



# Release Notes

## Version 8.2.7

Build 16232 (Released August 20<sup>th</sup>, 2020)

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# New Features

## Remote Access Support

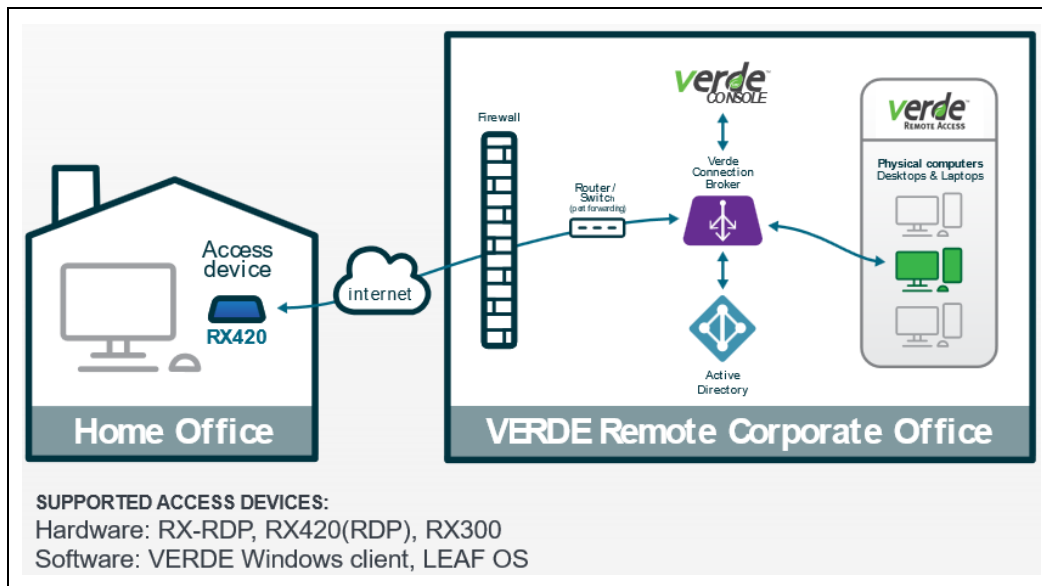
*Note: The latest VERDE Software Client for Windows is required to support this new feature.*

- Included in NComputing's VERDE VDI product
- Enables access to business PCs for remote users
- Compatible with NComputing's LEAF OS (BYOD, repurpose PC/laptop) and RX-series thin clients
- End-to-end fully encrypted data transmission
- Business PCs protected behind VERDE Remote Access Connection Broker
- Affordable licensing options (SKU: VERDE-WFH-1A-10)
- Easy to deploy Virtual Appliance (OVA and VHD)
- Intuitive web-based management tool for control and monitoring
- Provides protection from malware, virus attacks, data leakage and unauthorized access

All data communication between the client and the PC is securely processed through the VERDE Connection Broker. The PCs are never exposed to the Internet.

For more details please review [NComputing VERDE Remote Access Overview](#).

Typical deployment:



New Session Settings Remote Access Type:

Default\_RA

Name: Default\_RA

Description:

Type: Remote Access

SECURITY

PROTOCOL

USB

ACTIVE DIRECTORY

SETTINGS

Clipboard \* | Allow All (user PC <> VM )

VALUE

\* These features apply only to VERDE Windows Software Client and Windows OS-based Guest Sessions

EDIT

CLOSE

New Desktop Policy Type to support Remote Access:

+ Add Rule

\*User/Group

demo

Precede group names with "%".

Assignment Type

☐ Gold Image ☐ Desktop Pool ☒ Remote Access

Settings

Default\_RA

\*PC IP Address

10.0.1.7

\*PC Description

Accounting PC

PC Domain Name

corpADAPC

(optional)

\*indicates required field

SAVE

CANCEL

Remote PC Desktops appear in VERDE client along with VDI desktops:

The screenshot shows the VERDE Client application window. At the top, there's a menu bar with 'File' and 'Action'. Below it is the 'verde' logo and the text 'Select Desktop to Connect:'. A dropdown menu shows 'win10' selected, and a list of options is displayed below it, with 'Accounting PC' highlighted. A red arrow points to the 'Accounting PC' option. Below the list, there's a 'User Experience (Connection Speed):' slider. At the bottom, there are radio buttons for 'Modem', 'WAN', 'Broadband', and 'LAN'. There are also checkboxes for 'Fullscreen Mode' and 'Dual Monitor Mode'. A 'Preferred Protocol' section has radio buttons for 'RDP', 'SPICE', and 'UXP'. A 'Connect to Desktop' button is at the bottom.

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IT Admin can monitor Remote Access sessions and, if necessary, disconnect (ABORT) the connection:

The screenshot shows the VERDE Console interface. The top navigation bar includes 'Dashboard', 'Configuration', and 'Reporting'. The 'Reporting' tab is active, displaying the 'Live Sessions' page. A sidebar on the left contains links for 'SYSTEM', 'USERS', 'REPORTING', and 'ADMINISTRATION'. The main content area features a 'Live Sessions' table with columns: Desktop Started, Server, Desktop, RUI, SPI, User, Computer Name, IP Address, Protocol, Session ty., and Status. Two sessions are listed, both with a status of 'CONNECTED'. The first session is for 'Accounting PC (glo...' and the second is for 'win10 (global)'. A red box highlights the 'win10 (global)' session.

Desktop Started	Server	Desktop	RUI	SPI	User	Computer Name	IP Address	Protocol	Session ty.	Status
<input type="checkbox"/>	7/20/2020 3:20:36 PM	10.0.1.4	Accounting PC (glo...	Q	Q	Accounting PC	104.210.60.63	RDP	REMOTE	CONNECTED
<input type="checkbox"/>	7/20/2020 3:18:10 PM	10.0.1.4	win10 (global)	104	82	VEI-VDI-0004	192.168.84.1	RDP	VDI	CONNECTED (DISPLAY ATTACHED, VM RUNNING)

## Extended Clipboard Control

Fully control clipboard functionality for VDI and Remote Access connections.

The screenshot shows the 'Security' settings page in the VERDE Console. The 'SECURITY' tab is selected, and the 'Clipboard' setting is highlighted with a red box. The 'Clipboard' setting has four radio button options: 'User PC environment > VM environment', 'VM environment > User PC environment', 'Allow All (user PC <> VM )', and 'Disable'. The 'Allow All' option is selected. Other settings visible include 'Printing' (checked), 'File sharing' (checked), 'Hide client connection bar' (unchecked), and 'VDI Watermark' (checked with the text 'NGI Confidential').

**SETTINGS**

Printing ☒

File sharing ☒

Clipboard \*

Hide client connection bar ☐

VDI Watermark ☒ NGI Confidential

**VALUE**

☐ User PC environment > VM environment

☐ VM environment > User PC environment

☒ Allow All (user PC <> VM )

☐ Disable

\* These features apply only to VERDE Windows Software Client and Windows OS-based Guest Sessions

## VDI Session Watermark

The Security tab of the Session Settings now includes a VDI Watermark option.

Click the checkbox to enable the VDI Watermark for guest sessions using the Session Settings object. Optionally, custom text (e.g., NGI Confidential) can be added which will be displayed in the Watermark.

The intention is to discourage data leakage from user's taking screenshots of the content hosted in the guest session.

Create new Session Settings Object

\*Name:

Description:

Type:

☒ VDI ☐ Remote Access

SYSTEM

NETWORK

SECURITY

PROTOCOL

USB

ACTIVE DIRECTORY

ADVANCED

RESOURCES

SETTINGS

VALUE

Printing

☒

File sharing

☒

Clipboard \*

☐ User PC environment > VM environment

☐ VM environment > User PC environment

☒ Allow All (user PC <> VM )

☐ Disable

Hide client connection bar

☐

VDI Watermark

☐

Enter custom text

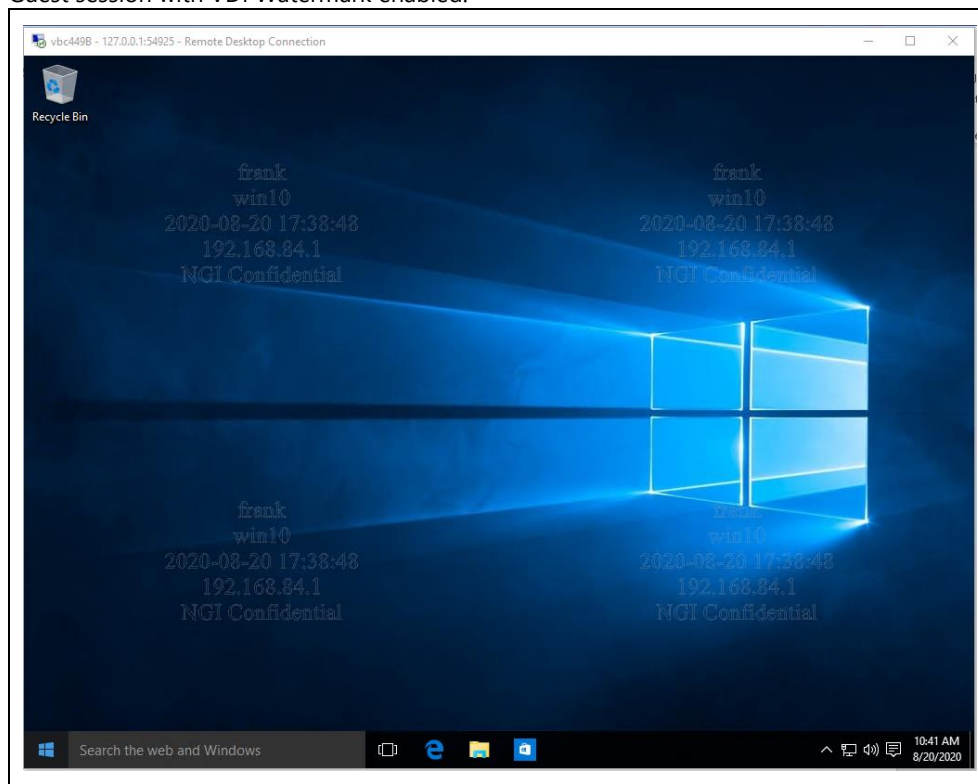
\* These features apply only to VERDE Windows Software Client and Windows OS-based Guest Sessions

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Guest session with VDI Watermark enabled:



The text displayed in the Watermark:

- Username (e.g., frank)
- Server date/time the guest session was launched (e.g., 2020-08-20 17:38:48)
- IP address of the guest session (e.g., 192.168.84.1)
- Optional custom text (e.g., NGI Confidential)

## OVA and VHD Virtual Appliance

In addition to RPM and VERDEOS (ISO), VERDE now provides OVA (VMWare, VirtualBox) and VHD (Hyper-V) Virtual Appliances.

This Virtual Appliance contains the complete VERDE system. This includes an express setup for rapid deployment.

However, it is not recommended to use the Virtual Appliance to host VDI sessions.

The primary use case for the Virtual Appliance is to streamline the installation to support Remote Access functionality.

## UXP Protocol No Longer Supported for VDI Guest Sessions

Use of UXP protocol to connect to VDI guest sessions is no longer supported.

However, UXP can be used when connecting to a Remote Desktop PC if vSpace Pro has been installed on the target PC.



## Stability, Security and Performance Improvements

Significant optimizations and improvements applied to:

- Cluster Master/Connection Broker
- Cluster Master Failover – Licensing and Registration Improvements
- CacheIO Progress UI
- Restrict Admin Login to Management Console to single session
- VDI Server Communication to Cluster Master/Connection Broker
- Active Directory Integration
- DHCP Integration
- Improved Schedule Launch
  - Implemented filtering and improved navigation for large Active Directory trees

# Resolved Issues and Minor Enhancements

VER-2195	Add VDI Watermark Option
VER-2351	Improve build time of the Windows tools
VER-2367	Add naming difference in for the CentOS6 and CentOS7
VER-2399	Remote access to the physical desktops
VER-2420	Gold image session launch fails with error: "Please wait for approximately 10 minutes before relaunching the desktop when Cache I/O is enabled."
VER-2426	Update copyright for VERDEOS and Management Console
VER-2462	Provide updated VERDE client to support Remote Access to Justin Song for Korea-version S/W Client
VER-2472	Simplification of VERDE Configuration for Virtual Appliance
VER-2480	Empty disk VERDE with verde-guest-tools in Linux systems
VER-2481	Restoring Desktop Policy Causes Error in Desktop Policy UI
VER-2482	Adding Gold Image to Desktop Policy causes authentication error for remote access definitions.
VER-2492	Licensing Support for VERDE Remote Access Connections
VER-2494	Remove UXP from Guest Tools
VER-2495	VERDE initial configuration page - copyright year and link to EULA
VER-2496	RDP: Copy paste do not work if clipboard is set to User PC environment > VM environment or VM environment > User PC environment.
VER-2501	Enhancement to Dashboard - Node Operations to show Remote Access license usage
VER-2502	Enhancement to Dashbord - Check Live Sessions - add Remote Access section
VER-2506	Incorrect display of content in PDF file compiled reports
VER-2514	Bug at removing the RA desktop policies
VER-2517	Create Default Remote Access Session Setting
VER-2519	Do not show Remote Access "Desktops" in HTML (UC5) user interface
VER-2520	Change Icon of VERDE S/W Client App
VER-2522	Remote Access - Enhancement to handle Domain Name in Remote PC
VER-2530	Invalid date format in Cache IO
VER-2545	RDP dual monitor mode bug fix
VER-2546	Cache IO timestamp overflow
VER-2547	Long loading time at checking TrustRelationship.
VER-2548	Incorrect display of information in Cache IO Status
VER-2549	Not need to cached type Remote Access for Cache IO Status
VER-2553	Add text to session settings clipboard options
VER-2554	RA Session Setting Type should not be available when created Gold Image
VER-2556	Add check for forbidden symbols for the RA fields
VER-2557	Types licenses to be displayed in Comprehensive Dashboard
VER-2558	Update liceses after return operation
VER-2559	UI fix for window in VDI Server Utilization and list in Audit Events
VER-2561	Add support to transfer logs to multiply servers
VER-2562	Add IP address of the guest image for the Login Logout operations
VER-2564	VER-2563 Enhance Session Settings for Remote Access to Include the Enhanced Clipboard Control Options
VER-2565	No notification of not working functions Live Sessions for Remote Access
VER-2567	Critical Error Message in Windows 10 2004 (20H1) at clicked Start menu
VER-2568	Dashboard: Resource Utilization: Utilization data does not get updated.
VER-2569	Redeem License Key Popup does not close automatically
VER-2571	Live Sessions - Disable Irrelevant Buttons when selecting Live Session
VER-2572	VER-2492 Remote Access Sessions Not Using VDI Licenses
VER-2574	vCAST not available in gold image session during online/offline media playback.

VER-2577	Dashboard - License Status not updating when removing licenses
VER-2578	New Dashboard Label - should be "Dashboard"
VER-2579	Dashboard License Usage Status - Does not consider Remote Access Sessions
VER-2580	Removing all licenses freezes Management Console
VER-2586	Live Session Reporting UI - Remote Access - Change Status to CONNECTED
VER-2587	Default Remote Access Session Settings should have Spice protocol option disabled
VER-2588	Display correct error message when RA connection is declined because of a license issue
VER-2589	Reboot required after initial installation for licensing to work properly
VER-2593	Remote space character in Default RA session setting name
VER-2596	Become empty Deployment Modes in Desktop Policy at Update rule
VER-2601	Add/Edit Desktop Policy for Remote Access Type - IP Address and Description should be required fields
VER-2603	UXP Guest Tool Installation Performance
VER-2607	Base ad functional, dynamic mode for the AS users

# Limitations, Tips and Tricks

## Server time zone must be UTC for Scheduled Launch

Please set the time zone for your VERDE servers to UTC to ensure predictable results when using Scheduled Launch.

See [Scheduled Launch and UTC](#) KB article for further details.

## Upgrading VERDEOS Installations

You cannot use VERDEOS with CentOS 7.x as an upgrade to an existing VERDEOS with CentOS 6.x installation. You must use the RPM distribution to upgrade an existing VERDEOS with CentOS 6.x installation.

## Windows XP

Windows XP is no longer supported as a client or as a guest OS.

## Deprecated feature removed

The session setting “Store user document files outside user image. [DEPRECATED]” has been removed. Files can be added outside of the image by adding an additional drive to a shared storage area via a Group Policy mapping or to a web-based cloud connected drive.

## Windows 10 License Activation

When building a Gold Image based on Windows 10: You must login as mcadmin1 (before check-in), activate Windows and create local users. There is a significant difference between Windows 7 and Windows 10: Windows 10 uses scsi and virtio drivers in normal work mode, so if you activate Windows 10 before these drivers start to work then Windows sees significant hardware changes and requires activation again. Therefore, the proper sequence for Windows 10:

- Complete the Windows 10 installation
- Install all VERDE guest tools
- The Gold Image will automatically shut down after completion of guest tool installation
- Re-connect to the Gold Image using the admin user
- Enter the Windows license key to activate (add any local users at this time)
- Shut down the image
- Check-in

## Apply all Windows Updates before check-in

When building a Gold Image, it is good practice to be sure to apply all Windows Updates before completing the check-in process. If this is not complete, then there is a chance that normal users may see update requests when they connect to their sessions.

# Significant Known Issues

VER-1456	Schedule Launch should not allow me to choose RDP when selecting a Linux image
VER-1480	Make Import of static IP's and computer names (netcfg.csv) available to all Tenants.
VER-1524	Chrome Browser - Tenant/Org other than Global - accessing Administration/Users locks up the screen
VER-1726	Make "Schedule Launch" and "Desktop Pools" available to Branches
VER-1896	STATIC Deployment mode is not available for Master ORG gold images shared with Child Org.
VER-1899	Launching Desktop Pool gets terminated without any error on first attempt (Observed only with setup having MC+CM and VDI on different servers with shared Storage on NAS )
VER-1909	After changing deployment mode from Long to Normal - in AD User session - user installed apps are available and remain preserved across shutdown and starting session again.
VER-1914	UC5: Logging to Windows 10 sticks on "Preparing Desktop" or on black screen (Intermittent)
VER-1915	Desktop Pool shows status of sessions as AVAILABLE but no IP Address allotted. (Intermittent)
VER-1916	Scheduled Launch: Stop Time can be configured as time prior to Start time
VER-1920	Schedule Launch: Few sessions get in Reserved state and do not launch.
VER-1929	Setting up Windows 10 Guest - Initial Settings UI is repeated
VER-1931	Settings are not synchronized after editing in already created Gold Images
VER-1952	Single Sign on does not work for Windows 10 (64bit) gold image session when launched as local user with Spice Protocol.
VER-1968	Returns to the authorization form VERDE Client after shutting down the OS when connected by the user
VER-1977	Always mode "Dual Monitor Mode" for CentOS7
VER-1983	Numbering duplicates the number of the first entry in Desktop Policy
VER-2007	Cloned images should NOT be allowed to be assigned to the Branch server. Create a Warning
VER-2026	Value "Max Size for user image" is less than stated in the settings
VER-2081	Add functional to do force synchronization for Branches
VER-2082	Not change settings of the protocols in the client VERDE when switching the connection speed
VER-2096	Out of sync gold images data between client and console at update VerdeOS
VER-2099	Gateway IP address provided during network configuration does not get preserved.
VER-2106	Organizations-Custom files: Custom uploaded logo file does not get updated to Verde Client.
VER-2108	There is no possibility for reconfigure Video Card Pass Through settings during cloning image
VER-2111	Session roaming: Spice Session window does not get closed if the same user connects the same gold image session with RDP protocol.
VER-2115	Single sign on fails when connecting to a disconnected session on RDP protocol with Spice protocol as same user.
VER-2116	A local user which has no desktop policy assigned gets connected to Ubuntu 18.04 session as soon as logging in to the Verde VDI Client.
VER-2119	Single sign on doesn't work with Ubuntu 18.04 and 16.04 gold image session.
VER-2124	Desktop pool: Windows 10 64bit Gold image session with Spice protocol gets launched with dual windows. Pre-requisites: gold image created, desktop pool created and assigned to a user/group.
VER-2126	Session Settings - Network - Limit Virtual Network Bandwidth: Limiting network bandwidth doesn't apply to the session.
VER-2128	SSO does not work when connecting a gold image session from Verde Linux Client using RDP protocol.
VER-2135	Scheduled launch: Same IP address gets assigned to gold image sessions.
VER-2136	Intermittent: Desktop Pool: Sessions launched with RDP protocol gets disconnected after some time with attached error.
VER-2137	Windows server 2016 gold image creation fails with error as attached screenshot.
VER-2139	Session launching fails if NAT or Bridge network mode is configured in child/tenant org.
VER-2143	Data Sync between DataCenter and Branch Server doesn't work.
VER-2148	Can select more than one "Logical Interfaces" in Organizations
VER-2151	Can delete/add gold images in the Scheduled Launch after deleting the rules

VER-2161	No user/group "All Users" in Desktop Policy after first install VerdeOS
VER-2162	Support Scheduled Launch on a BRANCH
VER-2164	Audio controller is not passed automatically while using GPU passthrough
VER-2187	Markup fields remain in the MAC Addresses table after Revoke
VER-2205	Inaccessible checkbox Dual Monitor mode in VERDE Client Linux after first launch desktop
VER-2210	Add all users from groups that are assigned to the Desktop Policy for the Scheduled Launch
VER-2214	Possible to move the menu bar VERDE client on Linux OS
VER-2236	Spice: Session launches in single screen even if dual monitor mode is selected while loading session. Ubuntu 1404, 1604 and 1804
VER-2237	Spice toolbar should be located in the top middle of screen.
VER-2241	"Choose privacy settings for your device " screen appears once again even though the settings are configured while creating the gold image as mcadmin1.
VER-2242	CentOS 6.8 64bit: Display does not get stretched to full screen.
VER-2246	MAK Licensing issue with Windows OS
VER-2248	GPU support: No "Video Card Pass Through" option for Windows 7 Images
VER-2255	"We can't sign in to your account" error when launching Windows 10 LTSC gold image session.
VER-2258	Can set a password of less than 8 characters in the "Client" and "User Console" when changing the password
VER-2259	Cannot remove the role of the user after deleting the assigned image
VER-2260	new netcfg - when a new AD user is added, the existing AD users are displayed together with it
VER-2266	Cannot be entered in the value of 'Max Size for user image (GB)' in "System" tab on <Session Settings>
VER-2289	NetCfg: Incorrect IP Range validation.
VER-2290	NetCfg: Netmask filed should have proper validation check for valid netmask values
VER-2292	Default values are erased in LDAP / Advanced Settings when validation is triggered
VER-2307	Dual monitor mode in single monitor configuration should be disabled.
VER-2309	Status of Gateway Server appears OFFLINE after sometime while user can still login to VERDE Client using Gateway Server IP and access Gold Images.
VER-2310	Files are not transferred in any direction using SPICE protocol
VER-2335	Linux gold image names do not appear when logged in as a user who is assigned with help desk administrator or analyst role.
VER-2346	Desktop pool: Session gets launched with dual screens when launched as an AD user with Spice protocol.
VER-2353	macOSX Catalina (10.15.3): Unable to launch gold image session with RDP protocol.
VER-2364	Utilization values displayed on the BranchServer Utilization different on the Branch Server vs. the Central Server regarding the same Branch server.
VER-2373	Desktop Policy Configuration: Desktop Policy Backup gets automatically deleted on deleting/Removing an entire Desktop Policy.
VER-2376	Username disappears in Desktop Policy when the rule is added to the image again
VER-2385	Pre-Launch VM Execution: Launch VM button should be visible if user scrolls down the list.
VER-2387	Verde upgrade: Session settings - Clipboard should remain disabled if disabled in previous version of VERDE.
VER-2391	SSO doesn't work for Spice connect through PRE-Launch
VER-2416	VERDE/VERDEOS 8.2.x If using VLAN, HTML5 cannot bring up guest images
VER-2418	Can start VM's unpublished images after copying / cloning
VER-2421	Displayed old and new license data is when the page is prematurely refreshed
VER-2424	Local user gets signed in with a temporary profile in Windows 10 (64bit) gold image session.
VER-2428	Incorrect error text in Manage ISOs when importing a large iso
VER-2429	Active button "Launch VM" in VM execution when not selected VM
VER-2432	Cursor changes to click action in Cache I/O Status for column headings
VER-2434	Add checkbox to select all in VM execution
VER-2435	Add column name "Status" in VM execution
VER-2439	Not getting messages to VM those launched by a non-global organization
VER-2467	Missing selection list Area in Scheduled Launch while editing

VER-2470	Duplication of user folders when in the name is uppercase
VER-2473	Keep assigned Group Membership at Users even when deleting group if the name contains special characters
VER-2474	An error has occurred at save new User when assigned group the name contains special characters
VER-2476	Fix RDP Security Settings Problem between Client and Server
VER-2477	Not see the image for the first installation in VERDE client when used by an administrator other than mcadmin1
VER-2480	Empty disk VERDE with verde-guest-tools in Linux systems
VER-2491	Add support for Windows Server 2019 as Guest OS
VER-2496	RDP: Copy paste do not work if clipboard is set to User PC environment > VM environment or VM environment > User PC environment.
VER-2499	Fix to resolve changing IP address after installation of RPMs. This results in a SERVER 500 error
VER-2506	Incorrect display of content in PDF file compiled reports
VER-2510	The userid input field is case sensitive. This should be compliant with Microsoft's userid input field.

*End of document*