

HOW TO MAKE AN AGGREGATE GRAPH WITH LINES THE EASY WAY.

There is only three requirements for this to work that I know of. The Aggregate Plugin, MAX values are a must and all the graphs you need must have data sources with the same names. To elaborate ,each graph can have multiple data sources but collectively all the graphs must share the same named data sources. Easy if you use data source templates.

Firstly I need to reiterate why we use **MAX** values. I have seen instances of rrd graphs being shown anecdotally that suggest the throughput of an interface is acceptable while people scratch their heads at a loss to understand why there is traffic getting dropped. The reason is often that at certain periods the interface is overloading causing errors while at other times relatively quiet. Frankly you should be graphing **MAX** values anyway for any traffic related services. **AVERAGE** values show a decline over time as the peaks merge with the troughs. For traffic management purposes the maximum throughput is important. You should look to augment when something is starting to hit the maximum not when it is always there.

Step 1. Cacti comes with the ability to have a CDEF that totals all similar data sources but its not a standard CDEF by default. To create it

Graph Management >CDEF's >Add where you will be asked for a new name

Name the new CDEF something useful like **"Total All Similar Data Sources"**

In the **CDEF Items> Add**

Chose the options as shown the create it.

CDEF Items [edit: Total All Similar Data Sources]	
CDEF Item Type Choose what type of CDEF item this is.	Special Data Source
CDEF Item Value Enter a value for this CDEF item.	All Similar Data Sources (Don't Include Duplicates)
<div>cancel create</div>	

Save it

Step 2. Edit the **Color Templates** from the **Templates** Menu provided by the Aggregate Plugin.

Add a new Template. Label it **"All White"** or something similar. Create as many items as you want and make them all white.

Color Template [edit: All White]				
Name A useful name for this Template.	All White			
Color Template Items [edit: All White]				
Color Item	Seq	Item Color		Add
Item # 1	1	FFFFFF	⬇ ⬆	✖
Item # 2	2	FFFFFF	⬇ ⬆	✖
Item # 3	3	FFFFFF	⬇ ⬆	✖
Item # 4	4	FFFFFF	⬇ ⬆	✖
Item # 5	5	FFFFFF	⬇ ⬆	✖
Item # 6	6	FFFFFF	⬇ ⬆	✖
Item # 7	7	FFFFFF	⬇ ⬆	✖
Item # 8	8	FFFFFF	⬇ ⬆	✖

Step 3. Down to the nitty gritty. From **Graph Management** select all the Graphs you want to put together. From the drop down select **Create Aggregate Graph**.

Graph Management

Filter by host:

DMS W100 (OM's from SDM)

Search:

poli 1

go

clear

<< Previous			Showing Rows 1 to 14 of 14 [1]	Next >>
Graph Title**	Template Name	Size		
Blenheim POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Gisborne POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Hastings POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Levin POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Masterton POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Napier POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Nelson POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Nelson POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
New Plymouth POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Palmerston North POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Porirua POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Wagga Wagga POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Wellington 3 POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>
Wellington 4 POLI 1	DMS Traffic Template	100x500		<input checked="" type="checkbox"/>

<< Previous

Showing Rows 1 to 14 of 14 [1]

Next >>

Choose an action:

Create Aggregate Graph

go

Give the graph a name and check **Make it a Line 1 Graph**.

Title Format:

Aggregate Graph How to

Graph Type:

- ☐ Keep Graph Types.
- ☐ Make it an AREA/STACK Graph
- ☒ Make it a LINE1 Graph

Select Graph objects only. No GPRINT
Change the color Template to **All White**

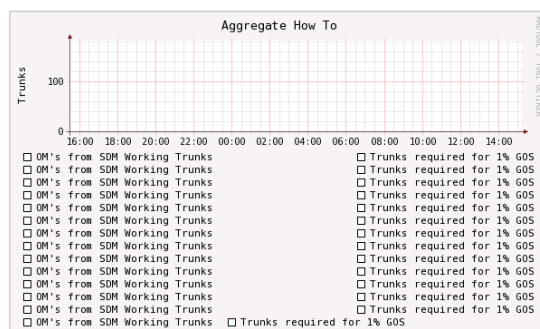
Graph Template Items						
Graph Item	Data Source	Graph Item Type	CF Type	Item Color	Color Template	<HR> Skip
Item # 1	Installed Trunks	LINE2	MAX	FFAB00	None	<input type="checkbox"/> <input checked="" type="checkbox"/>
Item # 2	Currently: <HR>	GPRINT	LAST			<input type="checkbox"/> <input checked="" type="checkbox"/>
Item # 3	Working Trunks	LINE2	MAX	FF0000	All White	<input type="checkbox"/> <input checked="" type="checkbox"/>
Item # 4	Currently: <HR>	GPRINT	LAST			<input type="checkbox"/> <input checked="" type="checkbox"/>
Item # 5	Trunks required for 1% GOS	LINE1	MAX	2175D9	All White	<input type="checkbox"/> <input type="checkbox"/>
Item # 6	Maximum:	GPRINT	MAX			<input type="checkbox"/> <input checked="" type="checkbox"/>

Please confirm

no yes

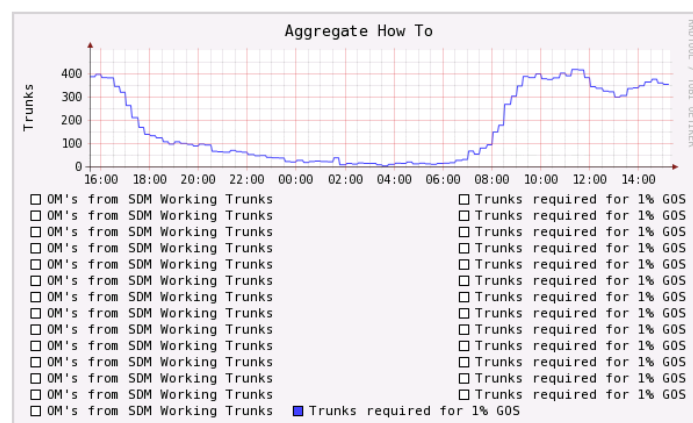
Confirm to create the graph. At this point the graph will not be associated with any particular host. Find the Aggregate graph and open it. It should look similar to this with nothing present but all the data sources listed.

Item # 23	(wrkg): OM's from SDM Working Trunks	LINE2	MAX	FFFFF	👇👆
Item # 24	(gos): Trunks required for 1% GOS	LINE1	MAX	FFFFF	👇👆
Item # 25	(wrkg): OM's from SDM Working Trunks	LINE2	MAX	FFFFF	👇👆
Item # 26	(gos): Trunks required for 1% GOS	LINE1	MAX	FFFFF	👇👆
Item # 27	(wrkg): OM's from SDM Working Trunks	LINE2	MAX	FFFFF	👇👆
Item # 28	(gos): Trunks required for 1% GOS	LINE1	MAX	FFFFF	👇👆

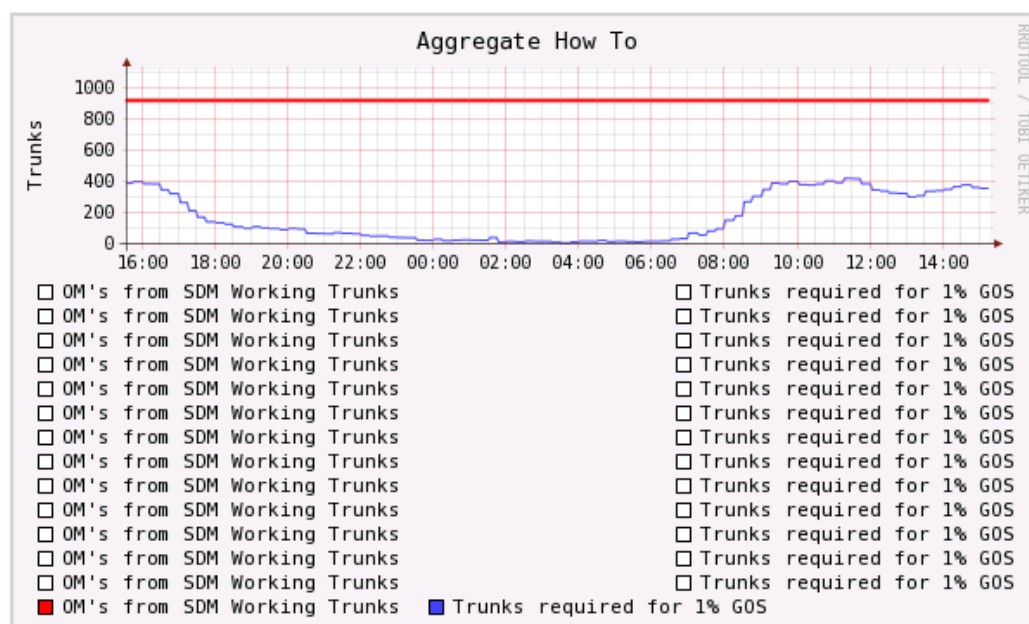


The CDEF must be made to **Total All Similar Data Sources**

Your graph should have one visible line.

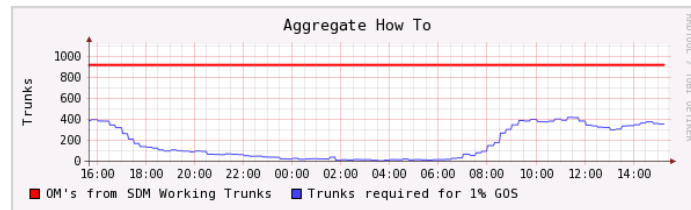


Do the same for all Data Sources that you wish to graph.



Now remove anything in the Text Format of all the other data sources and they will disappear.

Item # 23	(wrkg):	LINE2	MAX	FFFFFF	⬇️⬆️	✖️
Item # 24	(gos):	LINE1	MAX	FFFFFF	⬇️⬆️	✖️
Item # 25	(wrkg):	LINE2	MAX	FFFFFF	⬇️⬆️	✖️
Item # 26	(gos):	LINE1	MAX	FFFFFF	⬇️⬆️	✖️
Item # 27	(wrkg): OM's from SDM Working Trunks	LINE2	MAX	FF0000	⬇️⬆️	✖️
Item # 28	(gos): Trunks required for 1% GOS	LINE1	MAX	4444FF	⬇️⬆️	✖️



At this point I put in a GPRINT of each data source so we can see the actual values.

Conveniently when you add another data source the last data source in the list is already there. That means the one you want will not be that particular one or not far away in the drop down list.

You need to make sure the CDEF is Total All Data Sources and the Consolidation Function as to be MAX.

Graph Items [edit graph: Aggregate How To]

Data Source The data source to use for this graph item.	(gos)
Color The color to use for the legend.	None
Graph Item Type How data for this item is represented visually on the graph.	GPRINT
Consolidation Function How data for this item is represented statistically on the graph.	MAX
CDEF Function A CDEF (math) function to apply to this item on the graph.	Total All Similar Data Sources
Value The value of an HRULE or VRULE graph item.	
GPRINT Type If this graph item is a GPRINT, you can optionally choose another format here. You can define additional types under "GPRINT Presets".	Normal
Text Format Text that will be displayed on the legend for this graph item.	Peak
Insert Hard Return Forces the legend to the next line after this item.	<input type="checkbox"/> Insert Hard Return
Sequence	

cancel
create

Do the same for the other data sources you require

Item # 26	(gos):	LINE1	MAX	FFFFFF	⬇️⬆️	✖️
Item # 27	(wrkg): OM's from SDM Working Trunks	LINE2	MAX	FF0000	⬇️⬆️	✖️
Item # 28	(wrkg): Total<HR>	GPRINT	MAX		⬇️⬆️	✖️
Item # 29	(gos): Trunks required for 1% GOS	LINE1	MAX	4444FF	⬇️⬆️	✖️
Item # 30	(gos): Peak	GPRINT	MAX		⬇️⬆️	✖️

And there you have it.

