



Monitoring Tool Made to Measure for SharePoint Admins

By Stacy Simpkins

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About the Author

Stacy Simpkins is SharePoint engineer, author, Pluralsight mentor, and a valued member of the SharePoint community. He currently works as a SharePoint Engineer III at Rackspace, where he provides support for SharePoint 2007, 2010, 2013, and 2016.

He has been working with Microsoft technologies for over 20 years and has gained extensive knowledge in that area. He has a varied background of Windows and SharePoint systems administration that stretches from the Federal government, healthcare, food industry, a law firms, and a financial market.





Introduction

Who's it for and what all can it do?

Are you a SharePoint Admin, Developer, or DevOps person who is looking for a really awesome way to monitor and troubleshoot your SharePoint Farm? Well take it from me, **you need to look no further than SysKit Insights**! With its drill-down capabilities, SysKit Insights will give you just that, insight into your farm. You will get this view from a "single pane of glass" which makes it even better. That's right! Monitor and search through all the logs in all the servers in the farm, SQL Included!

Follow along in this white paper, and take a look at the configuration and utilization of SysKit Insights. SysKit Insights requires a SQL server, so make sure you have a SQL server that you can use and make sure it is not the SharePoint SQL server. After all, Microsoft does not recommend co-locating non-SharePoint databases within a SharePoint SQL server, and neither does SysKit. Plus, you want to have a valid look at your SQL database's performance when you are monitoring that beast. Insights will let you know what is happening in; not only, the Unified Logging System of your SharePoint application and web front-end servers; but also, in your SQL server's management logs. And of course, you can search through all the Windows event logs of all the servers in your farm.

One of the best parts of all of this is the price. A lot of whitepapers don't mention price; but the price is important, after all money is what talks. You should go out to the SysKit site and take a look at pricing; you really won't believe how affordable this product is for what it can do. Seriously folks, **it compares to a lot of much more expensive products and goes toe to toe with them** as far as what all it can provide. If you've looked at other products, or maybe have used some of the monitoring tools out there, you will be amazed by Insights!





Now, you do not have to be a SharePoint admin, devops, or developer person in order to appreciate the insights. You could be a business owner too, the product is super easy to use and install. And, as mentioned earlier, a SQL server is needed. In order to save on Windows licensing costs, there really isn't any reason you could not install the Insights product right on the same server that is running the dedicated SQL server instance that will hold the SysKit Databases.

To show you that the tool was able to pick it up, and trust me, it can see into and provide insight for SharePoint 2019 too!



SysKit Insights Features

Drillable Performance Reports

Clicking on Home show you in one pane of glass, the status of all your farms. The **Home** screen has two sections: **Event Viewer** and **Performance**.

* **} (** ×)

From the Performance section, you're presented with an insight into the farm at a high level that shows you CPU, memory, and disk utilization, as well as a disc chart of the server health. All of these high-level reports are drillable and will take you into the performance section of insights. Another really nice feature is that if you do not want to get right into the weeds and are just looking for high-level info, which is practically real time, hovering over the CPU Utilization or Memory Consumption and Insights will display more info.







If you click on the Server Health Overview disc chart, you'll be taken into the **performance section** where just the tile or tiles for the servers that were represented by that section are then displayed. For example, in our test farm, I had a warning on the SQL Server, and after I clicked on the yellow section of the Server Health Overview disc chart, I were immediately taken to the tile representing the SQL server in question, shown in the figure below.

\$	▶ Performance ▶		
#	Compact <u>Tiles</u> G	rid	
۹ 			
A			
	2013APPW2K	12	
	2013SOL12W2	2K12 🚨	
	2013SQL12W2	2K12 🚨	
	2013SQL12W2 CPU	2K12	
	2013SQL12W2 DB CPU 21%	2K12 🖴 Memory 4.9 GB	
	2013SQL12W2 B DB CPU 21% Network	2K12 🕰 Memory 4.9GB Disk	

The SQL Server has a warning alert on something, and **without going into the server, I am able to instantly see the issue** with insights in essentially three clicks!





After clicking on the server name, shown in the figure above,

2013SQL12W2K12, we're taken further into the weeds, we are drilling down, so to speak, and to a page that shows the current conditions of the server. It is on this page that I can see an option to drill even further, by Critical, Warning, or Healthy.

SysKit Insights	You have 29 days of trial left.	Activate	Buy Now	e - e
★ ▶ Performance ▶ 2013APPW2K12 ▶ 2013SQL12W2K12				
*	Critical Warnin	g Healthy	Last Hour	• 0 •
=				
There	is no data to show.			11

When I change the selection to warning, because after all, the main screen said there was a warning on this server, I'm quickly presented with the issue that our server is facing. Hovering over the name of the counter gives you even more info! The figure below shows what you see, and remember this was essentially three clicks:

- 1. Click on disc chart
- 2. Click on Server name
- 3. Click on Warning, since I knew it was a warning we're after from the disc chart







The text in the previous figure, that is probably too small to read here, and a bit of an "eye-chart", is easy to read in the actual app and it is as follows:

"Processor Queue Length is the number of threads in the processor queue. Unlike the disk counters, this counter shows read only, not threads that are running. There is a single queue for processor time even on computers with multiple processors. Therefore, if a computer has multiple processors, you need to divide this value by the number of processors servicing the workload. A sustained processor queue of greater than two threads generally indicates processor congestion.

That's pretty awesome from my perspective! In just 3 clicks, I was able to see the exact issue that the SQL server is having. And if I maximize the chart, I can then hover over the maximized chart to determine a good point in time to look through the logs.

As we can see in the figure below, on the next page, there was some serious processor congestion at 11:39 am on May 20, 2018





Having all logs in one place

Now that we have a date and time, this is really where the power of this tool shines a spotlight on your environment! Just click on the magnifying glass \ international icon for search icon to **navigate to the event viewer pane**. From here, click on where it says last hour and choose custom. Now you can manually enter the time frame, as shown below.





And, when you clicked save, SysKit Insights returns the results from your ULS logs, Windows Event Logs, and the SQL logs for that time frame. This is truly amazing folks!

The main point that I am trying to make here is that **all ULS, SQL and windows event logs are in one place** and you can search them and filter them. And that if you search for specific error, it will come back with results from all servers that have the same error

The Event Viewer capabilities

The Event Viewer has more drilling capability. You can look at all results for the time frame you've selected, or you can look at results based on Level or based on log type, or sometimes a combination of both. You can also save the results to Excel or set an alert based on the level.

The option to set the alert or save to excel are located in the upper right section of the event viewer screen. It is here where you can also change the





number of events returned per page from the default of 10 to as high as 100 if using the list style layout. Or, you can change to a grid style layout, and all events will be displayed.

As you can see, in my example of what happened on May 20, 2018, at 11:39 we see 4 unexpected conditions shown in the figure below.

SysKit Insights		You have 29 days of trial left. Activate Buy No	• • •
★ ► Event Viewer ► 2013APPW.	K12		
↔ Server ↓ 2013appw2k12 (4)	Custom Levek:"Unexpected"		× 🤇
Level	All ULS Event Log SQL		
5 All	3/20/2018 11:40 AM		Unexpected •
Unexpected (4)	,Throwing Microsoft.ReportingServices.Library.InvalidReportServerDatabaseExceptio Show more	m: , Microsoft:ReportingServices.Library.InvalidReportServerDataba	seEx
		SQL Server Reporting Services > Report Server Catalog	
	월 5/20/2018 11:40 AM		Unexpected ●
	Exception stack trace: Server stack trace: at System ServiceModel.Channels.Http Show more	pOutput.WebRequestHttpOutput.GetOutputStream() at System.	Serv
		SharePoint Foundation Firmer	
	📓 5/20/2018 11:39 AM		Unexpected ●
	Exception stack trace: Server stack trace: at System.ServiceModel.Channels.Http Show more	pOutput.WebRequestHttpOutput.GetOutputStream() at System.	Serv
		SharePoint Foundation 🕨 Timer	
	🖏 5/20/2018 11:38 AM		Unexpected ●
	Exception stack trace: Server stack trace: at System ServiceModel.Channels.Http Show more	pOutput.WebRequestHttpOutput.GetOutputStream() at System.	Serv
•			1
i	4 1	results (0.75s)	
Idle		Last In	dex Update: 5/20/2018 12:21 PM

From here we can quickly look at the ULS log results and also look at the event log, and it makes it super easy to determine what was happening in SharePoint at the time that we saw the processor congestion on the SQL server. You can see in figure 14 that at 11:39 the User Profile Import job was running.





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The Event log results confirm this by letting us know that there was an issue with some configuration on the application server that is affecting the import and causing problems with SQL. It's possible that the server might be ok with more CPU, but it is also possible that once the configuration is corrected in the app server, that the SQL server would be fine. This is why Insights is such an invaluable tool! It would be super easy to jump to the conclusion that more CPU was needed, and it may very well be, but without insight into all the servers in the farm, from one pane of glass, that jump might be made in vain.

A better approach, in this case, would be to troubleshoot the message returned from the app server log at that same time and determine if resolving the critical messages resolves the issue with SQL processor congestion, before spending money on more CPU.

Finding error with a Correlation ID

The ability to search through all logs at once is another really cool feature of Insights. For example, let's say one of your users, or maybe yourself, encounter the "Sorry, something went wrong" page and provide you with the correlation ID, and time. Well, you already know how easy it is to look through





the logs for a specific time; but did you know that SysKit Insights will allow you to search on anything, including that correlation ID? Much easier than the old merge-splogfile command.

In this example, we already know why we got the Sorry message because we typed viewlists.aspx and no such page exists; but this is a quick way to get a correlation ID and then be able to see how easy it is to track that into the ULS logs with this awesome tool. And maybe, if you have other correlation ID's that you're facing, you should download and install this bad boy of a tool now! In figure below, we see that a correlation has occurred, and that the correlation ID is 510a699e-d1b7-807b-4ebf-302cb2199160.



When you have insights, you will no longer have any anxiety about this page, since it is so easy to find the issue, **just paste the correlation ID into the search**

SysKit Insights	You have 29 days of trial left Activate Buy Now 👂 🗕 🗖 💈	
★ ► Event Viewer ► 2013APPW	2K12	
 Server 2013appw2k12 (1) Level Unexpected (1) 	Last 10 Minutes \$10a699e-d1b7-807b-4ebf-302cb2199160 X <	

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on the event view page, click the search icon and you're immediately shown the entry in the ULS log for the unexpected condition as shown in the figure.

Searching for correlation ID's has never been easier! In this case, we purposefully created the correlation ID to generate and can see it is due to the page viewlists.aspx does not exist. Had we typed viewlsts.aspx then you know the correlation ID, and sorry something went wrong page would not have appeared, and the site contents would have displayed in the browser.

Sometimes correlation ID's are present in the XML data of Event log entries in the windows application event log. In that case, Insights would have returned results on the Event Log, too.

The All filter, right to the left of the ULS filter, in the figure above, would show you if there were any event log entries for the correlation ID that you may be facing in your farm. The nice thing about this is that it allows you the administrator, developer, or devops professional to react quicker and to monitor the farm from the home page. As you work to eliminate issues and keep a daily proactive thumb on your environment using SysKit Insights, this will leave you more time for other tasks and projects.

Alerts

The menu item that looks like a bell is for the alerts. Alerts for every metric are completely configurable. You **can add ULS alerts, which you can set up any keyword alert**, and if that keyword pops up in the log you will receive an alert.





The default settings for the most alerts should be good enough, but you may want to modify them for some reason. SysKit Insights warns you when you have not configured email settings, as shown in the figure below.

SysKit I	nsights			You have 2	29 days of trial left. Activate E	Buy Now 👂 🗕 🗶 🗶
۶	🕻 🕨 Alerts					?
4 9	All Performance Counters	Events SharePoint Status	Q Search by Server or So	urce 💉 Manage Al	lerts Disk - Pages/sec	💉 Edit Alert
1	Server	Source	Avg. Value	Time	💄 Insights will raise ale	erts for this counter
-	2013APPW2K12	Pages/sec	59.96	5/20/2018 12:41 PM	Pages/sec is the rate at wh disk to resolve hard page f	ich pages are read from or written to faults. This counter is a primary indicator
	2013SQL12W2K12	Processor Queue Length	5.08	5/20/2018 11:10 AM	control to the the total to the total tota	ause system-wide delays. It is the sum ec and Memory\Pages Output/sec. It is ges, so it can be compared to other femory\Page Faults/sec, without ser retrieved to satisfy faults in the file sested by applications) non-cached
			Critical - alert when	value is above 50		
		De	tailed info about the parti	cular alert	Warning - alert wher	n value is above 20
					Time period in which	h alert was calculated.
			Continent quid	du if not getting amails	500	mh
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					🛕 Email settings are n	not configured. 🖌 Configure
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The ability to keep a watchful eye over your main SharePoint sites is paramount for most companies. SysKit Insights makes this super easy! Syskit Insights also monitors central administration's various metrics.

From the Alerts menu, just click on Manage alerts. Click on SharePoint Status and enter the URL to your site after you click the "Check the status of the following SharePoint site", and then click Save.

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From the Alerts menu, just click on Manage alerts. Click on SharePoint Status and enter the URL to your site after you click the 'Check the status of the following SharePoint site", and then click Save.

The figure below shows this page before it is configured:

Manage Alerts	
Performance Counters Events	SharePoint Status
Farms 2013appw2k12	 Check SharePoint Timer Service status Check Central Administration status Check the status of the following SharePoint site (1) Enter site URL Email settings are not configured.

Conclusion

This is probably the best tool for monitoring a SharePoint farm. We don't need complicated SCOM or server monitoring systems, but we do need something that is easy to install and easy to set up for the SharePoint farms. SysKit Insights nailed it on the head, you install it on the server that doesn't need to be in the SharePoint farm, you point it to the single SharePoint farm server and then it will auto-discover the complete farm.

When you install SysKit Insights, it starts collecting SharePoint-specific data out-of-the-box, and you can pinpoint issues right away. One other feature I like a lot is consolidation of all the ULS and Event logs in one location, so this basically means that you can monitor your entire SharePoint estate in one central location and be alerted.



SysKit Insights is an innovative tool for monitoring SharePoint performance and troubleshooting your servers via ULS, SQL, and Windows Event logs. Monitor performance across all servers and farms from a single centralized location.

🛠 SysKit Insights

Benefits of SysKit Insights

 No more logging into each server individually to find the right log

 Find out about errors ASAP and eliminate them before they affect end users

Make sure that you are compliant with Microsoft's requirements

Minimize SharePoint downtime by receiving warning alerts

Have an overview of all your farms in a centralized location





Easily identify any problem and find the right ULS log in seconds



Always know the state of your servers by monitoring the most relevant counters.



Prevent damage to your system by receiving real-time email alerts