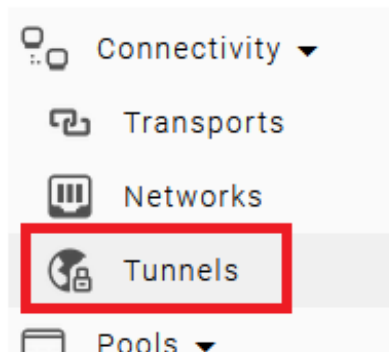
- In all transports supported by UDS Enterprise, their filtering by source network has been modified, allowing more flexibility and security in user access and simplifying their configuration by an administrator. Now we will have to:
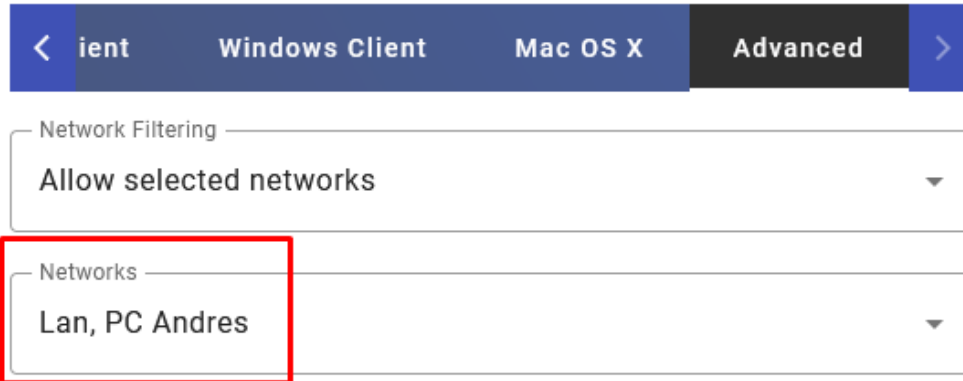
  o Select the action:

New Transport
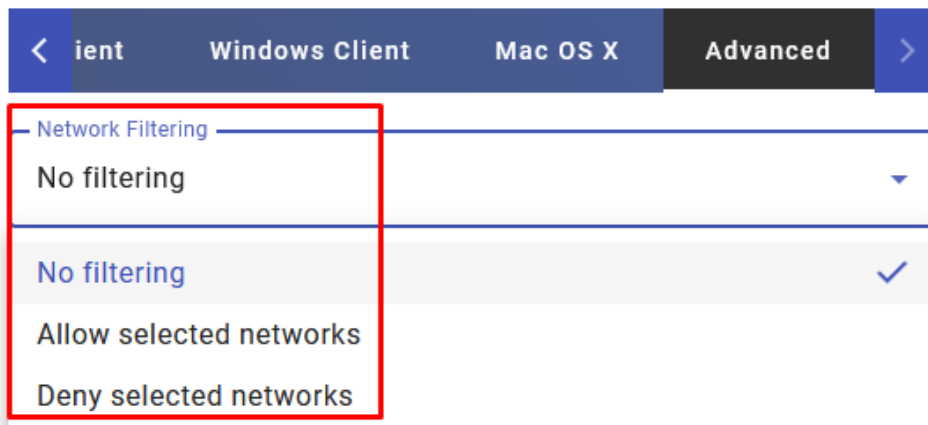
o   Select the network (or networks) on which the chosen action applies:
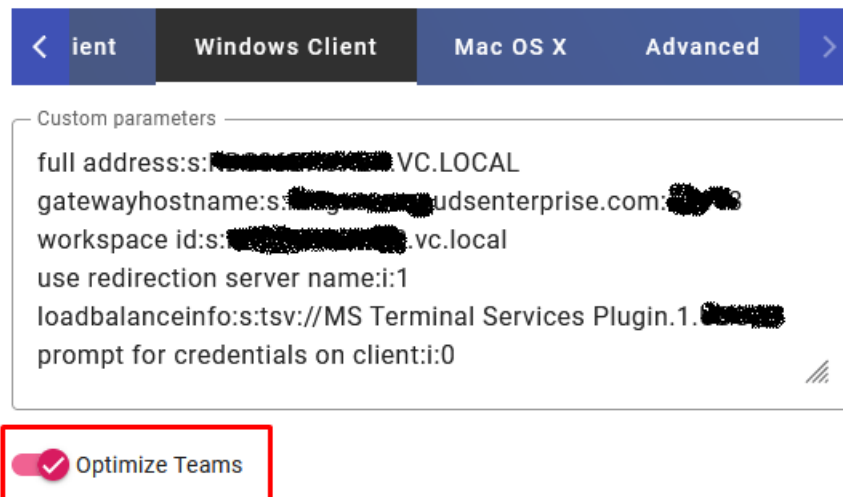
New Transport

- On the Direct **RDP** transport will be allowed to use **optimization** for **Teams** conferencing software. This optimization will also require certain more advanced configurations to be able to use it (customized parameters in the transport, specific RDP client in the user's connection client as well as allowing the redirection of audio devices, etc...).
- Using this optimization, we'll ensure that the Teams software works in environments and situations where other protocols aren't.

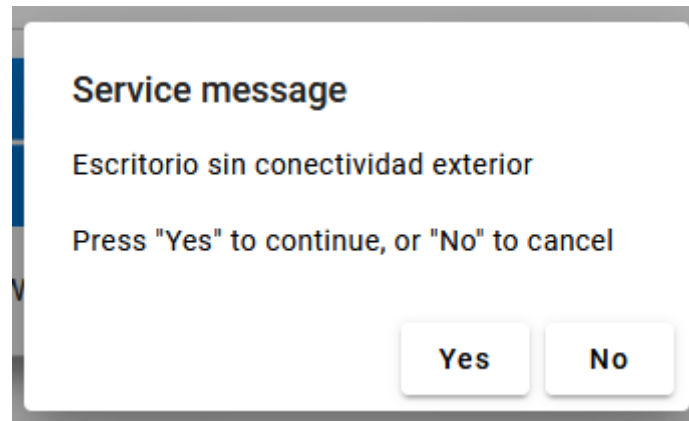**Edit Transport**
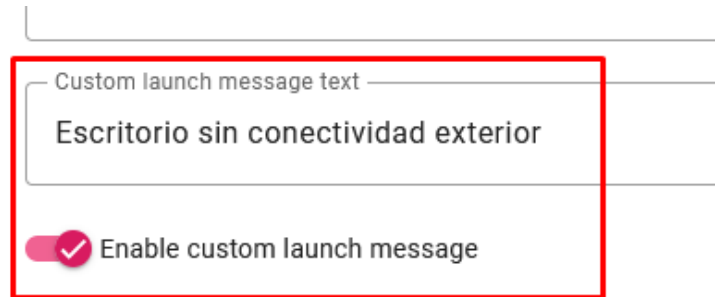
SERVICE POOLS

In "Service Pools", in the "Display" section, it will be possible to enable a message just at the time of the launch of the service itself, giving the user the possibility to read and accept the message to continue or to deny it and cut off its launch. We will have to enable the option "Enable custom launch message" and indicate a text:

META POOLS

In the "Meta pools" functionality, which allows you to join different service pools from different providers and make them work as one, the high availability policy has been added, through which the system automatically detects when one of the service pools that make up the meta pool is down. Once the system detects this drop, it automatically launches the services of the next pool based on the previously established balancing policies.

This HA policy added to meta pools offers more flexibility and above all further automates the operation of this element.
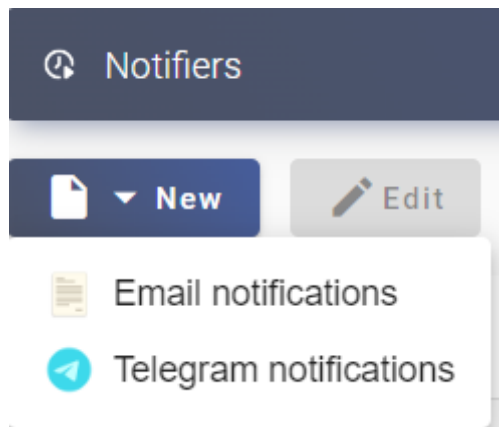
TOOLS

Notifiers

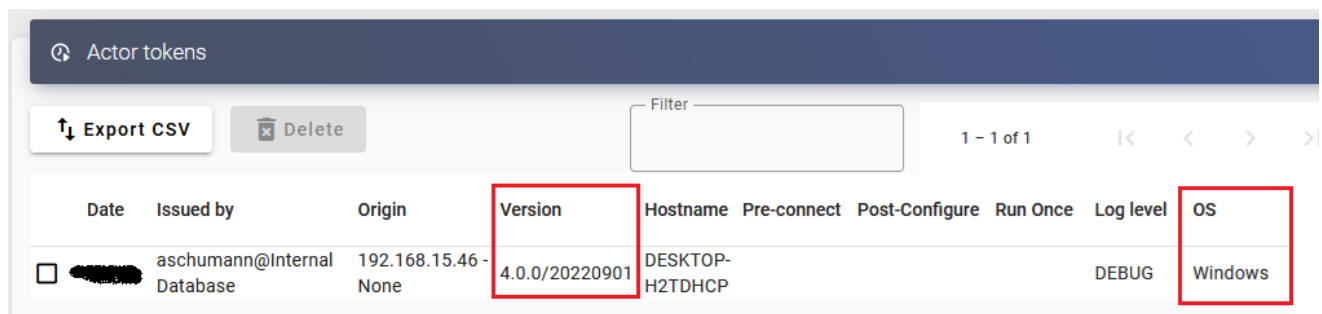A new element has been added: "Notifiers", which will allow us to send system errors through an external system such as a mail server or a Telegram channel.
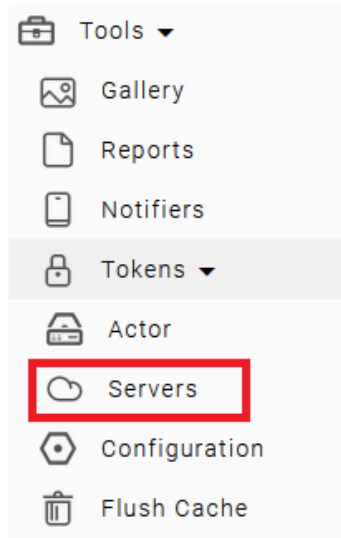

Tokens

▪ In the actor tokens registered in the system, very useful information for administrators is added, such as the exact version of the installed actor (from actor 4.0 onwards) and the type of OS that the machine that registers that actor has.

- A new element is added in "Tokens", called "Servers" that replaces the "Tunnel" element of previous versions:

In this new element you will be able to see the tunnel servers registered in the broker and also the new "server agent" (UDSRDSServer) for RDS servers.

Configuration

In the configuration section, multiple new options have been added in order to provide the environment with better and more efficient operation, among them are:

- Allowed IP Forwards in the "Security" section, which will allow us to register the IP addresses of the servers that will be allowed to send the x-forwarder-for headers (e.g. load balancers)
- **Enable Enhanced Security** in the "Security" section, although it is not new and already existed in the previous version, it has been completely modified. Check that the request made in a session to the environment is always made from the same IP, if in the middle of the request or navigation of the session the IP is modified, access is prohibited as possible security risk is considered.

UDS ENTERPRISE, THE SOFTWARE VDI OF VIRTUAL CABLE

About UDS Enterprise

UDS Enterprise is a new software concept for creating a **fully customized virtualization** platform **for the workplace**. It provides **secure 24x7 access** from **any location and device** to all applications and software of an organization or educational center.

It allows you to combine Windows and Linux **desktop and application virtualization** in a single console, as well **as remote access** to Windows, Linux and macOS computers. Its Open Source base guarantees **compatibility with any third-party technology**. It can be deployed on premise, in a public, private, hybrid or **multicloud**. You can even combine several environments at the same time and perform automatic and **intelligent overflows** to optimize performance and efficiency. All with a **single subscription**.

About Virtual Cable

Virtual Cable is a company specialized in the digital **transformation of the workplace**. The company develops, supports and markets UDS Enterprise. It has recently been recognized as an **IDC Innovator in Virtual Client Computing** worldwide. Its team of experts has designed digital **workplace solutions** (**VDI, vApp and remote access to physical computers**) tailored to each sector to provide a unique user experience fully adapted to the needs of each user profile. Virtual Cable professionals have **more than 30 years** of experience in IT and software development and more than 15 years in virtualization technologies. **Everyday millions of Windows and Linux virtual desktops** are deployed with UDS Enterprise around the world.