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# Working With License Server Redundancy

#### SUMMARY

License Server redundancy enables you to configure a pair of license servers to work in a synchronized manner to provide high availability of activated licenses. When configuring a redundant pair, all actions associated with licenses, such as activation, acquisition, and reservations are kept in sync between both servers.

If a License Server fails based on known conditions, the second server continues to operate with minimal impact on the operation of the licensed products' servers. The pair are commonly referred to as the **Primary** server and the **Backup** server. All data on the primary server is synced to the backup server. If the Primary server fails, all its data is available on the Backup server. Setting up a redundant pair requires two nodes where the License Server and License Manager components are installed.

Note: For more information about installing licensing components, see Installing License Manager and License Server on page 35 of SELicenseManagerGuide.pdf.

#### SITUATION

### **Requirements for Primary and Backup Servers**

Certain License Server conditions must be met before license activation can succeed on a redundant pair.

- The primary and backup server cannot have activated licenses. Deactivate the licenses on both the primary and backup servers, in case there are activated licenses.
- If licenses are currently or have previously been activated on the backup server prior to pairing, the License Server ID must be reset for the backup server before licenses can be successfully activated on the pair.

Click the **Sync** button after deactivating the licenses, when the primary server is hosting activated licenses and is managed by an offline **License Manager**.

Note: The pair status in the Server Details Page will display as Pair not synced until the Sync action is performed.

# ACTION

# Setting Up License Server Redundancy

This Tech Note assumes the following:

- BNSP2017 Is the Primary node
- WIN16SP2017 Is the Backup node
- 1. In the **Backup** node launch **License Manager** by pointing your web browser URL to the <u>http://Localhost/SELicenseManager</u>. Remove all licenses from the Backup node and select **Reset** via the Manage tab (Figure 1 below).



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Schneider Schneider Electric License Manag	jer			
E Servers				
			Manage License Server	
MYLICSERVER  This is a License Server for SP017		Redundancy Enable Backup: * Backup Server: *	□ Select	V
License Summary Features Summary Usage Details	Reservation			Apply
Add License Deactivate Details		Maintenance Stop License Server		Stop
Quantity Component Name	Part Number	License Server ID		Reset

- Figure 1: Reset the Backup Node
- 2. Run the Configuration tool on the backup node and point it to primary node.
  - Open the Configuratator from Start, All Programs.
  - Designate the primary server name and select Enable Backup.
  - Click Test Connection.
  - Click Configure (Figure 2 below).

File Help			
Historian Server Security Search	License Server Configuration Primary Server Name	BNSP2017	]
Reporting Schneider Electric Licensing	Server(s) Port	55555	
Schneider Electric License Server	Enable Backup		
			Test Connection
	NOTE: You must specify the node whe member of a Workgroup, then the Lic License Server.		

Figure 2: Point the Configurator on the backup node to look at the primary node for the license.

3. Launch License Manager by pointing your web browser URL to the backup node. Choose Remove (Figure 3 below).

Note: The local server will be added automatically the next time the License Manager is launched.

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Schneider Schneider Electric Lic	ense Manager	ww.ser 🚊
E Servers	Manage Sync	0
MYUCSERVER This is a License Server for SP017	Backup Server	License Server ID Status Win 165P2017 BBLSTKCN Running
License Summary Add License Deadviete Details	Usage Details Reservation	φ ×
Quantity Component Name	Part Number Serial Num	ber Expiry Date Comment

Figure 3: Remove Backup License Server

4. Open the primary License Manager and click Add Server to add the backup license server to the list of servers (Figure 4 below).

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Schneider GElectric	Schneider Elec	ctric Licen	nse Manager
E Servers	Add Server		
BNSP2017 Running 0 Licenses	<b>1</b>	Primary Se	rver
WIN16SP2017 Running 0 Licenses	ж¥́ Е	3ackup ser	ver

Figure 4: Add the backup license server to the primary License Manager

Note: You might see the following message while adding the backup license server (Figure 5 below). In this case, repeat Step 3 as shown above.



Figure 5: Error message displayed when adding the Backup License Server

Note: The server selected as primary in Step 4 will be the Primary server.

- Select the Manage button from the action bar. The Manage License Server slide out panel appears.
- Select Enable Backup.
- Select your second server from the list box and click Apply (Figures 6 and 7 below).

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Schneider Schneider Electric License Mana	ger				wetter
Eservers Eservers C Menage Sy	2				0
				Manage License Se	srver
Description	Is Reservation			Redundancy. Erable Backup: * Rackup Server: * WIN165P2017	1000
Add License Deacthrafe Details				Maintenance. Stop License Server	Stop
Quantity Component Name	Part Number	Serial Number	Expiry Date	License Server ID	Reset

Figure 6: Selecting the backup license server to the primary License manager



М	anage License Server	
Redundancy		
Enable Backup: *	$\checkmark$	
Backup Server: *	WIN16SP2017	$\sim$
		Apply
<u>Maintenance</u>		
Stop License Server		Stop
License Server ID		Reset

Figure 7: Adding the backup license server to the primary License Manager

The Server Details Page will now display your primary and backup servers and their pair status information. Once paired, point your browser to the **License Manager** on either the primary or backup. Both nodes will display the same configuration (Figure 8 below).

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Schneider Schneider Electric Lie	ense Manager						
E Servers	Nerage Sync						¢
Cescription	WIN165P2017			Primary Backup	License Server ID BNSP2017_X8LASWGG Win16SP2017_4AOFZ3PB	Status <b>Running</b> Running	Pair Status Paired and Available
License Summary	Usage Details Reservation						Q ×
Quantity Component Name	Part Number	Serial Number	Expiry Date			Comment	
Figure 8: Server disp	-				0 4 5		
(C)	LicenseManager				오 - C 👩 Schnei	der Electric	License ×
Schneider Sc	hneider Electric	License Man	ager				
E Servers	Add Server						
BNSP2017 WIN16SP2017							

Figure 9: Primary License Manager monitoring the Pair of License Servers

Note: Once you have activated licenses on the pair, you cannot undo the pairing until all licenses have been deactivated.

- 5. Enable licensing redundancy for your licensed product by running the Configuration tool on the node where the products are installed.
  - Open the Configurator from Start, All Programs.
  - Designate the primary server name and Select Enable Backup.
  - Click Test Connection.

Paired and Available 0 Licenses

• Click Configure (Figure 10 below).

**Note:** The backup server associated with the primary server is automatically populated in the **Secondary Server Name** field, based on the configuration in License Manager. This configuration applies to all products installed on the node.



19	Configurator	_ 🗆 🗙
File Help		
Schneider Electric Licensing     Schneider Electric License	License Server Configuration Primary Server Name	bnsp2017
	Server(s) Port	55555
	Enable Backup	
	Secondary Server Name	WIN16SP2017
		Test Connection
		the License Server has been installed. If that node is a se Manager must be installed on the same node as the
	Configuration Messages	
	Configuring License Server	de 'bnsp2017' through port 55555 succeeded.
	Communication with License Server on no	de 'WIN16SP2017' through port 55555 succeeded.
	Release license completed. Updated server name successfully.	=
< III >	Updated Backup Server Name successfully Configuring License Server completed succ	
Refresh All Messages		Configure Close

Figure 10: Enable licensing redundancy for your licensed product by running the Configuration tool

6. Activate the licenses using License Manager on the primary node. The activated licenses will show up in the license manager on the primary and the backup node.

# Monitoring The Status of the Pair

The pair status information is also reflected on the server tile in the Server Summary Page. If both servers in the pair are connected and running, the **Pair Status** is **Paired and Available**. If the pair is not available, the server tile indicates the unavailable server. The pair status is displayed in the server tile (Figure 11 below):

- Paired and Available Server Tile
- Pair Not Available Server Tile
- Recovering

Schne	etric Schneider Electric Lic	ense Manager				www.cer 💄
≡ Ser	nvers <b>e</b> Remove Retech	Manage Sync				0
←	K1AOS1RED	KIGRRED	Primary	License Server ID K1AOS1RED_1TU61JVZ	Status Running	Pair Status Paired and
	Description		Backup	K1GRRED_CZTJ42CG	Running	Available

Figure 11: Monitoring The Status of the License Server Pair

To stop the License Server on the primary node, click Stop (Figure 12 below).



Manage License Server					
<b>√</b>					
K1GRRED	•				
ι	Stop				
	Stop				
	✓				

The pair status is updated in the server tile (Figure 13 below).

	License Server ID	Status	Pair Status
Primary	K1AOS1RED_1TU61JVZ	Stopped	Primary
Backup	K1GRRED_CZTJ42CG	Running	not available

Figure 13: License manager pair status

You can monitor License Usage using the License Manager Usage Details page (Figure 14 below).

Chneider Schneider Ele	ctric License Manager				
Servers	C () Creater Contraction (Contraction Contraction (Contraction Contraction Contraction Contraction (Contraction Contraction Contraction Contraction (Contraction Contraction Contraction Contraction Contraction (Contraction Contraction Contraction Contraction Contraction Contraction (Contraction Contraction Contraction Contraction Contraction Contraction Contraction Contraction (Contraction Contraction (Contraction Contraction Contracti				
C KIAOSIRED	KIGRRED		Primary Backup	License Server ID K1AOS1RED_1TUG1JVZ K1GRRED_C2TJ42CG	Status Stopped Running Running Status Primary not available
License Summary Features Sur	rmary Usage Details Reserve	ation			
	Type	Version	in Use/Tatal	Device	X User
Feature			in Use/Tatal	Device	
Feature	Туре	Version	_		
Feature Historian Ectorprise 2M Tagn	Type Server	Version 2017 (17.0)	1/200	K 1AOS IRED	
Feature Historian Enterprise 2M Tago Historian Fotorprise 2M Tago Historian Tag Court	Type Server	Version 2017 (17.0) 2017 (17.0)	1/200	K 1AOS 1RED K 19RRED	
Feature Historian Enterprise 2M Tago Historian Enterprise 2M Tago Historian Tag Court	Type Server	Version 2017 (17.0) 2017 (17.0) 2017 (17.0)	1/200 1/200 50,w0000000	K 1AOS IRED K 1GRRED K 1AOS IRED	
Feature Historius Diferprine 2M Tago Historius Diferprine 2M Tago Historius Tag Count Historius Tag Count	Type Sarver Server	Version 2017 (17.0) 2017 (17.0) 2017 (17.0) 2017 (17.0)	1/200 1/200 54,440000000 54,440000000	K TAKIS TRED K TIGRRED K TAKIS TRED K TIGRRED	

Figure 14: License Manager Usage Details.

There are a number of conditions that will trigger a change in the Pair Status. The conditions and corresponding status changes are listed below. In these examples, the condition occurs on the **Backup** server.

### The Backup server node shuts down:

- Backup server status changes to **Disconnected**
- Pair status changes to Backup not available

The Backup server loses network connection or is stopped:

- Backup server status changes to **Stopped**
- · Pair status changes to Backup not available

#### The Backup server is uninstalled:



- Backup server status changes to Backup not available
- Pair status changes to Backup not available

#### The pair is not synced:

- Both server statuses remain as Running
- Pair status changes to Pair not synced

# In a Workgroup environment

The Local System account does not allow the License Manager to work with off-node redundant License Servers. In this case it needs to assign an existing local user account for the License Manager Web Service.

In a workgroup environment procedures to pair up the License Servers are the same, except that one additional step is required: Use the Change Network Account User for the License Manager Web service logon information.

Complete the following steps for both Primary and Backup license server nodes.

- 1. Click Start / Run and type Sevices.msc.
- Select License Manager Web Services, right-click configure its properties. By default it will login using the Local System Account (Figure 15):

🔍 Services (Local)					
License Manager Web Service	Name				
	🔍 IPsec Policy Agent				
Stop the service	KDC Proxy Server service (KPS)				
Restart the service	KtmRm for Distributed Transaction Coordinator				
	🔍 License Manager Web Service				
Description:	🔍 License Server Agent Service				
Provides web access for License	License Server Core Service				
Manager /	Properties /Local Comp	apper			
License Manager Web Service Properties (Local Comp					
General Log On Recovery Depend	ancies				
	encies				
Log on as:					
Occal System account		n Service			
Allow service to interact with des	ktop				
		Provider			
<ul> <li>This account:</li> </ul>	Browse				
Password:					
Confirm password:					

Figure 15: License Manager web service Default setting

3. Select the Log On tab and click Browse. Select the Change Network Account User and then click Apply (Figure 16):

License Manager Web Service Properties (Local Comp 💌					
General Log On Reco	overy Dependencies				
Log on as:					
Local System account     Allow service to interact with desktop					
This account:	Change Network Acount User Browse				
Password:	•••••				
Confirm password:	•••••				
	OK Cancel Apply				

Figure 16: License Manager Web Service Log On modification

4. Restart License Manager Web Services.

A utility to do this automatically is included in System Platform 2017 Update 2 and later:

%Program Files (x86)%\Common Files\ArchestrA\Licensing Framework\License Utilities

#### ATTACHMENTS

http://okmgcs.km.invensys.com/resources/sites/KPKA/content/live/TN/3000/TN3019/en\_US/~secure/{ "SECUREDRESOURCE": "Y" }

