Foglight® *for DB2 LUW* 5.9.2.1
Hardware Sizing Guide

Legend

■ **WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.**

❗ **CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.**

ⓘ **IMPORTANT NOTE**, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

Foglight® *for DB2 LUW* Hardware Sizing Guide
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Recommended Hardware Settings for Running Foglight for DB2 LUW

The *Monitoring DB2 LUW Database Systems: Hardware Sizing Guide* is intended to assist in determining the optimal hardware requirements and product configurations to ensure the best possible user experience.

This guide provides the minimal hardware settings required for the proper functioning of the Management Server (FMS) with Foglight for DB2 LUW operation platform, when monitoring a predefined number of instances, databases, and partitions.

The guide is intended for users who want to customize Foglight for DB2 LUW's default settings for sampling and collecting data, to suit specific requirements.

> **i** | **NOTE:** The document provides requirements for 32-bit and 64-bit environments.

Parameters Used for Hardware Sizing

When sizing hardware, the following considerations should be taken into account:

- The maximum number of agents (that is, instances) that a single Management Server can accommodate in version 5.5.8 and later is 400.

- The ratio between Foglight for DB2 LUW agents and units in the Foglight unit system depends on the version of the Management Server as follows:

    - Management Server 5.6.10 and later — see Number of Foglight for DB2 LUW Agents Per Management Server on page 6.

    - Management Server 5.6.2 up to 5.6.7.x — each agent represents 10 units

    - Management Server 5.5.8 up to 5.6.0 — each agent represents 6 units

- In Number of Foglight for DB2 LUW Agents Per Management Server on page 6, the number of agents depends on the amount of memory available to the Management Server. Memory size is set in the following file:

    - Management Server 5.6.2 and later —
      File location: ...*Quest_Software\Foglight|config\server.config*
      Property name: `server.vm.option1`

    - Management Server version 5.5.8 and earlier —
      File location: ...*Quest_Software\Foglight|config\foglight.config*
      Property name: `foglight.vm.option1`

- In Number of Foglight for DB2 LUW Agents Per Agent Manager on page 5, the number of agents depends on the amount of memory available to the Agent Manager. Memory size is set in the following file:

    - Agent Manager 5.6.10 and later —
      File location: ...*Quest_Software\Foglight|FglAM\state\default\baseline.jvmargs*

    - Agent Manager versions earlier than 5.6.10 —
      File location:...*Quest_Software\Foglight|FglAM\state\default\config\vm.config*

Determining Requirements

First assess the size of the environment to be monitored. Then use the size of the monitored environment to identify how many Foglight for DB2 LUW agents can be hosted on an Agent Manager and a Management Server.

Determining the Size of the Monitored Environment

Environments are categorized into small, medium, and large based on the concurrent SQLs load on instances, databases, and members. To find out the number of concurrent SQLs, run the following SQL statement:

```
select

dbpartitionnum, sum(total) as total_agents,

sum(active) as active

from

(

select

dbpartitionnum,

sum(num_assoc_agents) as total,

sum(case when appl_status not in ('CONNECTED','DECOUPLED','UOWWAIT') then
num_assoc_agents else 0 end) as active

from

TABLE(SNAP_GET_APPL_INFO(CAST(current server AS VARCHAR(128)),CAST(-2 AS INT))) AS T

group by dbpartitionnum

) as agents

group by dbpartitionnum
```

Environment Size	Concurrent SQL statements
Small	500
Medium	5,000
Large	> 20,000

Now you can determine the number of Agent Managers and Management Servers you require.

Number of Foglight for DB2 LUW Agents Per Agent Manager

The number of agents that can be hosted on an Agent Manager depends on the size of the environment and the amount of memory allocated on an Agent Manager. Instances, databases, and members each count toward the number of agents. For example, one instance with two databases and two members counts as five agents (1+2+2=5). If you require more agents than can be supported by one Agent Manager, add additional Agent Managers.

Environment Size	Number of agents	
	Agent Manager with 256MB memory	**Agent Manager with 1GB memory**
Small	25	90
Medium	10	70
Large	5	40

Number of Foglight for DB2 LUW Agents Per Management Server

The number of agents that can be hosted on a Management Server depends on the size of the environment and the amount of memory allocated for the Management Server. If you require more agents than can be supported by one Management Server, add additional Management Servers.

Environment Size	Number of agents	
	Management Server with 4GB memory[1]	**Management Server with 8GB memory**
Small	250	500
Medium	200	400
Large	150	250

1.4GB is the default memory allocation.

NOTE: Use the Foglight for DB2 LUW installer to ensure that the default Repository type is set to Oracle/SQL Server.

Number of Files Opened on the Agent Manager Server

While monitoring DB2 instances, Foglight for DB2 LUW agents pass file descriptors to the kernel on the Agent Manager server to request that files be opened. For your reference, the following table states the number of files that are open while monitoring one DB2 instance. The numbers vary based on the operating systems used to host the Agent Manager and to host the DB2 instance. The last column shows how many files are opened when agents are added to monitor additional DB2 instances.

OS Hosting Agent Manager	OS Hosting DB2 Instance	DB	OS	IC	Total	Files per Agent Added
UNIX/Linux	UNIX/Linux	232	2	1	235	~6
	Windows	203	0	1	204	~8
Windows	UNIX/Linux	320	11	1	332	~25
	Windows	161	0	1	162	~2

Abbreviations used in the table:

- **DB** = DB2 Database Instance

- **OS** = Operating System
- **IC** = Infrastructure Cartridge

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