

System Redundancy

One of the benefits of using CardioLog Analytics on-premise is a complete ownership of your own data, on your own servers, which allows you to control both privacy and security. This also means that redundancy for the CardioLog server is the customer's responsibility to maintain. This article contains several recommendations for optimal operation.

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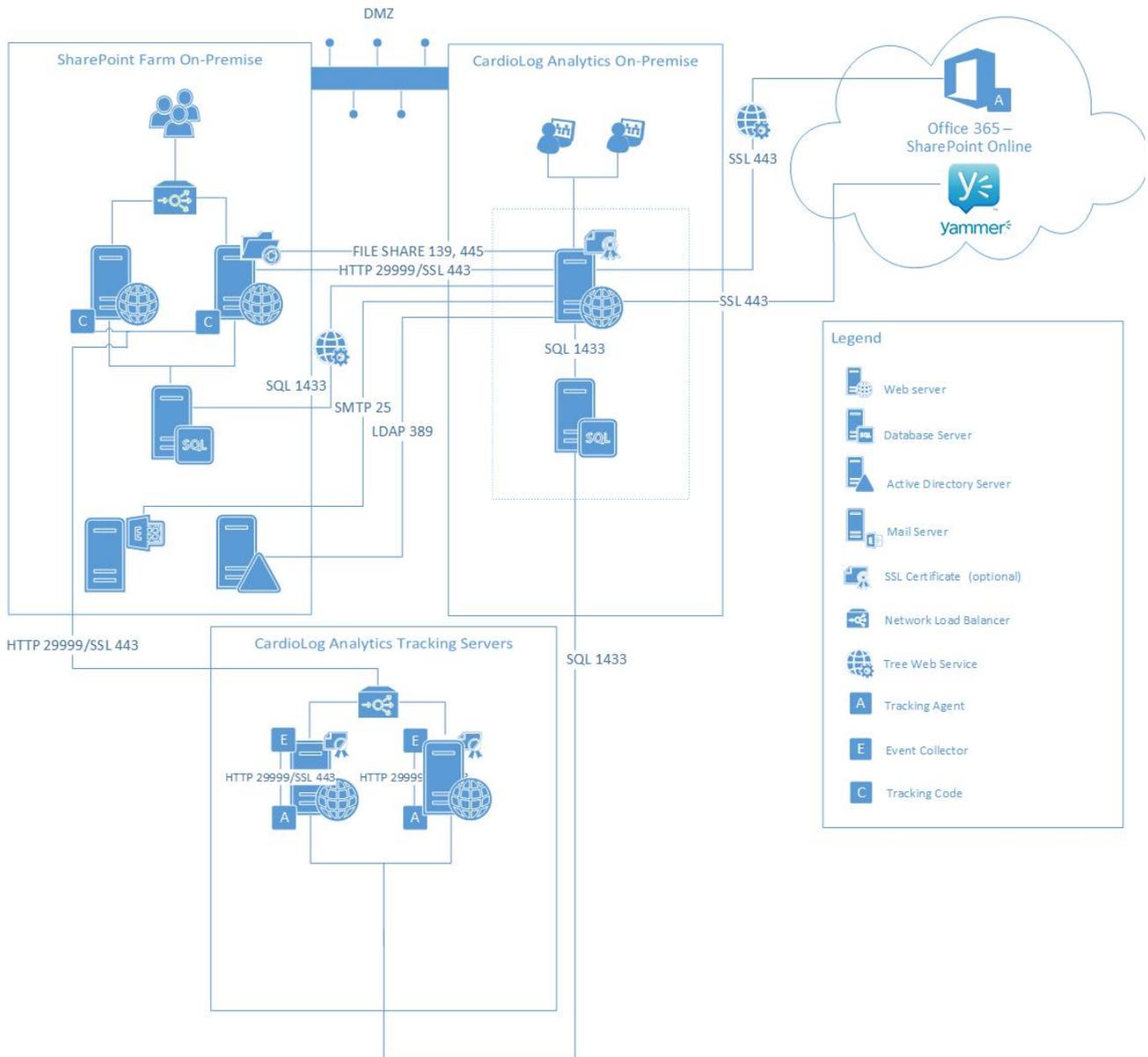
High Availability and Network Load Balancing for Usage Data Collection

Data collection is handled by the EventCollector and CardioLogAgent web applications. Multiple instances of these web applications can work in parallel. Each instance will simultaneously write its own usage data directly into the CardioLog database. For portals with 10 million events or more per month, we highly recommend using network load balancing (NLB) for usage data collection.

By default the CardioLogAgent web application is hosted on the SharePoint WFEs and the EventCollector web application is hosted on the CardioLog application server. In case the CardioLog application server is not available, usage data will be lost. To eliminate the dependency on the CardioLog application server (given the CardioLog database is hosted on a separate server) we highly recommend configuring High Availability (HA) for usage data collection.

The architecture for HA and NLB should be as follows:

1. Application server hosting the CardioLog Analytics application.
2. Database server hosting the CardioLog database.
3. Two or more web servers that host the Usage Data Collection components (EventCollector and CardioLogAgent web applications).
Note: You can use the existing SharePoint WFEs or dedicated servers to host the Usage Data Collection components. By default, when deploying the [CardioLog Analytics SharePoint feature](#) for usage tracking, the CardioLogAgent web application is automatically installed on your SharePoint WFEs under each SharePoint web application *_layouts* folder. You can install the EventCollector web application in the same location assuming the SharePoint WFEs have sufficient resources to handle the additional web requests.
4. SharePoint WFEs hosting the CardioLog Analytics JavaScript tracking code. By default, when deploying the [CardioLog Analytics SharePoint feature](#) for usage tracking, the JavaScript tracking code is hosted in the CardioLogAgent web application which is automatically installed on your SharePoint WFEs under each SharePoint web application *_layouts* folder.



CardioLog Analytics On-Premise High Availability Architecture - with usage data collection components installed on dedicated web servers

How to Install the CardioLog Analytics Usage Data Collection Components on a Dedicated Web Server

System Requirements

Inspect the following table to assure that your dedicated web server meets the minimum hardware and software requirements:

	CardioLog Standard Edition	CardioLog Professional Edition	CardioLog Enterprise Edition
Platform	64-bit	64-bit	64-bit
Operating System	Windows 2008 R2/2012/2012 R2/2016/2019 Server Standard Edition (fully patched)	Windows 2008 R2/2012/2012 R2/2016/2019 Server Standard Edition (fully patched)	Windows 2008 R2/2012/2012 R2/2016/2019 Server Standard Edition (fully patched)
Application Memory	4 GB	8 GB	Minimum* - 8 GB Recommended - 12 GB
Processors	4 Cores	4 Cores	4 Cores

Additional Software & Services	<ul style="list-style-type: none"> • Microsoft .NET Framework 4.8 • IIS 7.0, 7.5, 8.0, 8.5 or 10.0 • Additional Web Server (IIS) Role Services 	<ul style="list-style-type: none"> • Microsoft .NET Framework 4.8 • IIS 7.0, 7.5, 8.0, 8.5 or 10.0 • Additional Web Server (IIS) Role Services 	<ul style="list-style-type: none"> • Microsoft .NET Framework 4.8 • IIS 7.0, 7.5, 8.0, 8.5 or 10.0 • Additional Web Server (IIS) Role Services
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* Up to 2,000,000 events per month

Installation Procedure

1. Verify that your system meets the [software and hardware requirements](#).
2. Install the [Required Web Server \(IIS\) Role Services](#) on your web server.
3. Deploy the [CardioLog Analytics SharePoint feature](#) for usage tracking, or add the tracking code to a common page component of your choice (for example - master pages, page toolbars, Web Parts, headers or footers).
4. Create a new EventCollector web application on your web server. For the new web application:
 - Create a dedicated application pool with ASP.NET version 4.0 and Integrated managed pipeline mode.
 - The application pool should run with a local administrator account.
 - Grant the application pool account the "db_owner" role on the CardioLog database.
 - Set the web application authentication method to Anonymous access (disable Windows Authentication).
 - Grant Full Control permissions for the IIS_IUSRS group on the EventCollector folder
5. Copy the files from the CardioLog server [*CardioLog Installation Directory*]\EventCollector to the new directory.
6. Copy the files from the CardioLog server [*CardioLog Installation Directory*]\Setup Files\SLPS to the new directory under \EventCollector\bin folder.
7. Execute the following command on your web server: *Slps.Runtime.Configuration /Install* (execute it from this location - \EventCollector\bin)
8. [Contact us](#) to receive the required licenses for the web server (product edition and engagement package) and apply it using the License Admin tool (execute it from this location - \EventCollector\bin\Microsoft.Licensing.LicAdmin.exe).
9. Create a new CardioLogAgent web application on the web server. For the new web application:
 - Create a dedicated application pool with ASP.NET version to 4.0 and Integrated managed pipeline mode.
 - The application pool should run with a local administrator account.
 - Set the web application authentication method to Windows Authentication (disable Anonymous access).
 - Grant Full Control permissions for the IIS_IUSRS group on the CardioLogAgent folder
10. Copy the files from the CardioLog server [*CardioLog Installation Directory*]\CardioLogAgent to the new directory.
11. Edit the following keys in the *CardioLogAgent\web.config* file, located in the <appSettings> section and enter the NLB FQDN, where **[domain name]** is the NLB FQDN for the web applications.

```
<add key="EventCollectorPath" value="http[s]://[domain name]/EventCollector/monitor.aspx" />
<add key="CardioLogAgentRoot" value="http[s]://[domain name]"/>
```

Note: When the EventCollector and CardioLogAgent web applications are installed on your SharePoint WFEs under each SharePoint web application *_layouts* folder, edit the following keys in the *CardioLogAgent\web.config* file, located in the <appSettings> section, where **[domain name]** is the SharePoint web application FQDN.

```
<add key="EventCollectorPath" value="http[s]://[domain name]/_layouts/EventCollector/monitor.aspx" />
<add key="CardioLogAgentRoot" value="/_layouts"/>
```

12. Edit the following URLs in the Java Script tracking code:

```
http[s]://[domain name]/CardioLogAgent/getCAData.aspx?r='+Math.random();
http[s]://[domain name]/CardioLogAgent/ca.aspx?u='+document.location.href;
http[s]://[domain name]/CardioLogAgent/AgentEmbed.aspx?env=[SharePoint version];
```

[domain name] - the NLB FQDN for the web application.

[SharePoint version] - MOSS2007, SP2010, SP2013, SP2016 or SPOnline

If the [CardioLog Analytics SharePoint feature](#) for usage tracking is deployed, edit the URLs in the following location:

C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\14\TEMPLATE\LAYOUTS\CardioLogAgent\CardioLogAgent.js

If the Java Script tracking code is embedded within a common page component on your SharePoint WFEs, edit the URLs in there.

13. In the CardioLog database, edit the URL column in the tab_management table by executing the following SQL script:

Use CardioLog

GO

```
update tab_management set url = replace (url, '[Old URL]', '[New URL]')  
where name = 'EventCollector'
```

[Old URL] - http[s]://CardioLog-machine-name:port

[New URL] - http[s]://[domain name]

Disaster Recovery for the CardioLog Analytics Application

An Active-Active DR configuration for the entire CardioLog solution, including the reporting user interface, is not supported.

An Active-Passive DR configuration for the entire CardioLog solution is available at an additional cost (the dormant server requires a production license).

Configuring CardioLog Analytics on a SharePoint DR Farm

Assuming the SharePoint backup farm has identical content to the live farm (identical content URLs and SharePoint IDs) and CardioLog is importing the tree structure directly from the SharePoint database (supported on SharePoint 2013 or lower), follow this procedure to prepare for a SharePoint farm failover:

1. Install the **CardioLog Analytics Tracking Agent Feature** on the backup farm as detailed [here](#)
2. Verify that the CardioLog user account has read permissions to the SharePoint databases and a TEMPLATE folder on the backup farm.
3. In case of a failover,
 - Go to **Administration > System Configuration > SharePoint Tree Adaptor** > click on your SharePoint farm
 - In the **SharePoint Tree Adaptor** dialog, fill out the following fields for the backup farm:
 - **Database Server** - The SharePoint database instance name.
 - **SharePoint Configuration Database Name** - The SharePoint configuration database name. *eg., "SharePoint_Config"*
 - **Authentication** - Database authentication type (Windows Integrated or SQL Authentication).
 - **SharePoint TEMPLATE Directory** - This is the full path for the SharePoint TEMPLATE directory. *eg., "\\<sharepoint server name>\C\$\Program Files\Common Files\Microsoft Shared\Web Server Extensions\XX\TEMPLATE"* (Where **XX** is **12** for MOSS 2007; **14** for SharePoint 2010; **15** for SharePoint 2013)
 - Click **Apply**, and then click **Save**.

The screenshot shows the 'SharePoint 2013 Adaptor' configuration page in the CardioLog Analytics application. The page is titled 'SharePoint 2013 Adaptor' and 'SharePoint 2013'. It features a left-hand navigation menu with options like 'Report Center', 'Analysis Center', 'Optimization', 'Acquisition', 'Visitor Engagement', 'Settings', and 'Administration'. The main content area is titled 'Settings' and contains several input fields and checkboxes. The 'Name' field is set to 'SharePoint 2013'. The 'Server Name' is 'Intlock'. The 'Database Server' is 'Intlock\SharePoint'. The 'SharePoint Configuration Database Name' is 'SharePoint_Config_b93c248e-4490-4695-8666-06f3d9'. The 'Sharepoint Profile Database name' is empty. The 'Authentication' is set to 'Windows Integrated' with a 'Set' button. The 'SharePoint TEMPLATE Directory' is '\\Intlock\C\$\Program Files\Common Files\Microsoft Shared\Web Server Extensions\15\TEMP'. Under 'Advanced Settings', there are three checkboxes: 'Import document versioning information for your SharePoint lists and libraries' (checked), 'Import social information for your SharePoint farm' (unchecked), and 'Transfer the tree structure through file system (XML file)' (unchecked). There is also a link for 'Import metadata information for your SharePoint List Items, Documents or Sites. Manage Metadata'. At the bottom, there are three buttons: 'Install Tracking Feature', 'Update Tracking Feature', and 'Uninstall Tracking Feature'. Below the settings, there is a 'Web Sites' section with a 'Select Zone...' dropdown and a search icon. There are two checkboxes: 'All Web Sites' (checked) and 'Selected Web Sites (Select at least one web site)' (unchecked). At the bottom right, there are 'Delete' and 'Save' buttons. The top right corner shows 'Knowledge base | Connected As VM1A3871E\Administrator'.

SharePoint Adaptor System Configuration Preference Window