Free IT monitoring software. It's cost-effective, community supported, and its best practices are usually well documented. But just because it's free doesn't mean it's free from challenges.

TEN
CHALLENGES WITH FREE MONITORING SOLUTIONS

It's easy to understand the appeal of free monitoring software. Cost-no-object can be taken to mean "nothing but upside" -- speeding deliberation and approvals, and making procurement fast and frictionless. Depending on the solution you choose, deployment and implementation can seem fairly elementary, at least for basic use cases. If you get stuck, active user communities hold out the promise of expert help, on demand.

Fast-forward a bit, though, and unexpected downsides may become apparent. **We asked sysadmins and CIOs to share some of the challenges they encounter with free IT monitoring solutions. Here are their top ten:**

1 **Free monitoring solutions can be hard to deploy, configure, and lifecycle-manage in production.** The latest versions of popular free monitoring solutions may take a while (on the order of years) to become available in official software repositories for quick, one-step installation. This can leave users stuck with earlier versions, compel them to build from source (somewhat more arduous and error-prone), or oblige them to seek in unofficial repositories, in which packages may be of uncertain origin or quality. Depending on solution, creating more sophisticated, enterprise scale deployments may be harder yet, entailing manual integration of third-party components, creation of roll-your-own deployment and scaling automation, and other daunting tasks.

2 **Fully-elaborated deployments of free monitoring solutions tend to become "special snowflakes."** Building a full-featured, web UI-accessible monitoring solution around a free monitoring engine (e.g., Nagios Core, Prometheus) means selecting, integrating, and configuring back ends (e.g., specialized databases like InfluxDB or CouchDB), search engines (e.g., Elastic), front-ends, and/or add-ons. Elements provided by the community may be of uncertain quality, and may not be maintained and updated long term. The resulting integrated solution tends to be a "special snowflake" --unique to a particular deployment or organization, so potentially hard to operationalize, configure, automate, maintain, and troubleshoot, even with community help.

3 **With free solutions, monitoring simple stuff may not be simple.** Free monitoring solutions tend to offer limited portfolios of quality-assured resources for quickly configuring monitoring of stock on-premises and cloud-based IT infrastructure and key enterprise applications. Coverage of less-popular or novel solutions comes from the community -- often resulting in production of many competing integrations whose quality can be hard to determine except by experiment. Moreover, solutions provided tend to be elementary. The Nagios community, for example, offers thousands of low-level "plugins" enabling retrieval of state and metrics from equipment and apps. But once these are installed, service checks and visualization of retrieved metrics need to be configured --requiring expertise both in how the monitoring platform works and in what to monitor for any given resource.

4 **Monitoring complex stuff may be hard (or impossible).** Free monitoring solutions can make it difficult to monitor, visualize, and alert on the state and capacity of resilient infrastructure (e.g., database clusters) and the higher-order business services that depend on them. Lack of such insight makes for inefficient operations. Too many alerts can lead to operator fatigue and inattention, while failing to recognize conditions leading to business service failure can be disastrous.

5 **What you see may (or may not) be what you get (out of the box).** Most free monitoring solutions offer limited (or no) web-accessible UI, so implementers need to integrate (and sometimes code), and operators need to master one of a plethora of web and/or command-line interfaces to do basic work efficiently. More work is required to set up dashboards, graph metrics in informative ways, and configure reports -- lengthening time to value.

6 **"Snowflake" solutions keep organizations hostage to technical debt and narrow expertise.** Highly-customized setups of free monitoring solutions can only be run, maintained, scaled, and evolved by the people who architected and deployed them. Loss of key personnel can leave organizations in the lurch, with no way of maintaining or securing the monitoring platform on which their business depends.

7 **Limited options for configuration data import, device discovery, and "automonitoring."** Getting value from monitoring quickly means being able to import data from Configuration Management Databases (CMDBs) and/or use utilities to discover and anatomize resources in vivo. Free monitoring solutions may or may not integrate easily with external configuration repositories and free-standing discovery tools. They seldom offer fully-integrated discovery, and almost never provide a complete solution that both discovers and places devices under monitoring, automatically.

8 **Free monitoring can be hard to scale.** Many free monitoring engines are monoliths, meaning you can only scale them vertically (i.e., by deploying them on more and more powerful and expensive servers) or by creating multiple, independent instances -- sacrificing the ability to view your entire hybrid IT estate under "a single pane of glass." Solutions that provide a distributed architecture, meanwhile, may lack deployment automation -- so require complex and time-consuming manual integration of components for messaging, high availability, and other common requirements.

9 **No commercial support.** Seems obvious, but getting the most from a monitoring solution -- even keeping your solution on its feet -- can be difficult without highly proactive support, fully informed about your platform, your use-cases, and trusted to intervene directly at need (i.e., "one throat to choke"). While community support may be available for individual components in a customized monitoring setup, the idiomatic nature of custom-built free monitoring deployments will likely prove a barrier both to best-practices implementation at outset, and to speedy problem resolution when troubles occur.

10 **Free monitoring software may not align with your business goals.** Being a paying customer can have its perks: among them, knowing that your business and technical priorities will be heard and perhaps actioned by vendors. By contrast, gaining influence in open source communities can mean becoming a contributor -- activity that lies well outside the business priorities of most monitoring users.

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