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# Product Implementation Training (PIT)

Content Platform Engine 5.2.1  
Refresh of Component Manager



# Introduction

- Course Overview
  - Refresh of 5.2.0 Component Manager architecture
  - Migration of pre-5.2.0 custom component adaptors
- Target Audience
  - Those who support Content Platform Engine 5.2.x Component Manager
  - Those who support Migration of pre-5.2.0 custom component adaptors
- Suggested Prerequisites
  - Basic knowledge of P8 Component Manager
- Version Release Date: October 2014

## Course Objectives

After this course you will be able to:

- Deploy a custom component for CPE 5.2.x
- Troubleshooting component manager issues
- Migrate the pre-5.2.0 custom component adaptor

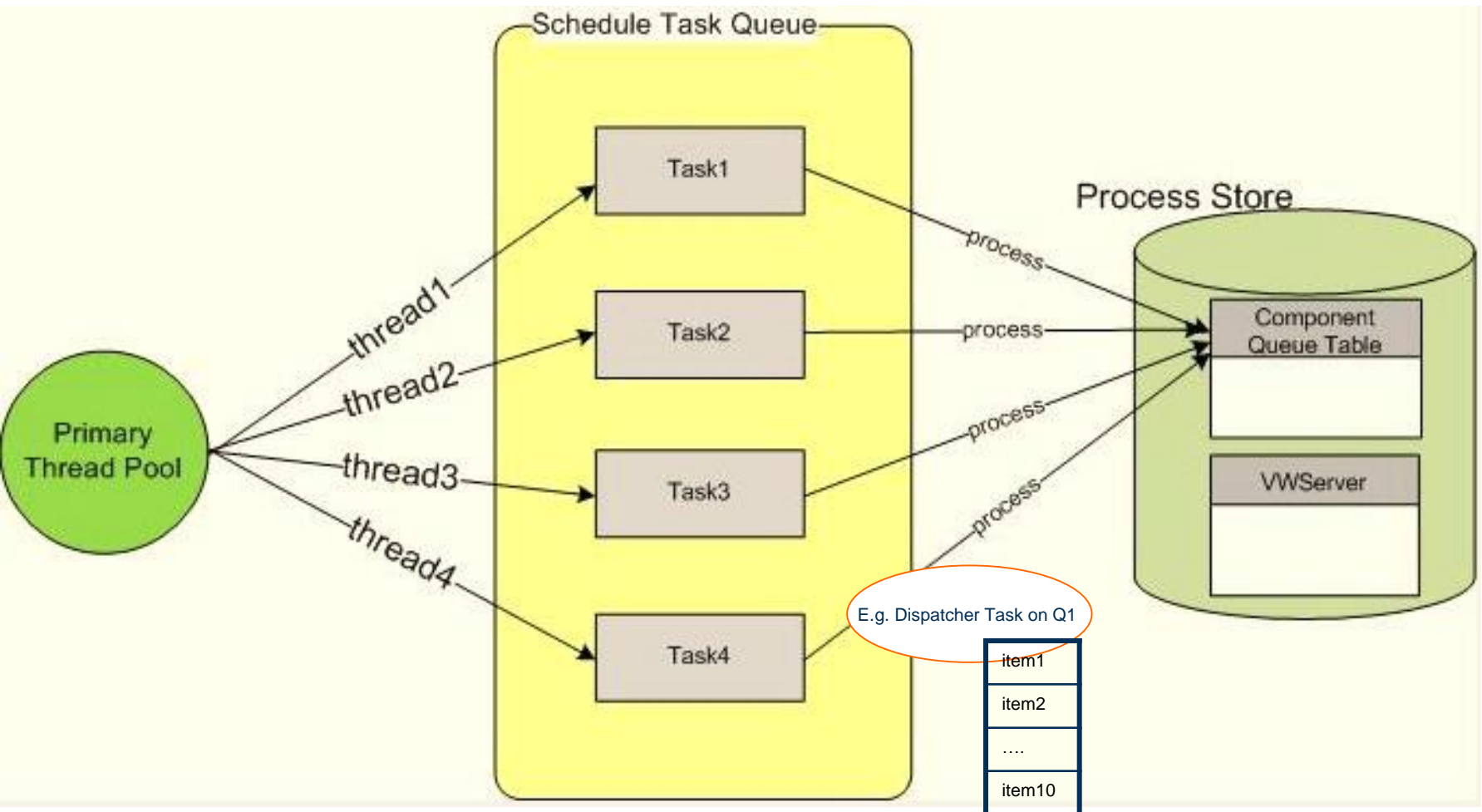
## Course Roadmap

- ➔ Product Fundamentals
  - Refresh of CPE 5.2.0 Component Manager architecture
  - Configuration Guidelines
  - Troubleshooting
  - Migration of pre-5.2.0 custom component adaptor
- Demo
- Course Summary

## Product Fundamentals: CPE 5.2 Component Manager

- Packaged and deployed with the CPE server in the application server as an integral feature, running as a background task
- Implements a consistent load balancing and High Availability model which takes advantage of Java EE application server cluster support
- Leveraging CPE 'code module' to persist and manage custom component adaptor code
- More performance information to the CPE ping page to monitor, tune, and troubleshoot components

## Product Fundamentals: CPE 5.2 Component Manager



## Product Fundamentals: CPE 5.2 Component Queue

Save

Refresh

Close

Component Queue: testUp

General

System Fields

User Fields

Indexes

Security

**Adapter**

Operations

### Adapter

You configure a component queue with one of the following adapters: Java or JMS.

\* Adapter: ? Java Component Configure...

### Adapter Properties

Batch size: <span>?</span>	<input type="text" value="10"/>	
Exception submap: <span>?</span>	<input type="text" value="Malfunction"/>	
Polling interval (ms): <span>?</span>	<input type="text" value="1,000"/>	
Automatic recovery timeout: <span>?</span>	<input type="text" value="20"/>	<input type="text" value="Minutes"/>
Number of dispatcher tasks: <span>?</span>	<input type="text" value="1"/>	
Processing timeout (ms): <span>?</span>	<input type="text" value="30,000"/>	
Enable queue processing in server: <span>?</span>	<input checked="" type="checkbox"/>	

### JAAS Credentials

\* JAAS user name: ?

\* Password:

\* Confirm password:

Configuration context: ?

## Product Fundamentals: Parameters for Component Queue

Batch Size	<p>This property specifies the number of work items to query per batch at runtime. Increase batch size reduces system overhead on querying database but increases the time a thread takes to complete one dispatcher task and increases delay of a work item being processed. Reduce batch size incurs system overhead on querying database, but reduces the time a thread takes to complete one dispatcher task and reduces delay of a work item being processed.</p> <p>Default value is 10.</p>
Polling Rate	<p>Specifies the default polling interval when there is work in the queue. If there is no work in the queue, the task will “sleep” in a backoff pattern up to 1 hour. If there is work in the queue, the CPE server will activate the dispatcher task immediately.</p> <p>Default value is 1000ms</p>
Number of Dispatcher Tasks	<p>The number of concurrent tasks will work on the component queue. You can configure this parameter to increase the concurrent dispatch threads for each queue to meet your business requirement. Primary thread pool size may need to be increased when increasing number of dispatcher tasks.</p> <p>Default value is 1.</p>
Processing Timeout	<p>With more restrictive resource sharing policy, components take longer than this amount of time will be interrupted and moved to Exception submap.</p> <p>Default value is 30 sec.</p>



## Product Fundamentals: Parameters for Component Queue

Auto Recovery Timeout	The amount of time after which the locked object will be moved to Exception submap. Default value is 20 minutes.
Enable Queue Processing in Server	Use this property to stop and start component queue Default value is Enabled (e.g. queue is started)

## Out-of-the-box Component Queues

- *CE\_Operations: No overwritten*
- *WSRequest: Support Process Orchestration*

The screenshot shows the configuration interface for the Workflow System. At the top, there are two tabs: 'DaphneStore' and 'Workflow Sy...'. Below the tabs are buttons for 'Save', 'Refresh', 'Actions', and 'Close'. The main content area has a tabbed interface with 'General' selected. Under the 'General' tab, there are two rows of configuration fields. The first row is for 'Administration group' with the value 'intg\_admin' and a 'Browse' button. The second row is for 'Configuration group' with the value 'WCMTestG9' and a 'Browse' button. Below these is a section titled 'Process Orchestration'. Under this section, there are two rows of configuration fields. The first row is for 'Broker servlet URL' with the value 'http://cm-doge02:9080/ibmccepo'. The second row is for 'Public listener URL' with the value 'http://cm-doge02:9080/WorkplaceXT'. The 'Broker servlet URL' and 'Public listener URL' labels are circled in red.

Workflow Sy... x

Save Refresh Actions Close

General Runtime Options Language Packs Web Applications DbExecute Connections

\* Administration group: ? intg\_admin Browse

Configuration group: ? WCMTestG9 Browse

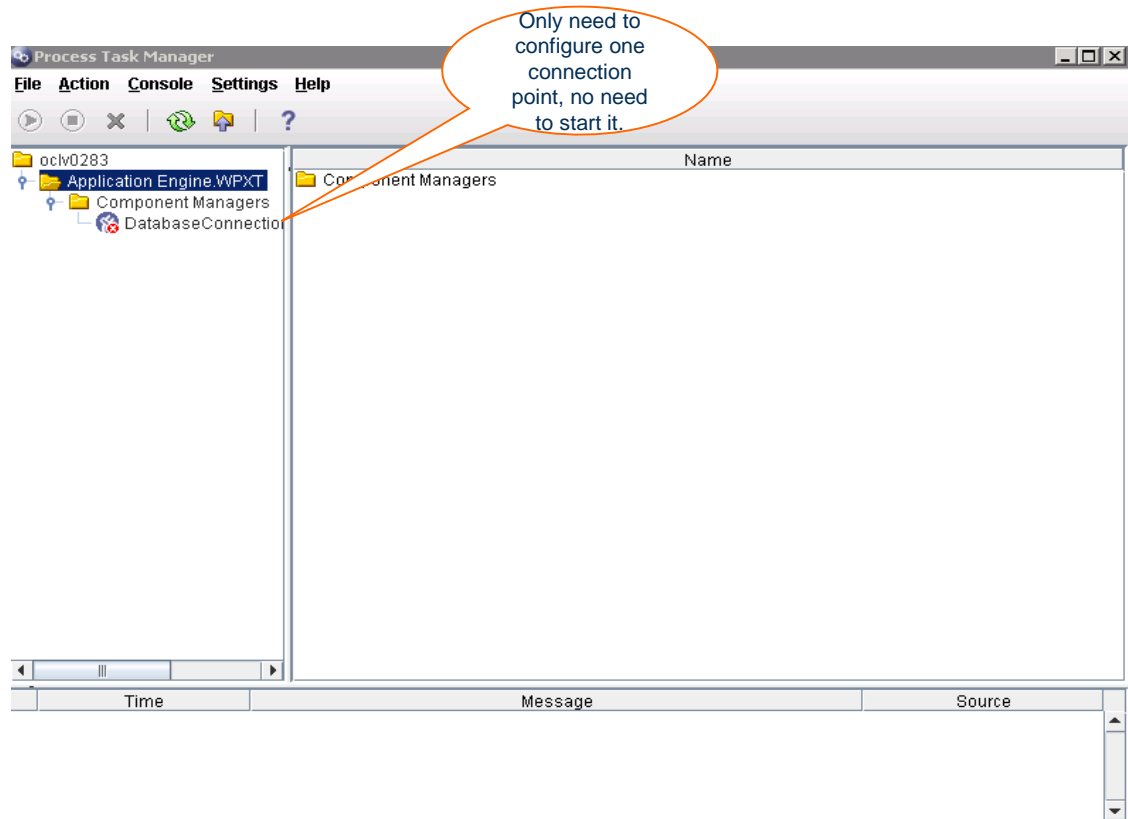
**Process Orchestration**

Broker servlet URL: ? http://cm-doge02:9080/ibmccepo

Public listener URL: ? http://cm-doge02:9080/WorkplaceXT

## Process Orchestration

Configuration of PTM on Workplace/XT:



## Process Orchestration

### Configuration of POBootstrapUser (Optional)

**Edit Server Instance Property**

You can add or modify properties for a specified server. A global property can be deleted if **All servers** is specified. A property that is specific to a server can also be deleted.

\* Server:

**Properties**

<input type="checkbox"/>	* Name	* Value
<input type="checkbox"/>	WSRMBBaseRetransmissionIntervalInMs	<input type="text" value="3000"/>
<input type="checkbox"/>	WSRMinactivityTimeoutInMs	<input type="text" value="240000"/>
<input type="checkbox"/>	WSRequestNumberOfDispatcherTasks	<input type="text" value="1"/>
<input type="checkbox"/>	WSRequestProcessingTimeoutInSeconds	<input type="text" value="300"/>
<input type="checkbox"/>	<b>POBootstrapUser</b>	<input type="text" value="pwtestadmin"/>

Starting in 5.2.1, PO invoke and reply is done by POBootstrapUser. (if not set, using the CE bootstrap user)

## Diagnosis of Component Manager Issues

### ■ Ping page:

```
osdbuser.FNOSDS] VWIsi1 DELAYED until another 124125ms , Region=0
osdbuser.FNOSDS] VWTime1 DELAYED until another 125562ms , Region=2
osdbuser.FNOSDS] CMDp.osdbuser.FNOSDS_2.ICM_Operations_0 DELAYED until another 381593ms , Region=2 [0 total processed.]
osdbuser.FNOSDS] CMDp.osdbuser.FNOSDS_2.CE_Operations_0 DELAYED until another 385328ms , Region=2 [0 total processed.]
osdbuser.FNOSDS] CMDp.osdbuser.FNOSDS_3.WSRequest_0 DELAYED until another 1884437ms , Region=3 [0 total processed.]
osdbuser.FNOSDS] CMDp.osdbuser.FNOSDS_3.CE_Operations_0 DELAYED until another 1889422ms , Region=3 [0 total processed.]
osdbuser.FNOSDS] CMDp.osdbuser.FNOSDS_2.WSRequest_0 DELAYED until another 411078ms , Region=2 [0 total processed.]
osdbuser.FNOSDS] CMDp.osdbuser.FNOSDS_2.q_0 DELAYED until another 381703ms , Region=2 [0 total processed.]
osdbuser.FNOSDS] VWTime1 DELAYED until another 126562ms , Region=3

running tasks:
osdbuser.FNOSDS] CMDp.osdbuser.FNOSDS_2.TestStuck_0 RUNNING tid=PEPrimary2 , Region=2 [1 total processed. Processing 1/1] C6AA4E061A75CF4
```

The screenshot shows a web browser window with the URL `oclv0283.ocl.eslabs.ibm.com:9080/peengine/IOR/ping`. The page displays system status information, including delayed operations and running tasks. A red circle highlights the 'Helpful links' section, which contains the following links:

- [System](#)
- [Async Tasks](#)
- [Component Manager Logs](#)
- [Component Manager Stats](#)
- [Component Processing Details](#)
- [API statistics](#)

## Diagnosis of Component Manager Issues

- Component Manager Statistics page

DatabaseConnection1_osdbuser_ete:WSRequest:Reply	5	5	0	53291.0ms	2014.09.29 11:38:33	84.0ms	2014.09.29 11:51:04	11,487ms	57.44sec
DatabaseConnection1_osdbuser_ete:WSRequest:Reply.core	5	5	0	53291.0ms	2014.09.29 11:38:33	84.0ms	2014.09.29 11:51:04	11,486.8ms	57.43sec
DatabaseConnection1_osdbuser_ete:WSRequest:getP8Subject	977	977	0	1.0ms	2014.10.06 12:33:29	0.0ms	2014.10.09 13:59:43	0ms	0sec
DatabaseConnection1_osdbuser_ete:testUp:add	1	1	0	217.0ms	2014.10.09 13:58:12	217.0ms	2014.10.09 13:58:12	217ms	0.22sec
DatabaseConnection1_osdbuser_ete:testUp:add.core	1	1	0	89.0ms	2014.10.09 13:58:12	89.0ms	2014.10.09 13:58:12	89ms	0.09sec
DatabaseConnection1_osdbuser_ete:testUp:getP8Subject	8	8	0	6.0ms	2014.10.09 13:58:12	2.0ms	2014.10.09 13:58:12	3.38ms	0.03sec
DatabaseConnection1_osdbuser_ete:testUp:load:cmtest.Calculator	1	1	0	7.0ms	2014.10.09 13:58:12	7.0ms	2014.10.09 13:58:12	7ms	0.01sec
validate:testUp:getP8Subject	3	3	0	4.0ms	2014.10.09 13:57:40	3.0ms	2014.10.09 13:57:40	3.67ms	0.01sec
validate:testUp:load:cmtest.Calculator	2	1	1	49.0ms	2014.10.09 13:57:40	16.0ms	2014.10.09 13:56:19	32.5ms	0.06sec

How long the custom code takes to run

## Diagnosis of Component Manager Issues

### ■ Component Manager Log page:

```

014/10/16 17:08:20.373 PEssecondary1 CMR1.osdbuser.FNOSDS_3.WSRequest No items. 0ms
014/10/16 17:08:20.373 PEssecondary2 CMR1.osdbuser.FNOSDS_3.CE_Operations No items. 0ms
014/10/16 17:17:35.732 PEPPrimary2 CMDp.osdbuser.FNOSDS_2.TestStuck_0 processing 1 work items: C6AA4E061A75CF4DAF5F1DFF3F8975F8(sleepLong), 0ms
014/10/16 17:17:48.920 PEPPrimary4 CMDp.osdbuser.FNOSDS_2.testUp_0 processing 1 work items: OBA62D6405A5254AAF2F4846130D9DD4(add), 0ms
014/10/16 17:17:48.920 PEPPrimary4 CMExecute[4].osdbuser.FNOSDS_2.testUp.pwtestadmin [usingUpQueue:OBA62D6405A5254AAF2F4846130D9DD4:Workflow:add] DISPATCH OK 31ms
014/10/16 17:17:35.732 PEPPrimary2 CMExecute[3].osdbuser.FNOSDS_2.TestStuck.pwtestadmin [testStuckWF:C6AA4E061A75CF4DAF5F1DFF3F8975F8:Workflow:sleepLong] EXMap=Malfunction, EXDesc=
FNRPE2131180001E]Processing timed out after 30,000ms. Component thread stack trace=java.lang.Thread.sleep(Native Method)
ava.lang.Thread.sleep(Thread.java:897)
omponents.tests.TestStuck.sleepLong(TestStuck.java:20)

```

Which dispatch task queries back how many work items

Which workflow calling what operation, takes how long

Note: Component operation is different from system function, each component operation will be followed by enqueue.

## Diagnosis of Component Manager Issues

- Tracing
  - Enable Component Manager tracing via:
    - `vwtool/trace/Trace Component Manager`
    - `TRACE_CM` in `traceOptions` file
  - Enable Process Orchestration tracing via:
    - `vwtool/trace/Trace Web services`
    - `TRACE_WEBSERVICES` in `traceOptions` file
    - By default, `<CPE LogDir>/wsinvoke-CPName.log` for `invoke/reply`
  - Traces are in `<CPE LogDir>/pesvr_trace.log`
  - Trace specific queue via:  
<http://CPEserver:port/peengine/admin/cm/queue?name=<queueName>&level={FINEST}>
  - Custom component logging: Use `IPECMLLogger` interface via `CMUserContext`

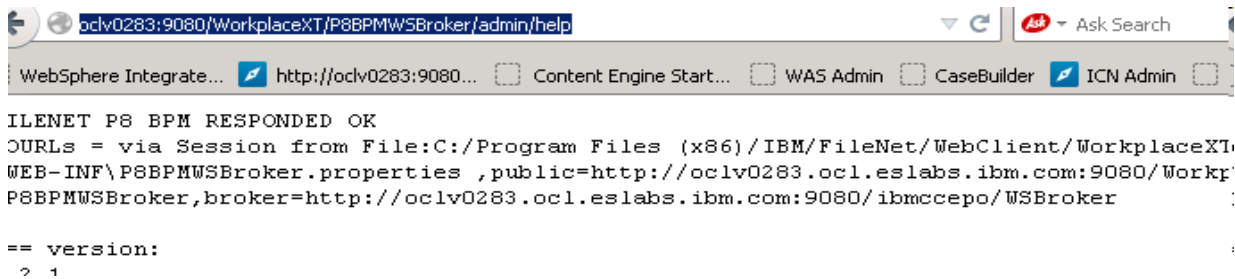


## Diagnosis of Component Manager Issues

- Make sure broker servlet url is set for Process Orchestration

- Verify via

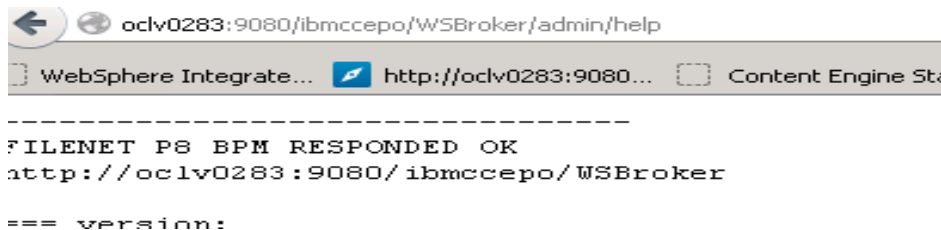
<http://publiclistenerurl/P8BPMWSBroker/admin/help>



```
ILENET P8 BPM RESPONDED OK
URLs = via Session from File:C:/Program Files (x86)/IBM/FileNet/WebClient/WorkplaceXT/
WEB-INF/P8BPMWSBroker.properties ,public=http://oclv0283.oc1.eslabs.ibm.com:9080/Workp
P8BPMWSBroker,broker=http://oclv0283.oc1.eslabs.ibm.com:9080/ibmccepo/WSBroker

== version:
2 1
```

<http://cpebrokerurl/WSBroker/admin/help>



```
FILENET P8 BPM RESPONDED OK
http://oclv0283:9080/ibmccepo/WSBroker

=== version:
```

## Migration of pre-5.2.0 Java Custom Component

- *Stop the custom Java component queue on Workplace/XT*
- *Check in the custom component jar file as code module to CPE*
- *Configure JAAS context in the application server if using any JAAS context other than CILogon*
- *Use ACCE(5.2.1) or Process Configuration Console (5.2.0) to configure the custom component queue*
  - *Change its type from Legacy Java Component to Java Component*
  - *Configure the queue to use its code module*
  - *Adjust the parameters of the queue if necessary (e.g. processing timeout...)*
  - *Save the changes*

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# Demo

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## Course Summary

You have completed this course and can:

- Deploy a custom component for CPE 5.2.x
- Diagnosis component issues
- Migrate the pre-5.2.0 custom component adaptor

## Contacts

- Product Marketing Manager: William (Doc) Mills
- Product Manager: Mike Fannon
- Subject Matter Experts (SME)/Area of Expertise: Quynh Dang, Jane Luo
- Support: Case Foundation L3/L2

## Product Help/Documentation/Resources

IBM FileNet P8 Platform V5.2.1 Knowledge Center

[http://www.ibm.com/support/knowledgecenter/SSNW2F\\_5.2.1](http://www.ibm.com/support/knowledgecenter/SSNW2F_5.2.1)

[http://www.ibm.com/support/knowledgecenter/SSNW2F\\_5.2.1/com.ibm.p8.pe.configui.doc/bpfc112.htm?lang=en](http://www.ibm.com/support/knowledgecenter/SSNW2F_5.2.1/com.ibm.p8.pe.configui.doc/bpfc112.htm?lang=en)

[http://www.ibm.com/support/knowledgecenter/SSNW2F\\_5.2.1/com.ibm.p8.pe.configui.doc/bpfc056.htm?lang=en](http://www.ibm.com/support/knowledgecenter/SSNW2F_5.2.1/com.ibm.p8.pe.configui.doc/bpfc056.htm?lang=en)