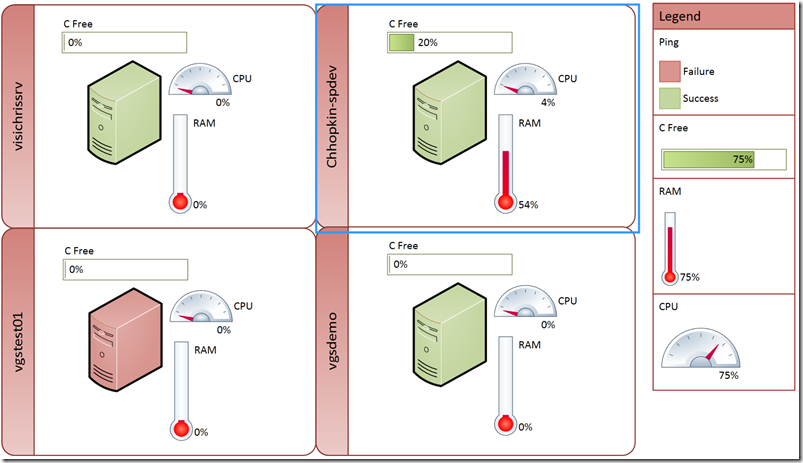
A WMI based dashboard using Visio Services

**[](file:///C:\Users\chhopkin\AppData\Local\Temp\WindowsLiveWriter1286139640\supfilesD95C66\image%5b3%5d.png)**

The Data Linking and Data Graphic features in Visio 2010 give you the ability to create very interesting and artistic dashboards, but the trick is to get the data that you need into a data source that Visio and Visio Services can refresh from. For this article I wanted to highlight a method that some customers are using, gathering data from WMI and pushing it to a SharePoint list, from which Visio Services can easily refresh from.

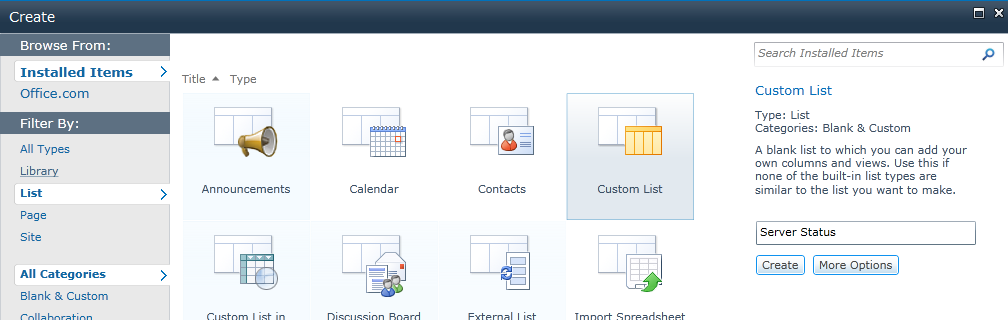
## Demo Setup Instructions

The content provided with this article is for demonstration purposes only to help communicate how easily Visio Services can refresh from a SharePoint list and how the SharePoint list can be populated from an external application, in this case PowerShell, keeping the list up to date and thus providing Visio Services with up to date data for the dashboard.

Creating the SharePoint list

The first step is to create the SharePoint list that the Visio diagram will be linked to and eventually refreshed from by Visio Services.

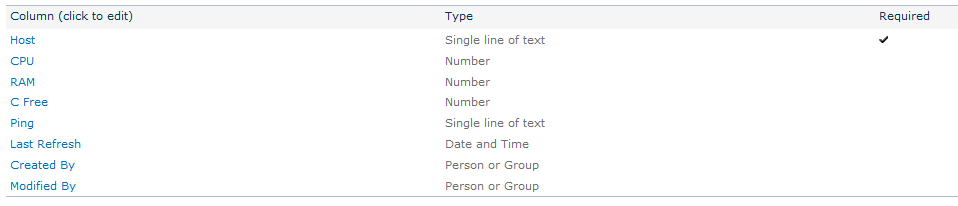
On your SharePoint site create a new list using the Custom List template and give it a name, **Server Status**.



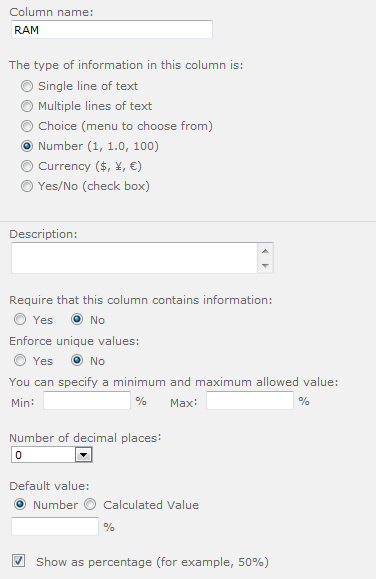
This new list will initially be created with a single column named Title. I renamed this column to ‘Host’ for this demonstration.

You will also need to create new columns for the data that you are interested in visualizing in your dashboard. For this demonstration I want to display % CPU Utilization, %RAM Available, and % Free Disk Space on C drive. See the list of columns in the screen shot below…

*FYI – notice I also have a Ping column and a Last Refresh column to help me identify how stale the data for my dashboard is and what hosts were successfully contacted.*

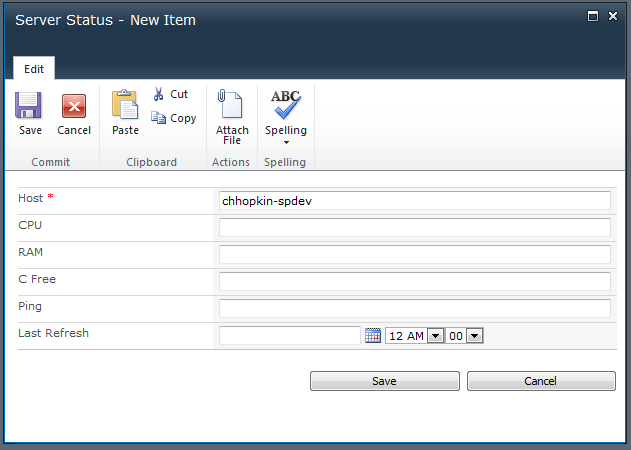


The CPU / RAM / C Free columns are all configured as Number data types and set to display as percentages when viewing the list in the browser ( however when linked to Visio the value will not be automatically formatted ). Here is an example of the RAM column in this list…

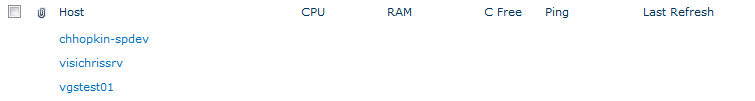


Populating the list

After the list is created we need to populate the list with the items ( servers and clients ) that we want to visualizae in our dashboard. For this I simply click the Add new item button on the list and enter a host name. For this demonistration we will leave all the other data blank as this will be updated by our PowerShell script.



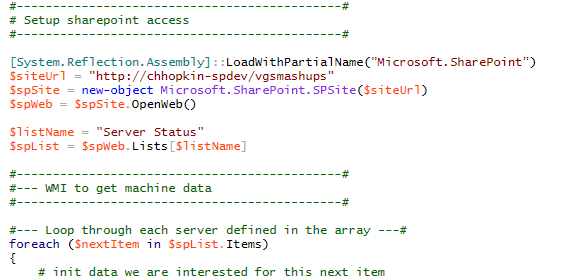
Now I have a list of hosts that I will visualize in my dashboard and gather data for via my PowerShell script.



Creating the PowerShell script

Here is the script that I produced that communicates with the hosts defined in my SharePoint list using WMI to gather the utilazition data that I am interested in for my dashboard.

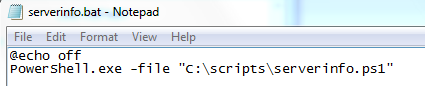
*FYI – note that the PowerShell script has a hardcoded URL to my SharePoint site as well as the Server Status list defined at that URL. You will most likely need to edit this script to update the URL and List name appropriately.*



*\*Refer to the PowerShell script that accompanies this article.*

Creating the Batch file for scheduling

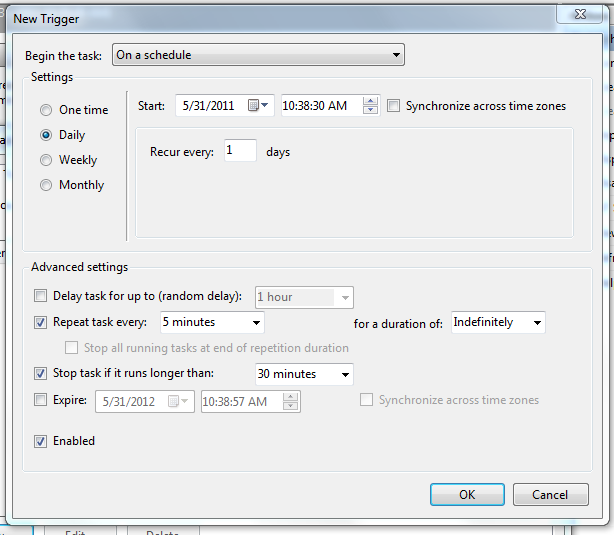
For a very simple unattended execution scenario I decided to just setup a batch file that will execute my PowerShell script every 5 minutes. This way the data in my SharePoint list will be updated every 5 minutes. This is a very simple batch file that does not but execute the PowerShell script.



*\*Refer to the BAT file that accompanies this article.*

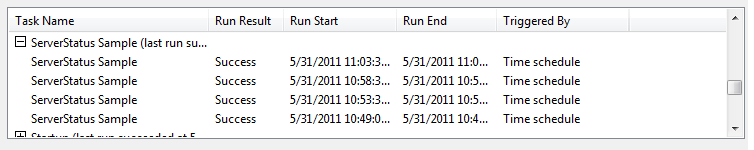
Scheduling the script

As mentioned above I wanted to make this very simple so I scheduled a task in Windows Task Scheduler to execute the script every 5 minutes.

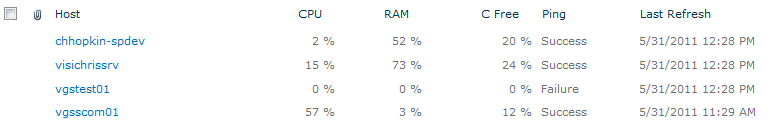


I also made sure to execute the task using credentials that has access to the hosts that we are communicating with via WMI, otherwise the calls to WMI in our PowerShell script will be blocked via access denied.

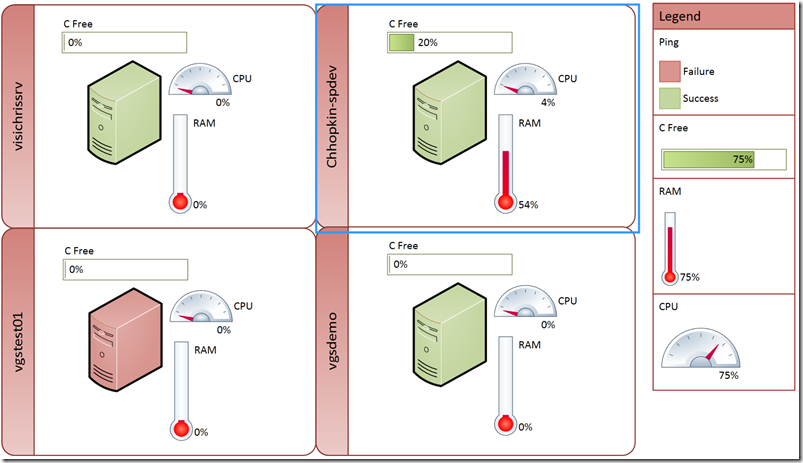
Here you can see the history of my task…



And here you can see my list data after this task has executed



The Visio diagram

**[](file:///C:\Users\chhopkin\AppData\Local\Temp\WindowsLiveWriter1286139640\supfilesD95C66\image%5b3%5d.png)**

The diagram that I created for this demonstration uses a few of the new features in Visio 2010, including the new Container shapes and the new Data Graphic Legend feature. For more information on these features you can refer to these articles :

[Containers](http://blogs.msdn.com/b/visio/archive/2009/08/25/organizing-diagrams-with-containers.aspx)

[Data Graphic Legend](http://blogs.msdn.com/b/visio/archive/2009/10/14/data-graphics-legends-in-visio-2010.aspx)

In order to link the data in the SharePoint list to the Visio diagram I used the Data Linking wizard and supplied the URL to the list. For more information on Data Linking refer to this article, [Data Graphics in Visio 2010](http://blogs.msdn.com/b/visio/archive/2009/10/13/data-graphics-in-visio-2010.aspx).

*\*Refer to the VDW file that accompanies this article.*