

MANUAL

# VisuNet RM Shell 4.0 - DRDC License



With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

<b>1</b>	<b>VisuNet RM Shell - Emerson DeltaV Remote Desktop Connection (DRDC) Client Option .....</b>	<b>4</b>
<b>2</b>	<b>VisuNet RM Shell 4.0 User Interface .....</b>	<b>5</b>
<b>3</b>	<b>System Settings App .....</b>	<b>8</b>
<b>3.1</b>	<b>General Settings - License Key .....</b>	<b>9</b>
<b>3.2</b>	<b>Emerson DRDC Settings .....</b>	<b>9</b>
<b>3.2.1</b>	<b>Emerson DRDC Network Redundancy Setup .....</b>	<b>9</b>
<b>3.2.2</b>	<b>Emerson DRDC Network Time Protocol (NTP) .....</b>	<b>11</b>
<b>4</b>	<b>Profiles Management .....</b>	<b>13</b>
<b>4.1</b>	<b>Emerson DRDC Settings .....</b>	<b>14</b>
<b>5</b>	<b>Appendix A - Emerson Software License Agreement .....</b>	<b>16</b>

## 1 VisuNet RM Shell - Emerson DeltaV Remote Desktop Connection (DRDC) Client Option

VisuNet Remote Monitors (RM) are industrial-grade thin client workstations that allow you to connect to your process control system. With the integrated Emerson DRDC client, the RM Shell 4.0 enables you to directly connect to virtualized Emerson DeltaV 12 (and above) DCS systems (see figure 1). With the integrated DRDC client, there is no need to use an additional thin client in the safe area (e.g., control room) to connect to the DCS.



### **Note!**

The DRDC client is only required for connecting to a virtualized operator or engineering workstation within the DeltaV virtualization architecture. If you use a conventional, non-virtualized architecture, you can use the Microsoft RDP client for connecting to a DeltaV operator or engineering workstation.

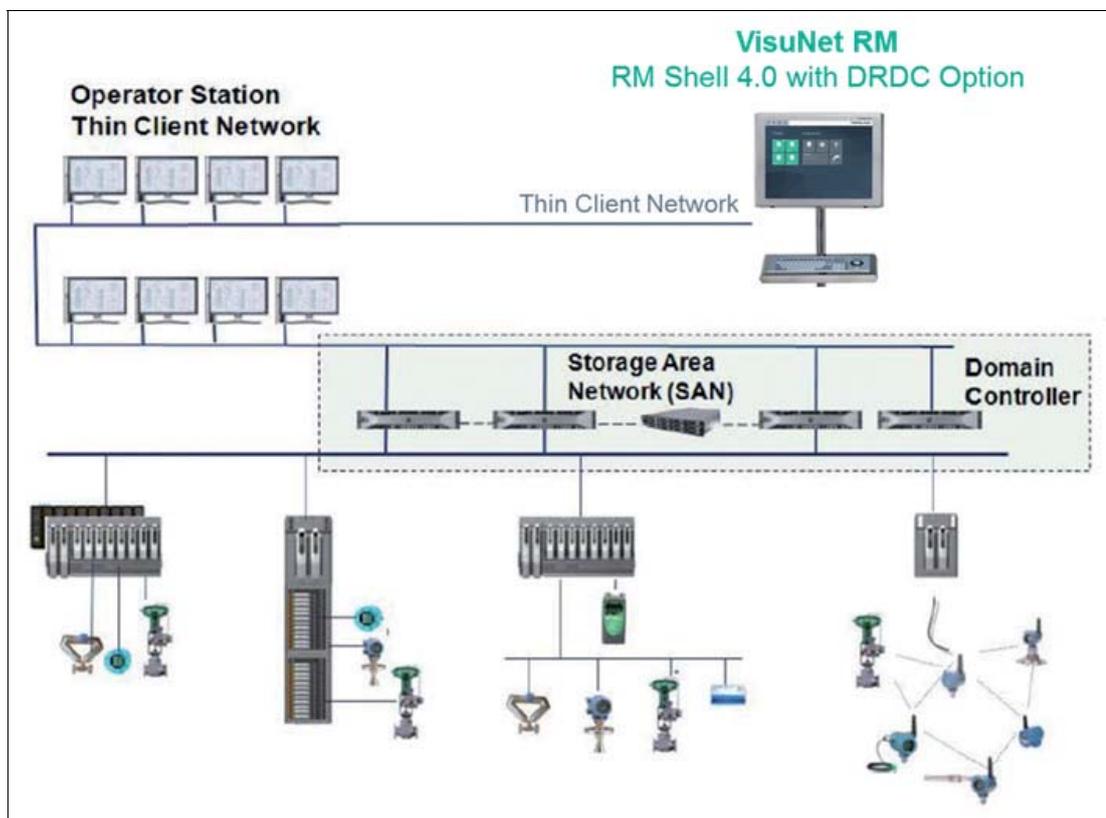


Figure 1.1 VisuNet RM with Emerson DeltaV Remote Desktop Client (DRDC) option

### **How to set up the VisuNet RM Shell to use the Emerson DeltaV Remote Desktop Connection (DRDC)**

1. Activate the DRDC license key, see chapter 3.1
2. Configure the DRDC settings
  - Network Redundancy, see chapter 3.2.1
  - NTP Service, see chapter 3.2.2
3. Create an Emerson DRDC profile, see chapter 4

## 2 VisuNet RM Shell 4.0 User Interface

### Home Screen

The home screen is divided in 3 sections:

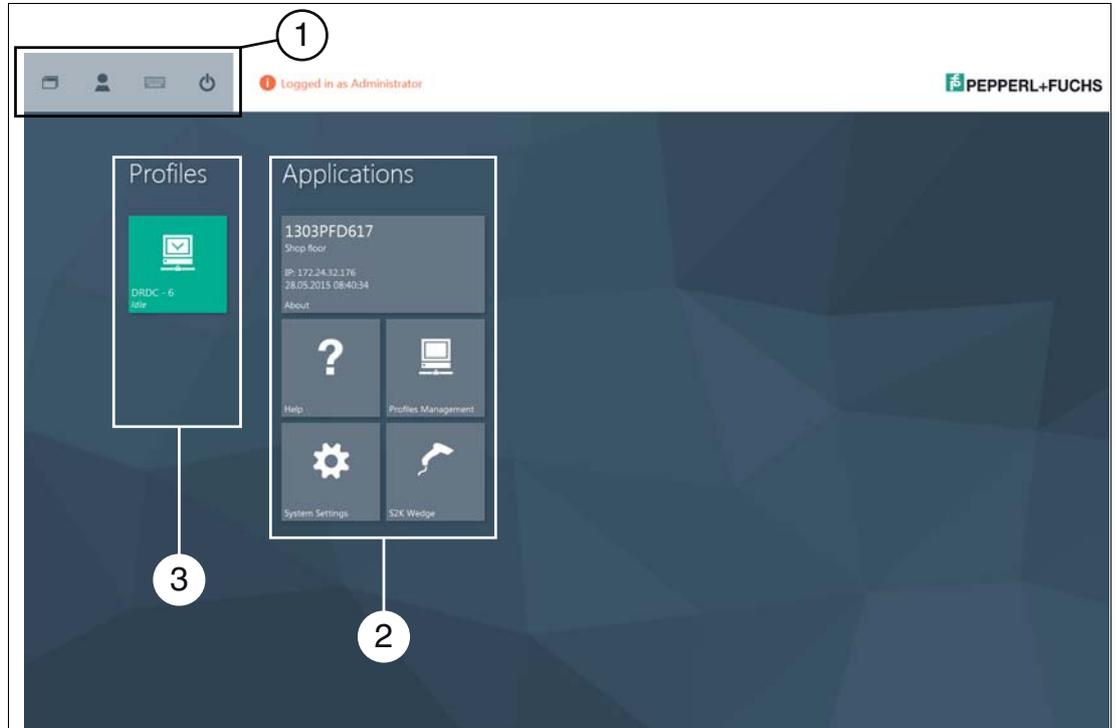


Figure 2.1 VisuNet RM Shell home screen

1	System functions
2	Applications
3	Profiles

### System Functions

Icon	Description
	Switch between local running programs and profiles.
	Switch user role Choose between Operator, Engineer, or Administrator.
	Touchscreen keyboard Shows the touchscreen keyboard on the screen.
	Preconfigured power options such as: <ul style="list-style-type: none"> <li>■ Restart</li> <li>■ Shutdown</li> <li>■ Power off display</li> </ul> The power options can be set up by the user roles Engineer and Administrator. For the user role Operator, it is only allowed to run the preconfigured options.

## Applications

The Applications section shows all applications. Depending on the signed-in user role, the view varies:

User Role	Description
Operator	Access to profiles (if not limited by a preconfigured auto connect). No access to "System Settings" and "Applications".
Engineer	Access to profiles, system settings, and applications (create, edit and delete profiles)
Administrator	Full access to profiles and all applications, full access to advanced settings

## Profiles

The Profiles section shows all profiles that have been locally created. Every profile has its own profile tile with information on profile type (e.g., "RDP", "VNC"), profile name (e.g., "RDP - 2") and connecting status (e.g., "connected", "disconnected").

Besides the Emerson DRDC profiles, there are several other standard profile types (RDP, VNC). Please refer to the "VisuNet RM Shell 4.0 Manual" on [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

Emerson DRDC	
--------------	--

You find the profile status information in the bottom left corner of each profile tile:

Status	Description	
Idle	Initial status after a profile has been created.	
Disconnected	Profile is not connected to a host.	
Connected	Profile is connected to a host PC. A green status bar at the top of the profile tile is visible.	

280138 2015-11

Status	Description	
Connection failed	While trying to establish a connection, an error occurred.	 <p>RDP - 2 Connection Failed</p>
Auto connect	If an auto connect is enabled, a defined profile connects automatically to a host. The seconds remaining before the next connection retry are counted down in the top right corner of the profile tile. Simultaneously, an animated white status bar at the top of the profile tile is visible.	 <p>RDP - 2 Disconnected</p>

### 3 System Settings App

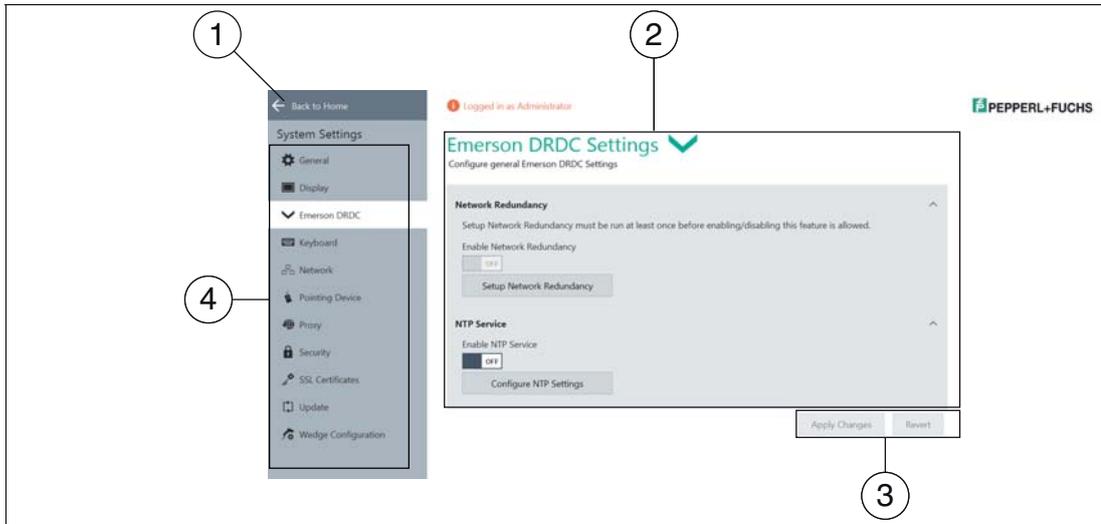


Figure 3.1 Components of the system settings app screen

1	Navigate back to home screen
2	Main page / content page
3	<ul style="list-style-type: none"> <li>■ <b>Apply changes:</b> Save changes</li> <li>■ <b>Revert:</b> Cancel changes</li> <li>■ <b>Advanced:</b> Only visible for Administrator role. This button opens additional Windows®-specific dialog boxes for settings that are not included in the RM Shell but may be interesting for administrators.</li> </ul>
4	Navigation bar with all submenus



#### Entering System Settings



To enter the system settings, click on the system settings app on the home screen.

Specify your RM settings by using this app. By entering the system settings app, you always start with the general submenu. Besides the "Emerson DRDC" submenu, there are several other submenus. For more information on the other submenus, refer to the "VisuNet RM Shell 4.0 user manual" on [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

### 3.1 General Settings - License Key

For more information on all submenus in the "System Settings" app, refer to the "VisuNet RM Shell 4.0 user manual" on [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).



#### Activating Emerson DRDC License Key

1. Start the RM Shell by logging in as "Administrator".
2. On the home screen, start the "System Settings" app.
3. In the "General" submenu, scroll down to the "License Information" section.
4. In the "License Key 1" or "License Key 2" field, type in a valid DRDC license key.

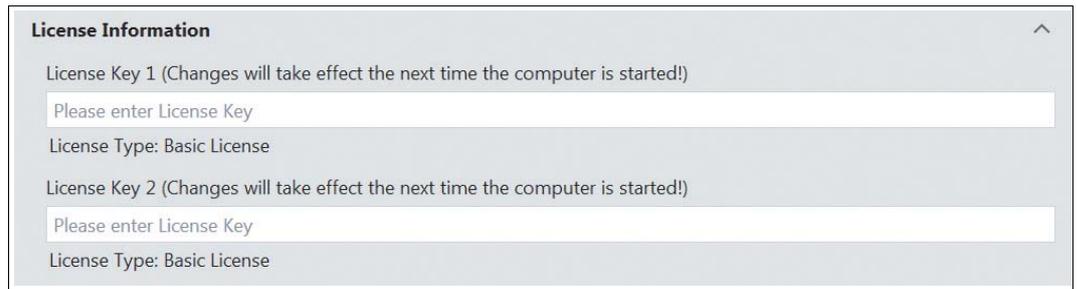


Figure 3.2 General settings - license information

5. Click "Apply changes".
6. To activate the DRDC license, restart your RM.

### 3.2 Emerson DRDC Settings

There are two main groups of Emerson DRDC settings:

- Network Redundancy: provides access to the Emerson Network Redundancy tool
- NTP Service: provides access to the Emerson NTP (Network Time Protocol) tool

#### 3.2.1 Emerson DRDC Network Redundancy Setup



**Note!**

When you open the "Emerson DRDC settings" for the first time, the "Enable Network Redundancy" toggle switch is greyed out. To activate this feature, set up network redundancy first.



**Note!**

The Network Redundancy feature only works when a user is connected to a virtualized DeltaV workstation via DRDC. The Network Redundancy feature must be enabled on the virtualized DeltaV workstation. Please refer to the relevant Emerson DeltaV documentation for details on how to configure network redundancy on a virtualized DeltaV workstation.



## Configuring Network Redundancy



**Note!**

In order to use the Emerson Network Redundancy tool, you must have each network adapter connected to a separate network subnet. You will receive an error if the network names are on the same subnet.

1. On the "Emerson DRDC" submenu in the System Settings App, click "Setup Network Redundancy".

↳ The "Network Redundancy Setup" dialog box opens.

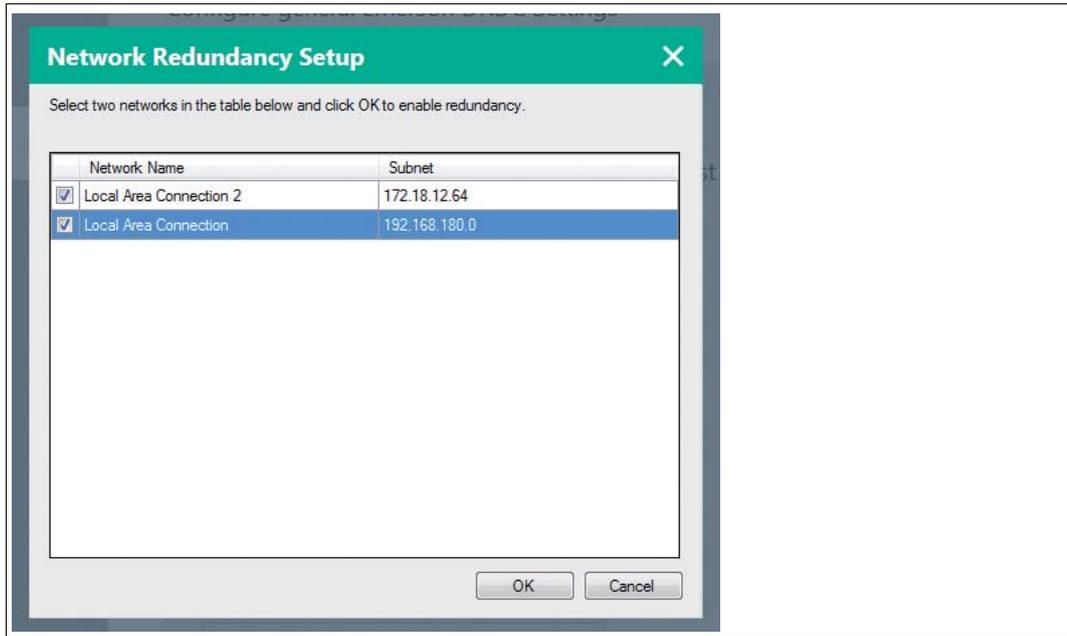


Figure 3.3 "Network Redundancy Setup" dialog box

2. Check the box next to each network name and click OK.

↳ The network redundancy setup is completed. You will return to the Emerson DRDC settings. The "Enable Network Redundancy" toggle switch is on.



**Note!**

To switch on/off the "Network Redundancy" feature, run the Network Redundancy Setup at least one time.

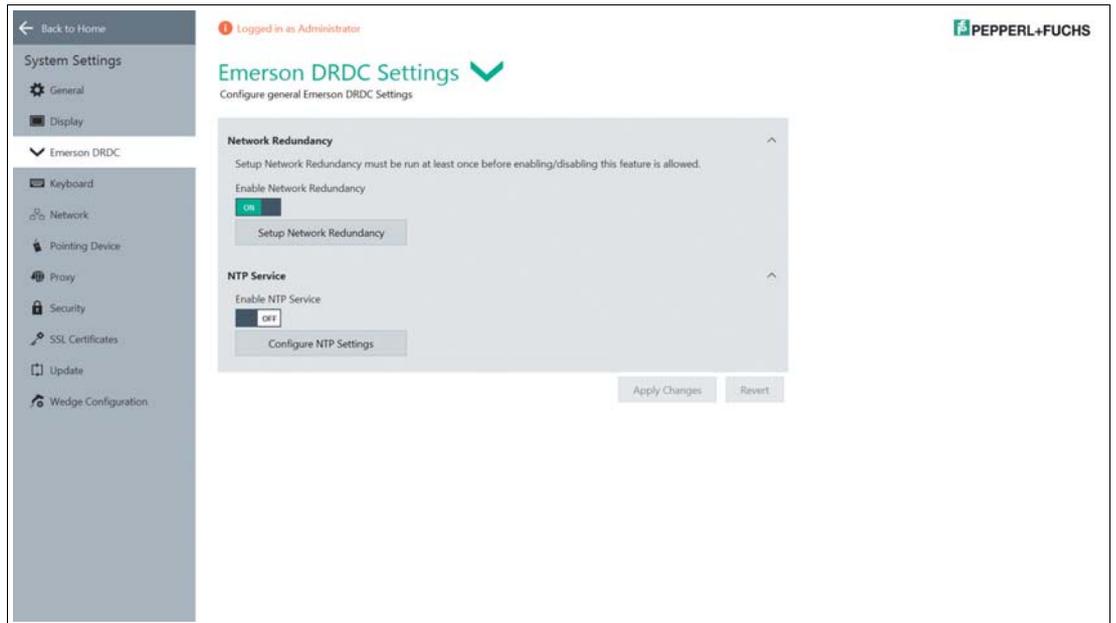


Figure 3.4 Emerson DRDC settings - network redundancy fully configured

### 3.2.2 Emerson DRDC Network Time Protocol (NTP)

#### Configuring NTP Settings



**Note!**

The standard role for a Pepperl+Fuchs VisuNet RM is "Thin Client Listener"; however, this setting should be configured as necessary to fit your specific system configuration.

1. On the "Emerson DRDC" submenu in the System Settings App, click "Configure NTP Settings".

↳ The "Configure NTP Settings" dialog box opens.

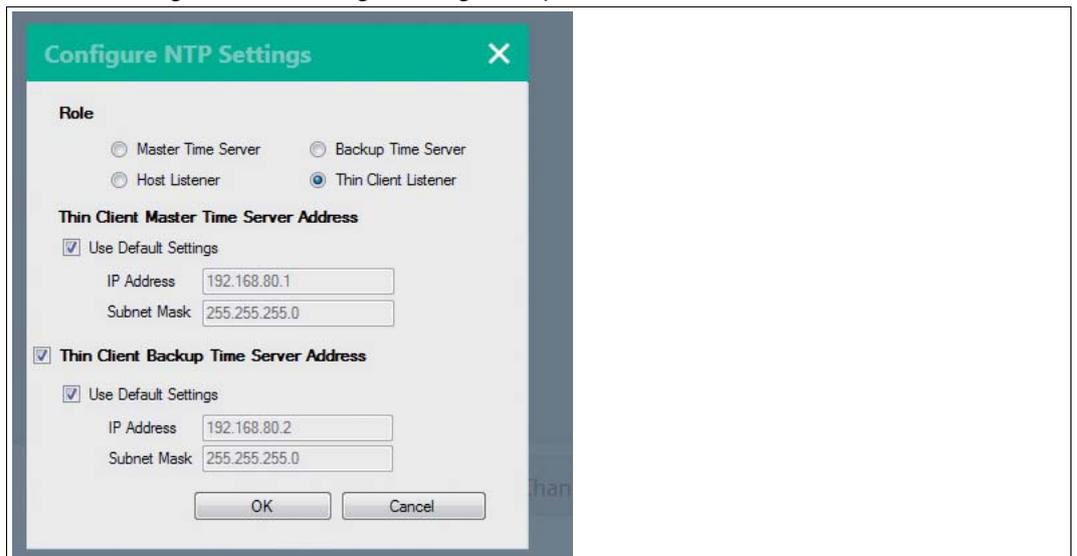


Figure 3.5 "Configure NTP Settings" dialog box

2. The standard role for a Pepperl+Fuchs VisuNet RM is "Thin Client Listener". We recommend to use the default settings.

3. After configuring the NTP settings, click OK.

↳ The "NTP Configuration Finished" dialog box opens.

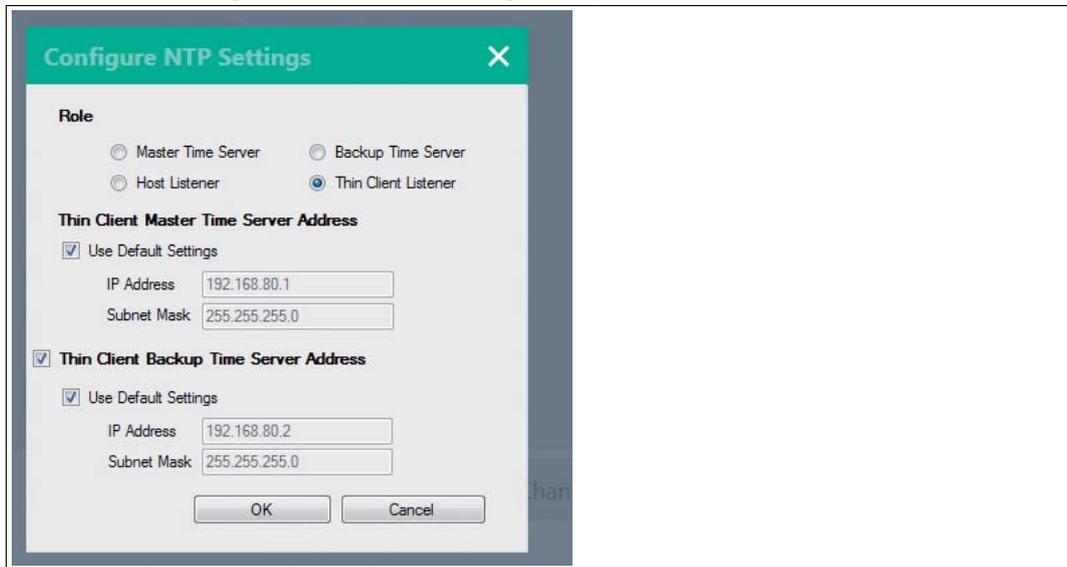


Figure 3.6 "NTP Configuration finished" dialog box

4. Click OK.

↳ After you have successfully set up the Emerson NTP settings, the "Enable NTP Service" toggle switch on the Emerson DRDC Settings page is toggled to ON.



**Note!**

Please note that in the current version of the "NTP settings" configuration editor, the settings can only be applied to the remote monitor. When you reopen the editor, the actual system settings are NOT displayed in the editor. Only the default values are shown.

## 4 Profiles Management

Create and manage the remote connection profiles with the Profiles Management App.

The RM initially comes without any created connection profiles. Therefore, the profiles list is empty when you start the RM Shell for the first time.

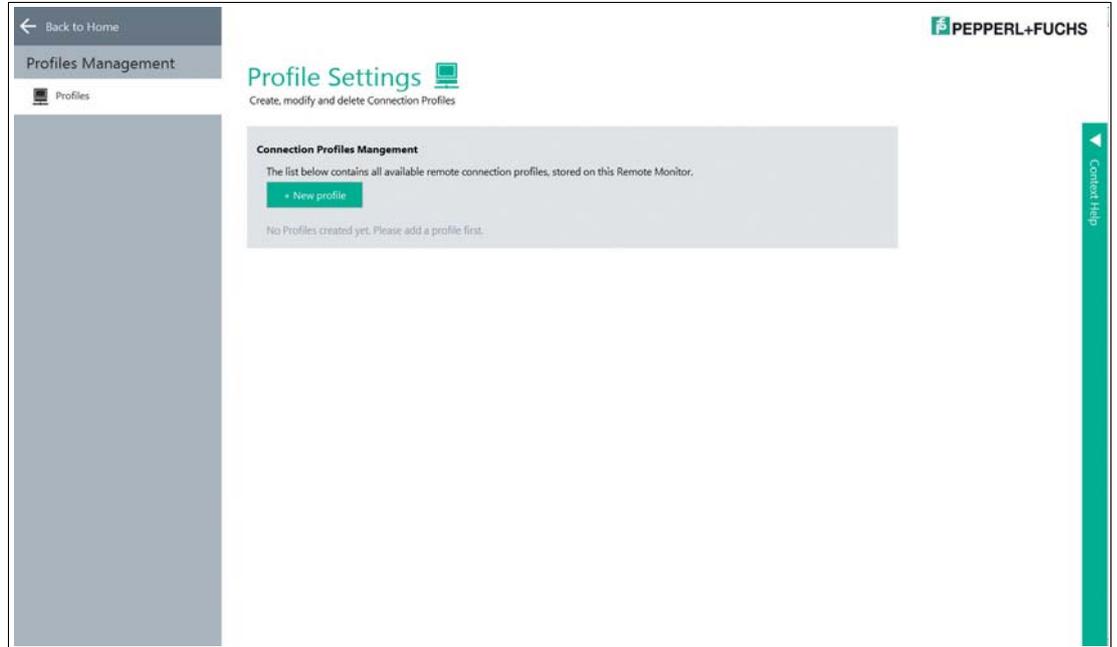


Figure 4.1 The profiles management home screen. Initially, the profiles list is empty.



### Creating a new Emerson DRDC Profile

1. To create a new Emerson DRDC profile, click .
2. Select Emerson DRDC and click OK.

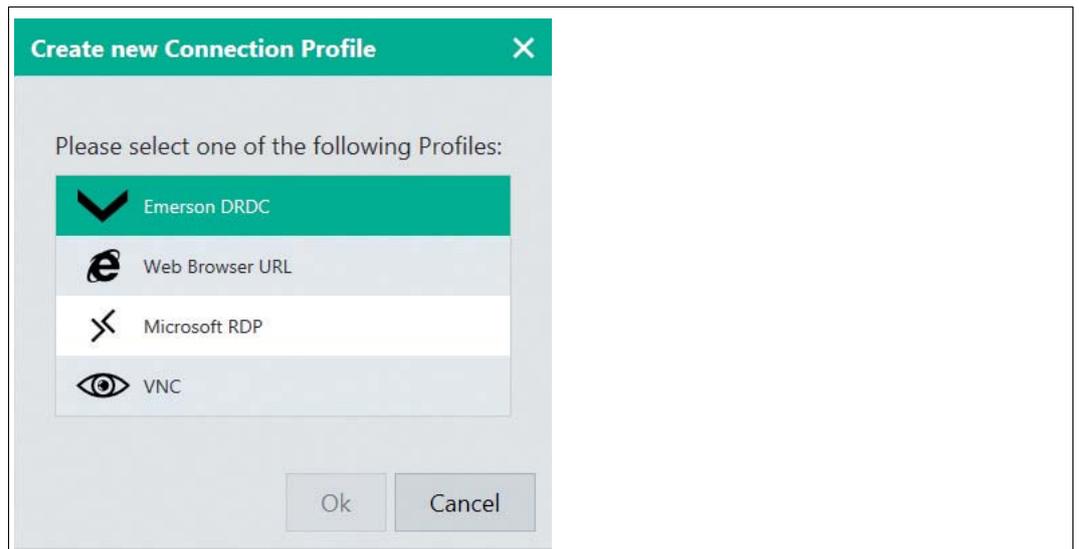


Figure 4.2 The "Create new Connections Profile" dialog box - web browser profiles are only available in the pro version.

↳ The Emerson DRDC profile has been created. The new profile's main settings open.

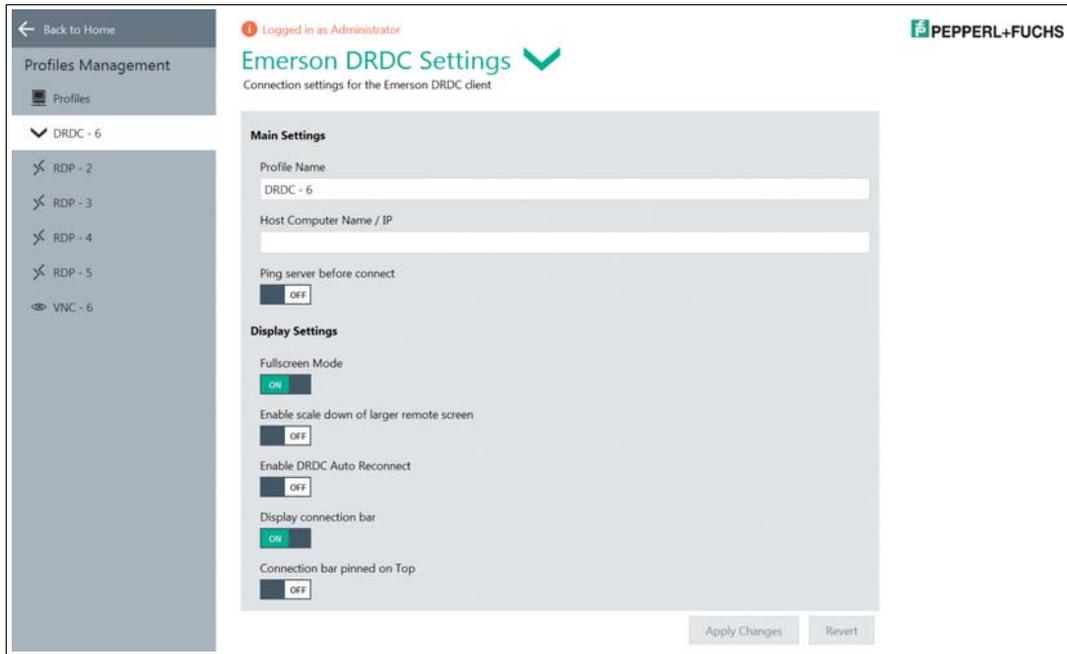


Figure 4.3 Main settings of a Emerson DRDC profile

### Editing the Profile Settings

1. Go to Profile Settings.
2. To edit the settings of a profile, double-click the requested profile entry in the profiles list or click  .
3. The settings vary according to the chosen connection type. After you have edited the settings, click  .

↳ The changes have been saved.

## 4.1 Emerson DRDC Settings

### Main Settings

Option	Description
Profile Name	Allows you to change the visible name of the selected profile.
Host Computer Name / IP	This can be the network name of the host or its IP address.
Ping server before connect	This option allows you to check if a host is available before a connection is established. If the host is not available, a configured backup connection is established.

**Display settings**

Option	Description
Fullscreen Mode	This option enables you to display the remote desktop in full size. If you want to set the remote desktop screen size manually, disable the option.
Enable scale down of larger remote screen	This option enables you to ensure that the entire remote desktop is shown in the client by scaling the content down.
Enable DRDC Auto Reconnect	This option enables you to use Emerson DRDC's built-in connection recovery mechanism. This mechanism also tries to reestablish a remote desktop connection when it is disturbed.
Display Connection Bar	This option enables you to show the connection bar at the top of the screen. The connection bar fades out automatically after a few seconds. It fades in when you move the mouse to the top of the screen.
Connection bar pinned on Top	This option enables you to show the connection bar permanently, when a remote desktop connection is established. The fade in / fade out option is disabled.



**Note!**

The "Connect to console" feature is not available as an option within the RM Shell 4.x. This feature uses "thevmconnect" command of the Microsoft RSAT tools and enables Administrators to get root access ("session 0") to a virtual machine on a Hyper-V server. The RSAT tools for Microsoft Server 2012 R2 are only available for Windows 8.1 and above. Since the RM Shell 4.x is based on Windows Embedded Standard 7, "thevmconnect" command is not available for the RM Shell.

However, to manage the virtual DeltaV workstations, you can connect via RDP to the "Domain Controller" server and use then the RSAT tools of the Domain Controller server to administrate the virtual DeltaV workstations.

## 5 Appendix A - Emerson Software License Agreement



### **Note!**

By opening this package you agree to accept these terms and conditions. If you do not agree with these terms, you should promptly return the package unopened and your money will be refunded.

Fisher-Rosemount Systems, Inc., an Emerson Process Management company ("Emerson") provides this computer program and related materials for your use. You assume responsibility for the acquisition of a machine and associated equipment compatible with the program, and for installation, use, and results obtained from the program.

Emerson grants to you a non-transferable, non-exclusive license to:

1. use all fully paid up licensed programs provided to you to run on a single machine.
2. copy the program for backup or modification for the sole purpose of installing and configuring the program on the single machine

A single machine may consist of a single physical machine with a single operating system or a single virtual machine running in a host computer. You must reproduce and include the copyright notice on any copy or modification.



### **Note!**

You may not reverse engineer, use, copy or modify (except as noted above) any program or related materials or any copy or modification, in whole or in part, except as expressly provided for in this license. If you transfer possession of any copy or modification of the program or related materials to another party, your license is automatically terminated.

Unless otherwise expressly permitted, you may not use the program to provide subscription services, training services, consulting services, service bureau, time sharing, or rental use to third parties. No license, express or implied, is granted under any intellectual property directly or indirectly owned by Emerson which does not specifically read on the program as provided hereunder, nor shall any license, except the license specifically granted herein, be implied in law, implied in equity, or exist under the doctrine of patent exhaustion.

**TITLE:** Title to and ownership of the program and related materials shall at all times remain with Emerson or its licensors. Your right to use the same is at all times subject to the terms and condition of this Agreement. Emerson may, from time to time, revise or update the program and/or related materials and, in so doing, incurs no obligation to furnish such revisions or updates to you.

**TERM:** You may terminate this license at any time by destroying the program and the related materials together with all copies and modifications in any form. This license will also terminate upon conditions set forth elsewhere in this Agreement or if you fail to comply with any term or condition of this Agreement. You agree upon such termination to destroy the program and the related materials together with all copies and modifications in any form.

**LIMITED WARRANTY:** Emerson warrants the media on which the program is furnished to be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of delivery to you as evidenced by a copy of your invoice. However, Emerson does not warrant that the functions contained in the program will meet your requirements or that the operation of the program will be uninterrupted or error free.



### **Note!**

The program and related materials are provided "as is" without warranty of any kind, either express or implied, including, but not limited to the implied warranties of merchantability, fitness for a particular purpose and non-infringement. **THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION.**

**LIMITATIONS OF REMEDIES:** Emerson's entire liability and your exclusive remedy shall be: (1) the replacement of any media not meeting Emerson's "Limited Warranty" and which is returned with a copy of your invoice to Fisher-Rosemount Systems, Inc., 1100 W. Louis Henna Blvd., Bldg. I, Round Rock TX 78681-7430, or (2) if Emerson is unable to deliver a replacement media which is free of defects in materials or workmanship, you may terminate this Agreement by returning the program and your money will be refunded.



**Note!**

In no event will Emerson be liable to you for any damages arising out of any causes whatsoever (wether such causes be based in contract, negligence, strict liability, other tort, patent infringement, or otherwise), including any lost profits, lost savings, or other incidental or consequential damages arising out of the use or inability to use such program even if Emerson has been advised of the possibility of such damages, or of any claim by any other party.

**GOVERNING LAW:** This Agreement, and all matters concerning its construction, interpretation, performance or validity, shall be governed by the laws of the State of Texas, excluding its conflict laws.

**EXPORT RESTRICTIONS:** Licensee shall comply fully with all laws, regulations, decrees and orders of the United States of America that restrict or prohibit the exportation (or reexportation) of technical data and/or the direct product of it to other countries, including, without limitation, the U.S. Export Administration Regulations.

**U.S. GOVERNMENT RIGHTS:** The program and related materials are provided with "RESTRICTED RIGHTS." Use, duplication or disclosure by the U.S. Government is subject to restrictions set forth in the Federal Acquisition Regulations and its Supplements.

**GENERAL:** You may not sublicense, assign, or transfer the license or the program and related materials without the prior written consent of Emerson. Any attempt otherwise to sublicense, assign or transfer any of the rights, duties, or obligations hereunder without such consent is void.



**Note!**

The program is not for use in any nuclear and related application.

You accept the program with the foregoing understanding and agree to indemnify and hold harmless Emerson from any claims, losses, suits, judgments and damages, including incidental and consequential damages, arising from such use, whether the cause of action be based in tort, contract or otherwise, including allegations that Emerson's liability is based on negligence or strict liability.

To the extent that a third party owns and has licensed to Emerson any portion of the program, such third party owner shall be a beneficiary of this Agreement, and shall have the right to enforce its rights under this Agreement independently of Emerson.

Should you have any question concerning this Agreement, please contact your Emerson representative or sales office.



**Note!**

You acknowledge that you have read this agreement, understand it, and agree to be bound by its terms and conditions. You further agree that is is the complete and exclusive statement of agreement between us which spersedes any proposal or prior agreement, oral or written, and any other communications between us relating to the subject matter of this agreement, unless the site at which the program is to be used is covered by a master license agreement between you and Emerson, or another Fisher-Rosemount company, in which case the programs and your use of them shall be exclusively governed by that master license agreement. You agree that Emerson may audit your facility to confirm compliance with the foregoing provisions.

# PROCESS AUTOMATION – PROTECTING YOUR PROCESS



## Worldwide Headquarters

Pepperl+Fuchs GmbH  
68307 Mannheim · Germany  
Tel. +49 621 776-0  
E-mail: [info@de.pepperl-fuchs.com](mailto:info@de.pepperl-fuchs.com)

For the Pepperl+Fuchs representative  
closest to you check [www.pepperl-fuchs.com/contact](http://www.pepperl-fuchs.com/contact)

[www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

Subject to modifications  
Copyright PEPPERL+FUCHS • Printed in Germany

 **PEPPERL+FUCHS**  
*PROTECTING YOUR PROCESS*

280138 / DOCT-4770A  
11/2015