Proactive monitoring and management of IBM
PureApplication System

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This tutorial describes a proactive methodology for monitoring and managing IBM
PureApplication System to ensure optimal operation and performance. The reader will learn
why this is important, what to monitor, how to do so, and how to handle and report issues.

Introduction

What to Monitor, and Why

IBM® PureApplication® System is a highly integrated and optimized Expert Integrated System. Its
graphical user interface lets you monitor and manage both hardware and software components to
very granular levels. In order to maintain optimal performance and identify potential future issues,
you need to be proactive. For example, you should monitor the following items regularly:

- **LED lights on all hardware components** -- All lights should be green and solid. If any are
  amber or blinking, they require troubleshooting.
- **Event logs** -- Any logs with a Severity classification of Fatal, Critical, or Major require action
  and may require opening a Problem Management Record (PMR).
- **Previously opened PMRs** -- Check relevant open PMRs regularly to ascertain their status
  and to respond to any requests for more information, in order to ensure progress toward
  resolution.

Proactive monitoring and management of PureApplication System will reduce the frequency
and severity of issues, ensure optimal operation and performance, and minimize the impact on
deployed workloads and system availability.

Where to monitor and manage

To perform a health check, log in to an account that has administrative privileges so that you can
access both the Workload Console and System Console. Details of what and where to check are
described below.
System console

Check the status of hardware components on the Infrastructure Map (Graphics view)

1. Click on the Hardware tab
2. Click on the Infrastructure Map option

The navigation bar lets you filter on your desired view:

- **Default view** -- Items from several of the other views
- **Status view** -- Events associated with each component
- **LEDs view** -- Status of LED lights for each component
- **Temperature view** -- Temperature of the components
- **Performance view** -- Utilization of the components

Review each layer of complementary information to identify items requiring action.

Review the items in the Job Queue

1. Click on the System tab
2. Click on the Job Queue option

Ensure **Display Internal Jobs** is selected for both the Started Jobs Queue and Pending Jobs Queue sections, as shown below:

**Figure 1. Selecting Display Internal Jobs**

![Figure 1. Selecting Display Internal Jobs](image)

Also, ensure that items are progressing from the Pending Jobs Queue to the Started Jobs Queue and are completing successfully, since hung items can prevent other jobs from completing.

Review the Events log
1. Click on the System tab  
2. Click on the Events option

First, filter the events with Severity Critical, as shown below:

**Figure 2. Filtering by severity**

![Filtering by severity](image)

If any items list Call Support in the Category column, follow the process to submit a PMR outlined in the next section. In Version 2 of the software, you can configure the system to automatically open PMRs for hardware issues and upload logs directly from the console with the call home feature.

Next, review the remaining items. Pay close attention to trends and warning signs of future issues as you review items over time.

Finally, delete events that are resolved or do not require attention regularly by clicking the red X at top left, to keep the length of the list manageable. You can delete all items, items based on a filter, or currently selected items, so make sure to select the appropriate option.

**Check the High Availability status of the system**

1. Click on the System tab  
2. Click on the Troubleshooting option  
3. Review the High Availability section

The Service Code should read Overall, and the Status should read Online. You can review the detailed list of services and their status by going to the following URL: https://<rack_ip>/admin/resources/service_status, where <rack_ip> is the IP address of the system. Here is an example:
Figure 3. Detailed list of services and status

```
{
  "Service0": "Online",
  "Service2": "Online",
  "Service22": "Online",
  "Service25": "Online",
  "Service26": "Online",
  "Service3": "Online",
  "Service7": "Online",
  "Service8": "Online",
  "Service9": "Online",
  "Service10": "Online",
  "Service11": "Online",
  "Service12": "Online",
  "Service13": "Online",
  "Service16": "Online",
  "Service17": "Online",
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  "Service29": "Online",
  "Service30": "Online",
  "Service31": "Online",
  "Service32": "Online",
  "Service33": "Online",
  "Service34": "Online",
  "Service35": "Online",
  "Service36": "Online",
  "Service37": "Online",
  "Service38": "Online",
  "Service39": "Online",
  "Service40": "Online",
  "Overall": "online"
}
```

If any Service or Overall shows a Status of Offline or Error, then you must open a PMR for resolution.

**From the Workload Console**

**Check for failed deployments**

1. Click on the **Instances** tab
2. Click on the **All Instances** option

Investigate any instance with a Status other than Running (indicated by a solid green arrow icon) by clicking on it. Sometimes you will see information icons on top of the green arrow icon even when the instance is running -- these must still be investigated.

If any instances are stopped or show an error, contact the instance and pattern owners for clarification and resolution.

**Check status of Shared Services**

1. Click on the **Instances** tab
2. Click on the **Shared Services** option

Verify that all Shared Services required for each cloud group are in Running status (indicated by a solid green arrow icon). As with deployed instances, there will sometimes be informational icons on top of the green arrow icon that need to be investigated.
Tip: The best way to validate system health is to periodically run sample deployments of Virtual Applications, Virtual Systems, and Shared Services across multiple cloud groups.

When you encounter an issue that cannot be resolved locally, follow the process in the next section for resolution.

PMR information template

Whenever you encounter an issue that you cannot resolve locally, you must open a PMR with IBM Support for resolution. You can do this in two ways:

- Call PartnerWorld Voice Support at 1-800-426-9990 (toll free, select option 0) or 1-919-864-3569 (international toll, select option 0). PartnerWorld voice support is staffed Monday through Friday 8 a.m. to 8 p.m., US Eastern Time.
- Submit a request on the IBM Remote e-mail support site.

In either case, you will need to provide the information denoted by blanks in the template below:

<table>
<thead>
<tr>
<th>Data Center Location</th>
<th>Company name: __________</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Street: __________</td>
</tr>
<tr>
<td></td>
<td>Building floor and room: __________</td>
</tr>
<tr>
<td></td>
<td>City: __________</td>
</tr>
<tr>
<td></td>
<td>State/Province: __________</td>
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<td>Zip code: __________</td>
</tr>
<tr>
<td></td>
<td>Country: __________</td>
</tr>
<tr>
<td>Contact Person</td>
<td>Name: __________</td>
</tr>
<tr>
<td></td>
<td>Phone: __________</td>
</tr>
<tr>
<td></td>
<td>E-mail address: __________</td>
</tr>
<tr>
<td>Problem: __________</td>
<td>Business impact: __________</td>
</tr>
<tr>
<td>Fix pack level: __________</td>
<td>PureApplication System information</td>
</tr>
<tr>
<td>Serial number: __________</td>
<td>Version: __________</td>
</tr>
<tr>
<td>Operating system: __________</td>
<td>Machine type: __________</td>
</tr>
<tr>
<td>Error message: __________</td>
<td>Upload any relevant logs via IBM Secure Diagnostic Data Upload Utility</td>
</tr>
</tbody>
</table>

Enabling the IBMENG Account for PMR Resolution

For some PMRs, IBM Support will need to request additional access via the IBMENG account in order to troubleshoot and resolve the issue (applies to both remote and on-site support).

Enable IBM Service Representative account access in the PureApplication System console

1. Click on the System Console tab.
2. Click on the **System** tab.
3. Select the **Troubleshooting** option.
4. Select **Enable IBM Service Representative Account Access**, as shown in Figure 4 below.
5. Select **Generate** to generate the Secret Key, as shown in Figure 4 below.
6. Copy and submit the Secret Key to Level-2 Support:

**Figure 4. Enabling IBM Service Representative account**

![Figure 4. Enabling IBM Service Representative account](image)

Level-2 Support will then generate the temporary password for the IBMENG account and submit the PMR to the assigned technician.

**Conclusion**

The procedures described above apply to all versions of hardware (W1500, W1700, W2500, and W2700) and software (Version 1 and 2) available with IBM PureApplication System. They require minimal time to execute and will help ensure that IBM PureApplication System runs smoothly and performs optimally.
Resources

• **IBM PureApplication System resources**
  - **IBM PureApplication System Knowledge Center**
    A single portal to all IBM PureApplication System conceptual, task, and reference information on installing, configuring, and using IBM PureApplication System.
  - **IBM PureSystems developer resources**
    Latest trials, downloads, tutorials, and other developer resources for IBM PureSystems products and services.
  - **IBM PureSystems Centre**
    Access PureSystems patterns from IBM and IBM Business Partners, updates to systems and patterns, and expertise for maximizing the benefit of systems and patterns.
  - **IBM PureSystems product family page**
    Overview of solutions from IBM PureApplication System, IBM PureData System, and IBM PureFlex System.

• **WebSphere resources**
  - **developerWorks WebSphere**
    Technical resources for developers who use WebSphere and related middleware products. Includes downloads, how-to information, support resources, and a free technical library of tutorials, best practices, IBM Redbooks, and product manuals.
  - **Most popular WebSphere trial downloads**
    No-charge trial downloads for key WebSphere products.
  - **WebSphere forums and community**
    Product-specific forums where you can get answers to your technical questions and share your expertise with other WebSphere users.
  - **WebSphere demos**
    Download and watch these self-running demos, and learn how WebSphere products can provide business advantage for your company.
  - **WebSphere-related tutorials on developerWorks**
    Nearly 3000 tutorials on WebSphere and related technologies by top practitioners and consultants inside and outside IBM. Search for what you need.
  - **WebSphere-related books from IBM Press**
    Convenient online ordering through Barnes & Noble.
  - **WebSphere-related events**
    Conferences, trade shows, Webcasts, and other events around the world.

• **developerWorks resources**
  - **Trial downloads for IBM software products**
    No-charge trial downloads for selected IBM® DB2®, Lotus®, Rational®, Tivoli®, and WebSphere® products.
  - **developerWorks blogs**
    Join a conversation with developerWorks users and authors, and IBM developers.
  - **Technical events for developers**
    Conferences, seminars, and technical events to deepen your technical expertise and help you succeed in your software projects.
  - **developerWorks podcasts**
Listen to interesting and offbeat interviews and discussions with software innovators.

- **developerWorks on Twitter**
  Check out recent Twitter messages and URLs.

- **IBM Education Assistant**
  A collection of multimedia educational modules that will help you better understand IBM software products and use them more effectively to meet your business requirements.
About the author

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