Monitoring Confluence with CA APM

Here at CA, we are major users of Confluence. Confluence is a great product that really helps us collaborate in a Web 2.0 way, both internally, and also with our customers.

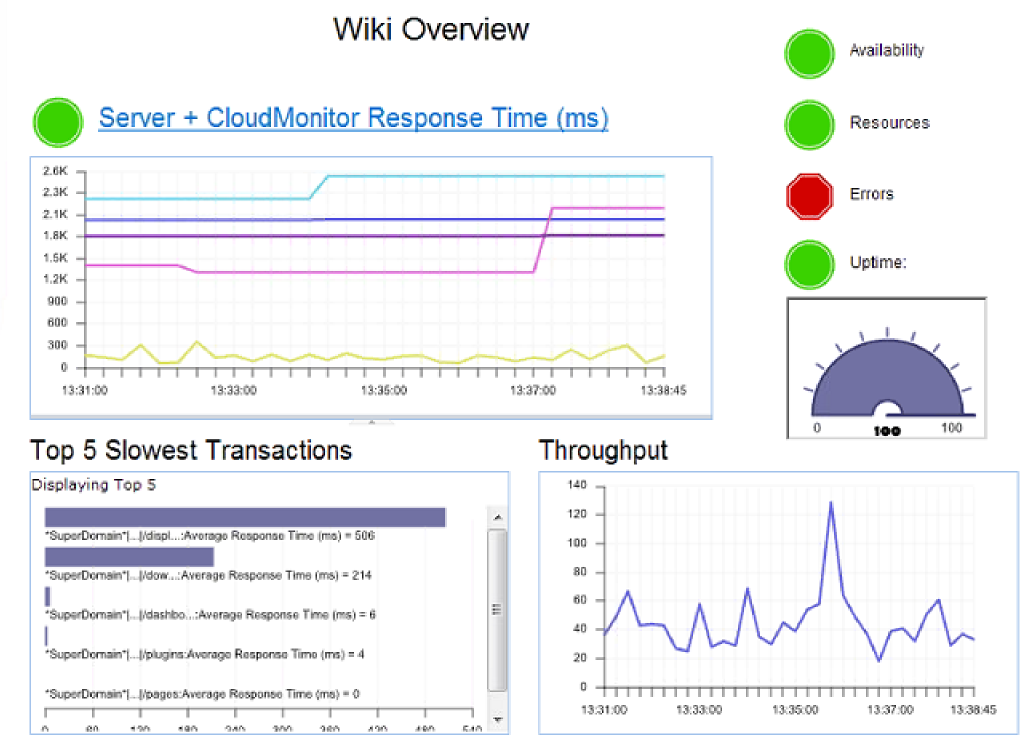
With so many users and customers relying on Confluence, it's critical to us that Confluence performs well. So we use our CA APM solution to ensure that it does.

Below are just a few of the views we use, day to day, to keep Confluence running optimally for our users.

Overview Dashboard

The overview dashboard gives operations an "at a glance" indication of service status. **Availability** and **Response time** is measured by both synthetic transactions and application server uptime. We will be alerted if services stop working even if nobody is using the system. Likewise, we will be notified if a single appserver in the cluster crashes. Response time is also measured from both synthetic and real transactions.

This dashboard also shows us how the infrastructure is serving us (**Resources**) and if any unhandled exceptions are being thrown (**Errors**).


Wiki Overview
Server + CloudMonitor Response Time (ms)
2.6K
2.3K
2.1K
1.8K
1.5K
1.2K
900
600
300
0
13:31:00
13:33:00
13:35:00
13:37:00
13:38:45
Availability
Resources
Errors
Uptime:
0
100
100
Top 5 Slowest Transactions
Displaying Top 5
SuperDomain|...|/displ...:Average Response Time (ms) = 506
SuperDomain|...|/dow...:Average Response Time (ms) = 214
SuperDomain|...|/dashbo...:Average Response Time (ms) = 6
SuperDomain|...|/plugins:Average Response Time (ms) = 4
SuperDomain|...|/pages:Average Response Time (ms) = 0
0
60
120
180
240
300
360
420
480
540
Throughput
140
120
100
80
60
40
20
0
13:31:00
13:33:00
13:35:00
13:37:00
13:38:45

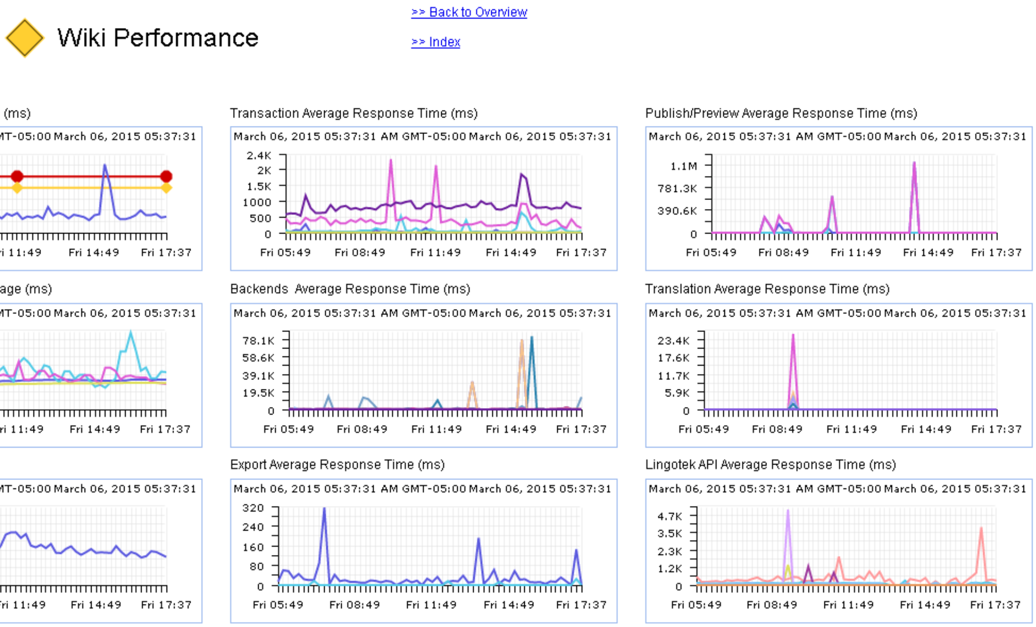
Note: If not displaying in Live mode Alerts show the worst status over the timeframe - even if it only was for 15 seconds!

x`

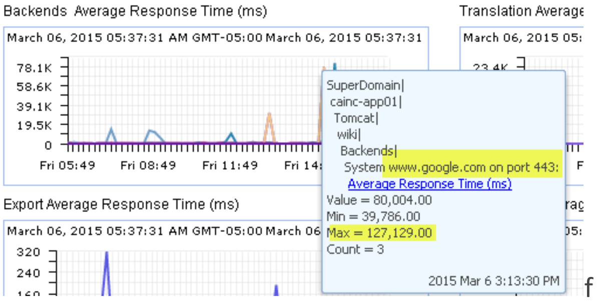
Performance Overview Dashboard

The performance overview dashboard provides a range of performance measurements known to be critical to supporting a good user experience. For CA, this includes Confluence specific metrics such as…

- Publish/Preview
- Export (to PDF or EPUB)
- Translation services


Wiki Performance
>> Back to Overview
>> Index
Server Average Response Time (ms)
Transaction Average Response Time (ms)
Publish/Preview Average Response Time (ms)
CloudMonitor Performance Average (ms)
Backends Average Response Time (ms)
Translation Average Response Time (ms)
Load (Responses Per Interval)
Export Average Response Time (ms)
Lingotek API Average Response Time (ms)
March 06, 2015 05:37:31 AM GMT-05:00 March 06, 2015 05:37:31
600
400
200
0
2.4K
2K
1.5K
1000
500
1.1M
781.3K
390.6K
4.7K
3.5K
2.3K
1.2K
78.1K
58.6K
39.1K
19.5K
23.4K
17.6K
11.7K
5.9K
3.9K
2.9K
2K
320
240
160
80
Fri 05:49
Fri 08:49
Fri 11:49
Fri 14:49
Fri 17:37

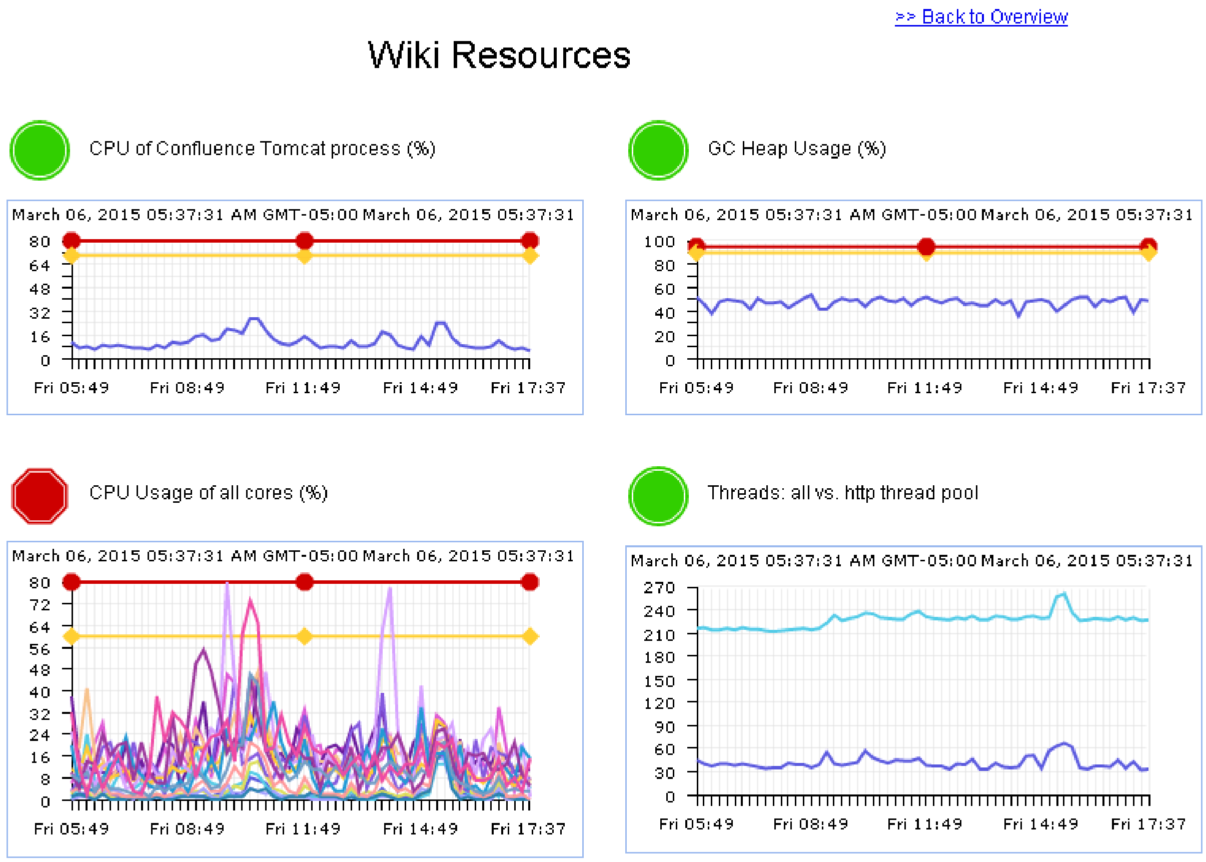
Note that there was a spike in the transaction response time today. At a glance, we can already guess the cause as being due to the "Backend Average Response (time)". Backend means that a service we rely on, in this case.. www.google.com:443. We are seeing response times as high as 2 minutes from this service at the time of the event. This is a great demonstration the power of customizable views.


Backends Average Response Time (ms)
Translation Average
Export Average Response Time (ms)
March 06, 2015 05:37:31 AM GMT-05:00 March 06, 2015 05:37:31
78.1K
58.6K
39.1K
19.5K
0
320
240
Fri 05:49
Fri 08:49
Fri 11:49
Fri 14:

SuperDomain|
cainc-app01|
Tomcat|
wiki|
Backends|
System www.google.com on port 443:
Average Response Time (ms)
Value = 80,004.00
Min = 39,786.00
Max = 127,129.00
Count = 3
2015 Mar 6 3:13:30 PM

Resource Overview Dashboard

No APM view would be complete without an overview of the resource utilization. On this view we are measuring CPU from both inside the JVM, and from the OS perspective. Notice they are different! The tomcat process is using little CPU itself, but the JVM's picture of the CPU is much higher. With 210 threads running together, it's no surprise that some of the cores are busy. We might benefit from a little tuning here.



>> Back to Overview

Wiki Resources

CPU of Confluence Tomcat process (%)

March 06, 2015 05:37:31 AM GMT-05:00 March 06, 2015 05:37:31

GC Heap Usage (%)

March 06, 2015 05:37:31 AM GMT-05:00 March 06, 2015 05:37:31

CPU Usage of all cores (%)

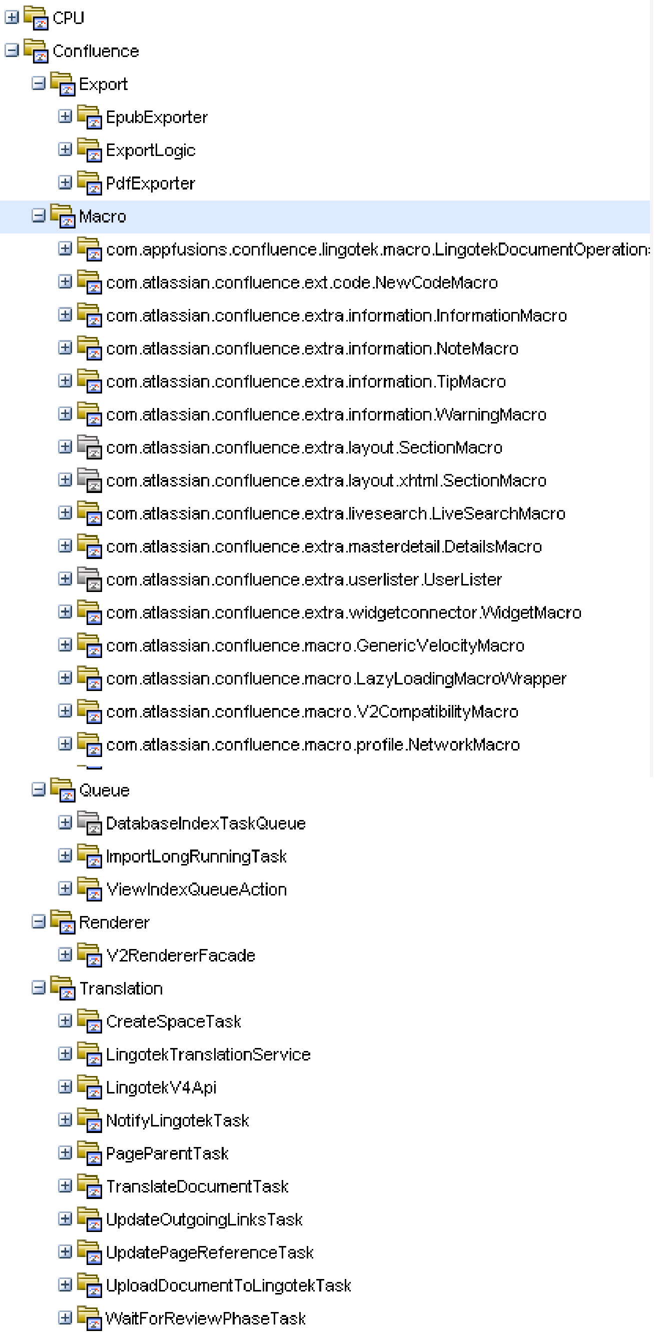
March 06, 2015 05:37:31 AM GMT-05:00 March 06, 2015 05:37:31

Threads: all vs. http thread pool

March 06, 2015 05:37:31 AM GMT-05:00 March 06, 2015 05:37:31

Under the hood

Now let’s take a deeper dive into some of the Confluence specific metrics



```
⊞ CPU
⊟ Confluence
    ⊟ Export
        ⊞ EpubExporter
        ⊞ ExportLogic
        ⊞ PdfExporter
    ⊟ Macro
        ⊞ com.appfusions.confluence.lingotek.macro.LingotekDocumentOperation
        ⊞ com.atlassian.confluence.ext.code.NewCodeMacro
        ⊞ com.atlassian.confluence.extra.information.InformationMacro
        ⊞ com.atlassian.confluence.extra.information.NoteMacro
        ⊞ com.atlassian.confluence.extra.information.TipMacro
        ⊞ com.atlassian.confluence.extra.information.WarningMacro
        ⊞ com.atlassian.confluence.extra.layout.SectionMacro
        ⊞ com.atlassian.confluence.extra.layout.xhtml.SectionMacro
        ⊞ com.atlassian.confluence.extra.livesearch.LiveSearchMacro
        ⊞ com.atlassian.confluence.extra.masterdetail.DetailsMacro
        ⊞ com.atlassian.confluence.extra.userlister.UserLister
        ⊞ com.atlassian.confluence.extra.widgetconnector.WidgetMacro
        ⊞ com.atlassian.confluence.macro.GenericVelocityMacro
        ⊞ com.atlassian.confluence.macro.LazyLoadingMacroWrapper
        ⊞ com.atlassian.confluence.macro.V2CompatibilityMacro
        ⊞ com.atlassian.confluence.macro.profile.NetworkMacro
    ⊟ Queue
        ⊞ DatabaseIndexTaskQueue
        ⊞ ImportLongRunningTask
        ⊞ ViewIndexQueueAction
    ⊟ Renderer
        ⊞ V2RendererFacade
    ⊟ Translation
        ⊞ CreateSpaceTask
        ⊞ LingotekTranslationService
        ⊞ LingotekV4Api
        ⊞ NotifyLingotekTask
        ⊞ PageParentTask
        ⊞ TranslateDocumentTask
        ⊞ UpdateOutgoingLinksTask
        ⊞ UpdatePageReferenceTask
        ⊞ UploadDocumentToLingotekTask
        ⊞ WaitForReviewPhaseTask
```

Here you can see we are monitoring the performance of

Export to different formats.

Every confluence Macro (The list on this page was reduced for brevity).

Queue performance

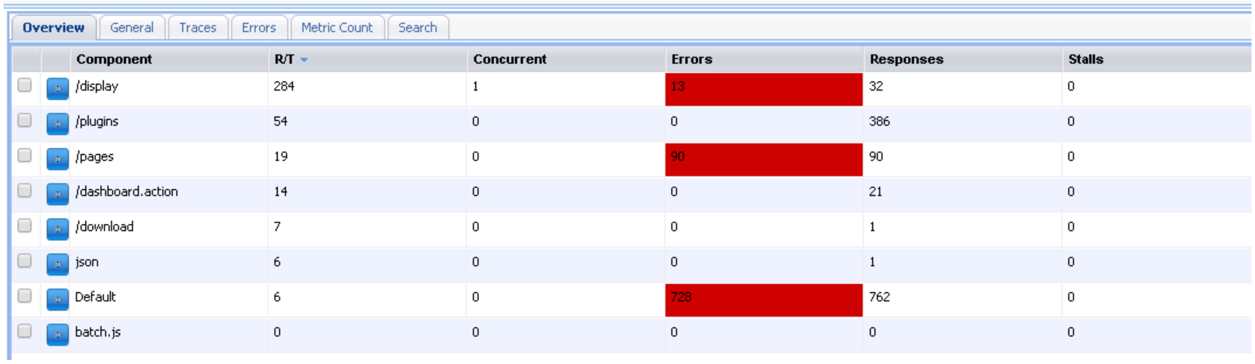
The Renderer

The Translation engine.

Finding problems on pages

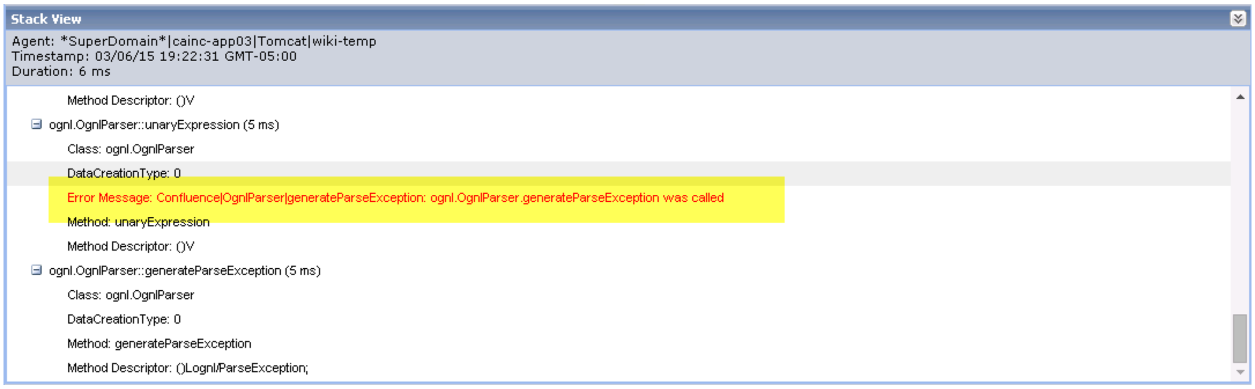
Remember how we saw that Errors were being indicated on the overview dashboard? A click gets us to a more detailed view.

Here we see that /pages and /plugins are affected. These are things we care about.



Component	R/T	Concurrent	Errors	Responses	Stalls
/display	284	1	13	32	0
/plugins	54	0	0	386	0
/pages	19	0	90	90	0
/dashboard.action	14	0	0	21	0
/download	7	0	0	1	0
json	6	0	0	1	0
Default	6	0	728	762	0
batch.js	0	0	0	0	0

The next click shows us what the errors are, OnglParser exception… Likely a problem with a configuration file. Time to capture the message, the logs, and fire them to Atlassian for an explanation.



```
Agent: *SuperDomain*|cainc-app03|Tomcat|wiki-temp
Timestamp: 03/06/15 19:22:31 GMT-05:00
Duration: 6 ms
```

```
        Method Descriptor: ()V
    ⊟ ognl.OgnlParser::unaryExpression (5 ms)
        Class: ognl.OgnlParser
        DataCreationType: 0
        Error Message: Confluence|OgnlParser|generateParseException: ognl.OgnlParser.generateParseException was called
        Method: unaryExpression
        Method Descriptor: ()V
    ⊟ ognl.OgnlParser::generateParseException (5 ms)
        Class: ognl.OgnlParser
        DataCreationType: 0
        Method: generateParseException
        Method Descriptor: ()Lognl/ParseException;
```