10 ways to know you chose the right monitoring solution for your business

Discover how Foglight® by Quest fulfills ten requirements of a robust observability solution and compares to other solutions in the market.

Introduction

With data pipelines becoming ever more critical, both internally and externally to most organizations, IT and business leaders alike are shifting resources there. To better protect the organization's lifeblood of data, and to ensure the healthy operation of their pipelines, priority (funding) is being applied to the effective use of data.

Preventing outages remains near the top of every CIO's wish list. They know how much money it costs the business every time there's a system outage affecting customers in any way. According to the latest statistics[1], over two-thirds of organizations reported losses of over $100,000 from their most recent outage and a quarter of all outages resulted in a loss of over $1 million.

Every operations team member's performance is measured, sometimes nearly exclusively, on whether the databases or systems they manage remain up and running. DBAs, infrastructure engineers, cloud engineers, and their managers – all these people have a strong incentive to avoid downtime.

So, if all these people are so intent on minimizing unplanned disruptions of revenue sources, why does it still happen? A lack of observability.

The 10 "must-have" capabilties of observability solutions

Observability brings game-changing capabilities, including:

- The ability to reason about new issues that customers may be facing
- MTTR (mean time to resolution) improvement of 25% or more, according to recent reports

All of which can heavily influence the capacity of DBAs and others to ensure the stability, efficiency and reliability of the data ecosystem.

Performance monitoring is a popular way that organizations try to add more observability within their IT operations and business units' tech teams. The benefits are too compelling to let slip away.

How do you know you've made the wrong choice in monitoring tools for your data ecosystem?

If your monitoring/observability solution **cannot provide you these ten benefits, there's a better solution for you out there:**

1. It allows you to be proactive, not just reactive.
2. It monitors all your critical data pipeline and microservices' database and infrastructure components.
3. It is secure.
4. It reduces the impact of skills gaps as new platforms permeate the organization.

5. Time to value is very short.
6. It is broad and deep, satisfying multiple user communities and essential use cases.
7. It is a valuable communication tool.
8. It saves you time and money.
9. It can grow with you.
10. It is time-tested and reliable.

Being proactive

Most organizations want performance management to be a more proactive activity, not a constant fire-fighting exercise. What does "being proactive" mean in practice?

What if a change is made to an index, or one is dropped or added? Hopefully, some impact analysis has been done before that change makes it to production. But it's a scenario that begs for proactive investigation – far ahead of a possible production application problem or slowdown.

Observability means that the data being collected by the monitoring aspects of your solution – log, metrics, traces – are being used wisely to help you diagnose problems. And that should include pointing you to the causes of, and the fixes available for, those problems.

If you're using a monitoring solution for your database environments that are limited on capabilities – if the following features are missing, **the lack of observability is going to negatively impact your MTTR** and your ability to "see it coming" and to "fix it once and for all".

- Foglight's Performance Investigator Change Tracking is a differentiator among vendor offerings. It correlates changes within a database instance to performance on a timeline – so you see clues quickly about what caused a performance change. A huge time-saver and an unparalleled diagnostic tool.
- Foglight's Performance Investigator Advisories give you clues to the best actions to take, based on what's happening in your systems in real-time.
- Comparisons of performance in different time ranges. Used occasionally to check for changes in performance from one day to another, or to compare performance before and after a database change, the possibility of tying performance changes to a schema change, for example, is likely to save hours of investigation later.
- Baseline metrics and related alarms, calculated by Foglight and interpreted for alerting and visual clues on the screens – showing you when/where performance is not "normal". This has been a Quest specialty for years and is absent from most monitors.
- Query Insights – an automated listing of currently "high impact" queries ranked across your diverse database instances. No more searching for them instance by instance for long-running queries or queries that use the most CPU resources. Unlike other vendor offerings, which typically only list top queries by instance or by platform (SQL Server is one list, PostgreSQL another, for example), Foglight

identifies these across a variety of database platforms.

Covering a wide variety of database platforms

Your database ecosystem has undoubtedly expanded or is about to.

What about new sprawling multi-component applications (e.g., microservices)? Foglight includes pre-built alarms for popular alert conditions, specific to each database type and host and virtual machine being monitored – no matter where they are located. Multi-cloud, probably, and that's not a problem for Foglight. Collection and alerting customization for a large number of those entities is easily managed with Foglight's flexible collection mechanisms and Alarm Templates.

- 13 database types currently supported (with Snowflake and Redis being the latest additions).
- Multi-Cloud coverage: on-premises, IaaS and PaaS.
- **Top database monitoring solutions** are limited in supported platforms, as are APM vendors: they have chosen certain databases to focus on, and not still-widely used "legacy" database offerings. Foglight is being developed to add more and more as quickly as the market calls for, but also still monitors DB2, Oracle, SAP HANA and others that most competitors don't.

If you're considering an **APM/EPM vendor**, keep in mind that:

- Foglight requires no agent installation on monitored database hosts nor configuration beyond supplying connection credentials (encrypted at the Foglight server on-premises or the cloud-hosted version).
- Foglight's Alarm Management with features like alarm templates save time and confusion when managing alarm thresholds across many database instances and hosts.

Being secure

You want a monitoring and observability solution that has been built with security in mind from the ground up… for years. Secure development life cycle practices are important and are used by Quest Software in the development of all their products… no exceptions. And that means advantages for your internal operations and for your customers.

- The Quest Secure Development Life Cycle (SDLC) introduces security and privacy considerations throughout all phases of the development process, helping developers build highly secure software and address security compliance requirements. These policies in place within Quest are respected in the enterprise software market and reflect many years of knowledge and diligence in this realm.
- And practical examples of ways your own security and compliance policies can be successfully followed as you diagnose your system challenges:
- Unlike some products (it's important that you check with every vendor on this), users of Quest's Foglight do not require direct access to monitored databases or hosts or virtual components. There's no need for a Foglight user to have or use their own platform credentials to view or update the monitoring information. Foglight does all of that, for your peace of mind, and to enforce security best practices. Surprisingly, some products do still require these user-based database, host, etc., credentials.

Minimizing skills gaps

Asking non-experts to solve problems quicker is a business-driven necessity. And it's a reality for operations teams and business IT teams in organizations of all size.

Consistent interfaces and features across your variety of databases and operating systems have an impact on the ability for people new to specific platforms to solve problems that appear on those platforms. And the monitoring and observability needs to help those users investigate and diagnose in hopes of finding

and fixing the root cause. Recurring problems need to be found and eradicated, no matter the skill level of the responsible team.

If you're considering an **APM/EPM vendor**, keep in mind that:

•The ability to quickly pinpoint offending database queries, for example, sets Foglight apart – partly because of how many different database platforms it can monitor, but also because of features like "Query Insights", which identifies the most impactful queries across all your important database platforms. Think of the usefulness of that when you have operations and application team members who are already burdened with challenges of a complex environment now asked to find causes of database slowdowns on platforms they've not had the opportunity to gain knowledge in.

If you're considering **heterogeneous monitoring** tools:

- Foglight includes pre-built alarms for popular alert conditions, specific to each database type and host and virtual environment component being monitored. Customization for one or many of those entities is easily managed with Foglight's Alarm Templates.
- Some vendor offerings have disjointed, standalone, or completely unique interfaces for certain groups of databases (for example, traditional relational in one set of screens, open source or cloud database in others). Foglight has a seamless flow between platform types. One interface to learn, for improved productivity in heterogeneous database environments.
- Foglight's distinctive heatmap helps save time by prioritizing problems in many of your critical environments. Again, lack of skills cannot be allowed to slow down problem-solving. Foglight helps make sure that does not happen.

Foglight is **moving toward AI-assisted abilities** to help users solve problems quickly. For example, conducting a "conversation with the user" about the problem they are looking into (in response to an alert). Foglight will use its own AI to generate ideas of where to look next for more information toward a solution.

Being easy to install and quick to value

To meet the rising demand for reduced and flexible expenditures for technical infrastructure, and for shorter time to value, Quest has released its cloud-hosted monitoring service called Foglight Cloud. Foglight Cloud meets those popular criteria and reduces the time needed to install and configure. Foglight still has an on-premises option and remains its popular robust self. It now has a cloud-hosted sibling.

Instead of the hours or days required for even basic functionality of an on-premises installed product, Foglight Cloud can be observing almost immediately. And simplified configuration steps further streamline the user-friendly process of finding value quickly.

The on-premises version of Foglight provides many default configuration settings that allow you to quickly begin to monitor and diagnose issues. Only Foglight requires no agent installation on monitored database hosts nor configuration beyond supplying connection credentials (encrypted at the server on-premises or cloud).

Covering a variety of use cases for maximum value

The "value" expected from a performance monitoring solution might seem hard to quantify, but people seem to know it when they see it. Whether they are getting value from software is a personal perception because each of us is unique in our role, our areas of expertise, and the value we strive to bring to our own organization. Also, each of us has our own set of responsibilities we must meet. A monitoring solution that provides deep insights, as well as broad platform coverage, is a differentiator as technical environments become more diverse.

A glance at a list of use cases that commonly confront operations, DevOps, and application support teams shows the diversity of challenges that must be met, and the variety of teams and individuals that may be impacted within an organization:

1. **Addressing the health of the database ecosystem, including their hosts or virtual**

machines. In the cloud or not.
For anyone in a DBA, or "database manager" role, or an application support type role: the data stores under your purview need to stay healthy. They need to perform well, and they certainly need to remain available. These are the sorts of things our job performance (and our value to the organization) are measured on, in many cases.

In terms of a performance monitoring software solution, these functions of "health monitoring" are necessities. But there is monitoring to do beyond the database to get a true picture of "health". Servers, virtual machines, and virtual hosts need to be monitored to understand why the database is underperforming. If running on a cloud platform, AWS performance and resource metrics can be helpful, for example.

These health metrics, and analytics based upon them, need to be available to everyone in one central place, or misinterpretation and incomplete conclusions are inevitable. That one central location needs to be comprehensive, secure, and usable.

2. **Problem identification and triage (what to investigate/fix first?)**
Of all the queries running against your critical databases at any given time, how do DBAs and others identify problematic queries – queries that would likely benefit from tuning the most? **Being shown which to focus attention on** to improve them would save many needless hours of searching them out.

The performance of key systems and applications can certainly fluctuate over time. But if your monitor can tell you when performance isn't normal – it's outside normal ranges of behavior – your DBAs and other performance managers can kick into action with confidence that the aspect (configuration, behavior) of the database or workloads or server or virtual machine is the one that will be the best use of scarce time. Reacting to a performance abnormality on one or more databases is a fantastic way to reduce MTTR by getting a jump start on finding the root cause and resolving the problem.

Suddenly a query is running much longer than it did even a few days ago. Or there are wait events – concurrency issues of some kind - happening that had never been noticeable problems before. Average time per read or write operation going up? These are all signs of performance slowdowns that your monitor needs to make the right people aware of. Reacting to slow performance on one or more database instances is a must today: users/customers demand high performance in applications. Sluggishness or outages are enemies of the business, and the reasons for the slowdown must be identified as quickly as possible.

Resources, too, can be a problem: CPU, memory, and disk space can all have constraints. If serious, outages can occur. But even a slowly growing problem with a critical resource can begin to have effects on performance that are often very difficult to correlate. Reacting correctly to an alert about a technical resource constraint involves knowing how severe (time-critical) it is, and exactly which resource is involved.

All the above use cases are valid for various database vendor offerings in an organization, including traditional relational, open source relational, NoSQL, and Cloud Data Warehouses. You need to monitor all your diverse critical instances throughout your database ecosystem.

Using Quest's Foglight, you're able to enjoy these capabilities:

- **Query Insights** quickly identifies queries that have the largest resource/performance impact, across many popular database platforms.
- **Heatmap** view quickly and easily identifies the database instance(s) having the highest severity problems, or the most problems – enabling accurate triage at a glance.
- **Dimensional Performance Analysis** means that performance can be investigated – clues to causes, etc., can be viewed – from different perspectives: by instance, by SQL statement, by the user, by program or stored procedure, to name a few. Sometimes, looking at a different

dimension makes something pop into focus, like a query you didn't know had changed in execution time so much, or a user that's suddenly running queries during business hours that never used to. The possibilities are great.

- **Performance Baselines**, if calculated to represent the "normal" behavior of a key performance indicator, can immediately indicate what's NOT NORMAL. Whatever is not normal is an important clue about what is causing slow(er) performance.
- **Change Tracking** is a unique way to correlate an event or a change to the database environment. A change-maker like baselines, clues to why performance has changed are most valuable if presented quickly and as part of the monitoring. You need to be shown the needle in the haystack, not spend time digging for it.
- **Performance Comparisons** are another time-saving feature that is sadly missing from so many solutions. It is possible, with a few mouse clicks, to have your monitoring solution present a page of highlights of what is different in database workloads between a time that performance was fine and a time it was bad. A cousin to Change Tracking, the clues presented by comparing workloads between two time periods in a quick, easy-to-use interface are potentially huge time-savers and problem-solvers.

If you're considering an APM/EPM:

- Be aware that only Foglight has a multi-dimensional view of performance (real-time and historical), Change Tracking, Compares, Advisories, Baseline metrics, and related alarms for databases and infrastructure.
- Foglight's Alarm Management with features like alarm templates saves time and confusion when managing alarm thresholds across many database instances and hosts.

If you're considering an enterprise monitor:

- Foglight's Change Tracking and workload comparisons are built into the comprehensive Performance Investigator views…quick clicks get you the detail needed. A huge advantage when time to resolution matters.
- Foglight's heatmap helps save time by prioritizing problems in your environments.
- Foglight includes free OS monitoring of those hosts the databases are running on.
- Foglight includes pre-built alarms for popular alert conditions, specific to each database type and host and virtual machine being monitored. Customization for one or many of those entities is easily managed with Foglight's Alarm Templates.
- Seamless, one interface to learn, for better productivity with heterogeneous database environments.

Also keep in mind:

- Foglight is not limited to monitoring SQL Server.
- Foglight's Change Tracking and workload comparisons are built into the comprehensive Performance Investigator views…quick clicks get you the detail needed. A huge advantage when time to resolution matters.
- Foglight's heatmap helps save time by prioritizing problems in your environment.
- Foglight includes free OS monitoring of those hosts the databases are running on.

3. **Knowing about, and acting on, unsafe DevOps processes**
   One of the key challenges of DevOps processes like continuous integration involving database objects is that performance degradation can occur in production when changes are made. Safeguards are generally considered and put in place for safe, reliable migrations of schema changes, changes to code in database objects, or brand-new database objects as they move from pre-production to product, for example. That's good because errors here will almost certainly cause application errors.

But sometimes forgotten are the performance problems that can arise from changes to databases – and mechanisms to warn of those problems well before they impact customers. Your database performance monitoring offering should have the ability to compare performance across test–QA–production environments so that the DBA team (or whoever can address performance) knows about the ramifications to performance well before users – customers – are affected.

Helping bridge communication gaps

Some of you might remember when organizations didn't even consider cooperation between operations teams and developers on a day-to-day basis. Sure, developers or systems analysts would prepare detailed requirements for supporting their data needs, and hand them over to the operations side and basically say, "handle it".

Well, that's one way to make business run. But that's been improved upon a great deal out of necessity. Organizations no longer have long runways to get new applications built. Business now demands quick action and quick response, constantly. That's the main reason DevOps was born.

In a climate of cooperation – at least at some level – experts in one thing are not experts in everything, and all the experts need to be pointed toward the same goals. Those goals are: 1) applications doing the right things; 2) applications remaining available; and 3) applications performing well. Those three goals involve a lot of details, of course, and we will focus here on the second and third – "remaining available" and "performing well".

Imagine a DevOps engineer knowing that a database they are about to move to production is going to make an important function of an application run horribly slowly. Knowing that would they let that migration happen? One hopes not. A DBA can share the evidence of what's about to happen if that engineer pushes the "migrate" button. But only if they have the pertinent information in an understandable format that correlates performance with changes made in the data structures.

That understandable correlation comes from a best-of-breed performance monitoring solution. So does a wide array of knowledge about the data ecosystem, all consumable by the experts on various teams that can take advantage of that knowledge in useful ways.

Why not open those lines of communication as wide as they can be?

Saving time and money

The fact that there is a cost associated with unplanned downtime of your critical applications is not in question; it's wasted time and probably significant money.

Mean time to resolution (MTTR) is a real measure of cost. The longer it takes your operations teams and others to resolve a performance problem or outage, the more expensive in terms of time and lost opportunity to spend that time on something productive for the business. If paying customers are unable to use your systems, well, do the math on revenue loss while the problem persists.

The observations about performance and database concurrency, and of technical resource consumption, that are needed to effectively reduce MTTR every time are not easy to come by. Isn't a performance monitoring solution that's built to do just that – across all your database platforms – just what you need?

Growing with you and futureproofing

Back in the 1960s, some of us remember that as families around us grew, parents who wanted to be on the go often opted for a "family station wagon". Today, it's minivans or large SUVs that seem ubiquitous. The goal was, and is, to have a vehicle with the capacity to move enough people and their stuff wherever they needed to go.

Similarly, as organizations evolve – especially their technical infrastructures, they need their performance monitoring solution to meet their required data empowerment commitments. Get data where it needs to be, to the right people, and just the right time. No matter how many new types of database platforms or new virtual infrastructures are being used. Growing

complexity? You bet. An excuse for missing a commitment or lagging behind? No way.

So many performance monitoring tools today are not set up for scalability as organizations grow. Fixed numbers of database platforms, for example, are the limit for many vendors' solutions. That's great if an organization has limited and never-changing database platforms in-house. But that's becoming very rare. A sizable majority of database managers have responded in surveys in recent years that they manage more than one database platform and expect to manage more.

Nobody knows what's around the corner. Some companies that were "Oracle first" a few years ago are now "Oracle for legacy applications only". Or SQL Server or DB2 – a similar reality is emerging. Open source and NoSQL databases that handle requirements very well at reduced costs are often replacing legacy databases in new developments. To have a performance monitoring solution that cannot keep watch over all of the new databases is risky. Why have blind spots as data becomes even more business-critical?

Foglight from Quest monitors thirteen distinct database platforms as of this writing in early 2024, covering NoSQL and open-source relational databases as well as popular cloud data platforms. That's what you want, a solution that you can count on to monitor and provide visibility to new types of databases that your organization now depends upon. And will deepen down the road.

The importance of a track record and long-term viability

Like with any enterprise software purchase or subscription, don't assume every vendor in the performance monitoring space is a time-tested one, or one that keeps up with the times. Niche products come and go, and you don't want a disappearing act to happen with something as important as your database and infrastructure monitor.

Longevity in the market is easy enough to verify. Compare vendors' length of time in existence (a quick browser search, "what is the incorporation date of <vendor name>?" should yield the information you need on longevity. For example, a search for Quest Software quickly shows that it was incorporated in 1997.

Conclusion

Since 1997, Quest Software has been building difference-making software solutions, creatively solving some of the most complex technical challenges facing organizations in all industry verticals as they strive to protect and make use of their data. While there are other vendors selling monitoring add-ons to APM or EPM solutions, and others that have sold database and system monitoring solutions for years, none of them match the advantages you'll enjoy with Quest's Foglight. Here is a quick comparison, in summary:

Or search for, "When did <product name> from <vendor name> enter the market?". A search specific to Foglight by Quest indicates that Quest acquired Foglight in 1999. Quest has been improving and selling Foglight ever since.

Commitment to innovation and the features they've delivered over the past months and years will soon differentiate vendors after some more investigation with creative internet searches. Take a product like Foglight, which went from the 1999 acquisition by Quest to a completely revamped, modernized monitoring and analytics product set in 2007, with a new web interface and a new underlying structure that increased flexibility and overall usefulness across the organization. Since then, a steady addition of features (at least two major releases a year) and of supported platforms proves Quest's commitment to its customers.

Customer reviews are a possible source of helpful information. PeerSpot is one source and there are many others. While customer reviews are at times engagingly written by interested users, they can also be uninspired, biased, or derogatory. But if you spot them, trends mentioned in customer comments are especially useful in vendor comparison exercises.

COMPETITIVE DIFFERENTIATORS

Key Differentiators	Foglight by Quest	APM	Other Tools
Quickly ID offending queries across diverse data structures - single view	✓	X	X
Pre-built alarms for >12 database platforms	✓	X	X
Problem triage glance across instances	✓	X	Limited
Alarm change selective mass deploy	✓	X	X
Multi-dimensional workload analysis	✓	X	✓
Change tracking	✓	X	Limited
Workload comparisons	✓	X	Limited
Performance advisories	✓	X	Limited
Baselines calculated & trigger alarms	✓	X	Limited
Credentials to monitor not users	✓	Limited	Limited
No installation of an agent on monitored host required	✓	Limited	Limited
Seamless interface flow across monitored platforms	✓	Limited	Limited
Free OS monitoring of database hosts	✓	X	X
Continually adding to already diverse list of database platforms supported	✓	X	Limited
Proven long-term viability	✓	X	Limited

Today, Foglight from Quest is trusted by data-driven organizations around the world. Ongoing innovation and its continued status as a best-of-breed database and infrastructure performance management solution will continue to bring converts and new enthusiasts to the Foglight fold.

1 Uptime Institute, "Annual Outages Analysis for 2023", March 2023.

Quest

About Quest

Quest creates software solutions that make the benefits of new technology real in an increasingly complex IT landscape. From database and systems management, to Active Directory and Microsoft 365 migration and management, and cybersecurity resilience, Quest helps customers solve their next IT challenge now. Around the globe, more than 130,000 companies and 95% of the Fortune 500 count on Quest to deliver proactive management and monitoring for the next enterprise initiative, find the next solution for complex Microsoft challenges and stay ahead of the next threat. Quest Software. Where next meets now. For more information, visit www.quest.com.

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