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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 http://Localhost/SELicenseManager. Remove all licenses from the Backup node and select **Reset** via the Manage tab (Figure 1 below).
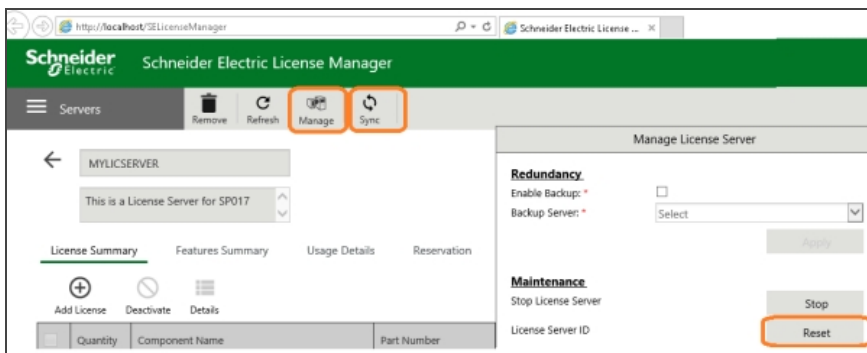
Figure 1: Reset the Backup Node

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**.
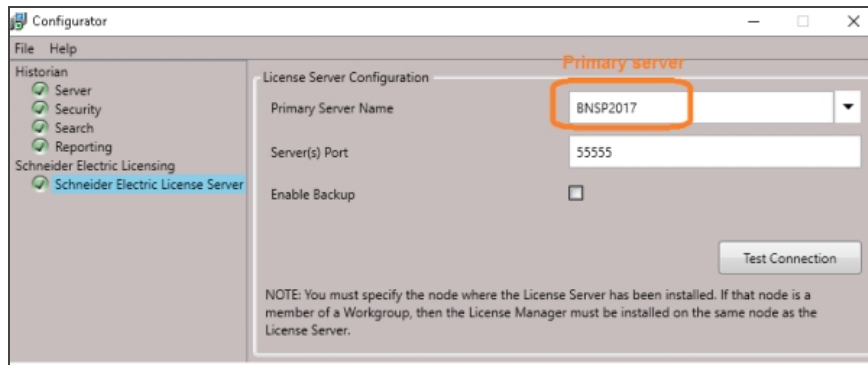   - Click **Configure** (Figure 2 below).

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.
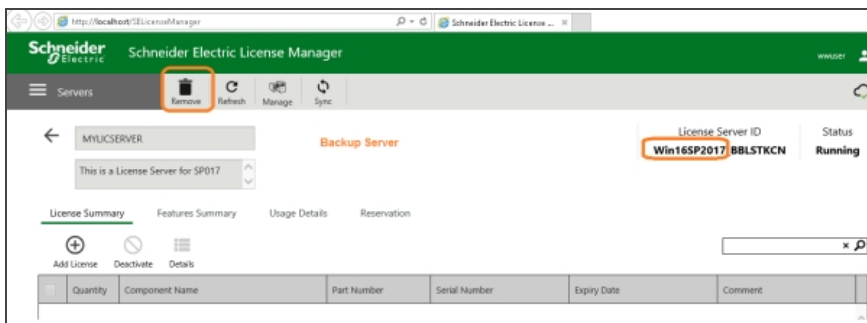

Figure 3: Remove Backup License Server

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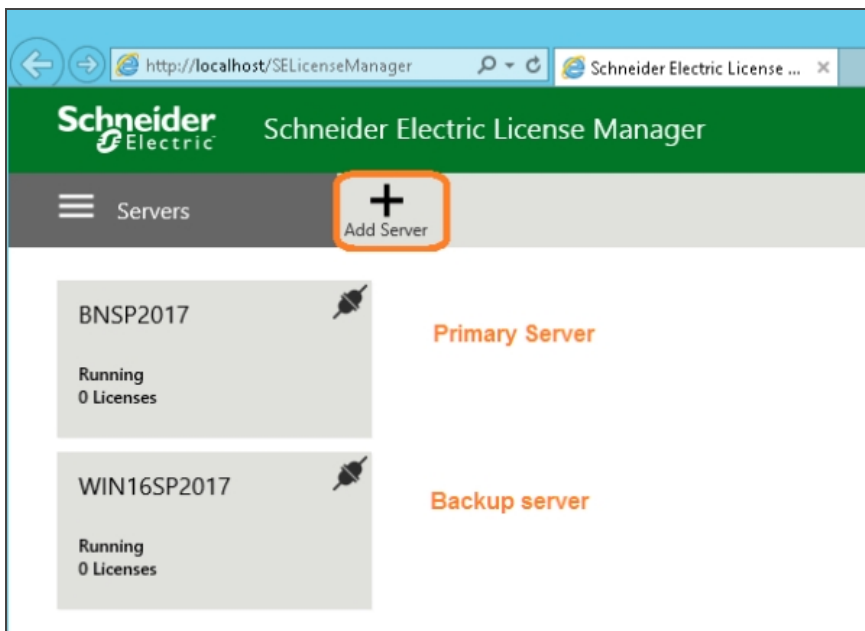
Figure 4: Add the backup license server to the primary License Manager

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.
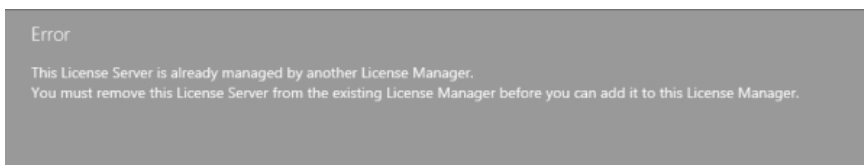

Figure 5: Error message displayed when adding the Backup License Server

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).
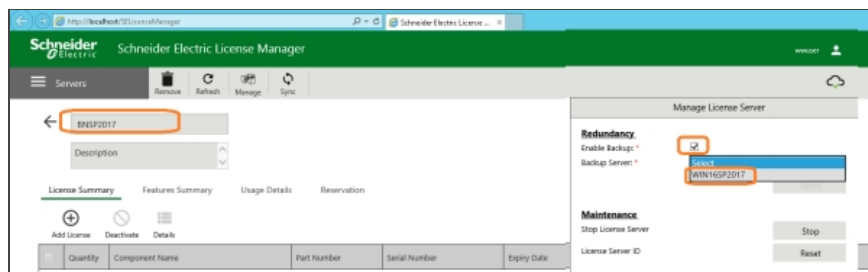

Figure 6: Selecting the backup license server to the primary License manager

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).
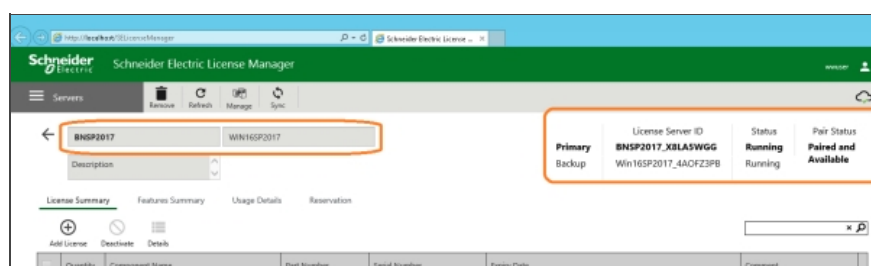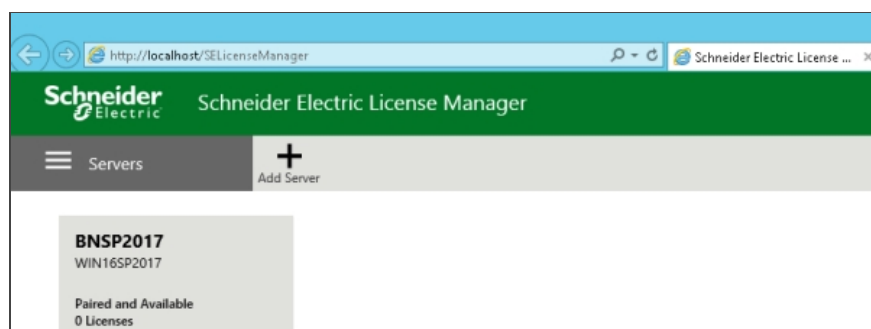

Figure 8: Server display

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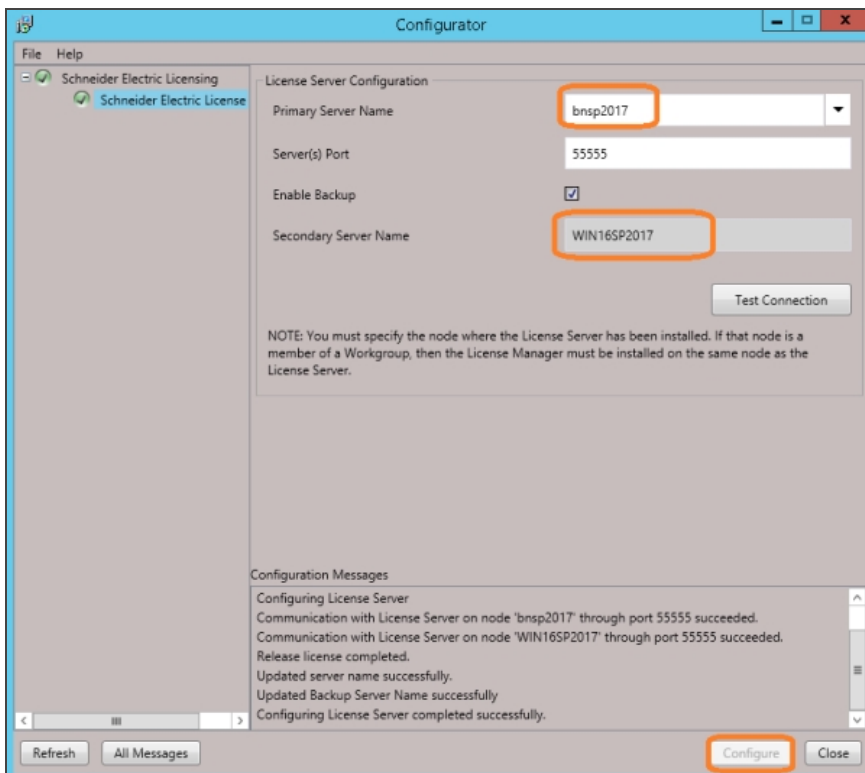
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Figure 10: Enable licensing redundancy for your licensed product by running the Configuration tool

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
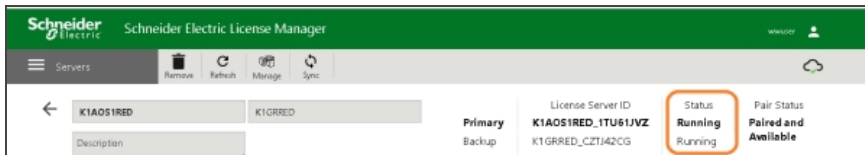- Pair Not Available Server Tile
- Recovering

Figure 11: Monitoring The Status of the License Server Pair

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

Figure 12: Stop the License Server in the primary node

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

Figure 13: License manager pair status

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

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.**
2. Select **License Manager Web Services**, right-click **configure its properties**. By default it will login using the Local System Account (Figure 15):
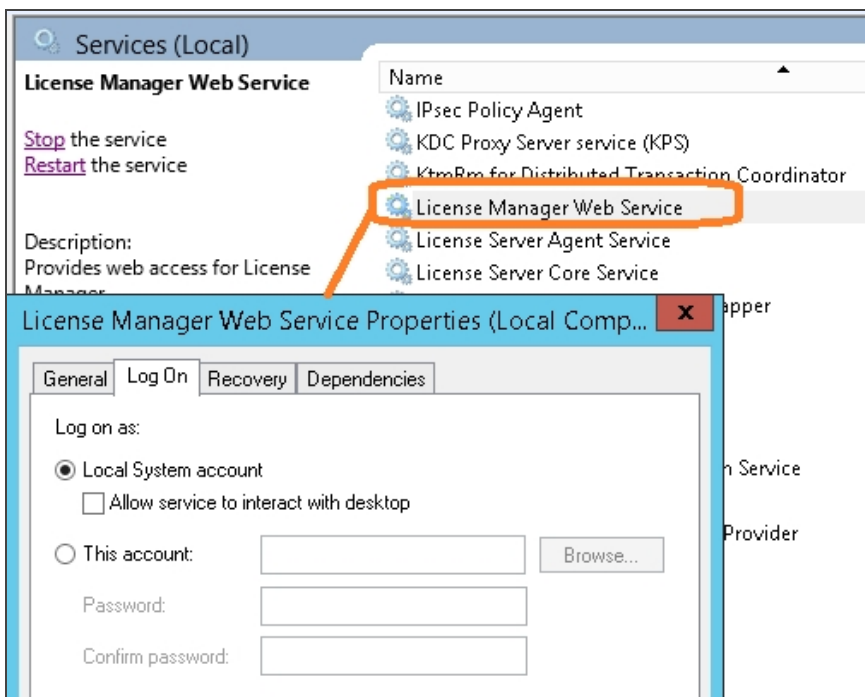

Figure 15: License Manager web service Default setting

3. Select the **Log On tab** and click **Browse.** Select the **Change Network Account User** and then click **Apply** (Figure 16):
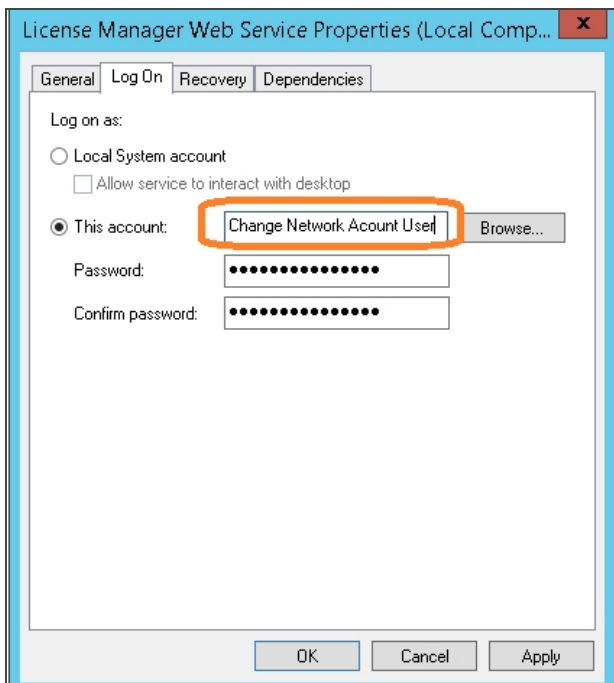
Figure 16: License Manager Web Service Log On modification

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" }

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