CA APM App Synthetic Monitor Agent

User Guide

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# Purpose

The purpose of this agent is to pull real-time metrics from App Synthetic Monitor into an CA APM Enterprise Manager. By this measure, an application that is monitored with CA APM can also have some contextual metrics as to the performance of the application, as seen from around the globe. Also, it gives customers (and CA employees) who are comfortable with the Introscope interface a common location for App Synthetic Monitor and APM data, such as the investigator, dashboards and alerts.

For information on App Synthetic Monitor, visit this page for more detail on its capabilities: http://cloudmonitor.ca.com/en/website\_monitoring\_features.php

**NOTE:** This agent is work-in-progress. Any and all feedback about its functionality, ease-of-use, data it provides, etc., is greatly appreciated

Please open an issue on GitHub if you have any feedback or questions about this agent.

## Disclaimer

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Although these utilities are unsupported, please let us know if you have any problems or questions by adding a comment to the CA APM Community Site area where the resource is located, so that the Author(s) may attempt to address the issue or question. Any requests for assistance to CA Support regarding this tool may be routed to the original author if known at the time, with no guarantees of notification delivery, closure, or answer by CA Support.

# Prerequisite Steps

* **You must have an App Synthetic Monitor account.**Please see <https://cloudmonitor.ca.com/en/compare_plans.php>
* **Set your API password in your App Synthetic Monitor account**The Change Password page can be found here: [http://cloudmonitor.ca.com/en/changepasswd.php](http://cloudmonitor.ca.com/en/change_passwd.php)  
  To change your API Password use the second set of fields.   
  **NOTE: Your API password does not change with your site password.**
* **Create one or more monitoring rules in App Synthetic Monitor**A monitor rule is a site or script that is being monitored. A rule could be as simple as checking http://www.ca.com or http://cloudmonitor.ca.com   
  Read through the “**Getting Started**” guide for insight into creating and organizing rules. See <https://wiki.ca.com/display/cacm82/Getting+Started>
* **Ensure Java 1.5 or 1.6 is installed on the machine where you’re running the Agent.** Make sure it’s on the PATH, or set it in the script you will be using to run the Agent.
* **The Agent must have access to the Internet.**The Agent communicates with https://api.cloudmonitor.ca.com to get its data.   
  Open any firewall rules to api.cloudmonitor.ca.com (port 443) as needed.
* **You must have an APM Enterprise Manager (EM) to receive the metrics from this Agent.**Open any firewall rules between the Agent and EM at the port used by the EM (typically 5001)

# Agent Configuration Steps

## Download and install the EPAgent

1. Go to <https://support.ca.com>
2. Log in with your credentials
3. Go to “Download Center”/”Products”
4. Select “CA Application Performance Management - MULTI-PLATFORM” and your current release
5. Download “Introscope Environment Performance-EP-Agent Files <version>”
6. Extract EPAgent<version>unix.tar or EPAgent10.0.0.12windows.zip. This creates a directory “epagent” that will further be references as <EPA\_HOME>.

## Extract the App Synthetic Monitor files

Unzip asm-monitor-bin.zip into <EPA\_HOME>. It contains the following files:

1. config/AppSyntheticMonitor.properties
2. typeviewers/AppSyntheticMonitor.typeviewers.xml
3. lib/ca.apm.swat.asm-monitor.jar
4. bin/ASMCtrl.sh
5. bin/encryptPassword.sh
6. docs/CA APM App Synthetic Monitor Agent.docx

Run chmod 755 bin/\*.sh to make the shell scripts executable.

## (Optional) Encrypt your API password using the included script

Syntax: bin/encryptPassword.[bat|sh] [yourpassword]  
You will use the resulting encrypted password in Step 5.

## Configure the EPAgent wrapper

Config file: AppSyntheticMonitor.properties

**Note**: the EPAgent configuration is already included in this file. Settings in IntroscopeEPAgent.properties will be ignored!

Set the EM Host and Port:  
introscope.agent.enterprisemanager.transport.tcp.host. DEFAULT=[your EM host] introscope.agent.enterprisemanager.transport.tcp.port. DEFAULT=[your EM port]

## Configure the App Synthetic Monitor EPAgent Plugin.

Config file: AppSyntheticMonitor.properties

* Set your login, API password and whether or not the password is encrypted (see step 3 above to encrypt your password)
* If you must use a proxy server to reach https://api.cloudmonitor.ca.com from your Agent’s location, edit the settings for “asm.proxy” to use that proxy.  
  You can encrypt a proxy password the same way you would for your API password *(see step 3).*
* List any folders and their rules which you would like to monitor.
* If you leave the “asm.folders” property blank or set it to “allfolders”, the agent will poll all of your App Synthetic Monitor folders.
* “rootfolder” is the top level, for rules that are not in a folder.
* (Optional) If you wish to specify rules in a folder to poll, create an entry for it: “asm.folder.[yourfolder]=[rule1],[rule2],etc…”
* If you leave out this line, all rules in the folder will be polled ***(****which is OK!).*
* If you wish to have the Agent exclude monitoring of inactive folders and/or rules, set the “asm.skipinactive” properties accordingly. *(default = true)*
* Set the “asm.metrics” properties according to the metric details you wish to gather for each folder/rule.
* The list of metrics from each of these categories is listed in **Appendix 1**.

More configuration options exist and are described in the comments in AppSyntheticMonitor.properties.

## (Optional) Install the Agent as a Windows service using the included script.

* By default, the service name will be “ASMAgent”.
* By default, the service description will be “App Synthetic Monitor Agent”.

## (Optional) Copy the App Synthetic Monitor management module to the EM.

* The Management Modules for both version 8 and version 9 of Introscope are found in the mgmtModules directory.
* Copy only one of these to the /deploy directory of your EM.

## (Optional) Copy the App Synthetic Monitor Typeviews to the EM

* The Typeviews can be found in the typeviews directory.
* Copy the xml files in this directory to the /ext/xmltv directory of your EM.
* You will need to restart the workstation or webview (server) to pick up the typeviews.

# Running the Agent

**The agent can be started several ways:**

* ASMAgent.bat
* ./ASMAgent.sh
* Start the service (“ASMAgent” or “App Synthetic Monitor Agent”) in Windows (if installed)

# Troubleshooting

## Help! I’m getting no data!

* Check the Agent log (log/IntroscopeEPA.log) for any error messages.
* If you see an authentication error, visit the API login page to make sure your API credentials are correct: https://api.cloudmonitor.ca.com/1.6/acctlogin?doc
* If you can’t reach https://api.cloudmonitor.ca.com from where your Agent is installed, you may need to set the HTTP proxy settings. You can do so in the AppSyntheticMonitor.properties file.
* If there are no errors, check the following:
* If you defined specific folders/rules, make sure those names are properly spelled in your AppSyntheticMonitor.properties file. To debug, try running the Agent with “allfolders” for the “asm.folder” property.
* Check your App Synthetic Monitor home page, OR check this metric: “App Synthetic Monitor|Credits:API Credits Available” to see if you have sufficient API Credits. If you are out of API Credits, see the next subsection.

## Help! I’m out of (or low on) API Credits!

* By default, an Enterprise account has 7500 credits.
* The API credit count replenishes daily.
* You can check on your App Synthetic Monitor home page OR the following metric: “App Synthetic Monitor|Credits:API Credits Available” to see your current API credit count.

If your API Credit count is low (or empty), you have several options:

* Set the time-between-checks interval to a higher interval.
* Change this property: asm.waittime=[timeinms]
* You won't be losing much (if any) data, just the speed in which some of it populates (particularly the Probe Log data, which are the metrics organized by geography).
* Ensure your configuration is using as few checks as possible to get the data.
* Put your rules into folders. Rules in the “root folder” require more API credits to check, due to the syntax of the App Synthetic Monitor API.
* Use "allrules" for folders rather than listing individual rules.
* Only monitor folders you need (deactivate folders and rules you don’t need).
* Reduce the granularity of your metrics:
  + Setting asm.metrics.stats.rule=false is the first line of defense. You will still get Probe Log (“asm.metrics.logs”) metrics for your rules, and summary stats for the folders that contain your rules (“asm.metrics.stats.folder”).
  + You can set the other “asm.metrics” properties to false if you don’t need those metrics. *See* ***Appendix 1*** *for a complete list of the metrics.*
* Email CA App Synthetic Monitor support and tell them you need more API credits on your account.

# APPENDIX 1: Agent Metrics

## Credit Counts (asm.metrics.credits)

(**NOTE:** Costs no API credits to check)

App Synthetic Monitor|Credits:SMS Credits Available

App Synthetic Monitor|Credits:API Credits Available

App Synthetic Monitor|Credits:Check Credits Available

## Probe Logs (asm.metrics.logs)

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Alerts Per Interval

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Check End Time

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Check Start Time

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Connect Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Download Size (kB)

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Download Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Error Description

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Errors Per Interval

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:IP Address

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Location Code

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Processing Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Repeat

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Resolve Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Result Code

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Rule ID

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Rule Name

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Total Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]|[region]|[Country]| [City]:Type

## Public Stats (asm.metrics.public)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Color

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Errors Per Interval

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Performance Current Average (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Performance Daily Average (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Rule ID

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Rule Name

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Uptime Current Average (%)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Uptime Daily Average (%)

App Synthetic Monitor|Monitors|[Folder]:Agent GMT Offset

App Synthetic Monitor|Monitors|[Folder]:Agent Time Zone

App Synthetic Monitor|Monitors|[Folder]:Check Errors

App Synthetic Monitor|Monitors|[Folder]:Checks

App Synthetic Monitor|Monitors|[Folder]:Connect Time (ms)

App Synthetic Monitor|Monitors|[Folder]:Download Size (kB)

App Synthetic Monitor|Monitors|[Folder]:Download Time (ms)

App Synthetic Monitor|Monitors|[Folder]:Probe Errors

App Synthetic Monitor|Monitors|[Folder]:Probes

App Synthetic Monitor|Monitors|[Folder]:Processing Time (ms)

App Synthetic Monitor|Monitors|[Folder]:Total Time (ms)

App Synthetic Monitor|Monitors|[Folder]:Uptime (%)

## Rule-level Stats (asm.metrics.stats.rule)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Agent GMT Offset

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Agent Time Zone

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Check Errors

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Checks

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Connect Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Download Size (kB)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Download Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Probe Errors

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Probes

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Processing Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Total Time (ms)

App Synthetic Monitor|Monitors|[Folder]|[Rule]:Uptime (%)

# APPENDIX 2: Agent File Locations

**Note:** This table includes general locations for files within the App Synthetic Monitor Agent

|  |  |
| --- | --- |
| <EPA\_HOME>/ | Root directory of the Agent. |
| <EPA\_HOME>/config | Configuration files for the Agent and Plugin. |
| <EPA\_HOME>/ext | Agent extensions |
| <EPA\_HOME>/docs | Documentation |
| <EPA\_HOME>/lib | JAR files used to run the EPAgent and Plugin. |
| <EPA\_HOME>/logs | Log files for the Agent. |
| <EPA\_HOME>/mgmtModules | Management Modules for the Agent. |
| <EPA\_HOME>/typeviews | EM Typeviews for the Agent. |

# APPENDIX 3: How many API credits am I using?

For each poll period of the App Synthetic Monitor API by the agent, each category you have enabled will make a certain number of API calls, as detailed here:

* **Credit Counts:** asm.metrics.credits
  + 0 API credits to check these.
* **Probe Logs:** asm.metrics.logs
  + (# of API calls) / (asm.waittime) = (# of rules)
  + **OR** if you don’t specify rules in your Agent props file:  
    (# of API calls) / (asm.waittime) = (# of folders)
* **Public Stats:** asm.metrics.public
  + (# of API calls) / (asm.waittime) = (# of rules)
  + **OR** if you don’t specify rules in your Agent props file:  
    (# of API calls) / (asm.waittime) = (# of folders)
* **Folder-level Stats:** asm.metrics.stats.folder
  + (# of API calls) / (asm.waittime) = (# of folders)
* **Rule-level Stats:** asm.metrics.stats.rule
  + (# of API calls) / (asm.waittime) = (# of rules)
* **Total:** 
  + sum(# of API calls / asm.waittime) \* (86,400,000 / asm.waittime)
  + Total, using the default settings for AppSyntheticMonitor.properties = (# of folders) \* 1440

### Notes:

* You will drastically cut down on the # of API calls if you don’t define individual rules for a folder in the Agent props file.
* You CAN have a mix of folders with and without rules defined. The API call savings will still be there for those folders for which you didn’t define rules.
* If the folders you want to monitor are a subset of the folders you have defined, you can save on API calls by explicitly listing those folders you want to see. If you want to see the contents of all folders, leaving it blank has no net effect on the API call count.
* There are properties file entries, prefaced with “asm.skipinactive”, to ignore empty & inactive folders. They are “true” by default.