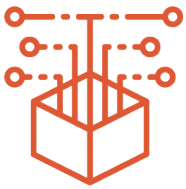
Is Your Open Source Application Enterprise-Ready?

Open source software is popular for good reason. It provides agencies with the ability to leverage free, reliable and proven code to accelerate the development of new systems and services. In other words, it gets the job done. But that doesn't mean that it's appropriate for enterprise-grade deployments, which require enterprise-grade security, management and availability. Consider the free MySQL Community Edition. Whether it's being used as a stand-alone or embedded database, how does your MySQL implementation measure up? This worksheet provides a series of checklists to help you determine if you need to upgrade to the MySQL Enterprise Edition.

Five Top-Line Factors to Consider

While there is no disputing the benefits of the MySQL Community Edition, it's important to note what you don't get. Which of the following features of the MySQL Enterprise Edition would raise your confidence level?



Out-of-the-Box Security

- Support for regulatory requirements such as GDPR, PCI DSS, and HIPAA through monitoring, alerting, and blocking protection
- Strong security controls and policy-based auditing to ensure compliance with both internal and external regulatory guidelines
- Built-in masking and de-identification capabilities to protect sensitive data

On-Demand Scalability

- Replication capabilities make it possible to scale up performance to millions of users
- The use of a dynamic thread pool to meet sustained performance and scalability requirements as user access queries and data loads increase

Simplified Backup and Recovery

- Options for hot, quick, online and non-blocking enterprise-grade backups and recovery on multiple platforms
- Ability to schedule regular and future backups covering all types of tables created by any storage engines supported by MySQL

Optimized Database Performance

- Metrics for evaluating, tuning, and managing the performance and health of databases, including resource consumption
- Ability to switch on enterprise scalability and high availability features to manage exponential growth in users and data

Streamlined User Management

- Single Sign On capabilities for managing user credentials
- Centralized directories for leveraging security rules and processes

Why Enterprise Security Matters

When people take the need for security as a given, they often forget just how urgent that need is. Here are some recent data breach statistics to put it in perspective:

7.9 billion
records stolen in 2019, up by 33%

1.76 billion
records leaked in January 2020

$3.86 million
average cost of a data breach

48%
of breaches are malicious attacks

$2 trillion
global cost of cybercrime in 2020

Sources: Symantec 2019 Internet Security Threat Report, TheBestVPN Cyber Security Statistics 2020

Five Pillars of Security Compliance

Don't get fooled by "simple" solutions for protecting sensitive data in compliance with key mandates. It requires a multi-faceted approach. Here are five key capabilities that provide a foundation for compliance:

1. **Assessing security risks: Identify sensitive data such as Personally Identifiable Information and vulnerable configurations.**
2. **Managing user privileges and restricting access to sensitive data: Grant access to data only on a need to know basis. Authenticate users with strong passwords**
3. **Protecting development and test data: Organizations can reduce the risk of a data breach by masking sensitive or confidential application data, for use in non-production systems.**
4. **Encrypting sensitive data: Implement a mechanism to encrypt your data so if data is stolen, it can't be read.**
5. **Detecting database activity: Detect and stop malicious database activity in case of a breach to determine what information was stolen and by whom, which is legally required to be reported to regulators.**

Compliance Checklist: Password Management

Password management remains a critical piece of data protection. When deploying MySQL, be sure that your system enforces these seven best practices:

- ☐ **Password expiration to require passwords to be changed periodically.**
- ☐ **Password reuse restrictions to prevent old passwords from being chosen again.**
- ☐ **Password verification to require an entry of a current password in order to create a new one.**
- ☐ **Dual passwords to enable clients to connect using either a primary or secondary password.**
- ☐ **Password strength assessment to require strong passwords.**
- ☐ **Random password generation as an alternative to requiring explicit administrator specified literal passwords.**
- ☐ **Password failure tracking to enable temporary account locking after multiple consecutive password login failures.**

Eight Measures of Enterprise-Grade Security

The built-in security features of the MySQL Community Edition might be sufficient for some low-end applications. But what capabilities are you looking for as you deploy MySQL in your enterprise? Check all that apply:

- ☐ **Encryption of the physical files of the database**
- ☐ **Protection of data in transit using encryption, key generation and digital signatures**
- ☐ **Ability to anonymize personal data for development and testing**
- ☐ **Use of centralized security infrastructures for authentication**
- ☐ **Blocking of SQL injection attacks**
- ☐ **Policy-based auditing compliance of existing MySQL applications**
- ☐ **Ability to identify security vulnerabilities including at-risk configurations, privileges and passwords**
- ☐ **Support for hot backup and recovery backup encryption.**

Oracle Delivers Enterprise-Ready MySQL

Oracle recently announced MySQL Database Service on Oracle Cloud Infrastructure. MySQL Database Service enables organizations to rapidly and securely deploy modern, cloud-native applications using the world's most popular open-source database. It is the only fully managed public cloud service to provide MySQL Enterprise Edition for the highest levels of MySQL security, reliability, and uptime.

To learn more about Oracle MySQL and Affigent, please visit affigent.com/products/oracle.

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