

## CenturyLink Service Guide

### Database Server Software 1.0: Managed MySQL Database

This Service Guide ("SG") sets forth a description of the Database Server Software 1.0: Managed MySQL Database Services offered by CenturyLink, including technical details and additional requirements or terms. This SG is subject to and incorporated into the Agreement and Hosting Service Schedule between the parties. The specific details of the Service ordered by Customer will be set forth on the relevant Service Order. For avoidance of doubt, any references in the Agreement, Schedule, or Service Orders to SSG, shall mean SG.

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## Overview

Database Server Software 1.0: Managed MySQL Database is a Managed Hosting product. The standard "Service" consists of the licensing, installation, configuration, administration, monitoring, maintenance and support for software components.

The Managed Hosting SLA applies to this Service.

Customer chooses the Database version and options at the time of purchase. Licensing of the database Software is provided by CenturyLink.

## Supported Services

- **MyISAM:** MySQL non-transactional storage engine
- **InnoDB:** MySQL transactional storage engine

## Supported Editions, Versions, Platforms and Operating Systems

See [Managed Database Services Compatibility Matrix](#) or navigate to <https://www.ctl.io/legal/managed-hosting/db-compatibility-matrix/> from any Internet browser.

## Access

Customers are given login access and access to Httpd directories but not root or sudo access. In the event Customer requires root or sudo access, CenturyLink may grant such access; however, the SLA will not apply to the Service for the period of time that root or sudo access is granted.

## Monitoring

CenturyLink will enable application level monitoring for each environment as they are created within the product configuration. CenturyLink will retain primary notification and resolution responsibilities for all automated environment alerts. A Customer technical contact will be engaged to perform primary resolution of incidents associated with a non-production level environment.

## Maintenance and Support

- **Change Management:**

All changes to the CenturyLink managed applications, systems, network and facilities are subject to CenturyLink's change management process. This process is intended to confirm that work is reviewed for completeness (risk assessment, completed test procedure, metrics for measuring progress, back out procedure, etc.) and accuracy prior to scheduling and implementation.

- **Major and Minor Releases:**

Major and Minor Releases are upgrades and require a new installation of the Software binaries, which is not included in this Service. As a commercially reasonable practice, it is suggested that Customer purchase a new managed server (via a Service Order) and purchase migration services (via a Statement of Work). Customer should contact their sales representative to determine their upgrade options.

- **Patch Releases:**

CenturyLink certifies, approves, bundles and delivers patches for installation in a Customer environment. Customer must approve the installation. Any outages directly caused by Customer's failure to accept the implementation of a patch will not be subject to SLA Service Credits.

- **Maintenance Windows:** CenturyLink will use commercially reasonable efforts to perform routine maintenance during defined maintenance windows. See our published [Maintenance Window schedule](#), or navigate to <https://www.ctl.io/legal/managed-hosting/maintenance-windows/> from any Internet browser. CenturyLink has the right to perform scheduled maintenance (during the windows specified), which may limit or suspend the availability of the Services. CenturyLink shall provide Customer with at least ten (10) days prior notice of any scheduled maintenance activities. In addition to providing written notice, CenturyLink maintenance notifications are available on the SavvisStation customer portal.

- **Support:**

CenturyLink will provide support for the Service during installation, content migration, Customer validation, and 24x7 monitoring and management by the CenturyLink Service Center after installation.

## Optional Services

At Customer's option and expense, Customer can purchase the following additional services for an additional fee. These additional services are available only if Customer has purchased Database Server Software 1.0: Managed MySQL Database, and additional terms and conditions may apply.

### Database Replication

Customer may increase database availability by purchasing CenturyLink optional Managed Replication Service; MySQL Replication or MySQL Read-Only Replication. The Managed Replication Service includes replication setup, enabling replication session monitoring, and managing failover and fail-back. The supported replication product is statement-based replication.

## Related Custom Services

**The following related custom services may be purchased separately.** These services can't be delivered in a standard manner as defined in this Service Guide. Instead, they can be requested through your CenturyLink sales representative for consideration of delivery through a CenturyLink statement of work (SOW) under a separate service agreement.

### Database Replication

Any other methods besides those listed above in Optional Services (including row-based) can be supported by enquiring with your sales representative.

### Dedicated Database Administrator

Customers that do not have a Database Administrator (DBA), can purchase this resource by enquiring with their Sales Representative.

## CenturyLink Responsibilities

### Licensing

- Maintain licensing and Software maintenance with MySQL

## Installation

- Prepare server for application service (OS specific parameters)
- Install MySQL Server (including available options and features)
- Harden MySQL Server to CIS Level 1 and CenturyLink standards
- Install CenturyLink Monitoring
- Perform quality assurance against MySQL Server installation/hardening

## Configuration

- Create/Configure MySQL Server service accounts
- Configure supported protocols (TCP/IP, Named pipes, TCP Port, IP Address and SSL Certificate allocation)
- Configure database storage engine
- Configure Database Replication, if purchased
- Configure CenturyLink Monitoring
- Configure CenturyLink approved and provided Database Backups and maintenance jobs

## Administration

- Rebuild broken Database Replication sets, if purchased
- Perform Database Backups and restores
- MySQL server log monitoring
- Restart/stop/start services
- Update managed servers with all recommended security patches, service packs and hot-fixes upon Customer request
- CenturyLink utilizes CIS Level 1 security benchmarks and NIST for additional security standards when deploying Managed Database Services and will provide security policies for Managed Database Services to Customer upon request.

## Maintenance and Support

- Coordinate patching with Customer during maintenance hours

If a customer requires any additional services, including the custom related services noted above, which are not explicitly included as either the standard Service or optional services in this SG, they should contact their sales representative for assistance and information.

## Customer Responsibilities

Customer acknowledges and agrees that its failure to perform its obligations herein may result in CenturyLink's inability to perform the Services and CenturyLink shall not be liable for any failure to perform, including any SLAs in the event of Customer's failure. CenturyLink shall not be liable for any failure to perform in the event Customer does not fulfill Customer's responsibilities and requirements as detailed herein and in the event of Customer's errors or omissions in setting up the environment. In addition, CenturyLink is not responsible for any loss or corruption of data or information. CenturyLink's obligations related to data are exclusively governed by the Security and Compliance section of the applicable Agreement.

## Licensing

- Any third-party software, including any corresponding documentation, is provided to Customer by CenturyLink in connection with the Service, Customer agrees to be bound by any additional licensing terms and conditions applicable to such third-party software and that it will use such third-party software strictly in accordance with such terms and conditions. CenturyLink makes no representations or warranties whatsoever with regard to such third-party software.

## Configuration

- Deploy Customer database(s)
- Configure Login auditing
- Data validation, User Acceptance Testing (UAT), Site Acceptance Testing (SAT)

## Administration

- Maintain Customer database(s)
- Customer database packaging
- Encrypt data within database(s)
- Manage table and index partitioning
- User identity and access management
- Manage database encryption keys

## Maintenance and Support

- Analyze database performance, concurrence, lock and durability issues.

## Acknowledgements and Consent

1. **Third-Party Components:** Customer acknowledges that all third-party components of the Service are subject to the applicable vendor's decision to (i)



not continue to provide or renew the Service with CenturyLink and/or (ii) modify or end of life a component(s). If any of the foregoing occurs, CenturyLink will use commercially reasonable efforts to migrate Customer to another comparable CenturyLink service at any time. Such migration will occur without regard to Customer's current term.

2. **Provide Contact:** Designate and maintain a Customer Contact during the service term and any applicable renewal term (including current contact information). "Customer Contact" means a technical point of contact with sufficient knowledge, authority and access to address configuration issues, event notifications, system or infrastructure modifications and authentication of applicable systems.
3. **Security Precautions:** Neither Customer nor its representatives shall attempt in any way to circumvent or otherwise interfere with any security precautions or measures of CenturyLink relating to the Service or any other CenturyLink equipment.
4. **Supportability:**
  - a. Customer acknowledges and agrees that it is solely responsible for selecting and ensuring its software and systems are up to date and supportable.
  - b. Customer further acknowledges it is solely responsible for ensuring all devices and hardware are upgraded to meet vendor configurations and agrees that CenturyLink's SLA only applies to currently supported configurations (including but not limited to related devices, software, and operating systems) at the time SLA support requests are triggered. If any configuration or version is identified as "unsupported" by a vendor, the Services are subject to all of the following conditions and/or requirements: (i) a service level objective ("SLO") referring to CenturyLink's reasonable effort to provide support will apply in lieu of any other applicable SLA and will automatically apply from the time CenturyLink receives notice from the vendor of such unsupported service; (ii) CenturyLink, in its reasonable discretion may elect to charge the Customer for any support or additional tasks/work incurred by CenturyLink resulting from Customer's continued use of unsupported configuration until Customer purchases the required and supported upgrades or extended support at an additional cost from the vendor. The requirement to purchase upgrades or extended support from vendor shall apply at any time, regardless of any contract term, term commitments, or renewal periods. Customer's failure to do so may result in CenturyLink's inability to provide the Services and CenturyLink shall have no liability therefrom.
  - c. CenturyLink is not responsible for the service or the SLA if any changes by Customer affect the infrastructure or monitoring capability of CenturyLink.

## 5. **Data Transfer:**

- a. Customer consents to CenturyLink’s and its affiliates or subcontractors’ use and transfer to the United States, or other countries, data or information (including Customer Contact information such as names, phone numbers, addresses and/or email addresses) of the Customer for the sole purpose of: (i) fulfilling its obligations under the Agreement; and (ii) providing information to Customer about CenturyLink’s products and services. Customer represents that it will ensure that all information provided to CenturyLink is accurate at all times and that any business contact has consented to CenturyLink’s processing of such information for the purposes identified herein.
- b. Customer consents to CenturyLink collecting and compiling system and operational metrics data to determine trends and improve service capabilities. CenturyLink may associate this data with similar data of other Customers so long as such data is merged in a manner that will not in any way reveal the data as being attributable to any specific Customer. Customer acknowledges CenturyLink’s access to Customer data is generally limited to machine/system generated information and/or metrics, however if required as part of CenturyLink’s obligation to provide the Service, or requests by Customer, CenturyLink may have access to Customer data, including personal information.

## Monitors

Monitor	Description	Frequency
MySQL Error Log	The MySQL error log is polled for the words “ERROR” or “FAILED” will trap (case ignored)	Instant
MySQL Process	Check if the MySQL Server process is running	1 Minute
Remote Root	Checks for root account available from anything other than local host	24 Hours
Root Password	Checks for root password	24 Hours
Anonymous	Checks for anonymous accounts	24 Hours
Key Buffer Used %	Checks percentage of maximum amount of Key Buffer used since startup	1 Minute
Write hit	Ratio of key writes to hard disk to key writes to RAM	1 Minute
Read hit	Ratio of key reads from hard disk to key reads from RAM	1 Minute
% of Total Questions	Percentage of Slow Queries of all statements	1 Minute
% of Max used	Percentage of Max used connections to Max Connection Size	1 Minute
InnoDB Buffer Pool Size	Configured size of InnoDB Buffer Pool size	1 Minute
InnoDB Buffer Pool Usage	Buffer Pool used	1 Minute
InnoDB Buffer Pool % Used	Percentage of Buffer Pool used	1 Minute

## Definitions

**CenturyLink Monitoring:** Configurable for client service needs, including auto-notification and application log matching.

**CenturyLink Service Center:** The primary organization for resolving infrastructure issues that is staffed 24/7/365 to respond in a timely manner to incidents and requests pertaining to the Service.

**Database Administrator (DBA):** Whether a direct employee of the Customer or contracted by the customer to CenturyLink, this role comprises the development and design of database strategies, system monitoring to improve database performance and capacity while taking planned expansion requirements into account. DBAs also coordinate and implement security measures to safeguard the databases.

**Database Backups:** Managed Replication Service affords Customer with the ability to off-load the overhead of backups from the master server. With Managed Replication Service, binary log records are sent directly from a master server to one or more slave servers. Client applications can be coded to automatically redirect their connection information in the event of a master server failure. Multiple slave databases are configurable for a single master database. Replication is asynchronous; data in transit or queued up at the time of a failover could be lost. The Customer is responsible for initiating a failover of its application from the master to a slave database. Creation of a support case is necessary to initiate a failover request. The Customer is responsible for re-pointing their application to their secondary instance of the database. A failover may take anywhere from a few seconds to two hours based on the time elapsed since the last binary log check point.

**Major Release:** Major Releases (X.y.z) are vehicles for delivering major and minor feature development and enhancements to existing features. They incorporate all applicable error corrections made in prior Major Releases, Minor Releases, and Patch Releases. Software Provider typically has one Major Release per year.

**Minor Release:** Minor Releases (x.Y.z) are vehicles for delivering minor feature developments, enhancements to existing features, and defect corrections. They incorporate all applicable error corrections made in prior Minor Releases, and Patch Releases.

**Patch Release:** Patch Releases (x.y.Z) are vehicles for delivering security fixes, feature developments, enhancements to existing features, and defect corrections. They incorporate all applicable error corrections made in prior Patch Releases. Patches

are often called "Patch Updates" and are Critical or Security related.

**Software:** Software in binary form, any other machine-readable materials (including, but not limited to, libraries, source files, header files, and data files).

**Software Provider:** A third party that makes and sells software products CenturyLink uses in the services we deliver.