



Frank Hayes
Software Engineer
03/04/2013



Product Implementation Training (PIT) IBM FileNet Content Platform Engine 5.2


Activity Stream

Course Overview



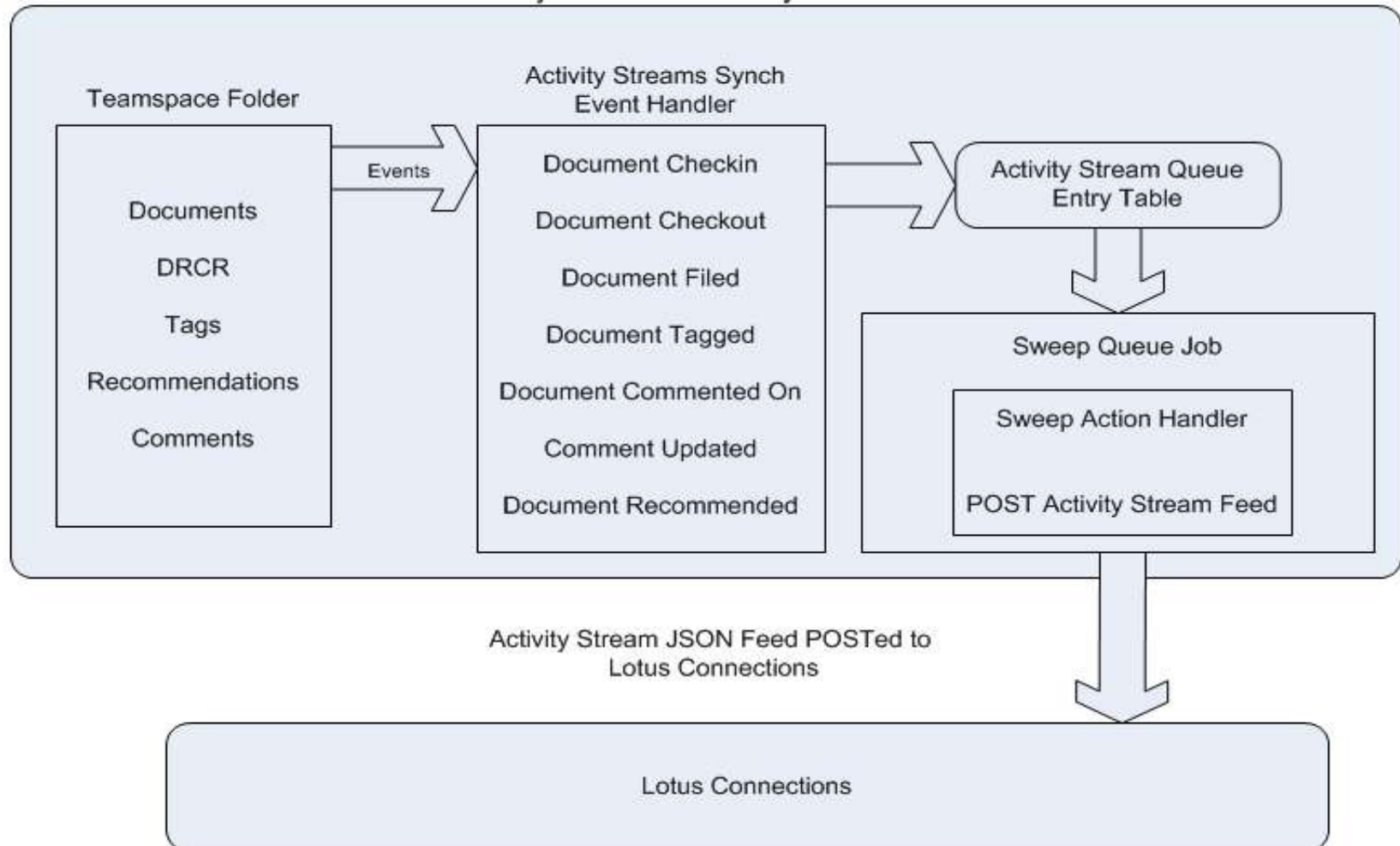
- An introduction to a new Social Collaboration feature in CPE 5.2, support for Lotus Connections activity stream.
- An activity stream is a list of recent activities performed by an individual. For example, FaceBook's *News Feed* is an activity stream. In its simplest form, an activity consists of an actor, a verb, an object, and a target.
 - *Actor*: Identifies the individual who performed the activity.
 - *Verb*: Identifies the action that the activity describes.
 - *Object*: Describes the primary object of the activity, usually a document.
 - *Target*: Describes the target of the activity, usually a Teamspace folder.

Course Roadmap

- 
- ➔ High Level Architecture
 - Required AddOns for Activity Stream Support
 - Activity Stream Feed Generation Rules
 - Events in the Feed
 - Sweep Framework
 - Activity Stream Queue Entry Class Metadata
 - Collaboration Configuration Class Metadata
 - Collaboration Configuration Required Properties
 - Follower Class Metadata
 - Activity Stream JSON
 - Lotus Connections Example
 - TroubleShooting
 - Demo
 - Product Help/Documentation/Resources

High Level Architecture Overview

P8 Object Store – Activity Stream Overview



Required AddOns for Activity Stream Support



- 5.2.0 Custom Role Extensions
 - 5.2.0 Teamspace Extensions
 - 5.2.0 Social Collaboration Role Extensions
 - 5.2.0 Social Collaboration Base Extensions
 - 5.2.0 Social Collaboration Notification Extensions
-
- The social collaboration notification extensions addon contains activity stream specific metadata, subscriptions and event action objects.

Activity Stream Feed Generation Rules

- Connections Lifecycle Library
 - Lifecycle Libraries are CPE folder instances of class ClbTeamSpace where the community id property of the folder is set.
- Connections Linked Library
 - Linked Libraries are CPE folder instances of class ClbTeamSpace where the community id property of the folder is not set.
- Feed Generation Rules
 - Always generate activity stream feed for events on documents filed in a Lifecycle Library (and all subfolders) or Linked Library (and all subfolders)
 - Documents outside of a Lifecycle or Linked Library, in a normal CPE folder which is not a descendent of a Lifecycle or Linked Library, will not send notifications.

Events in the Feed

1 of 3

P8 Object	P8 Events	JSON Verb	JSON Title <i>Embedded Experience "Event Type"</i>
Document	CHECKIN	POST	<code>\${publish.target}</code> <code>ecm.file.checkin</code>
	CHECKOUT	UNSHARE	<code>\${lock.target}</code> <code>ecm.file.checkout</code>
Dynamic Referential Containment Relationship	CREATE	ADD	<code>\${upload.target}</code> <code>ecm.file.added.to.teamspace</code> NOTE: If document is already filed into a given teamspace and is filed again, do not send another ADD event.
Tag	CREATE	TAG	<code>\${tag.target}</code> <code>ecm.tag.created</code>
Comment	CREATE	POST	<code>\${comment.target}</code> <code>ecm.comment.created</code>
	UPDATE	UPDATE	<code>\${update.target}</code> <code>ecm.comment.updated</code>
Recommendation	CREATE	LIKE	<code>\${like.target}</code> <code>ecm.recommendation.created</code>

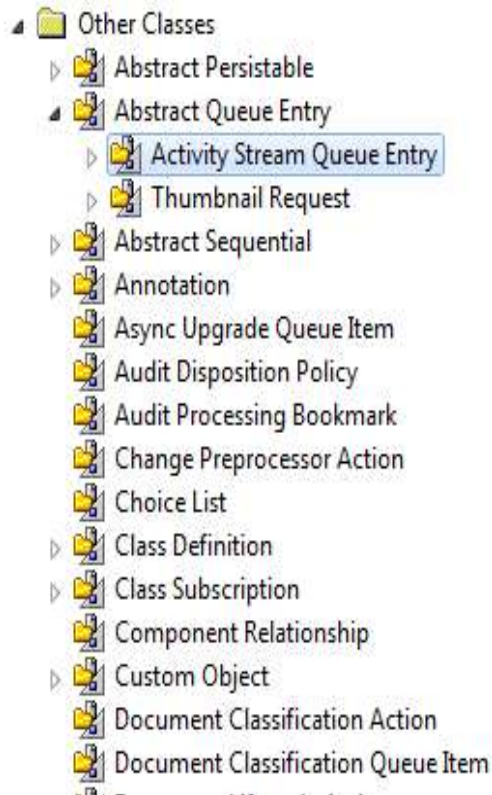
Event Type	JSON Verb	JSON Title <i>Embedded Experience "Event Type"</i>
Review Document Submitted	SHARE	<code>\${review.in.target}</code> <code>ecm.review.document.submitted</code>
Review Document Approved	APPROVE	<code>\${publish.target}</code> <code>ecm.review.document.approved</code>
Review Document Rejected	REJECT	<code>\${reject.target}</code> <code>ecm.review.document.rejected</code>
Review Document Rejection Accepted	POST	<code>\${review.cancel.target}</code> <code>ecm.review.document.rejection_accepted</code>
Review Document Cancelled	CANCEL	<code>\${review.cancel.target}</code> <code>ecm.review.document.cancelled</code>
Review Task Requested	SHARE	<code>\${review.in.target}</code> <code>ecm.review.task.requested</code>

Review Task Required	SHARE	<code>\${review.in.target}</code> <code>ecm.review.task.required</code>
Review Task Approved	APPROVE	<code>\${approve.target}</code> <code>ecm.review.task.approved</code>
Review Task Unapproved	UPDATE	<code>\${review.withdraw.target}</code> <code>ecm.review.task.unapproved</code>
Review Task Unrejected	UPDATE	<code>\${review.withdraw.target}</code> <code>ecm.review.task.unrejected</code>
Review Task Cancelled	CANCEL	<code>\${review.cancel.target}</code> <code>ecm.review.task.cancelled</code>
Review Comment Created	REVIEW	<code>\${comment.target}</code> <code>ecm.review.comment.created</code>
Review Comment Updated	UPDATE	<code>\${update.target}</code> <code>ecm.review.comment.updated</code>

Sweep Framework

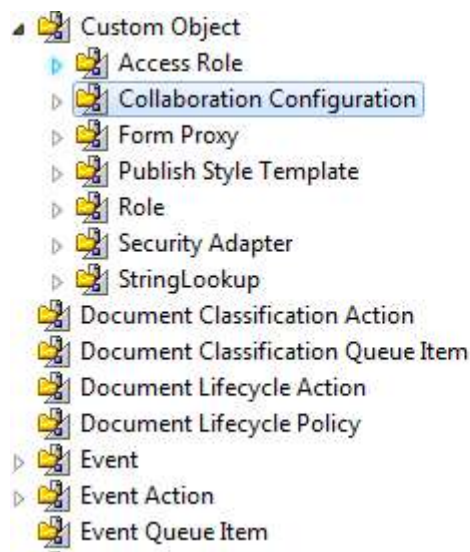
- Event handlers capture data about objects and the events that fire on them and write this captured data to the Activity Stream Queue Entry table.
- The sweep framework is configured to sweep this table and provide a list of objects to a Sweep Action Handler implementation for activity streams.
- The Sweep Action Handler implements the logic to transform the data in the Activity Stream Queue Entry objects into Activity Stream JSON format and deliver that transformed data to Lotus Connections via HTTP POST.

Activity Stream Queue Entry Class Metadata



Display Name	Description
ADG 579 Activity Stream Object Date Created	Activity Stream Object Date Created
ADG 579 Activity Stream Object Id	Activity Stream Object Id
ADG 579 Additional Recipient User Ids	Additional Recipient User Ids
ADG 579 Comment Text	Comment Text
ADG 579 Document Date Created	Document Date Created
ADG 579 Document Id	Document Id
ADG 579 Document Major Version	Document Major Version
ADG 579 Document Minor Version	Document Minor Version
ADG 579 Document Name	Document Name
ADG 579 Document Shared User Ids	Document Shared User Ids
ADG 579 Event Time	Event Time
ADG 579 Event Type	Event Type
ADG 579 Originator	The security identifier associated with the originator of this object.
ADG 579 Tag Value	Tag Value
ADG 579 Teamspace Membership	Teamspace Membership
ADG 579 Version Series Id	Version Series Id

Collaboration Configuration Class Metadata



Display Name	Description
Activity Stream Extended Settings	Activity Stream Extended Settings
Activity Stream Gadget URL	Activity Stream Gadget URL
Activity Stream Generation Enabled	Activity Stream Generation Enabled
Activity Stream HTTP Endpoint URL	Activity Stream HTTP Endpoint URL
Activity Stream Ignored User Ids	Activity Stream Ignored User Ids
Activity Stream Retrieval URL	Activity Stream Retrieval URL
Config 1	Config 1
Config 2	Config 2
Download Count Anonymous User Ids	Download Count Anonymous User Ids
Download Count Ignored User Ids	Download Count Ignored User Ids
Download Recording Enabled	Download Recording Enabled
Seedlist Generation Enabled	Seedlist Generation Enabled

Collaboration Configuration Required Properties

Property Name	Type	Description
Config 1	Long String	Password for authentication to HTTP endpoint.
Config 2	Long String	User name for authentication to HTTP endpoint.
Activity Stream HTTP Endpoint URL	Long String	Base URL to activity stream HTTP endpoint. To redirect HTTP output to a file, set a file path for this property: "c:/temp/json.log"
Activity Stream Retrieval URL	Long String	Base URL to Collaboration Services for object retrieval by Connections/Nexus.
Activity Stream Gadget URL	Long String	Gadget URL to support Connections Embedded Experience (EE).

Follower Class Metadata

Property Name	Type	Description
Followed Document (ClbFollowedDocument)	Singleton Object	Reference to specific document version which is being followed.
Document Major Version (ClbDocumentMajorVersion)	Integer	Value required, set by change pre-processor. Set on create only.
Document Minor Version (ClbDocumentMinorVersion)	Integer	Value required, set by change pre-processor. Set on create only.
Followed Version Series (ClbFollowedVersionSeries)	Singleton Object	Support queries of all followers for a document version series.
Following User (ClbFollowingUser)	String	SID of user creating Follower object.
Summary Data (ClbSummaryData)	Singleton Object	Part of reflective relationship between Summary Data and Follower objects, Security Proxy.
Following (ClbFollowing)	Integer Choice List	0 = NONE, 1 = ALL, 2 = COMMENTS

- Activity Stream Specification
 - <http://activitystrea.ms/specs/json/1.0/>
- JSON Examples
 - generator

Identifies source of activity stream feed, hard coded as seen below:

```
"generator":  
{  
  "id":"ecm_files"  
},
```


- JSON Examples
 - connections

The rollup id, which is either a version series id or document id, is used by Connections to associate events.

The isPublic value is true if #AUTHENTICATED-USERS have view rights to the document.

```
"connections":  
{  
  "rollupid": "78A25DFA-8BB8-4EA8-AEDD-E1F1432B9415",  
  "isPublic": "true"  
},
```

- JSON Examples
 - actor

Identifies the individual whose action generated the event. The id value is a Waltz id that was generated from a Content Engine SID.

```
"actor":  
{  
  "objectType": "person",  
  "id": "urn:lsid:lconn.ibm.com:profiles.person:  
                                             Converted-SID-value",  
  "displayName": "Joe User"  
},
```

- JSON Examples

- title

A hard coded value that specifies the type of event.

```
"title": "${comment.target}",
```

- verb

A hard coded value that associates a verb with the event.

```
"verb": "post",
```

■ JSON Examples

– to

Specifies the delivery target(s) for the event. The **group** object type targets a Connections Lifecycle Library. The **person** object type targets *Followers* or *Document Review recipients*. The group will not be included if teamspace members no longer have view rights to the document. Followers will not be included if they no longer have view rights to the document.

```
"to":[
{
  "objectType":"person",
  "id":"urn:lsid:lconn.ibm.com:profiles.person:
      Converted-SID-here"
},
{
  "objectType":"group",
  "id":"urn:lsid:lconn.ibm.com:communities.community:
      actual-community-id"
}],
```

■ JSON Examples

– object

Below is an example of *object* JSON for all events except for Comment events, which will be examined later.

The ***objectType*** value is hard coded to ***file***. The ***id*** value is either the version series id or document id. The ***displayName*** value is the document title (always DocumentTitle property value, never containment name). The ***fileUrl*** value is a link to retrieve the document via Collaboration Services.

```
"object":  
{  
  "objectType": "file",  
  "id": "78A25DFA-8BB8-4EA8-AEDD-E1F1432B9415",  
  "url": "{communities}/service/html/widgetview?....",  
  "displayName": "LinkedLibDoc1360709283479",  
  "fileUrl": "http://9.39.56.218:9080/dm/atom/...."  
},
```


- JSON Examples
 - target

Below is an example of *target* JSON for all events except for Comment and Tag events, those will be examined later.

The ***objectType*** value is hard coded to ***article***. The ***displayName*** value is the name of the associated teamspace folder. The ***url*** value is empty string.

```
"target":  
{  
  "displayName":"TestLinkedLibWithSecurity",  
  "url":"",  
  "objectType":"article"  
},
```

- JSON Examples
 - target (for Tag events)

Below is an example of *target* JSON for Tag events.

The **objectType** value is hard coded to **article**. The **displayName** value is the tag value. The **url** value is a hard coded value with the tag value appended: "tag=tag-value-here".

```
"target":
{
  "displayName": "tag-value-here",
  "url": "{communities}/service/html/communityview?
        communityUuid=comm-id&lwForceReload=1348757607089#
        tag=tag-value-here",
  "objectType": "article"
},
```


- JSON Examples
 - object (for Comment events)

Below is an example of *object* JSON for Comment events.

The ***objectType*** value is hard coded to ***comment***. The ***summary*** value is the comment text. The ***id*** value is the object id for the Comment object.

```
"object":  
{  
  "summary":"linked-comment-1",  
  "objectType":"comment",  
  "updated":"2013-02-12T22:48:07Z",  
  "id":"1E118309-DCAF-47AC-B7FB-3A0ABEA6E2BE"  
},
```

- JSON Examples
 - target (for Comment events)

Below is an example of *target* JSON for Comment events (formatted like object JSON for other events).

The **objectType** value is hard coded to **file**. The **id** value is either the version series id or document id. The **displayName** value is the document title (always DocumentTitle property value, never containment name). The **fileUrl** value is a link to retrieve the document via Collaboration Services.

```
"target":  
{  
  "id":"78A25DFA-8BB8-4EA8-AEDD-E1F1432B9415",  
  "url":"{communities}/service/html/widgetview?...  
  "objectType":"file",  
  "displayName":"LinkedLibDoc1360709283479",  
  "fileUrl":"http://9.39.56.218:9080/dm/atom/library/...  
},
```

- JSON Examples
 - openSocial – see context example on next slide

The openSocial JSON supports the Connections Embedded Experience (EE). The **gadget** value is retrieved entirely from the Collaboration Configuration property ClbActivityStreamGadgetURL.

```
"openSocial":
{
  "embed":
  {
    "context":
    {
      ...
    }
    "gadget": "http://bxv5v016.cn.ibm.com:9081/connections/
              resources/web/com.ibm.social.ee/ConnectionsEE.xml"
  }
}
```

- JSON Examples
 - context

The **id** value is either the version series id or the document id. The **libraryName** value is the name of the teamspace folder. The **eventType** value is the Embedded Experience event description.

```
"context":  
{  
  "id":"78A25DFA-8BB8-4EA8-AEDD-E1F1432B9415",  
  "anonymousEntryUrl":"http://9.39.56.218:9080/dm/atom/...",  
  "oauthEntryUrl":"http://9.39.56.218:9080/dm/atom/...",  
  "libraryName":"TestLinkedLibWithSecurity",  
  "entryUrl":"http://9.39.56.218:9080/dm/atom/library/...",  
  "eventType":"ecm.comment.created"  
},
```


- JSON Examples
 - actionable = false

Some events, when received by Connections, imply some action is required by a teamspace member. If at some later point, an event is received that nullifies that any action is required on the part of the user, additional JSON must be PUT to alert Connections. The body of the JSON package is hard coded as:

```
{"id":"","actor":{"id":""},"verb":"","object":{"id":""},  
"connections":{"actionable":"false"}}
```

The important part of the PUT operation is the URL (as seen below). The correct rollup id must be appended to the end of URL for Connections to cleanup actionable events.

```
http://dubxpcvm079.mul.ie.ibm.com:9082/connections/opensocial/rest/act  
ivitystreams/@me/@all/@all/urn:lsid:lconn.ibm.com:profiles.note:4c93fa  
f9-5c9a-4def-a498-1967af8a17c4
```

Lotus Connections Example

Getting Started

I'm Following

Status Updates

My Notifications

@ Mentions

Action Required 7

Saved

Discover


My Page

Action Required


View items that require your response.

What are you working on right now?

Filter By: All




Amadou Alain submitted [Blue hills.jpg](#) in Kate12345 for review.


 **Blue hills.jpg**

Today at 4:38 PM


[Save this](#)




Samantha Daryn submitted [OrlandoTravellinerary.ods](#) in Library 2 - all review - allow doc appro review.

 **OrlandoTravellinerary.ods**


Today at 4:15 PM




Amadou Alain submitted [Greener Renovations.odt](#) in Library - all review - no doc approvers for review.

 **Greener Renovations.odt**

Today at 2:56 PM




Amadou Alain submitted [testing private draft visibility.txt](#) in Library - all review - no doc approvers for review.

 **testing private draft visibility.txt**

Today at 2:42 PM

Amadou Alain submitted [Blue hills.jpg](#) in Kate12345 for review.

You rejected this draft.

 **Blue hills.jpg** [Draft in Review](#)


[Preview](#) [Download](#) 27 KB


[Comments](#) [Recent Updates](#) **Review**

Amadou Alain submitted the draft for review today at 4:38 PM.

Reviewers

Community Owners require one reviewer to review this draft.


 **Vivian Hanley**

 **Carminise-r.jpg**
1 related person


1 - 5 of 15 [Previous](#) [Next](#)

Events

You are not following or attending any upcoming events.

 [Add to Personal Calendar](#)

© Copyright IBM Corp. 2013.



TroubleShooting – Activity Stream is not Generated 1 of 5

- Verify that Sweep “Dispatcher Enabled” is TRUE

Filter the properties displayed

☒ Custom Properties ☐ All Properties
☐ Custom & System Properties ☐ Diagnostic View

	Property Name	Property Value
0	Name	mydomain
1	Default Site	[Object (Initial Site)]
2	Subsystem Configurations	14 - [Object (Sweep Configuration)]
3	Directory Configurations	4 - [Object (Image Services Import...]
4	Documentation URL	5 - [Object (Publishing Configuration]
		6 - [Object (Server Cache Configur]
		7 - [Object (Trace Logging Configu]
		8 - [Object (Verify Server Configu]
		9 - [Object (CFS Import Agent Conf]
		10 - [Object (Replication Configurati]
		11 - [Object (Text Search Configura]
		12 - [Object (Auditing Configuration]
		13 - [Object (Thread Pool Configura]
		14 - [Object (Sweep Configuration)]
		15 - [Object (Process Engine Config]

Sweep Configuration Properties

General Properties

<Name Unknown>
<Class: Sweep Configuration>

Filter the properties displayed

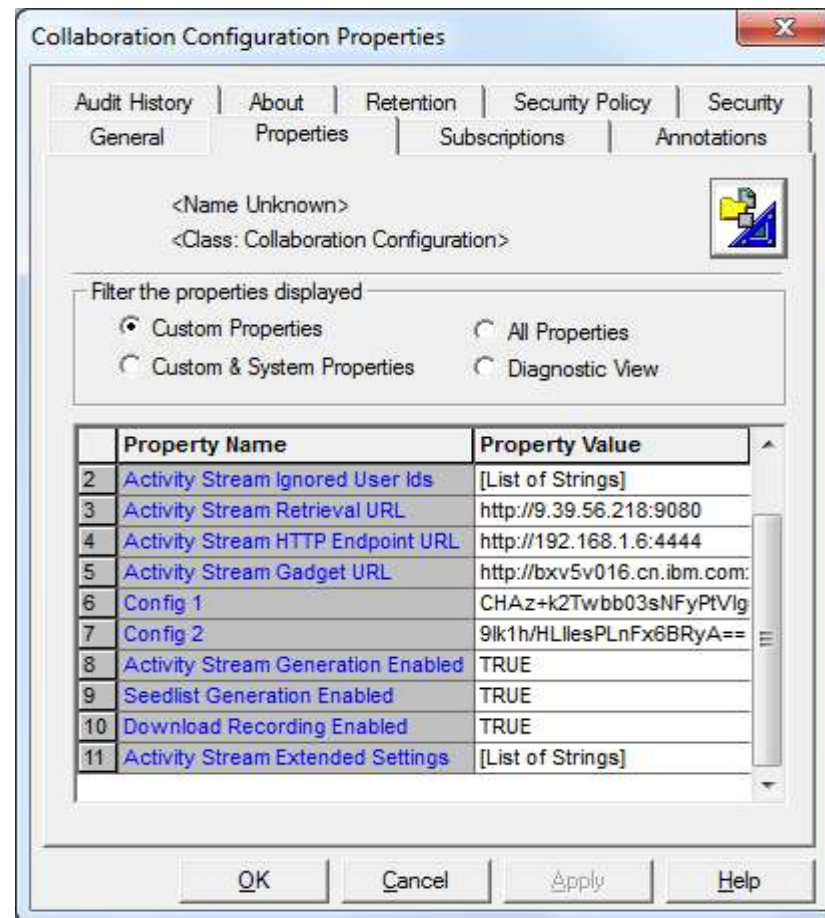
☒ Custom Properties ☐ All Properties
☐ Custom & System Properties ☐ Diagnostic View

	Property Name	Property Value
0	Dispatcher Enabled	TRUE
1	Sweep Timeslots	[List of Objects]
2	Default Dispatcher Delay	300
3	Policy Controlled Sweep	100
4	Wait For Workers Delay	3000
5	Wait For Workers Short Del	500
6	Wait For Queue Activity Del	60000
7	Sweep Job Lease Duration	420
8	Queue Sweep Lease Durati	420
9	Inter-Batch Delay	0

OK Cancel Help

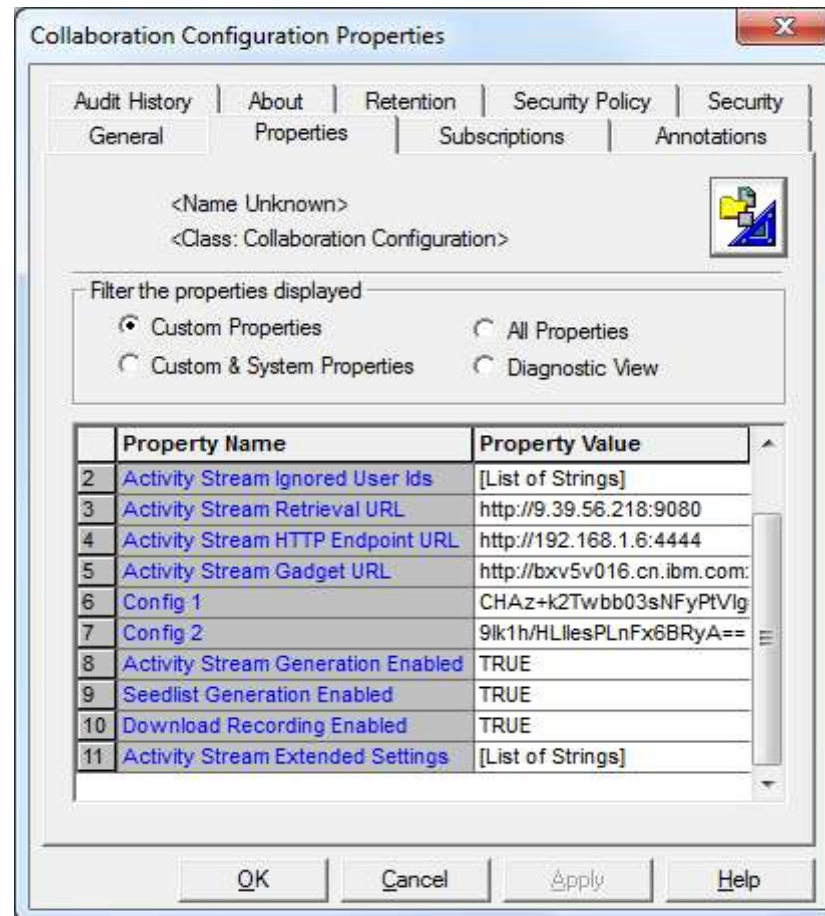
TroubleShooting – Activity Stream is not Generated 2 of 5

- Verify that Activity Stream is not disabled in Collaboration Configuration instance.

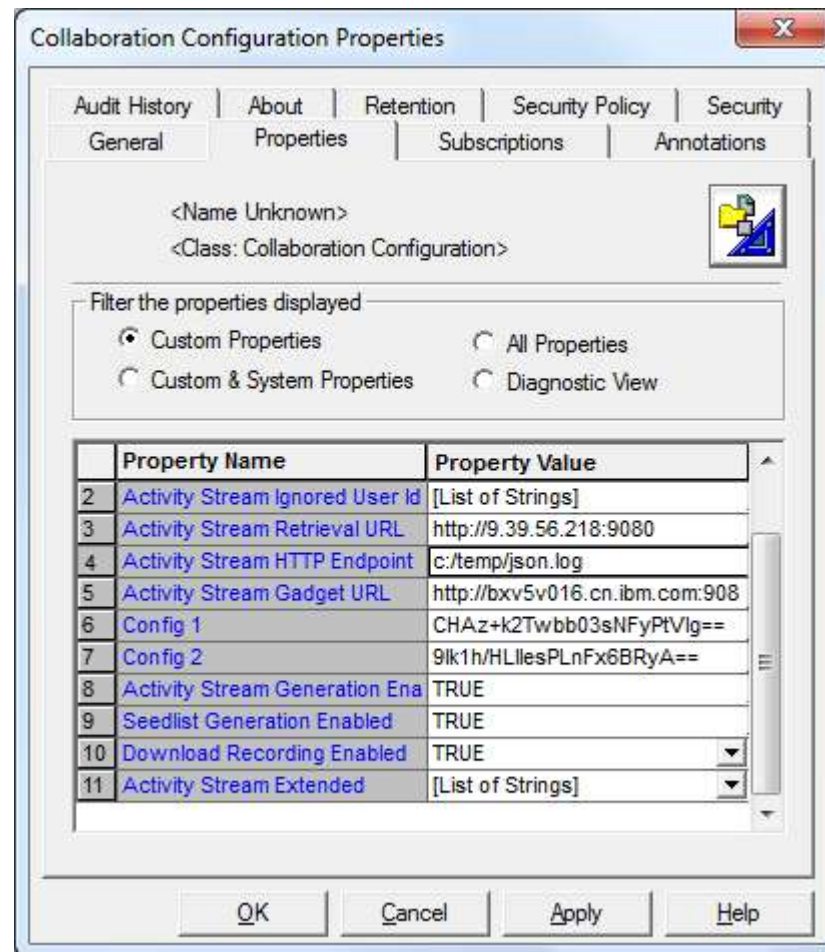


TroubleShooting – Activity Stream is not Generated 3 of 5

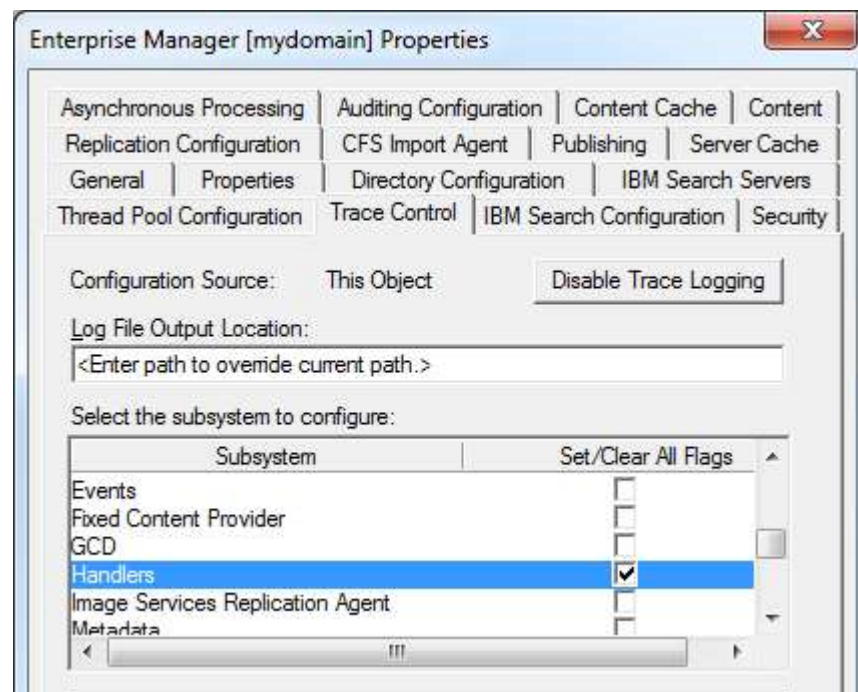
- Verify that Activity Stream Ignored User Ids property does not contain SID of user where events are not generated.



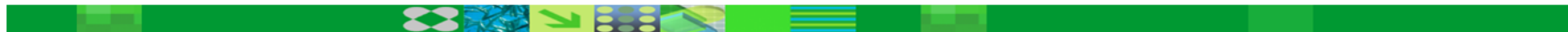
- Set Activity Stream HTTP Endpoint to a file path.



- For 5.2, there is a new tracing subsystem for event handlers and change preprocessors. Note that all activity stream JSON is output to the trace log.



Demo



- Generate Events
- Examine trace log file
- Examine JSON output file

Product Help/Documentation/Resources



- Documentation links will be live after eGA (prior to that replace <http://pic.dhe.ibm.com/infocenter/p8docs/v5r2m0> with <http://cmfogbert.usca.ibm.com:7777/p8ic520>)
 - http://pic.dhe.ibm.com/infocenter/p8docs/v5r2m0/topic/com.ibm.p8.ce.admin.tasks.doc/featureaddons/fa_addon_extensions.htm
 - <http://pic.dhe.ibm.com/infocenter/p8docs/v5r2m0/topic/com.ibm.installingp8qkr.doc/qkrpi030.htm>