Jun-10-2020

Microservice performance Monitoring (Datadog or AppDynamics)

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# Why and What?

You got a project, and you got all sort of plans, design is ready, development has already begun, and developers started asking for environment to deploy their first draft version, but hang on, let’s take a step back, when you talk about an environment, what does it mean? As an SRE you cannot just deliver a box with JRE and a webserver installed to run application, you need to follow a consistent guideline (We call it SRE handbook) to provide an environment where not only your application is going to run, it’s going to stay there happily, and you can keep a keen eye all the time, to check if it is doing ok, that’s where APM (Application performance Monitoring) comes in the play.

In Today’s world of complex applications, you need a helping hand of various tools to provide a very observant eye for your application, either you can develop of your own like Netflix, Google or you can rely on tools which are available in market. But again, are you sure what you looking for? Means before searching on google best tool for monitoring and buy an enterprise version, you may want to consider few things before hand,

* Is software/tool in subject is going to provide you an edge on both kind of aspect of monitoring, infrastructure and application. (I am considering database also an application only)
* is it database you are monitoring, or is it a web application exposed to outer world.
* What is the kind the application we are talking about here, is it a monolithic application or a very small microservice deployed in a multitenant container-based solution?

You need to think about all of these factors, because when we talk about public cloud, this become very crucial, because now you are not only monitoring performance of your application but also it will help you to optimize the cost, because one aspect of monitoring is also scaling your application on the basis of results or alerts you receive, let me explain it little further on this.

There are three two major factors that you monitor in terms of infrastructure monitoring.

* Memory utilization
* CPU utilization

And there are the same factors on the basis of which you scale your application, so if your APM tool is not providing proper result regarding these two, your scaling is not going to work properly, which is directly going to affect resource utilization in a bigger scale, and when we talk about public cloud providers, that’s what you are going get charged on.

And if you are talking about only a simple monolithic application deployed on a web container, it’s still a pretty easy job for you and also for a APM tool, but what if you are using a container-based application or microservice where processes play with [Linux namespace](http://ifeanyi.co/posts/linux-namespaces-part-1/) to provide isolation from host, how you can monitor something when it’s just a partial picture or in some case not a clear one?,

My name is Snehil Maheshwari, I am a SRE/DevOps engineer for a financial domain enterprise and in next few parts of this paper I will try to compare two major APM tools for container-based solution, AppDynamics and Datadog

## Why we are discussing only Datadog and AppDynamics

Answer is simple to that

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