



RULES OF SURVIVAL

1. Track power usage.
2. Detect power zombies.
3. Remediate the problem.
4. Eliminate the threat.

Stop a power zombie apocalypse

Using Dell EMC OpenManage Enterprise Power Manager

Power zombies, also known as ghost servers or comatose servers, have voracious appetites. These undead servers can waste precious floor space, spike energy costs, and gnaw on staffing budgets. However, if you have Dell EMC™ OpenManage™ Enterprise Power Manager in place, your power zombie survival plan is already in motion.

Armed with the power history OpenManage Enterprise Power Manager compiled automatically, our zombie-hunter admin was able to detect the threat in a fraction of the time it would take to manually scour iDRAC9 server statistics, record power consumption results on a spreadsheet, and analyze the resultant data.

99% LESS TIME

AND EFFORT TO DETECT POWER ZOMBIES WITH OPENMANAGE POWER MANAGER

206 fewer minutes and 1,613 fewer steps

vs. manually tracking a suspected power zombie over 180 days

POWER ZOMBIE ORIGIN STORIES

THE FORGOTTEN: In its day, this server ran mission-critical workloads, but IT moved those workloads to newer models and failed to shut this legacy server down.

THE INSURANCE PLAN: When this server's financial workload went away, IT kept it up and running in case they needed to recover the data later—but now that a more robust recovery plan is in place, this server is unnecessary.

THE INVISIBLE: This server contains a virtualized application and fell off the radar during a personnel change. It cycles up only once or twice a year.

THE BOMB: No one remembers the functions of the apps running on this server, so to be safe, no one unplugs it.

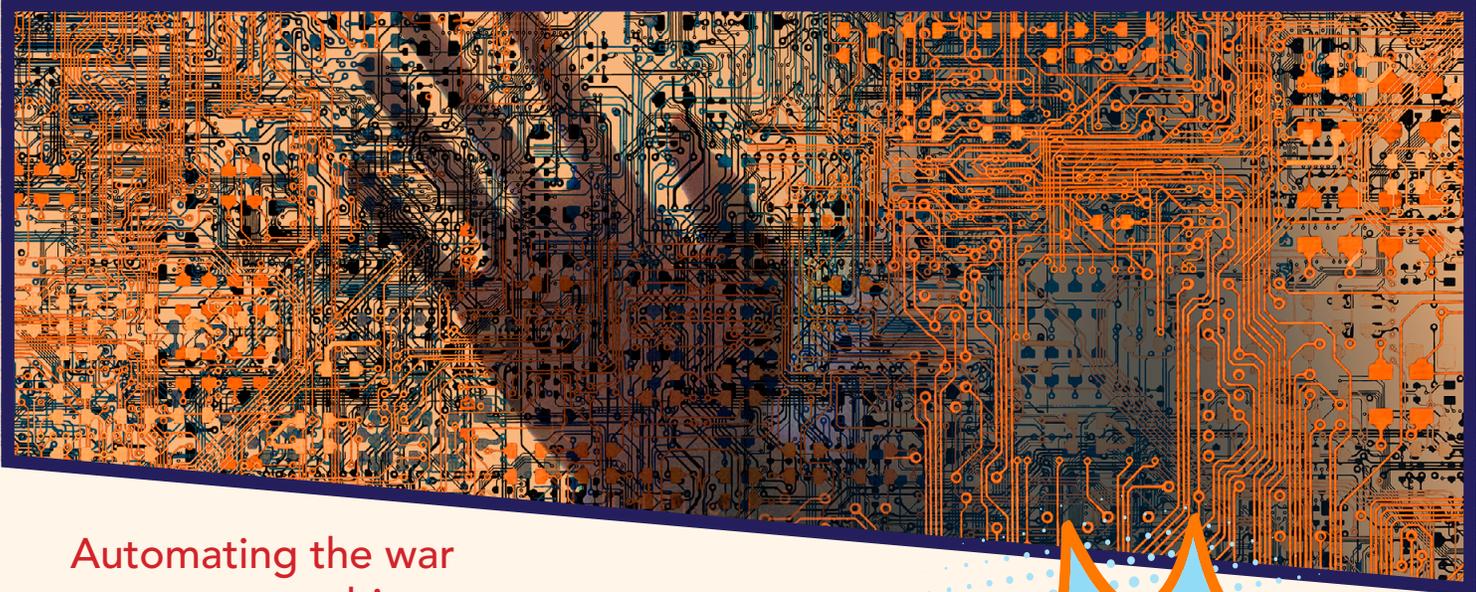
The war on power zombies

According to CentricsIT, "A server is considered 'zombie' or 'comatose' after six months of inactivity—meaning that it has not delivered any information or computed services."¹ Finding these walking-dead servers means you can rehabilitate them and give them something useful to do. Or you can decommission them. Decommissioning allows you to use the vacated space for new servers and allocate rescued utility costs and employee time to other growth-related projects.

We recorded the time and steps it took our admin to find an undead server using the historical information the Power Manager plugin automatically collected versus the time and steps we estimate a traditional tracking approach would require per server. In the Power Manager approach, our power-zombie-hunter admin had only to create a policy-based automation on day one and let Power Manager do all the heavy lifting for 180 days. With a manual approach, someone would have to manually scour Dell iDRAC server health logs and record power consumption data on a spreadsheet every day for 180 days before tracking down the power zombie and decommissioning it. Our power-zombie test subject's baseline energy consumption for a single day was 7kWh. That translates to 1,260kWh of wasted power per server over 180 days of inactivity.

**LOOKING FOR
WAYS TO REDUCE YOUR
ENERGY FOOTPRINT?**

*Find and eliminate your
power zombies!*



Automating the war on power zombies

We estimate that manually recording power consumption results on a spreadsheet over the course of 180 days would devour three hours and 27 minutes and require 1,620 steps. This is definitely better than when SysAdmins were stuck strolling the data center with clipboards in hand, but it still requires a lot of human attention. By comparison, the Power Manager plugin automatically collected the necessary power consumption data after a one-time policy-based automation activation. This automation allowed us to track down power zombies in 31 seconds and 7 steps.

WAITING TO BUY NEW SERVERS UNTIL YOU FREE RACK SPACE?

Find and eliminate your power zombies!

Time and steps to track those power zombies!

Time (hh:mm:ss), lower is better

| 0:00:31

3:27:00

Steps, lower is better

| 7

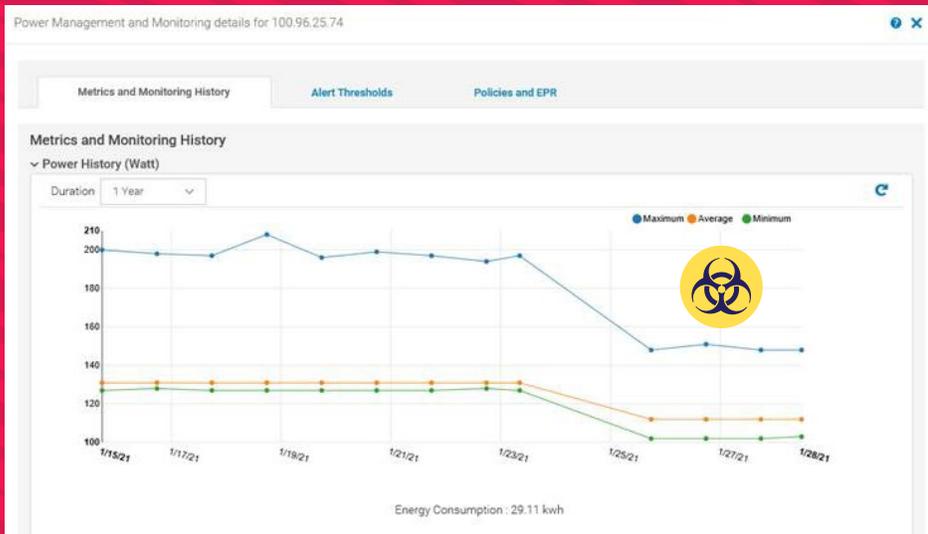
1,620

■ OpenManage Enterprise Power Manager ■ Manual effort over 180 days

Figure 1: Estimated time and effort required to find power zombies over 180 days using OpenManage Enterprise Power Manager and using a manual Dell iDRAC search. For the OMENT method, the time and effort required is the same for one day as it is for 180 days, because it automatically collects data after activation. For the manual method, we measured the time and effort required to track power zombies via a manual Dell iDRAC search for one day and extrapolated those results to estimate the time and effort required for 180 days. Source: Principled Technologies.

Your Power Manager arsenal

Dell OpenManage Enterprise Power Manager automatically collects power consumption data and presents it in easy-to-understand graphs and charts (Figures 2, 3, and 4). This makes it easy for admins to spot power zombies lurking in the shadows.

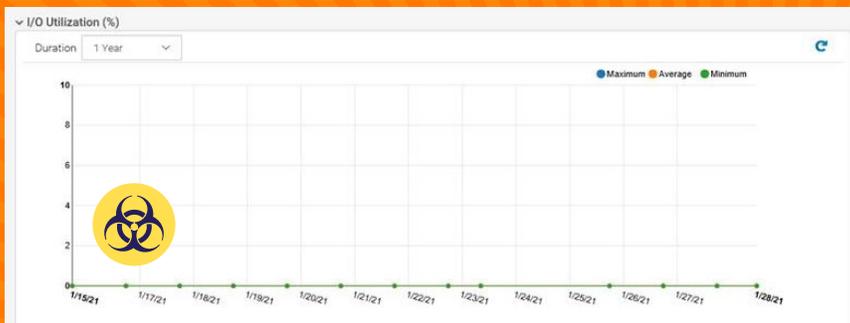
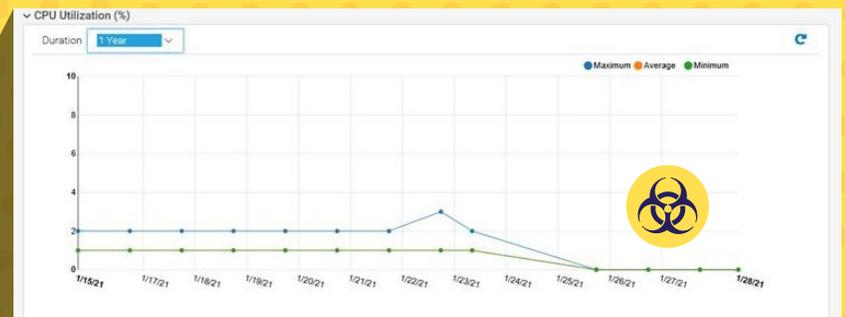


METRICS AND MONITORING HISTORY

Figure 2: Screenshot of OpenManage Enterprise Power Management metrics and monitoring history. Source: Dell Technologies.

THERMAL HISTORY

Figure 3: Screenshot of OpenManage Enterprise Power Management thermal history. Source: Dell Technologies.



I/O UTILIZATION HISTORY

Figure 4: Screenshot of OpenManage Enterprise Power Management I/O utilization history. Source: Dell Technologies.



Conclusion

Historically, hunting power-zombie servers took a lot of time and effort. With Dell EMC OpenManage Enterprise Power Manager automation, your power zombie survival plan is a no-brainer. OpenManage Enterprise Power Manager automatically collects power consumption data and shows CPU, I/O, and power usage. If your entry-level SysAdmin is making \$30.61 an hour,² adding Power Manager to your arsenal would save your company about \$92 in zombie-hunting time every six months. But that's not the whole story: SysAdmins can use this data and the time they save from policy-based automation to clear precious floor space faster, reclaim \$139 in energy costs per decommissioned power zombie server,³ and devote their time and energy to keeping living servers safe and bottom lines healthy.

- 1 CentricsIT, "How to Combat the Rise of "Zombie" Servers," accessed February 11, 2021, <https://www.centricsit.com/gartner-says-there-are-ghosts-and-zombies-in-your-data-center/>.
- 2 On February 8, 2021, the average annual pay for an Entry Level Server Administrator in the U.S. was \$30.61 per hour. ZipRecruiter, "Entry Level Server Administrator Salary," accessed February 15, 2021, <https://www.ziprecruiter.com/Salaries/Entry-Level-Server-Administrator-Salary>.
- 3 On February 25, 2021, the average kwh cost of all 50 states plus DC was \$ 00.1107/kwh. Choose Energy, "Electricity rates by state," accessed February 25, 2021, <https://www.chooseenergy.com/electricity-rates-by-state/>.

Read the science behind this report at <http://facts.pt/P73OQNz> ►



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