

## **Redundant System Configuration Guide**

Version 6.0



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- 1. Provide a Superior Customer Experience
  - · offer the best product quality and support
- 2. Make Cool Practical Technology
  - · develop great products that customers love

Ross has become well known for the Ross Video Code of Ethics. It guides our interactions and empowers our employees. I hope you enjoy reading it below.

If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at *solutions@rossvideo.com*.

Toul Ross

David Ross CEO, Ross Video *dross@rossvideo.com* 

## Ross Video Code of Ethics

Any company is the sum total of the people that make things happen. At Ross, our employees are a special group. Our employees truly care about doing a great job and delivering a high quality customer experience every day. This code of ethics hangs on the wall of all Ross Video locations to guide our behavior:

- 1. We will always act in our customers' best interest.
- 2. We will do our best to understand our customers' requirements.
- 3. We will not ship crap.
- 4. We will be great to work with.
- **5.** We will do something extra for our customers, as an apology, when something big goes wrong and it's our fault.
- 6. We will keep our promises.
- 7. We will treat the competition with respect.
- 8. We will cooperate with and help other friendly companies.
- **9.** We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis do what you know in your heart is right. (You may rent helicopters if necessary.)*

## Streamline Redundant System · Configuration Guide

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## Patents

Patent numbers 4,205,346; 5,115,314; 5,280,346; 5,561,404; 7,034,886; 7,508,455; 7,602,446; 7,834,886; 7,914,332; 8307284, 2039277; 1237518; 1127289 and other patents pending.

## Warranty and Repair Policy

Ross Video Limited (Ross) warrants its Streamline Server systems to be free from defects under normal use and service a time period of 15 months from the date of shipment:

If an item becomes defective within the warranty period Ross will repair or replace the defective item, as determined solely by Ross.

Warranty repairs will be conducted at Ross, with all shipping FOB Ross dock. If repairs are conducted at the customer site, reasonable out-of-pocket charges will apply. At the discretion of Ross, and on a temporary loan basis, plug in circuit boards or other replacement parts may be supplied free of charge while defective items undergo repair. Return packing, shipping, and special handling costs are the responsibility of the customer.

This warranty is void if products are subjected to misuse, neglect, accident, improper installation or application, or unauthorized modification.

In no event shall Ross Video Limited be liable for direct, indirect, special, incidental, or consequential damages (including loss of profit). Implied warranties, including that of merchantability and fitness for a particular purpose, are expressly limited to the duration of this warranty.

This warranty is TRANSFERABLE to subsequent owners, subject to Ross' notification of change of ownership.

## **Extended Warranty**

For customers that require a longer warranty period, Ross offers an extended warranty plan to extend the standard warranty period by one year increments. For more information about an extended warranty for your Streamline Server system, contact your regional sales manager.

## **Environmental Information**

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

The crossed-out wheeled bin symbol invites you to use these systems.



If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You can also contact Ross Video for more information on the environmental performances of our products.

### Use of Hazardous Substances in Electrical and Electronic Products (China RoHS)

Ross Video Limited has reviewed all components and processes for compliance to:

"Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products" also known as China RoHS.

The "Environmentally Friendly Use Period" (EFUP) and Hazardous Substance Tables have been established for all products. We are currently updating all of our Product Manuals.

The Hazardous substances tables are available on our website at:

http://www.rossvideo.com/about-ross/company-profile/green-practices/china-rohs.html

## 电器电子产品中有害物质的使用

Ross Video Limited 按照以下的标准对所有组件和流程进行了审查:

"电器电子产品有害物质限制使用管理办法"也被称为中国RoHS。

所有产品都具有"环保使用期限"(EFUP)和有害物质表。目前,我们正在更新我们所有的产品手册。 有害物质表在我们的网站:

http://www.rossvideo.com/about-ross/company-profile/green-practices/china-rohs.html

## Company Address

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## Contents

## Introduction

ntroduction	1
A Word of Thanks	1-1
About This Guide	1-2
Documentation Conventions	1-2
Getting Help	1-3

## System Requirements

Streamline Redundant System	2-2
Hardware	2-2
Software	

## **Database Software Installation**

Streamline Server Time Synchronization	3-2
Before You Install Database Software	3-3
Install Streamline Database Software	3-3
Configure Database Replication on Streamline Server 2	3-10
Start Replication on the Streamline Server 2 Computer	3-12

## Streamline Server Software Installation

## Load Balancer Configuration

Load Balancer First Time Log In	.5-2
Configure Required Load Balancer Settings	.5-5

## Recovery

Recover from a Primary Database Problem	.6-2	2
Switch Back to the Primary Database	.6-4	4

2

3

4

5

6

## Introduction

## A Word of Thanks

Thank you for choosing Ross Video Streamline as your media asset management solution.

We are committed to providing you with the highest level of customer satisfaction possible. If, for any reason, you have questions or comments, please call Ross Video at +1-613-652-4886 or send us an e-mail at techsupport@rossvideo.com.

We hope that you visit our website www.rossvideo.com to stay up to date with ongoing software releases, join our customer forum and learn more about the complete range of Ross Video products.

Note that software maintenance and extended warranties are available for your system to protect and extend the life of your investment. Our sales team is more than happy to provide further information on the plans available. Members of our sales team will promptly response to e-mails sent to: solutions@rossvideo.com.

Again, thank you for your purchase of a Streamline media asset management solution from Ross Video. We are confident of your future pleasure with your choice.

Yours Sincerely,

Chris Kelly

Christopher Kelly Marketing Product Manager – Asset Management & Storage ckelly@rossvideo.com

## About This Guide

This guide contains the following chapters that cover the installation and configuration of Streamline Server software:

- Chapter 1, "Introduction" summarizes the guide and provides important terms, conventions, and features.
- Chapter 2, "System Requirements" provides the recommended minimum hardware and software requirements to ensure that the Streamline Redundant System software functions correctly.
- Chapter 3, "**Database Software Installation**" provides instructions for installing and configuring database software on the Primary Streamline Server computer and the Redundant Streamline Database computer in an Streamline Redundant System.
- Chapter 4, "Streamline Server Software Installation" provides instructions for installing and configuring Streamline Server software on the Primary Streamline Server computer in an Streamline Redundant System.
- Chapter 5, "**Recovery**" provides instructions to fail over to the database on the Streamline Redundant System in the case of a database failure on the Primary Streamline Server.

If you have questions pertaining to the operation of the Ross Video product, please contact us at the numbers listed in the section "**Contacting Technical Support**" on page 1–3. Our technical staff is always available for consultation, training, or service.

## **Documentation Conventions**

This guide uses special text formats to identify parts of the user interface, text that a user must enter, or a sequence of menus and submenus that a user must follow to reach a particular command.

## Interface Elements

Bold text identifies a user interface element such as a dialog box, a menu item, or a button. For example:

In the Media Manager Client, click Channel 1 the Channels section.

### **User Entered Text**

Courier text identifies text that a user must enter. For example:

In the File Name box, enter Channel01.property.

## **Referenced Guides**

Italic text identifies the titles of referenced guides, manuals, or documents. For example:

For more information, refer to the section "Twitter Configuration" on page 3-6 in the Streamline User Guide.

### Menu Sequences

Menu arrows identify a sequence of menu items that a user must follow to reach a particular command. For example: if a procedure step contains "Server > Save As," a user should click the Server menu and then click Save As.

### Important Instructions

Star icons identify important instructions or features. For example:

★ After installing Streamline Server software, you must obtain Streamline feature licenses from Ross Video Technical Support before users can access Streamline features.

## **Getting Help**

To access the Streamline Server Online Help system, click the **Phile** icon in the main toolbar. For help about the currently open panel, click he **Berne Help** button in a panel title bar to view a help topic about the panel.

The Online Help system contains the following navigation tabs to locate and access Online Help topics:

- Contents table of contents
- Search full text search
- Favorites preferred information storage and access

Ross Video also supplies print-ready PDF files of the *Streamline Server Installation Guide*, *Streamline Server Configuration Guide*, and the *Streamline User Guide* on the Streamline Server Software Installation DVD.

The Streamline Online Help system contains information about how to configure various aspects of your Streamline application. There are two separate Streamline Online Help systems; one for the Configuration interface, and one for the User interface.

## Contacting Technical Support

Technical Support is staffed by a team of experienced specialists ready to assist you with any question or technical issue.

Ross Video has technical support specialists strategically located around the globe to ensure a prompt response to technical inquiries. Our primary technical support center is located in Ottawa, Ontario, Canada. In addition, we have offices in The United Kingdom (London), Australia (Sydney), and Singapore with satellite locations in New York City, The Netherlands, and China. As we expand our presence globally, we are constantly evaluating other key locations to have a local technical support specialist in order to better service our customers.

#### North America

Our North America center located in Ottawa, Ontario, Canada and is open Monday to Friday 8:30 a.m. to 6:00 p.m. EST, with 24/7/365 on-call service after hours.

Our telephone number is: +1-613-652-4886

Toll free within North America: +1 844-652-0645

#### EMEA

Our EMEA center is located in Buckinghamshire, England, United Kingdom and is open Monday to Friday 8:30 a.m. to 5:00 p.m. GMT. After hours support is provided by our North America location.

Our telephone number is: +44 (0)1189502446

International toll free: +800 1005 0100

#### **Emergency After-hours Support**

Our telephone number is: +1-613-349-0006

Toll free within North America: +1 844-652-0645

International toll free: +800 1005 0100

#### Online

E-mail: techsupport@rossvideo.com

Website: use the link http://www.rossvideo.com/support/tech-support.html to open a support request.

# System Requirements

Ross Video bases the Streamline Redundant System on mainstream PC hardware that uses the Windows® operating system and a load balancer. To ensure that your Streamline Redundant System functions correctly, verify that the computers in your system and the installed software meet the recommended minimum requirements described in this chapter.

This chapter discusses the following topics:

- Streamline Redundant System
- Hardware
- Software

## Streamline Redundant System

An Streamline Redundant System contains a two Streamline Servers and a load balancer. Users access Streamline by opening the **load balancer URL** in a web browser. The load balancer spreads users between the two Streamline Servers in the system. The results of Streamline actions on both Streamline Servers are saved in the Primary database on the Streamline Server 1 computer. The data contained in the Primary database is automatically replicated in the Redundant database on Streamline Server 2.



Figure 2.1 Streamline Redundant System

If Streamline falters one of the Streamline Servers, the load balancer automatically directs users to the instance of Streamline running on the other Streamline Server. If the Primary database falters, operation can continue by manually switching the Streamline to the Redundant database on the Streamline Server 2 computer.

\* Ross Video recommends repairing faulty components of an Streamline Redundant System as soon as possible.

## Hardware

Ross Video recommends the following minimum hardware configurations for an Streamline Redundant System:

- Streamline Servers
  - > CPU quad-core Intel® Xeon® E3 with Hyper-Threading
  - → **RAM** 32GB
  - > Hard Drive Minimum 2 GB free
  - $\rightarrow$  LAN 100 MB/s
- Loadbalancer.org Load Balancer

## Software

Ross Video recommends the following minimum software configuration for both Streamline Server computers in an Streamline Redundant System:

- Microsoft® Windows® Server 2019 64-bit English only with latest patches, or Microsoft® Windows® Server 2016 64-bit English only with latest patches, or Microsoft® Windows® Server 2012 R2 64-bit English only with latest patches
- MySQL Community Edition Server v5.7.13 or higher

## **Database Software Installation**

This chapter provides instructions for installing and configuring database software on the two Streamline Server computers in an Streamline Redundant System.

This chapter discusses the following topics:

- Streamline Server Time Synchronization
- Before You Install Database Software
- Install Streamline Database Software
- Configure Database Replication on Streamline Server 2
- Start Replication on the Streamline Server 2 Computer

## Streamline Server Time Synchronization

For your Streamline Redundant System to run properly, the time on the Streamline Server computers in the system must be synchronized. You must enable NTP on each Streamline Server in your Streamline Redundant System.

#### To enable NTP on Streamline Server computers:

- 1. Log in to an Streamline Server computer as an administrator.
- 2. Open a Command Prompt window.
- **3.** At the prompt in the **Command Prompt** window, enter the following command to check if NTP is already configured on the Streamline Server computer:

w32tm /query /status

When NTP is synchronizing the time on the Streamline Server computer, the Terminal displays the following information:

```
Leap Indicator: 0(no warning)

Stratum: 6 (secondary reference - syncd by (S)NTP)

Precision: -6 (15.625ms per tick)

Root Delay: 0.1371613s

Root Dispersion: 0.1972975s

ReferenceId: 0x0A000047 (source IP: 10.0.0.71)

Last Successful Sync Time: 5/31/2018 10:10:19 AM

Source: SRVOTTDC03.rossvideo.com

Poll Interval: 13 (8192s)
```

- 4. When NTP is not enable on a Caprica Server computer, enter the following three commands to enable NTP:
  - **a.** Set the NTP Server to use, where <NTP\_Server> is the hostname of the NTP Server for your Streamline Servers to reference.
    - Windows Server 2008 w32tm /config /manualpeerlist:<NTP Server>,0x8 /syncfromflags:MANUAL
    - Windows Server 2012

w32tm /config /manualpeerlist:<NTP Server> /syncfromflags:MANUAL

- **b.** Stop the NTP Service.
  - Windows Server 2008 net stop w32time
  - Windows Server 2012 Stop-Service w32time
- c. Start the NTP Service.
  - Windows Server 2008 net start w32time
  - Windows Server 2012 Start-Service w32time
- 5. Repeat this procedure on each Streamline Server computer in your Streamline Redundant System.

## Before You Install Database Software

Before you install database software on the Streamline Server computers in an Streamline Redundant System, perform the following tasks:

- Have a qualified Ross Video technician perform any required maintenance or repairs on the computers in your Streamline Redundant System.
- Exit all other Windows® programs currently running on the computers in your Streamline Redundant System.
- Temporarily disable antivirus software running on the computers in your Streamline Redundant System. Some heuristic-based intrusion detection systems prevent the installation of Streamline database software. Re-enable antivirus software after installing Streamline database software.

Contact a Ross Video sales representative for information about Streamline Commissioning, Training, and Update services.

#### For More Information on...

• contacting Ross Video Technical Support, refer to the section "Contacting Technical Support" on page 1–3.

## Install Streamline Database Software

Streamline uses the MySQL Community Edition Server database to store and manage application data on the Streamline Server computers in an Streamline Redundant System. You must complete the following procedures before installing the Streamline Server software on the Streamline Server computers in your Streamline Redundant System:

- "To install MySQL Community Edition Server database software on an Streamline Server computer" on page 3–3
- "To tune MySQL Server options" on page 3–9
- "To install MySQL Community Edition Server database software on the Streamline Server 2 computer" on page 3–10
- "To configure database replication on the Streamline Server 2 computer" on page 3–10

Only the initial installation or recovery installations of Streamline Server software on a computer require the installation of the MySQL Community Edition Server database software.

### Streamline Server 1 Computer

★ You must install and configure MySQL Community Edition Server database software on both Streamline Server computers in your Streamline Redundant System before you install Streamline Server software.

#### To install MySQL Community Edition Server database software on an Streamline Server computer

- 1. Log in to the Streamline Server 1 computer as an administrator.
- **2.** Exit all currently running Windows® applications.
- 3. Use the following URL to open the **Download MySQL Community Server** page:

http://dev.mysql.com/downloads/mysql

4. Locate and download the latest MySQL Installer MSI.

Save the **MySQL Installer MSI** to install the MySQL Community Edition Server database on the Streamline Server 2 computer.

5. Double-click the mysql-installer-community-x.x.x.msi file.

The MySQL Installer wizard opens with the License Agreement screen.

MySQL. Installer	License Agreement	
	To proceed you must accept the Oracle Software License Terms.	
License Agreement	GNU GENERAL PUBLIC LICENSE Version 2, June 1991	
Choosing a Setup Type	Copyright (C) 1989, 1991 Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA	
Installation	Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.	
Installation Complete	Preamble ======	
	The learners for most software are designed to take may your freedom to where and et angue & By contents, the GNI General Public License is intended to guarantee your freedom to share and et al. Users, This General-Juic License applies to most of the free Software for General-Juic License applies to most of the free Software Foundation's admaner and to any other program whose autoos commit to using al. General theft reg Software Junctionshow whose autoos covered by using al. General theft reg Software to the free Software to covered by	
	your programs, too.	
	Our General Public Licenses are designed to make sure that you have the freedom to distribute conies of free software (and charoe for this	
	I accept the license terms	

- **6.** Read the GNU GENERAL PUBLIC LICENSE.
- 7. Select the I accept the license terms check box.
- 8. Click Next.

The Choosing a Setup Type screen opens.

_		
MySQL Installer		- • ×
MySQL. Installer Adding Community	Choosing a Setup Type Please select the Setup Type that suits yo	ur use case.
License Agreement	Developer Default	Setup Type Description
Choosing a Setup Type	Installs all products needed for MySQL development purposes.	Installs the MySQL Server and the tools required for MySQL application development. This is useful if you intend to develop
Installation	O Server only	applications for an existing server.
Installation Complete	Installs only the MySQL Server product.	This Setup Type includes:
	Cleant only Installs only the MySQL Cleant product, which a service.     C Ful Install is included MySQL products and Faibures.     Castom Manually reliant the product, that system.	* MyGL Server * MyGL Worksch-fn The GUI application to devolution for and manage the serve. * MyGL for Sizel Except lays in the serve scales and manipulate MyGL for Visual Studio To work with the MyGL Server from VS. * MyGL Connection Context. MrMeL Java C/C++, OBDC and ethers.
		< Back Next > Cancel

- 9. Select the Custom option.
- 10. Click Next.

The MySQL Installer wizard checks your computer for required supporting software. The **Check Requirements** screens open to report products that have failing requirements:

MySQL. Installer	Check Requirements		
	The following products have failing of this automatically. Requirement	requirements. The installer will attempt to r s marked as manual cannot be resolved auto	esolve some matically.
License Agreement	Click on those items to try and res	oive them manually.	
Choosing a Setup Type	For Product	Requirement	Status
Check Requirements	O MySQL for Visual Studio 1.2.6	Visual Studio version 2010, 2012, 20	Manual
Installation	Connector/Python (3.4) 2.1.3	Python 3.4 is not installed	Manual
Product Configuration			
Installation Complete			
			_

- 11. Based on the results displayed on the Check Requirements screen, do one of the following:
  - If your computer requires the installation of supporting software for MySQL, click **Execute** to run the installers for the required software. After installing the required software, click **Next**.
  - If your computer has all the required supporting software for MySQL, click Next.

The Installation Progress screen opens.

MySQL. Installer	Installation Press Execute to upgrade the following product	5.		
icance Aproximent	Product	Status	Progress	Notes
konsing a Satun Tuna	MySQL Server 5.7.13 MySQL Workbench 63.6	Ready to Install Ready to Install		
noosing o secop type	MySQL Notifier 1.1.6	Ready to Install		
tallation	MySQL For Excel 1.3.6	Ready to Install		
duct Configuration	MySQL Fabric 1.5.6 & MySQL Utiliti	Ready to Install		
allation Complete	Connector/ODBC 5.3.6	Ready to Install		
	Connector/C++ 1.1.7	Ready to Install		
	Connector/J 5.1.39	Ready to Install		
	Connector/NET 6.9.8	Ready to Install		
	MySQL Connector/C 6.1.6	Ready to Install		
	MySQL Documentation 5.7.13	Ready to Install		
	Samples and Examples 5.7.13	Ready to Install		
	Click [Execute] to install or update the following	packages		

- 12. Click Execute.
- **13.** After the MySQL Installer wizard finishes installing the required files, click Next.

The Product Configuration screen opens.

MySQL Installer		- 🗆 X
MySQL. Installer Adding Community	Product Configuration We'll now walk through a configuration wiza	rd for each of the following products.
License Agreement	You can cancel at any point if you wish to lea products.	ave this wizard without configuring all the
Choosing a Setup Type	Product	Status
Installation	MySQL Server 5.7.13 Samples and Examples 5.7.13	Ready to Configure Ready to Configure
Product Configuration		
Installation Complete	¢	•
		Next > Cancel

#### 14. Click Next.

The Type and Networking screen opens.

MySQL. Installer	Type and Networking
	Server Configuration Type
	Choose the correct server configuration type for this MySQL Server installation. This setting w define how much system resources are assigned to the MySQL Server instance.
Type and Networking	Config Type: Development Machine ~
Accounts and Roles	Connectivity
Windows Service	Use the following controls to select how you would like to connect to this server.
Plugins and Extensions	ICP/IP Port Number: 3306     Open Firewall port for network access
Apply Server Configuration	Named Pipe Pipe Name: MYSQL
	Shared Memory Memory Name: MYSQL
	Advanced Configuration
	Select the checkbox below to get additional configuration page where you can set advanced options for this server instance.
	Show Advanced Options

- 15. In the Server Configuration Type section, use the Config Type list to select Server Machine.
- **16.** In the **Connectivity** section, select the **TCP/IP** check box.
- **17.** In the Port Number box, enter 3306.

- 18. Select the Open Firewall port for network access check box.
- 19. In the Advanced Configuration section, select the Show Advanced Options check box.
- 20. Click Next.

The Accounts and Roles screen opens.

				-	
MySQL. Installer	Accounts and Roles				
	Root Account Password Enter the password for the root place.	account. Pleas	e remember to store thi	is password in	a secure
Type and Networking	MySQL Root Password:			▲	
Accounts and Roles	Repeat Password:				
Windows Service	P	assword minimu	im length: 4		
Plugins and Extensions					
Advanced Options	MuSOL User Accounts				
Advanced Options Apply Server Configuration	MySQL User Accounts Create MySQL user accounts for consists of a set of privileges.	r your users and	d applications. Assign a i	role to the user	that
Advanced Options Apply Server Configuration	MySQL User Accounts Create MySQL user accounts for consists of a set of privileges. MySQL Username	r your users and Host	d applications. Assign a i User Role	role to the user	that Add U
Advanced Options Apply Server Configuration	MySQL User Accounts Create MySQL user accounts ro consists of a set of privileges. MySQL Username	r your users and	d applications. Assign a i User Role	role to the user	that Add L
Advanced Options Apply Server Configuration	MySQL User Accounts Create MySQL user accounts for consists of a set of privileges. MySQL Username	r your users and Host	d applications. Assign a i	role to the user	that Add L Edit U
Advanced Options Apply Server Configuration	MySQL User Accounts Create hytyCQL user accounts to consist of as et of privileges. MySQL Username	r your users and Host	d applications. Assign a i User Role	role to the user	that Add U Edit U Dele
Advanced Options Apply Server Configuration	MySQL User Accounts Create hySQL user accounts to consist of as et of privileges. MySQL Username	r your users and Host	d applications. Assign a i User Role	role to the user	that Add U Edit U Dele
Advanced Options	MySQL User Accounts Create MyGQL user accounts of consists of a set of privileges. MySQL Username	r your users and	d applications. Assign a i	role to the user	that Add L Edit U

**21.** In the **Root Account Password** section, enter a password for the database **root** account in the **MySQL Root Password** box.

The Streamline Server uses **password** as the password to connect to the MySQL database. Ross Video recommends using a strong password since the database accepts remote connections. If you set a new password for the MySQL root account, record the password in a safe location.

- **22.** Enter your MySQL root account password in the **Repeat Password** box.
- 23. In the MySQL User Account section, click Add User.

The MySQL User Details dialog box opens.



**24.** Follow these steps to add a **root** user:

a. In the MySQL User Details dialog box, enter root in the Username box.

The root account enables remote Streamline systems to connect to the MySQL database.

- **b.** Use the Host list to select <All Hosts (%)>.
- c. Use the Role list to select DB Admin.
- d. In the **Password** box, enter the same password as you entered for the **root** account in step 21 on page 3-6.
- e. Enter your root user password in the Confirm Password box.
- f. Click OK.

The MySQL User Details dialog box closes, and the MySQL Installer wizard adds the root account to the MySQL User Accounts list.

25. Click Add User.

The MySQL User Details dialog box opens.

- 26. On the Streamline Server 1 computer only, follow these steps to add a replication user:
  - **a.** In the **MySQL** User Details dialog box, enter replication in the Username box.

The **replication** account enables the replication/backup server to synchronize database transactions between the databases in an Streamline Redundant System.

- b. Use the Host list to select <All Hosts (%)>.
- c. Use the Role list to select DB Admin.
- **d.** In the **Password** box, enter a password for the **replication** user.

Record the **replication** user password in a safe location.

- e. Enter your replication user password in the Confirm Password box.
- f. Click OK.

The MySQL User Details dialog box closes, and the MySQL Installer wizard adds the replication account to the MySQL User Accounts list.

27. Click Next.

The Windows Service screen opens.

MySQL Installer	- 🗆 X
MySQL. Installer MySQL Server 5.7.13	Windows Service ☑ Configure MySQL Server as a Windows Service
Type and Networking Accounts and Roles Windows Service	Workswood Schice Charabi Proteing specify systems for the target for this MySGL Sovier instance. A unique means a regularie for each instance. Workswork Sovier and Res. [MySGLS] Start be MySGL Sovier et System Startup
Plugins and Extensions Advanced Options Apply Server Configuration	Rem Windows Service as     The MyAC2_Service meets to num under a given user account, Based on the security rest provide the security of the security of the cytics of the cytics and the cytics of the security rest provided the security of the security of the security hocommodel for most securities.     Cuttors User     An exeming user account can be relacted for advanced scenarios.
	< <u>R</u> ack <u>N</u> ext > <u>C</u> ancel

28. Click Next.

The Plugins and Extensions screen opens.

MySQL. Installer	Plugins and Extensions
MySQL Server 5.7.13	MySQL as a Document Store
	Use the following controls to select how you would like to connect to this server.
-	Enable X Protocol / MySQL as a Document Store
Type and Networking	Port Number: 33060
Accounts and Roles	Open Firewall port for network access
Windows Service	Starting with MySQL Server 5.7, MySQL supports document store development. In order to provide a complete document store/NoSQL experience there is a new
Plugins and Extensions	communications protocol called the X Protocol. The expanded capabilities of the X Protocol enable us to provide modern developer APIs with features such as
Advanced Options	asynchronous cans, pipeinning, and more, in addition to implementing document collections, the new X DevAPI also supports relational and combined document store/relational capabilities. Now developers, designers and DBAs can deploy
Apply Server Configuration	MySQL databases that implement document store, relational, or hybrid document/relation models.
	Click here to view MySQL as a Document Store online documentation

#### 29. Click Next.

The Advanced Options screen opens.

6	
MySQL. Installer	Advanced Options
	Logging Options
	Please select the logs you want to activate for this server in addition to the Error Log. On production machines it can be beneficial to separate the log files from the data.
Type and Networking	Error Log: D-OTTMGRAHAM.err
Accounts and Roles	General Log
Windows Service	The general query log is a general record of what the MySQL Server is doing. It should only be used to track down issues.
Plugins and Extensions	File Path: D-OTTMGRAHAM.log
Advanced Options	Slow Query Log
Apply Server Configuration	The slow query log consists of SQL statements that took more than the given value of seconds to execute. It is recommended to turn this log on.
	File Path: D-OTTMGRAHAM-slow.log Seconds: 10
	🗌 Bin Log
	The binary log contains all database events and is used for replication and data recovery operations. It has a performance impact on the server. Only a filename base should be given as the server will append an appronate extension
	File Path: D-OTTMGRAHAM-bin
	Sansar Idi 1

- **30.** In the Logging Options Section, select the Slow Query Log check box.
- **31.** Select the **Bin Log** check box.

Selecting the **Bin Log** check box is critical to enabling replication. The database uses the binary write log as a transaction log on the master server to ensure that all database changes are written to the replication server.

- **32.** Depending on the computer onto which you are installing MySQL Community Edition Server database software, enter one of the following IDs in the **Server Id** box:
  - Streamline Server 1 computer: 1
  - Streamline Server 2 computer: 2
- 33. Click Next.

The Apply Server Configuration screen opens.



34. Click Execute.

**35.** After the configuration operation stops, click **Finish**.

The Product Configuration screen opens.

MySQL     Installer Asding Community       Licens Agreement     With now wilk through a configuration viscal for each of the following viscal as they prove installeron       Product Configuration     Status       MyGQ Serrer 57.33     Configuration Ready to Configuration       Wreatation Complexe     Status	- 0
Ukreis Agreement         Oncoing a Setting Type Institution           Visc can cancel at any point if you with to lave this ukrait without cert products.         Status ModQ Server 57.33           Product Configuration Institution Complete         Status	reducte
Choosing a Setup Type Installation Product Configuration Product Configuration Product Configuration Installation Complete	guring all the
Installation McGL Serrer 57.73 Configuration Samples and Examples 37.13 Ready to Config Installation Complete C	
reduct Configuration hashed to a complete	mplete. ire
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	:

36. Click Cancel.

The Cancel alert opens.

**37.** Click Yes.

The MySQL Installer wizard closes.

## Tune MySQL Server Options

The my.ini file contains MySQL Server configuration options. The configuration options to tune are as follows:

- max\_connections in an Streamline Redundant System the two Streamline Servers simultaneously connect to the active MySQL database. To enable the required connections, the maximum permitted number of simultaneous client connections to the MySQL database must increase to 400 connections.
- max\_allowed\_packet set to 16 megabytes to handle large data packets.
- **default\_password\_lifetime** set to 0 to disable the automatic password expiration policy and allow passwords to never expire.

#### To tune MySQL Server options

1. On the Streamline Server 1 or the Streamline Server 2 computer, locate the my.ini file in the following folder:

```
C:\ProgramData\MySQL\MySQL Server x.x
```

If the path to the my.ini file is hidden, enter the path into a File Explorer window to open the folder.

- 2. Use a text editor to open and edit the my.ini file.
- **3.** To set the maximum size of one packet or any generated string, complete the following steps:
  - **a.** In the **my.ini** file, locate the following setting:

max\_allowed\_packet

**b.** Replace the default connections value for the **max\_connections** setting with the following tuned value:

max\_allowed\_packet = 16M

- 4. To set the maximum permitted number of simultaneous client connections, complete the following steps:
  - **a.** In the **my.ini** file, locate the following setting:

max\_connections

**b.** Replace the default connections value for the **max\_connections** setting with the following tuned value: max\_connections = 400

- **5.** To disable the automatic password expiration policy and allow passwords to never expire, complete the following steps:
  - **a.** Scroll to the bottom of the **my.ini** file.
  - **b.** On a new line in the **my.ini** file, add the following comment:
    - # Specify the automatic password expiration policy (0=never)
  - **c.** Below the new comment, add the following setting:

default\_password\_lifetime=0

- 6. To set the automatic binary log file removal to seven days, complete the following steps:
  - **a.** Scroll to the bottom of the **my.ini** file.
  - **b.** On a new line in the **my.ini** file, add the following comment:
    - # Specify the automatic binary log file removal policy (0=never)
  - **c.** Below the new comment, add the following setting:

expire\_logs\_days=7

- 7. Save the updated my.ini file and exit the text editor.
- **8.** Restart the MySQL service as follows:
  - **a.** From the Windows desktop, press **Windows Key+R**.
  - **b.** In the **Open** box, type services.msc.
  - c. Click OK.
  - d. In the Services list of the Services dialog box, locate and select the MySQLXX service.
  - e. Click Restart for the MySQLXX service.

### Streamline Server 2 Computer

★ You must install and configure MySQL Community Edition Server database software on both Streamline Server computers in your Streamline Redundant System before you install Streamline Server software.

#### To install MySQL Community Edition Server database software on the Streamline Server 2 computer

- 1. On the Streamline Server 2 computer, exit all currently running Windows® applications.
- **2.** Copy the **MySQL Installer MSI** from the **Streamline Server 1** computer to the **Streamline Server 2** computer.
- **3.** Follow step **5** on page 3-4 to step **37** on page 3-9 of the **To install MySQL Community Edition Server** database software on an Streamline Server computer procedure.
- 4. Follow step 1 on page 3-9 to step 8 on page 3-10 of the To tune MySQL Server options procedure.

## Configure Database Replication on Streamline Server 2

After you install the MySQL Community Edition Server database software on the Streamline Server 2 computer, you must edit the main database configuration file and the SetReplication script file to configure database replication.

#### To configure database replication on the Streamline Server 2 computer

- 1. Log in to the Streamline Server 2 computer as an administrator.
- 2. Locate the my.ini file in the following folder:

```
C:\ProgramData\MySQL\MySQL Server x.x
```

- **3.** Use a text editor to open and edit the **my.ini** file.
- **4.** In the **my.ini** file, locate the following setting: server-id
- **5.** Replace the default value with the following:

server-id=2

- 6. Save the updated my.ini file and exit the text editor.
- 7. Restart the MySQL service as follows:
  - a. From the Windows desktop, press Windows Key+R.
  - **b.** In the **Open** box, type services.msc.
  - c. Click OK.
  - d. In the Services list of the Services dialog box, locate and select the MySQLXX service.
  - e. Click Restart for the MySQLXX service.
- 8. In the MySQL Workbench window, use the File menu to select Exit.

The MySQL Workbench window closes.

9. On the Streamline Server 2 computer, locate the SetReplication script file in the following folder:

C:\Program Files\Ross Video\Streamline\utilities\database\MySQL

- **10.** Use a text editor to open and edit the **SetReplication** script file.
- **11.** Use your system values to edit the following variables.
  - SET MASTER HOST=<Primary Host Name>
  - SET MYSQL\_USERNAME=root
  - SET MYSQL\_PASSWORD=<Root\_User\_Password>
  - $S \texttt{ET MYSQL} \_ \texttt{DATABASE} \texttt{=} \texttt{streamline}$
  - SET MYSQL\_REPLICATION\_USERNAME=replication
  - SET MYSQL\_REPLICATION\_PASSWORD=<Replication\_User\_Password>
  - SET STREAMLINE SERVICE=Streamline
  - SET MYSQL\_SERVICE=MySQLxx
  - SET MYSQL\_BIN=C:\Program Files\MySQL\MySQL Server x.x\bin C:\Program Files (x86)\MySQL\MySQL Server x.x\bin
  - SET BACKUP DIRECTORY=C:\BACKUP
- **12.** Save the updated **SetReplication** script file and exit the text editor.

## Start Replication on the Streamline Server 2 Computer

After you configure the main database configuration file and the SetReplication script file, you can start database replication on the Streamline Server 2 computer.

#### To start replication on the Streamline Server 2 computer

1. On the Streamline Server 2 computer, locate the SetReplication script file in the following folder:

C:\Program Files\Ross Video\Streamline\utilities\database\MySQL

- 2. Double-click the SetReplication file.
- **3.** At the prompt in the **Command Prompt** window, enter **Y**.

With replication running on the Streamline Server 2 computer, any additions or changes made to the database on the Streamline Server 1 computer are automatically replicated in the database on the Streamline Server 2 computer.

At this point in the Streamline Redundant System setup you can switch to the Streamline Server 1 computer to create the Streamline database and install the Streamline software.

#### To view the replication status

From the Windows desktop, use the Start menu to select All Programs > MySQL > MySQL Workbench x.x CE.

The MySQL Workbench window opens.

2. In the MySQL Connections list, click Local instance MySQLxx.

The Connect to MySQL Server dialog opens.

**3.** In the **Password** box, enter the password set for the database user **root**.

The Local instance MySQLxx tab opens in the MySQL Workbench window.

4. In the Query 1 tab, enter the following command:

SHOW SLAVE STATUS;

5. Click the 쭏 Execute icon.

The first column in the table should display: **waiting for master to send event**. The second column in the table should display: **slave\_io\_running** and **yes**.

# Streamline Server Software Installation

This chapter provides instructions for installing and configuring Streamline Server software on the Streamline Server computers in an Streamline Redundant System.

This chapter discusses the following topics:

- Create the Streamline Database on Streamline Server 1
- Before You Install Streamline Server Software
- Install Streamline Server Software
- Configure Streamline Server 1 to Use the MySQL Database
- Set Up Streamline Server 2

## Create the Streamline Database on Streamline Server 1

Before you install the Streamline Server software on the Streamline Server 1 computer you must create the MySQL Streamline database on the Streamline Server 1 computer.

#### To create the Streamline database on the Streamline Server 1 computer

- 1. Log in to the Streamline Server 1 computer as an administrator.
- From the Windows desktop of the Streamline Server 1 computer, use the Start menu to select All Programs > MySQL > MySQL Workbench x.x CE.

The MySQL Workbench window opens.

3. In the MySQL Connections list, click Local instance MySQLxx.

The Connect to MySQL Server dialog opens.

4. In the **Password** box, enter the password set for the database user **root**.

The Local instance MySQL56 tab opens in the MySQL Workbench window.

**5.** In an open area of the **SCHEMAS** section of the **Navigator** panel, right-click and select **Create Schema** from the shortcut menu.



6. In the Schema tab, enter the following name in the Name box:

|--|

The Schema tab opens.

7. At the bottom of the Schema tab, click Apply.

The Apply SQL Script to Database dialog box opens.



8. In the Apply SQL Script to Database dialog box, click Apply.

The Apply SQL Script screen opens.

Review SQL Script	Applying SQL script to the database	
	The following tasks will now be executed. Please monitor the execute	on.
	Press priow Logs to see the execution logs.	
	<ul> <li>Execute SQL Statements</li> </ul>	
	SQL script was successfully applied to the database.	

9. Click Finish.

MySQL adds the streamline database to the SCHEMAS section of the Navigator panel.

10. In the MySQL Workbench window, use the File menu to select Exit.

The MySQL Workbench window closes.

## Before You Install Streamline Server Software

Before you install database software on the Streamline Server computers in an Streamline Redundant System, perform the following tasks:

- Have a qualified Ross Video technician perform any required maintenance or repairs on the computers in your Streamline Redundant System.
- Exit all other Windows® programs currently running on the computers in your Streamline Redundant System.
- Temporarily disable antivirus software running on the computers in your Streamline Redundant System. Some heuristic-based intrusion detection systems prevent the installation of Streamline database software. Re-enable antivirus software after installing Streamline database software.

Contact a Ross Video sales representative for information about Streamline Commissioning, Training, and Update services.

#### For More Information on...

• contacting Ross Video Technical Support, refer to the section "Contacting Technical Support" on page 1–3.

## Install Streamline Server Software

With a MySQL Community Edition Server database software installed and configured on the Streamline Server computers in your Streamline Redundant System, you are ready to install the Streamline Server software on the Streamline Server 1 computer.

★ After installing Streamline Server software, you must obtain Streamline feature licenses from Ross Video Technical Support before users can access Streamline features.

#### To install Streamline Server software on the Streamline Server 1 computer

- 1. On the Streamline Server 1 computer, exit all currently running Windows® applications.
- 2. Temporarily disable anti-virus software running on the Streamline Redundant System computer.

Some heuristic-based intrusion detection systems prevent the installation of Streamline Redundant System software.

**3.** Insert the Streamline Redundant System software DVD into the DVD-ROM drive.

- 4. On the Desktop, open My Computer.
- 5. In the My Computer explorer window, open the DVD-ROM Drive.
- Double-click Streamline Redundant System-5.x.x-xxxx.msi. If a Security Warning displays, click Run.

The Ross Streamline Setup wizard opens.



7. Click Next.

The End-User License Agreement screen opens.



- **8.** Read the Streamline Software License Grant.
- 9. Select the I accept the terms of the license agreement option.
- 10. Click Next.

The Choose Setup Type screen opens.



**11.** Click the **Ross Streamline** icon.

The Ready to Install screen opens.

劇 Ross Streamline Setup ×
Ready to Install
The Setup Wizard is ready to begin the Ross Streamline installation
Click "Install" to begin the installation. If you want to review or change any of your installation settings, click "Back". Click "Cancel" to exit the wizard.
< Back Vinstal Cancel

#### 12. Click Install.

After installation of the Streamline Server software is complete, the Installation Complete screen opens.



#### 13. Click Finish.

The Ross Streamline Setup wizard closes and adds the following icons to the Desktop:

- Streamline Readme
- Streamline Release Notes
- Ross Streamline

The Streamline Server starts automatically after the installation of the Streamline Server software.

**14.** Re-enable antivirus software.

#### **Tune Streamline for Performance**

The goal of the Streamline Server performance tuning is to maximize use of system resources to perform work as efficiently and rapidly as possible. The installation of Streamline Server software configures the Streamline Server to manage work effectively, but it is possible to greatly improve performance by tuning the values of a few key Streamline Server settings.

The Streamline Server saves configuration settings in the jvm.conf file. The settings to tune are as follows:

- wrapper.java.initmemory sets the initial Java heap size for the Streamline Server.
- wrapper.java.maxmemory sets the maximum Java heap size for the Streamline Server.
- **\*** You must retune Streamline Server settings after each install or upgrade of Streamline Server software.

#### To tune Streamline Server settings in the jvm.conf file

1. On the Streamline Redundant System computer, locate the jvm.conf file in the following folder:

#### C:\Program Files\Ross Video\Streamline Redundant System\configuration

- 2. Use a text editor to open and edit the jvm.conf file.
- 3. In the jvm.conf file, locate the following setting:

#### wrapper.java.initmemory

**4.** Replace the default memory value for the **wrapper.java.initmemory** setting with a tuned value. The tuned value depends on the amount of RAM installed in the Streamline Redundant System system. Use the following table to set the **wrapper.java.initmemory** value for your Streamline Redundant System:

System RAM					
2 GB	4 GB	8 GB	12 GB	16 GB	32 GB
256	512	1024	1536	2048	4096

**5.** Locate the following setting:

wrapper.java.maxmemory

6. Replace the default memory value for the wrapper.java.maxmemory setting with a tuned value. The tuned value depends on the amount of RAM installed in the Streamline Redundant System. Use the following table to set the wrapper.java.initmemory value for your Streamline Redundant System:

System RAM					
2 GB	4 GB	8 GB	12 GB	16 GB	32 GB
512	1024	2048	3072	4096	8192

- 7. Save the updated jvm.conf file and exit the text editor.
- **8.** Re-start the Streamline Redundant System service as follows:
  - a. From the Windows Desktop, press Windows Key+R.
  - **b.** In the **Open** box, type **services.msc**.
  - c. Click OK.
  - d. In the Services list, locate and select the Ross Streamline Redundant System service.
  - e. Click Restart for the Ross Streamline Redundant System service.
  - f. Use the File menu to select Exit.

## Configure Streamline Server 1 to Use the MySQL Database

After installing Streamline Server software on the Streamline Server 1 computer, you must configure the Streamline server to use the installed MySQL Community Edition Server database. You may also need to set the password for the root database superuser if you changed the standard password when you installed the MySQL Community Edition Server 1 computer.

#### To configure Streamline Server 1 to use the MySQL database

- 1. On the Streamline Server 1 computer, use one of the following methods to open the Streamline web page:
  - On the Desktop, double-click the Ross Streamline icon.
  - Use the Start menu to select All Programs > Ross Streamline > Ross Streamline.

The **Streamline Login** screen opens. If the **Streamline Login** screen does not open, please contact Ross Video Technical Support.

- 2. At the Streamline Login screen, enter the following user name and password in the provided boxes:
  - Username maintenance
  - **Password** maintenance
- 3. Click Login.

Streamline opens.

4. On the main toolbar, click the 🍄 Configuration icon.

The **Configuration** window opens.

Configuration		1
🚾 🎡		
System Health		
System Health There are some s	Summary: stem monitor errors. Pie	ase check below for more information.
System Monitors MOS	8 0	System Monitors Overview Take a look below to see what monitors may be in a errored state. Errors: Premary Database Connection Monitor Warnings: Thes are currently no monitor wannings.
		OK

5. On the Configuration window toolbar, click the 🙆 System icon.

The System panel opens.

	Configuration		
atabase Database Configuration Database :  Database : D	<b>~</b>		
Database Configuration  Domain Configuration  Database:  Database:	Database		
Deforme: PostgresOL  Database: Status: Status: Deforme: Page postgreso: Page of postgreso: Deforme: Page of postgreso: Deforme: Page of postgreso Page of p	Database Config	uration	
Database:         Status:           DuRL:         [db:postgreegt/shocathostReception         Connection issue - Unable to connect to the database Peace deck the log for more details.           Detername:         postgrees           Pastrood         ************************************	🚱 Driver:	PostgreSQL ~	
URL: [stb: postgress; ifocalhostInception     Connection issue - Unable to connect to the databas     Please check the log for more details.     Desmanne: postgres     Please word	Database:		Status:
Desename:         postgres           Password         ********	🕢 URL:	jdbc:postgresqt://localhost/inception	Connection issue - Unable to connect to the database. Please check the log for more details.
Password: ••••••	O Username:	postgres	
-	Password:	*******	
			OK

6. Use the Driver menu to select MySQL.

The MySQL database settings open in the Database tab.

Configuration			
🕶 😳			
Database Search	Index		
Database Config	uration		
Oriver:	MySQL ~		
Database:		Status:	
() URL:	jdbc:mysqt:/localhost/inception		
		Connected	
🔞 Username:	root		
Password:	******		
Redundancy:			
			ОК

7. If you set a custom password for the **root** superuser account when you installed the MySQL Community Edition Server database software on the Streamline Server 1 computer, enter your custom password in the **Password** box.

8. Select the Redundancy check box.

The Redundant Database settings open in the Database tab.

3 Configuration			
🕶 🎡			
Database Search	Index		
Database Config	uration		
Oriver.	MySQL ~		
Database:		Status:	
O URL:	jdbc:mysqt://localhost/inception		
		Connected	
🔞 Username:	root		
Password:	*******		
Redundancy:			
Redundant Datab	base:	Status:	
() URL:	jdbc.mysqt.//redundanthost/inception		
		Ewitch to Redundant Database	
🔞 Username:	root	Switch to Reduitable Database	

**9.** In the URL box, enter the following JDBC URL to connect Streamline Server 1 with the Streamline Redundant Database on Streamline Server 2.

jdbc:mysql://<Server2\_Host\_Name>/streamline

Replace <Server2\_Host\_Name> with the hostname or IP address of the Streamline Server 2 computer in your Streamline Redundant System.

- **10.** If you set a custom password for the **root** superuser account when you installed the MySQL Community Edition Server database software on the **Streamline Server 2** computer, enter your custom password in the **Password** box.
- 11. Click OK.

An Alert dialog box opens.

12. In the Alert dialog box, click OK.

A second Alert dialog box opens.

13. Click OK.

The Alert dialog box and the Configuration window close.

14. On the main toolbar, click the 🙆 Logout icon.

An Alert dialog box opens.

15. Click OK.

Streamline logs you out.

- **16.** Close the web browser.
- 17. From the Windows desktop, press Windows Key+R.

The **Run** dialog box opens.

٨	Type the na resource, a	ame of a prog nd Windows i	ram, folder, do will open it for y	ument, or inte ou.	rnet
Open:	1				~

**18.** In the **Open** box, type the following application name:

services.msc

#### 19. Click OK.

The Services window opens.

💫 Services						- 0	×
File Action View	Help						
⊨ ⇒ 🔲 G 🕞							
Services (Local)	Services (Local)						
s	Select an item to view its description.	Name	Description	Status	Startup Type	Log On As	
		ActiveX Installer (AxInstSV)	Provides User Account Control validation for the installatio		Manual	Local System	
		Adobe Acrobat Update Service	Adobe Acrobat Updater keeps your Adobe software up to	Running	Automatic	Local System	
		Adobe Active File Monitor V9	Tracks files that are managed by Elements Organizer	Running	Automatic	Local System	
		Adobe Flash Player Update Service	This service keeps your Adobe Flash Player installation up t		Manual	Local System	
		Adobe Genuine Software Integrity Service	Adobe Genuine Software Integrity Service	Running	Automatic	Local System	
		AdobeUpdateService		Running	Automatic	Local System	
		AllJoyn Router Service	Routes AllJoyn messages for the local AllJoyn clients. If thi		Manual (Trig	Local Service	
		AMD External Events Utility		Running	Automatic	Local System	
		App Readiness	Gets apps ready for use the first time a user signs in to this		Manual	Local System	
		Apple Mobile Device Service	Provides the interface to Apple mobile devices.	Running	Automatic	Local System	
		Application Host Helper Service	Provides administrative services for IIS, for example config	Running	Automatic	Local System	
		Application Identity	Determines and verifies the identity of an application. Disa		Manual (Trig	Local Service	
		Application Information	Facilitates the running of interactive applications with addi	Running	Manual (Trig	Local System	
		Application Layer Gateway Service	Provides support for 3rd party protocol plug-ins for Intern		Manual	Local Service	
		Application Management	Processes installation, removal, and enumeration requests		Manual	Local System	
		AppX Deployment Service (AppXSVC)	Provides infrastructure support for deploying Store applica		Manual	Local System	
		ASP.NET State Service	Provides support for out-of-process session states for ASP		Disabled	Network Service	
		Auto Time Zone Updater	Automatically sets the system time zone.		Manual (Trig	Local Service	
		Background Intelligent Transfer Service	Transfers files in the background using idle network band		Manual	Local System	
1	Extended / Standard /						

- **20.** In the Services list, locate and select the Ross Streamline service.
- 21. Click Restart for the Ross Streamline service.
- 22. Use the File menu to select Exit.

The Services dialog box closes.

- **23.** Open the **Streamline** web page to complete the installation of the Streamline Server software on the **Streamline Server 1** computer.
- 24. At the Streamline Login screen, enter the following user name and password in the provided boxes:
  - Username root
  - Password password
- 25. Click Login.

Streamline logs you into the Streamline Server as an administrator.

**26.** Obtain Streamline feature licenses from Ross Video Technical Support before users can access Streamline features.

#### For More Information on...

• licensing Streamline Server software, refer to the chapter "Software Licensing" on page 5–1 of the *Streamline Server Installation Guide*.

## Set Up Streamline Server 2

After setting up Streamline Server 1, you can set up Streamline Server 2. Setting up Streamline Server 2 involves installing and licensing Streamline Server software on the Streamline Server 2 computer and setting the database location.

#### To setup Streamline Server 2

- 1. Log in to the Streamline Server 2 computer as an administrator.
- 2. Install and tune Streamline Server software on Streamline Server 2.

For information on installing and tuning Streamline Server software, refer to the section "Install Streamline Server Software" on page 4–3.

- 3. Use one of the following methods to open the Streamline web page:
  - On the Desktop, double-click the Ross Streamline icon.
  - Use the Start menu to select All Programs > Ross Streamline > Ross Streamline.

The **Streamline Login** screen opens. If the **Streamline Login** screen does not open, please contact Ross Video Technical Support.

- 4. At the Streamline Login screen, enter the following user name and password in the provided boxes:
  - Username maintenance
  - Password maintenance
- 5. Click Login.

Streamline opens.

6. On the main toolbar, click the 🍄 Configuration icon.

The Configuration window opens.

7. On the Configuration window toolbar, click the 😳 System icon.

The System panel opens.

Database         Outgrescol.           Database         Image: Configuration           @ Drave:         Postgrescol.           Database:         Status:           @ URL:         Image: postgrescy i/locathost/enception	Status: inception Connection Itsus - Unable to connect to the database. Pease check the log for more datals.	Configuration			
Database Database Configuration PostgresOL Database: Status: Status: URL: Inflc:postgresg/.flocathestinception Connection insueUnable for connection to the data Database Aref't the tor for one of detili	Status: Reception Connection issue - Unable to connect to the database. Passe check the log for more details.	<b>••</b>			
Database Configuration   PostgesGQL  Database  Status:  Status:  Status:  Status:  Correction issue - Usable to correct to the data  Correction issue - Usable to correct to the data	Status: inception Connection issue - Unable to connect to the database. Connection issue - Unable to connect to the database.	Database			
Onver: PastgeSQL      Database:     Status:     GUR1: Statuse:     Connection Insue - Usable Is connect to the data     Connection Insue - Usable Is connect to the data	Status: inception Commention issue - Unable to connect to the database. Please check the log for more details.	Database Config	uration		
Database: Status: @ URL: jtbc:postgresd;//ocalhest/inception Common Issue - Unable for common Common Issue - Unable for common datability - Descent - the A low for more adatability - Descent - Descent - Des	Inception  Inception  Status:  Connection issue - Unable to connect to the database.  Passe check the log for more details.	Oriver:	PostgreSQL ~		
URL: potgreagi.itocathost/inception     Connection issue - Unable to connect to the data     Desses -ther's the loss for more adulate	Connection issue - Unable to connect to the database.	Database:		Status:	
T issue circuit are ing for more details.		😢 URL:	jdbc:postgresql://localhost/inception	Connection issue - Unable to connect to the databas Please check the log for more details.	£.
Username: postgres		🔞 Username:	postgres		
Password: *******		Password:	*******		
					_
				ОК	

8. Use the Driver menu to select MySQL.

The Database tab displays the MySQL database settings.

**9.** In the URL box, enter the following JDBC URL to connect **Streamline Server 2** with the Streamline Primary Database on **Streamline Server 1**.

jdbc:mysql://<Server1\_Host\_Name>/Streamline

Replace <Server1\_Host\_Name> with the hostname or IP address of the Streamline Server 1 computer in your Streamline Redundant System.

- **10.** If you set a custom password for the **root** superuser account when you installed the MySQL Community Edition Server database software on the **Streamline Server 1** computer, enter your custom password in the **Password** box.
- 11. Select the Redundancy check box.

The Redundant Database settings open in the Database tab.

**12.** In the URL box, enter the following JDBC URL to connect **Streamline Server 2** with the Streamline Redundant Database on the same computer.

```
jdbc:mysql://localhost/streamline
```

- **13.** If you set a custom password for the **root** superuser account when you installed the MySQL Community Edition Server database software on the **Streamline Server 2** computer, enter your custom password in the **Password** box.
- 14. Click OK.

An Alert dialog box opens.

15. In the Alert dialog box, click OK.

A second Alert dialog box opens.

16. Click OK.

The Alert dialog box and the Configuration window close.

**17.** On the main toolbar, click the **O** Logout icon.

An Alert dialog box opens.

**18.** Click **OK**.

Streamline logs you out.

- **19.** Close the web browser.
- **20.** Restart the Streamline service as follows:
  - a. From the Windows desktop, press Windows Key+R.
  - **b.** In the **Open** box, type services.msc.
  - c. Click OK.
  - d. In the Services list, locate and select the Ross Streamline service.
  - e. Click Restart for the Ross Streamline service.
  - f. Use the File menu to select Exit.
- **21.** Open the **Streamline** web page to complete the installation of the Streamline Server software on the **Streamline Server 2** computer.
- 22. At the Streamline Login screen, enter the following user name and password in the provided boxes:
  - Username root
  - Password password
- 23. Click Login.

Streamline logs you into the Streamline Server as an administrator.

**24.** Obtain Streamline feature licenses from Ross Video Technical Support before users can access Streamline features.

#### For More Information on...

• licensing Streamline Server software, refer to the chapter "Software Licensing" on page 5–1 of the *Streamline Server Installation Guide*.

## Load Balancer Configuration

An Streamline Redundant System contains a two Streamline Servers and a load balancer. The load balancer spreads users between the two Streamline Servers in the system. The results of Streamline actions on both Streamlines Servers are simultaneously saved to the databases of both Streamline Servers.



Figure 5.1 Streamline Redundant System

If one of the Streamline Servers falters, the load balancer automatically directs Streamline Users to the running Streamline Server. If the database on an Streamline Server falters, operation can continue by manually switching the Streamline Server to the database running on the other Streamline Server in the system.

This chapter discusses the following topics:

- Load Balancer First Time Log In
- Configure Required Load Balancer Settings

## Load Balancer First Time Log In

The first time you log in to your load balancer you must configure the load balancer to work with the Streamline Servers in your Streamline Redundant System.

#### To configure the load balancer in an Streamline Redundant System

- 1. Use one of the following methods to connect to the load balancer in your Streamline Redundant System:
  - Directly connect a keyboard, mouse, and monitor to the load balancer through a KVM switch.
  - Connect a network cable from the load balancer **eth0** port (outlined in red) to a network switch or a computer.
- 2. Use a web browser to open the one of the following URLs:
  - http://192.168.2.21:9080
  - https://192.168.2.21:9443

#### An Authentication dialog box opens.

- **3.** Use the following credentials to log in to the load balancer:
  - Username loadbalancer
  - Password loadbalancer

The load balancer Utility page opens.



4. Select Local Configuration > License Key.

The Install License Key page opens.

**5.** Verify that the correct license key is activated on your load balancer.

If license key is not activated for your load balancer, use the License Key page to load a license key file.

6. Select Local Configuration > Hostname & DNS.

The Hostname & DNS page opens.

7. In the **Hostname** box, enter a hostname for the load balancer.

Streamline users will use the set hostname to connect to an Streamline Server through the load balancer.

- **8.** In the **Domain Name Server** section, enter the IP address of your primary Domain Name Server in the **Primary** box.
- 9. In the Secondary box, enter the IP address of your secondary Domain Name Server.
- 10. Click Update.
- **11.** Select Local Configuration > Network Interface Configuration.

The Network Interface Configuration page opens.

**12.** In the **IP Address Assignment** section, use CIDR notation (IP/MASK) to enter the load balancer IP address in the **eth0** box. Common MASK values include: 24 (255.255.255.0), 16 (255.255.0.0), and 8 (255.0.0.0).

16		ΜΤυ	1500 byte
		мти	1500 byte
		мти	1500 byte
		мти	1500 byte
			мпи

**13.** Click Configure Interfaces.

The Modifying IP address assignments... opens displaying your new IP address assignment.

**14.** Select Local Configuration > Routing.

The **Routing** page opens.

- 15. In the Default Gateway section, enter the IP address of your default IP v4 gateway in the IP v4 box.
- **16.** Select Cluster Configuration > Setup Wizard.

The Setup Wizard page opens.

17. Click General Layer 7 Virtual Service.

The Setup Wizard - General Layer 7 Virtual Service page opens.

ne	Master	Slave
ne		
	Ibmaster	Ibslave
Addresses eth0	172.16.8.40/16	172.16.8.41/16
IP Addresses	172.16 172.16 172.16	8.42 8.43 8.38
, man service	VIP Name	
IP Address	10.0.20	
Ports	80	
	TCP Mode 🗠	
		Crea
	IP Addresses 7 Virtual Service IP Address Ports	IP Addresses 172.16 175

- 18. In the Label box, enter a name for the virtual service.
- **19.** In the **IP Address** box, enter the virtual service IP address.
- **20.** In the **Ports** box, enter to port number on which to listen.
- **21.** Use the Layer 7 Protocol list to select TCP Mode.
- 22. Click Create Virtual Service.

The Attach Real Servers section opens.

Label		Bob		
Virtual Service	IP Address	172.16.8.43		
	Ports	8080		
Layer 7 Protocol		TCP Mode		
			Create 1	/irtual Servio
Information: New Virtua Attach Real Servers	I Service added.			
Information: New Virtua Attach Real Servers abel	I Service added.	Port	Weight	~
Information: New Virtua	I Service added.			

- **23.** In the **Attach Real Servers** section, enter the following settings to add your **Streamline Server 1** to the virtual service:
  - Label: Streamline Server 1
  - IP Address: <Streamline Server 1 IP Address>
  - Port: 80
  - Weight: 100
- 24. Click Add Real Server.

A new Real Server row opens in the Attach Real Servers section.

- **25.** In the new **Real Server** row, enter the following settings to add your **Streamline Server 2** to the virtual service:
  - Label: Streamline Server 2
  - IP Address: <Streamline Server 2 IP Address>
  - Port: 80
  - Weight: 100
- 26. Click Add Real Servers to add your two Streamline Servers to the virtual service.
- 27. Click Continue.

The Layer 7 - Virtual Services page lists your new virtual service.

**28.** In the **Commit changes** section, click **Reload HAProxy** to complete the initial configuration of the load balancer in your Streamline Redundant System.

## Configure Required Load Balancer Settings

After you complete the initial configuration of your load balancer, you must configure **Virtual Service** and **Advance Configuration** settings before users can start accessing your Streamline Redundant System through the load balancer.

#### To configure required load balancer settings

1. Select Cluster Configuration > Layer 7 – Virtual Services.

The Layer 7 - Virtual Services page displays a table of the virtual services defined on your load balancer.

**2.** In the table, click the **Modify** button associated with the virtual service you created for your Streamline Redundant System.

The Layer 7 - Modify Virtual Services page opens.

- 3. Use the Persistence Mode list to select Source IP.
- 4. Click Update.
- **5.** Select Cluster Configuration > Layer 7 Advanced Configuration.

The Layer 7 – Advanced Configuration page opens.

- 6. In the Connection Timeout box, enter 1800000.
- 7. In the Client Timeout box, enter 1800000.
- 8. In the Real Server Timeout box, enter 1800000.
- 9. Click Update.

The settings in the Layer 7 – Advanced Configuration page update.

**10.** In the **Commit changes** section, click **Reload HAProxy** to complete the configuration of the load balancer in your Streamline Redundant System.

Streamline users can now use the hostname of the load balancer virtual service to open Streamline.

## Recovery

In the exceptionally rare circumstance that the Primary database on your Streamline Server 1 computer falters, you can switch to the Redundant database on your Streamline Server 2 computer to continue operation of your Streamline system. After you repair the Primary database in your Streamline system, you can return to normal operation by switching your two Streamline Servers back to the Primary database.

If Streamline falters one of the Streamline Servers, the load balancer automatically directs users to the instance of Streamline running on the other Streamline Server.

This chapter discusses the following topics:

- Recover from a Primary Database Problem
- Switch Back to the Primary Database

## Recover from a Primary Database Problem

In an Streamline Redundant System, the instances of Streamline running on the Streamline Server 1 and Streamline server 2 both store data in the Primary database on the Streamline Server 1 (**Figure 6.1**). Database replication keeps the Redundant database on the Streamline Server 2 up to date with Primary database.



Figure 6.1 Streamline Redundant System Connections

In the exceptionally rare circumstance that the Primary database on the Streamline Server 1 computer falters, you can switch to the Redundant database on the Streamline Server 2 computer to continue operation of your Streamline Redundant System.

Changes made to the Redundant database are not automatically replicated to the Primary database. You should restore the Primary database with a backup of the Redundant database at the earliest available opportunity.

#### To switch Streamline to the Redundant database:

1. Open the load balancer URL in a web browser to access your Streamline Redundant System.

The **Streamline Login** screen opens. With no connection to the Primary database, Streamline will be in Maintenance mode.

- 2. At the Streamline Login screen, enter the following user name and password in the provided boxes:
  - Username maintenance
  - Password maintenance
- 3. Click Login.

Streamline opens.

4. On the main toolbar, click the 🍄 Configuration icon.

The **Configuration** window opens.

Configuration		1
🚾 🎡		
System Health		
System Health There are some s	Summary: stem monitor errors. Pie	ase check below for more information.
System Monitors MOS	8 0	System Monitors Overview Take a look below to see what monitors may be in a errored state. Errors: Premary Database Connection Monitor Warnings: Thes are currently no monitor wannings.
		OK

5. On the Configuration window toolbar, click the 🙆 System icon.

The System panel opens.

Configuration		3
<b>1</b>		
Database		
Database Config	uration	
Oriver:	MySQL ~	
Database:		Status:
🔞 URL:	jdbc:mysql://localhost/inception	$\sim$
		Connection issue - Unable to connect to the database. Please check the log for more details
Osername:	root	
Password:	******	
Redundancy:		
Redundant Datab	base:	Status:
🕢 URL:	jdbc:mysql://INC_RED_DB/inception	
		Connected
		Switch to Redundant Database
🕜 Username:	root	
Password:	******	
		OK

6. In the Redundant Database section, click Switch to Redundant Database.

An Alert opens.

7. Click OK.

A second Alert opens.

8. Click OK.

The database connection switches and your Streamline Redundant System starts using the **Redundant** database on the **Streamline Server 2** computer.

**9.** In the **System** panel, click **OK**.

The Configuration window closes.

**10.** On the main toolbar, click the **Solution** Logout icon.

An Alert dialog box opens.

**11.** Click **OK**.

Streamline logs you out.

## Switch Back to the Primary Database

After you repair the Primary database you should switch to back to the Primary database as soon as possible to continue normal operation of your Streamline system. Switching back to the Primary database involves completing the following procedures:

- "Stop Streamline on Both Streamline Server Computers" on page 6-4
- "Backup the Redundant Database on the Streamline Server 2 Computer" on page 6-5
- "Restore the Primary Database on the Streamline Server 1 Computer" on page 6-5
- "Restore Replication on the Streamline Server 2 Computer" on page 6-7

### Stop Streamline on Both Streamline Server Computers

To insure against data lost, you must stop Streamline on the Streamline Server 1 and Streamline Server 2 computers. You can start Streamline after you restore the Primary database.

#### **To stop Streamline**

- 1. Log in to the Streamline Server 1 computer.
- 2. From the Windows desktop, press Windows Key+R.

The **Run** dialog box opens.



**3.** In the **Open** box, type the following application name:

services.msc

4. Click OK.

The Services window opens.

rvices Action View He	-lo					- 0	
vices (Local)	Services (Local)						
Sele	ect an item to view its description.	Name	Description	Status	Startup Type	Log On As	
		ActiveX Installer (AxInstSV)	Provides User Account Control validation for the installatio		Manual	Local System	
		Adobe Acrobat Update Service	Adobe Acrobat Updater keeps your Adobe software up to	Running	Automatic	Local System	
		Adobe Active File Monitor V9	Tracks files that are managed by Elements Organizer	Running	Automatic	Local System	
		Adobe Flash Player Update Service	This service keeps your Adobe Flash Player installation up t		Manual	Local System	
		Adobe Genuine Software Integrity Service	Adobe Genuine Software Integrity Service	Running	Automatic	Local System	
		AdobeUpdateService		Running	Automatic	Local System	
		AllJoyn Router Service	Routes AllJoyn messages for the local AllJoyn clients. If thi		Manual (Trig	Local Service	
		AMD External Events Utility		Running	Automatic	Local System	
		App Readiness	Gets apps ready for use the first time a user signs in to this		Manual	Local System	
		Apple Mobile Device Service	Provides the interface to Apple mobile devices.	Running	Automatic	Local System	
		Application Host Helper Service	Provides administrative services for IIS, for example config	Running	Automatic	Local System	
		Application Identity	Determines and verifies the identity of an application. Disa		Manual (Trig	Local Service	
		Application Information	Facilitates the running of interactive applications with addi	Running	Manual (Trig	Local System	
		Application Layer Gateway Service	Provides support for 3rd party protocol plug-ins for Intern		Manual	Local Service	
		Application Management	Processes installation, removal, and enumeration requests		Manual	Local System	
		AppX Deployment Service (AppXSVC)	Provides infrastructure support for deploying Store applica		Manual	Local System	
		ASP.NET State Service	Provides support for out-of-process session states for ASP		Disabled	Network Service	
		Auto Time Zone Updater	Automatically sets the system time zone.		Manual (Trig	Local Service	
		Background Intelligent Transfer Service	Transfers files in the background using idle network band		Manual	Local System	

- 5. In the Services list, locate and select the Ross Streamline service.
- 6. Click Stop for the Ross Streamline service.
- 7. Use the File menu to select Exit.

The Services dialog box closes.

- 8. Log in to the Streamline Server 2 computer.
- 9. Repeat steps 2 to 7.

## Backup the Redundant Database on the Streamline Server 2 Computer

To preserve the information entered in your Streamline Redundant System while it was connected to the Redundant database, you must copy a backup of the Redundant database to the Streamline Server 2 computer. Restoring the Primary database with a backup of the Redundant database will bring your Primary database up to date.

#### To backup the Redundant database and copy it to the Streamline Server 1 computer

From the Windows desktop of the Streamline Server 2 computer, use the Start menu to select All Programs > MySQL > MySQL Workbench x.x CE.

The MySQL Workbench window opens.

2. In the MySQL Connections list, click Local instance MySQLxx.

The Connect to MySQL Server dialog opens.

**3.** In the **Password** box, enter the password set for the database **root** account.

The Local instance MySQLxx tab opens in the MySQL Workbench window.

**4.** In the **MANAGEMENT** section of the **Navigator** panel, click **Data Export**.

The Administration - Data Export tab opens.

- 5. In the Tables to Export section, select the streamline database.
- 6. In the Export Options section, select the Export to Self-Contained File option.
- 7. Enter a filename for the Redundant database export.
- 8. Click Start Export.
- 9. Copy the Redundant database backup file to the Streamline Server 1 computer.

### Restore the Primary Database on the Streamline Server 1 Computer

Restoring the Primary database with the Redundant database backup file updates the Primary database with the Streamline changes made while connected to the Redundant database.

#### To restore the Primary database with the Redundant database backup file

From the Windows desktop of the Streamline Server 1 computer, use the Start menu to select All Programs > MySQL > MySQL Workbench x.x CE.

The MySQL Workbench window opens.

2. In the MySQL Connections list, click Local instance MySQLxx.

The Connect to MySQL Server dialog opens.

**3.** In the **Password** box, enter the password set for the database **root** account.

The Local instance MySQLxx tab opens in the MySQL Workbench window.

4. In an open area of the SCHEMAS section of the Navigator panel, right-click the streamline database and select Drop Schema from the shortcut menu.

An Alert opens.

- 5. Click Drop Now.
- 6. In the MANAGEMENT section of the Navigator panel, click Data Import/Restore.

The Administration - Data Import/Restore tab opens.

- 7. In the Import Options section, select the Import from Self-Contained File option.
- 8. Select the Redundant database backup file you copied from the Streamline Server 2 computer.

9. In the Default Schema to be Imported To section, click New.

The Create Schema dialog box opens.

- **10.** In the Name of schema to create box enter streamline.
- 11. Click OK.

The Create Schema dialog box closes.

- 12. Click Start Import.
- **13.** After the import successfully completes, use the **File** menu to select **Exit**.

The MySQL Workbench window closes.

- **14.** Start the **Streamline** service as follows:
  - **a.** From the Windows desktop, press **Windows Key+R**.
  - **b.** In the **Open** box, type services.msc.
  - c. Click OK.
  - d. In the Services list, locate and select the Ross Streamline service.
  - e. Click Start for the Ross Streamline service.
  - f. Use the File menu to select Exit.
- Open the Streamline Server 1 URL in a web browser to directly access Streamline on Streamline Server 1. The Streamline Login screen opens.
- **16.** Log in to Streamline as an **administrator**.
- **17.** On the main toolbar, click the 🍄 Configuration icon.

The **Configuration** window opens.

18. On the Configuration window toolbar, click the 😳 System icon.

The System panel opens.

© Configuration 2		
<b>國</b> (算		
Database		
Database Configuration		
Oriver:	MySQL V	
Database:		Status:
🔞 URL:	jdbc:mysql://localhost/inception	$\bigcirc$
		Connected Switch Back to Primary Database
0.1		
(i) Username:	root	
Password:	*******	
Redundancy:		
Redundant Database:		Status:
ORL:	jdbc:mysql://INC_RED_DB/inception	
		Connected
🔞 Username:	root	
Password:	•••••	
		ОК

19. In the Database section, click Switch Back to Primary Database.

An Alert opens.

20. Click OK.

The database connection switches and your Streamline Redundant System starts using the **Primary** database on the **Streamline Server 1** computer.

**21.** In the System panel, click OK.

The Configuration window closes.

## Restore Replication on the Streamline Server 2 Computer

After switching Streamline back to the Primary database on the Streamline Server 1 computer, you can restart replication on the Streamline Server 2 computer. With replication running on the Streamline Server 2 computer, any additions or changes made to the Primary database are automatically replicated on the Redundant database.

#### To restart replication on the Redundant Streamline Server computer

- 1. On the Streamline Server 2 computer, start the Streamline service as follows:
  - **a.** From the Windows desktop, press **Windows Key+R**.
  - **b.** In the **Open** box, type services.msc.
  - c. Click OK.
  - d. In the Services list, locate and select the Ross Streamline service.
  - e. Click Start for the Ross Streamline service.
  - f. Use the File menu to select Exit.
- 2. Locate the SetReplication script file in the following folder:

C:\Program Files\Ross Video\Streamline\utilities\database\MySQL

- 3. Double-click the SetReplication file.
- 4. At the prompt in the Command Prompt window, enter Y.

#### For More Information on...

• about viewing the replication status, refer to the procedure "To view the replication status" on page 3–12.