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Licensing Services: Upgrade UCMDB from a Previous Version to 10.20

This end-to-end workflow walkthrough scenario describes licensing services for upgrading UCMDB to 10.20 from a version earlier than 10.10. This workflow includes the following steps:

- Step 1. Upgrade UCMDB to version 10.20
- Step 2. Check the License summary report
- Step 3. Install licenses issued for UCMDB 10.20, check licenses details and license capacity using JMX console
- Step 4. Launch License summary report and check license usage
- Step 5. Review the counted OS instances in the Licensed OSIs Report
- Step 6. Install additional license capacity when you discover more OSs than you are licensed for

Step 1. Upgrade UCMDB to version 10.20

For detailed instructions about upgrading UCMDB, see the *HP Universal CMDB Deployment Guide*.

Step 2. Check the License summary report

The permissive Instant-On License is installed by default and is going to expire in 21 days.

1. Launch UCMDB UI as Admin user.

2. Click the `<License status>` button on the status bar.

   The License summary report window opens.

3. Check the License summary report.

   - Only Instant-On license is listed even though you have had some licenses installed when you worked with the previous version. The license issued for previous versions are not compatible with UCMDB 10.20 and they are not visible.
- The UD Full license usage is not yet displayed even if there are discovered OSIs in your UCMDB. This is because they were not touched by Probe 10.20 yet.

- OSs managed by CM usage displays the number of OSIs belonging to the results of the managed in CM views.

- The Managed Data Repository (MDR) usage is displayed according to the third party integrations you have in UCMDB.

- Automated Service Modeling OOTB provides a capacity of 10 service discovery actions, which are always available regardless of what license are installed.

- The Automated Service Modeling usage is zero. This can be consumed since version 10.20.

4. Wait for Probe 10.20 to run discovery.

5. Check the License summary again.
○ The Instant-On license expiring in several days is listed.

○ Universal Discovery Full usage is displayed according to how many discovered operating systems you have in UCMDB.

○ OSs managed by CM usage displays the number of OSs that belong to the results of the managed in CM views

○ The MDR usage is displayed according to the third party integrations you have in UCMDB.

○ Automated Service Modeling OOTB provides a capacity of 10 service discovery actions, which are always available regardless of what license are installed.

○ The Automated Service Modeling usage is zero. This can be consumed since version 10.20.
Step 3. Install licenses issued for UCMDB 10.20, check licenses details and license capacity using JMX console

1. Install the licenses issued for UCMDB 10.20, according to the contract you already have, by using JMX Console > Licensing Services > addLicense.

   When installing licenses, the Instant-On is overwritten.

   For details, see the How to Manage UCMDB Licenses Using the JMX Console section in the HP Universal CMDB JMX Reference Guide.

2. Check information about licenses details by using the getAllLicenses method of Licensing Services from the JMX console.
3. Check information about licensed capacity by using the `getLicenseSummary` method of Licensing Services from the JMX console.

### Mbean: UCMDB:service=Licensing Services. Method: getAllLicenses

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>License</td>
<td>UCMDB-CM - Advanced Configuration Manager per OS Instance</td>
</tr>
<tr>
<td>Type</td>
<td>TERM</td>
</tr>
<tr>
<td>Start Time</td>
<td>Wed Jan 07 02:00:00 IST 2015</td>
</tr>
<tr>
<td>End Time</td>
<td>Fri May 01 02:59:59 JDT 2015</td>
</tr>
<tr>
<td>Capacity</td>
<td>500</td>
</tr>
</tbody>
</table>

| License               | Universal Discovery Inventory per OS Instance      |
| Type                  | TERM                                               |
| Start Time            | Wed Jan 07 02:00:00 IST 2015                       |
| End Time              | Fri May 01 02:59:59 JDT 2015                       |
| Capacity              | 300                                                |

| License               | HP UCMDB Automated Service Modeling pack of 10     |
| Type                  | TERM                                               |
| Start Time            | Wed Jan 07 02:00:00 IST 2015                       |
| End Time              | Fri May 01 02:59:59 JDT 2015                       |
| Capacity              | 2                                                  |

| License               | Universal Discovery per OS Instance                |
| Type                  | TERM                                               |
| Start Time            | Wed Jan 07 02:00:00 IST 2015                       |
| End Time              | Fri May 01 02:59:59 JDT 2015                       |
| Capacity              | 200                                                |

| License               | UCMDB Third Party Integration per MDR             |
| Type                  | TERM                                               |
| Start Time            | Wed Jan 07 02:00:00 IST 2015                       |
| End Time              | Fri May 01 02:59:59 JDT 2015                       |
| Capacity              | 15                                                 |
Step 4. Launch License summary report and check license usage

Launch License summary report from UCMDB UI and check the license usage, according to what capacity you are licensed for:

- The installed licenses details are displayed in Available licenses panel.
- UD Full usage – number of OSIs discovered by Full discovery jobs
- UD Inventory usage – number of OSIs discovered by Inventory discovery jobs
- OSIs managed by CM usage – number of OSIs that are managed by CM
- Available third party integrations usage – number of integrations with non HP products
- Advanced Service Modeling usage – number of service discovery activities
- Oracle LMS – in case you have license for Oracle LMS report
- Foundation – in case you have Foundation license
Step 5. Review the counted OS instances in the Licensed OSIs Report

1. Select Managers > Modeling > Reports. In the Custom Reports pane, click Administration and do one of the following:
   - Right-click Licensed OSIs Report and select Create New Report.
   - Double-click Licensed OSIs Report.
   - Select Licensed OSIs Report and drag it onto the right pane.

2. Review the counted OS instances in the Licensed OSIs Report:
OSs that are discovered by UD Full jobs have True in the UD Full column if they are covered by license capacity, False if not covered, and "-" if not applicable for the license type.

OSs that are discovered by UD Inventory license have True in the UD Inventory column if they are covered by license capacity, False if not covered, and "-" if not applicable for the license type.

OSs that are managed in Configuration Manager have True in the CM Managed column if they are covered by license capacity, False if not covered, and "-" if not applicable for the license type.

The Third party licenses tab shows the integration points consuming capacity from the UCMDB third party integration license.

The ASM License tab shows the service discovery activities created in UCMDB.

If no capacity is consumed from a license type, the relevant column will not be displayed.
Step 6. Install additional license capacity when you discover more OSs than you are licensed for

When discovering more Operating Systems than you are licensed for, you are still able to use UCMDB Server. However, the server status is Non-compliant.

1. Launch License Summary report to check what exceeded capacity is.

2. In order to be compliant, you can install additional license capacity using the `addLicense` method in the JMX console.
3. In the JMX console, invoke the `getLicenseSummary` method to verify that the licensed capacity is increased.

   **Mbean: UCMDB:service=Licensing Services. Method: addLicense**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>License</td>
<td>Universal Discovery per OS Instance</td>
</tr>
<tr>
<td>Type</td>
<td>TERM</td>
</tr>
<tr>
<td>Start Time</td>
<td>Wed Jan 07 02:06:00 IST 2015</td>
</tr>
<tr>
<td>End Time</td>
<td>Fri May 01 03:00:00 IDT 2015</td>
</tr>
<tr>
<td>Capacity</td>
<td>100</td>
</tr>
</tbody>
</table>

4. Launch License summary report again.

   **Mbean: UCMDB:service=Licensing Services. Method: getLicenseSummary**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third Party MDR</td>
<td>3</td>
</tr>
<tr>
<td>Universal Discovery Inventory</td>
<td>200</td>
</tr>
<tr>
<td>Universal Discovery</td>
<td>200</td>
</tr>
<tr>
<td>Advanced Configuration Manager</td>
<td>300</td>
</tr>
<tr>
<td>UCMDB Foundation</td>
<td>true</td>
</tr>
<tr>
<td>Customer Type</td>
<td>BASE</td>
</tr>
</tbody>
</table>

Now the UCMDB Server status is **Compliant.**
Step 6. Install additional license capacity when you discover more OSs than you are licensed for.
Creating a Dynamic Widget from UCMDB

This end-to-end workflow walkthrough scenario describes how to create a Dynamic Widget from UCMDB and demonstrates the resulting widget in the UCMDB Browser.

This workflow includes the following steps:

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Step 2. Enable or disable the widget for different roles ................................................................. 19
Step 3. View the resulting widget in the UCMDB Browser .......................................................... 19

Step 1. Create a Dynamic Widget by using the Pattern View Editor

To create a Dynamic Widget, follow these steps:

1. Log on to UCMDB, and then open the Modeling Studio.

2. Click New, and then select Dynamic Widget.

   The New Dynamic Widget window opens.

3. Select Create new query, and then click OK.

   The Pattern View Editor opens.

4. From the CI Types pane, drag and drop the BusinessElement and RunningSoftware CI types into the Query Definition canvas, and then add a Dependency relationship between the two CITs.

   For detailed instructions, refer to the How to Add Query Nodes and Relationships to a TQL Query section in the HP Universal CMDB Modeling Guide.
5. Right-click the **Business Element** query node in the canvas and then select **Set As Contact Query Node**.

6. Click the **Report** button to switch to the Report Definition mode. For each node, select and add any needed attributes into the **Report Layout** column.

   **Note:** You can also add all the attributes for each node, and then enable the needed attributes in the **Widget** tab.

7. Click the **Widget** button to switch to the Widget Definition mode. Configure the values in the following four columns for each attribute:

   - **Overview:** Defines if the attribute is visible in the preview mode for the widget. Up to six attributes can be visible.
   - **Details:** Defines if the attribute appears after you click the **Details** button.
   - **Refocusable:** Defines if the value of the attribute appears as a link that directs to the CI to which the value belongs.
   - **Group Name:** Categorizes properties in groups.

   **Note:** All the above configurations only apply to the Properties Mode widget type.

8. Select the top level of the tree in the **Hierarchy** pane, and then select one of the following mode in the **Widget Type** field.
Properties Mode

Topology Map Mode

Topology CIT Group Mode

Topology Textual Mode

The Properties Mode displays attribute values from the nodes returned by the topology returned by the view that is created. All the other modes display a map of the topology.

Note: If you change the widget type, the UCMDB Browser user need to log off and log on again to see the change in the resulting widget.

9. (Optional) If you set the widget type to Properties Mode, you can also group nodes by CI Type so that the information presentation is more structured.

The following steps demonstrate how to add a grouping on the Running Software node:

a. Click the View button to switch to the View mode. In the Hierarchy pane, drag and drop the RunningSoftware node under the BusinessElement node, as shown in the following screenshot.

![Hierarchy Diagram]

b. Right-click the RunningSoftware node, and then select Add Group By CI Type.

10. Click Save.

11. Enter Connected Software in the View name field, and then click OK.
Step 2. Enable or disable the widget for different roles

You can enable or disable the Dynamic Widget on a role basis. To do this, follow these steps:

1. Go to Security > Roles Manager.
2. Select the role for which you want to enable the Dynamic Widget.
3. In the Resource tab, under Resource Types, select UCMDB Browser Widgets.
   You can see the new Connected Software widget under Available UCMDB Browser Widgets.
4. Drag and drop the Connected Software widget to the Selected UCMDB Browser Widgets With Permissions column.

Step 3. View the resulting widget in the UCMDB Browser

In the UCMDB Browser, to view the resulting widget of the Dynamic Widget created above, you need to search for a Business Element that has connected Running Software instances. If you do not know which Business Element has connected Running Software instances, you can preview the result of the Connected Software view from UCMDB and see which CIs have data. For example, the following result indicates that the NorthEmailService CI has data.
Therefore, you can search for NorthEmailService to view the data. The UCMDB Browser returns the result as shown in the following screen shot.

**Note:** Make sure that you log on as a user that has the permission to see the widget.
The UCMDB Browser presents the information based on the configurations in step 7, 8, and 9 when you create the Dynamic Widget.

If the widget type is Properties Mode

When you select the search result, you can see the following new widget.

If the nodes are not grouped by CI Types, when you click the Details button, the detailed information is presented as follows. The attributes are grouped according to the defined group name.
If the nodes are grouped by CI Types, when you click the Details button, the detailed information is presented as follows.

If there are more than one Running Software, they will be listed under the exchange server.

You can select a CI to view its properties, as shown in the following screen shot.
For instructions on how to group nodes by CI Types, see Step 9 on page 18.

**If the widget type is Topology Mode**

When you click the search result, the new widget appears as follows.

When you hover the mouse over the widget and then click the Details button, the following map appears.
Step 3. View the resulting widget in the UCMDB Browser
Working with the Generic Adapter Mapping UI

This end-to-end workflow walkthrough scenario describes how to integrate UCMDB with Service Manager in order to import the newly discovered 3D Printer CIs into Service Manager.

This workflow includes the following steps:

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Step 2. Import the new CIs in UCMDB ................................................................. 26
Step 3. Create the TQL query to see all the 3D Printer instances ............................ 27
Step 4. Create the integration point to the Service Manager server ......................... 29
Step 5. Create the new CI Type and the mapping for the new CI Type in Service Manager ........ 31
Step 6. Create the push job for the new CI Type and push the CIs to Service Manager .......... 36

Step 1. Create the new CI Type in UCMDB

Follow these steps to create the new 3D Printer CI Type in UCMDB:

1. Log on to UCMDB, and then open the CI Type Manager.

2. Select the Node element in the CI Types tree, and then click New.

   The new 3D Printer CI Type will be a child of the existing Node CI type.

3. Follow the Create CI Type Wizard to create the new CI Type.

   For details about how to create a new CI Type, refer to the How to Create a CI Type section in the HP Universal CMDB Modeling Guide.
Step 2. Import the new CIs in UCMDB

Import the new CIs in UCMDB either by integration population or by discovery.

For more information, refer to the following topics in the *HP Universal CMDB Data Flow Management Guide*:

- How to Work with Population Jobs
- How to Run Module/Job-based Discovery
Step 3. Create the TQL query to see all the 3D Printer instances

Follow these steps to create the TQL query to see all the 3D Printer instances:

1. Go to the Modeling Studio, click **New** 🔄, and then click **Query**.

2. From the **CI Types** pane, locate the **3D Printer** CI type, and then drag and drop the **3D Printer** CI type into the **Query Definition** canvas.

   **Note:** To preview the query result, click the **Preview** button 📷.
3. Right-click the 3D Printer query node, and then click **Query Node Properties**.

4. In the **Query Node Properties** window, make the following changes so that this TQL query can be used to push data to the Service Manager server.

   a. Change the element name to Root to indicate the root of the TQL query.

   b. In the **Element Layout** tab, select the **Select attributes for layout** option, add the **Name** and **Global Id** attributes to the **Specific Attributes** column.
These attributes will be pushed to Service Manager. You can add other attributes if you want.

Step 4. Create the integration point to the Service Manager server

Follow these steps to create the integration point to the Service Manager server:

1. Go to the Integration Studio, and then click New Integration Point.

2. Specify the integration name.

3. Click Select Adapter, and then Select ServiceManagerEnhancedAdapter9.x.

4. Fill in the needed information. The following screen shot shows an example.
5. Click the **Test connection** button to verify the connectivity to the Service Manager server.

6. Click **OK**.
Step 5. Create the new CI Type and the mapping for the new CI Type in Service Manager

Follow these steps to create the new CI Type in Service Manager by using UCMDB's Mapping Tool and to create a mapping for the new 3D Printer CI Type:

1. Right-click the newly created integration point, and then click Go to Adapter.

   The ServiceManagerEnhancedAdapter9.x adapter opens in Adapter Management.

2. To create the mapping file, make sure the ServiceManagerEnhancedAdapter9-x adapter is selected, click New, and then click New Configuration File.

3. Enter the mapping file name in the Name field.

   **Note:** Include the full path in the Name field, for example:
   ServiceManagerEnhancedAdapter9-x/mappings/push/SM 3D Printer Push.xml

4. Click OK, and then click Yes if you are prompted with the following message:

   Do you want to open the configuration file with the new mapping tool editor?

   The UI Mapping Tool opens.

5. Click Add New CI Type to External Class Model.

6. Fill in the needed information for the new CI Type, and then click OK.
7. Define the TQL query that provides the CIs need be pushed to Service Manager. To do this, click Add TQL Queries in the Local Query pane, and then select the previously created 3D Printers TQL query.
8. Select the Root node under the 3D Printers TQL query node in the **Local Query** pane, and then drag it onto the **Integration** node in the **Visual Mapping** pane.

This configuration indicates that the data source for this mapping is the 3D Printers TQL query rooted in the Root element.

9. Select the Service Manager entities that will be created as a result of the mapping process. To do this, drag the 3DPrinter type from the **External Class Model** pane onto the 3D Printer TQL query node in the **Visual Mapping** pane.
10. Drag the needed attributes of the Service Manager 3DPrinter type from the Attributes pane onto the 3DPrinter node in the Visual Mapping pane. In this case, the Type attribute and two mandatory attributes: CIIdentifier and UCMDBld.

11. Double click each of the three attributes and enter the values as follows:
- **Type**: '3dprinter'

  The Type attribute need be passed to Service Manager as a string. Don not miss the single quotes, which are needed to differentiate a string constant from a variable.

- **UCMDBId**: Use the Global Id attribute from UCMDB.

  To do this, drag the Global Id attribute from the Attributes pane onto the UCMDBId element in the Visual Mapping pane.

- **CIIdentifier**: Use the Name attribute from UCMDB and make a small customization.

  To do this, follow these steps:

  i. Double-click the CIIdentifier element in the Visual Mapping pane, and then type `Root[].A drop-down box appears and shows the available attributes for the Root TQL query element of the 3D Printer CI Type.

  ii. Select `Root['name']`.

  iii. Continue type `+ ' - ucmdb imported'`. The final value is `Root['name'] + ' - ucmdb imported'`.

  The following screen shot shows the result of the mapping process.
Step 6. Create the push job for the new CI Type and push the CIs to Service Manager

Follow these steps to create the push job for the newly created 3D Printer CI Type and push the CIs to Service Manager:

1. Go to Adapter Management.

2. Right-click the ServiceManagerEnhancedAdapter9-x adapter, click Go to Integration Point, and then click the newly created integration point for Service Manager.

   The Integration Studio opens.

3. Make sure the Service Manager integration point is selected, and then open the Data Push tab.

4. Click New Integration Job, and add the 3D Printers TQL query as follows.
5. Click **Save Integration Point**.

6. Select the newly created SM 3D Printer Push job, and then click **Full Synchronization** in the **Integration Jobs** section.
7. Click **Refresh** to check if the job is finished.
Working with Assisted Modeling in UCMDB Browser

This end-to-end workflow walkthrough scenario describes how a site manager can organize all services in the site, through the UCMDB Browser.


This workflow includes the following steps:

1. Create BusinessApplications CIs ................................................................. 39
2. Create a New Modeling Query .................................................................. 40
3. Assign the MODELING_ENABLED Qualifier to BusinessFunction and BusinessService ........... 41
4. Organize Services by Using Assisted Modeling ............................................. 42
5. Verification ..................................................................................................... 46

Step 1. Create BusinessApplications CIs

Follow these steps to create BusinessApplications CIs:

1. Log in to UCMDB, and then go to **Modeling > IT Universal Manager**.

2. Create the following CIs if they do not exist:
   - OutlookBA
   - GmailBA
   - ThunderbirdBA
   - LyncBA
For more information about how to create a CI, refer to *HP Universal CMDB Modeling Guide > Modeling > IT Universe Manager > Working with CIs.*

### Step 2. Create a New Modeling Query

Follow these steps to create a new modeling query:

1. Log in to UCMDB, and then go to **Modeling > Modeling Studio.**

2. Create a new query with the following content and relationship:


3. Add the query to the **modeling** bundle.
4. Save the query and name it as **ServiceHierarchy**.

For more information about how to create a TQL Query, refer to *HP Universal CMDB Modeling Guide* > Introduction > Topology Query Language > How to Define a TQL Query.

**Step 3. Assign the MODELING_ENABLED Qualifier to BusinessFunction and BusinessService**

Make sure both the **BusinessFunction** and **BusinessService** CI Types have the **MODELING_ENABLED** qualifier, so that you can create these CI types by using the Assisted Modeling feature in the UCMDB Browser.

To do this, go to **Modeling > CI Type Manager**, select the CI Type, and then go to the **Qualifiers** tab. The **MODELING_ENABLED** qualifier should be in the right column.
Step 4. Organize Services by Using Assisted Modeling

Follow these steps to organize services by using Assisted Modeling in the UCMDB Browser:

1. Log in to the UCMDB Browser.

2. Select the Service Modeling tab, and then click the Start Assisted Modeling link.

   Note: If Service Modeling is not enabled, the Assisted Modeling tab appears. Select the Assisted Modeling tab.

3. From the Select template drop-down list, select ServiceHierarchy, which is the query just created.

4. Create a new Communication CI of the BusinessFunction type. To do this, click the + icon in the
BusinessFunction node, and then click the Create New BusinessFunction link. Name the CI as Communication and then click Apply.

5. Create Mail Services and Chat Services CIs of the BusinessService type. To do this, follow the similar process as the previous step.

6. Examine if the topology graph now resembles the following example:

   Note: The following example uses the Hierarchical: vertical layout.
7. Select **Mail Services**, click the **+** icon inside the **BusinessApplication** node, and then click the **Add existing BusinessApplication** link.

8. Type **BA** in the text field and then press **Enter** to filter the result (because the business application names end with BA). The result should be similar with the following example:
9. Point to GmailBA, OutlookBA, and ThunderbirdBA, and then click the Add button that appears under each item.

10. Examine if the topology graph now resembles the following example:

   **Note:** The following example uses the **Hierarchical: vertical** layout.
11. Add the LyncBA CI inside the BusinessApplication node and links to Chat Services. To do this, follow the similar procedure as Step 7 to 9.

12. Click the Save button. The following message appears at the top:

   Topology saved successfully

Step 5. Verification

Log in to UCMDB and check if the created links and CIs are as expected:
End-to-End Workflow Walkthrough Guide

Step 5. Verification

Communication

Containment

Containment

Chat Services

Containment

LyncBA:: Lync BA

GmailBA:: Gmail BA

ThunderbirdBA:: Thunderbird BA

OutlookBA:: Outlook BA

Mail Services

Containment

Containment

Containment
Performing the Daily Monitoring Process

This end-to-end workflow walkthrough scenario describes how to perform the daily monitoring process.

This workflow includes the following steps:

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Step 3. Check Probes ................................................................. 52

Step 1. Check UCMDB UI

Check the following items:

- The status of each probe:
  - The status should be Connected.
  - The last access time should be within 30 seconds.
  - The probe version should be up to date.
• The status of the jobs on each probe:
  ◦ The status of each probe should be **Connected**.
  ◦ The running job number and thread number should be as expected and will not cause performance issue. For more information, contact HP Support.
  ◦ Sending queue should not be accumulating.
- The total CI number:
  - The total CI number should not exceed the limitation.
  - The **CallhomeEvent** CI number should not be accumulating.
  - The total Computer CI number should be as expected.
Step 2. Check UCMDB Server

Check the following items:

- Regular CPU and memory usage of the UCMDB server.
- Regular CPU, memory, and Disk I/O usage of the server database.
- Confirm no Java dump file exists in the following folder:

  `<UCMDBServer_Installation_Folder>\bin`
Step 3. Check Probes

Check the following items:

- Regular CPU and memory usage of the probe service.
- Regular CPU and memory usage of the ProbeDB service.
- Regular CPU and memory usage of the XMLEnricher service.
- The probe server has enough disk space.
- Confirm no Java dump file exists in the following folder:

  `<DataFlowProbe_Installation_Folder>\bin`

- Check scan files if the Inventory Discovery by Scanner job is running:

  ○ All the files in the following folder should be updated within one hour:

    `<DataFlowProbe_Installation_Folder>\runtime\xmlenricher\Scans\incoming`

  ○ All the files in the following folder should be updated within eight hours:

    `<DataFlowProbe_Installation_Folder>\runtime\xmlenricher\Scans\sending`

    A few files that were updated eight hours ago might be cause by system glitch and should be deleted.

  ○ The Corrupt, Delta, or Error subfolder of the following folder should not contain any files:

    `<DataFlowProbe_Installation_Folder>\runtime\xmlenricher\Scans\failed`

    Such a file can be caused by exception in the xml enricher. Try to reprocess the scan file by copying it to the incoming folder.
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