# Documentation changed in this update

This document updates the IBM OMEGAMON for DB2 on z/OS Performance Expert and Performance Monitor *Report Reference* manual, GH12-7065-00, for Version 5.4.0, Chapter 54.

**Date of Change:** February 2018

**Change Description:** The following field has been updated:

- IRLM Initialization Time (QWP4ISWI). In the *Report Reference* manual, this field had an incorrect description. This document provides the correct description for IRLM Initialization Time (QWP4ISWI).

**Topic:** Updated IRLM Installation Parameters

# IRLM Installation Parameters (DSNTIPI)

This topic shows detailed information about "System Parameters - IRLM Installation Parameters (DSNTIPI)".

This block shows the installation parameters of the internal resource lock manager (IRLM). There is one IRLM for each DB2 subsystem.

**Note:** The fields shown on this panel depend on the installed DB2 version.

## System Parameters - IRLM Installation Parameters (DSNTIPI)

The field labels shown in the following sample layout of "System Parameters - IRLM Installation Parameters (DSNTIPI)" are described in the following section.

```
IRLM INSTALLATION PARAMETERS (DSNTIPI)
--------------------------------------
IRLM SUBSYSTEM NAME (IRLMSID)..............................DJP0
IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT)..................120
IRLM AUTOMATIC START (IRLMAUT).............................YES
IRLM START PROCEDURE NAME (IRLMPRC)...................DBP0IRLM
SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT)..............300
U LOCK FOR REPEATABLE READ OR READ STABILITY (RRULOCK).......NO
X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT)................YES
IMS/BMP TIMEOUT FACTOR (BMPTOUT).............................4
IMS/DLI TIMEOUT FACTOR (DLITOUT).............................6
WAIT FOR RETAINED LOCKS (RETLWAIT)..........................0
ENABLE DB CHECKING..........................................NO
IRLM INITIALIZATION TIME....................................1
```

**IRLM SUBSYSTEM NAME (IRLMSID)**

> The IRLM subsystem name defined to MVS.
>
> This is used for communication between DB2 and the IRLM. It is included in the MVS subsystem table IEFSSNxx, where xx is the value of SUBSYSTEM MEMBER on installation panel DSNTIPM.
>
> If the IRLM for IMS is installed, the DB2 IRLM name is different because two IRLMs on the same MVS system must have unique names.
>
> Install parameter SUBSYSTEM NAME on panel DSNTIPI, or ZPARM IRLMSID in DSN6SPRM.
>
> **Field Name:** QWP4ISID

**IRLM RESOURCE TIMEOUT IN SECONDS (IRLMRWT)**

> The number of seconds before a timeout is detected.
>
> This is an integer multiple of DEADLOCK TIME on panel DSNTIPJ.
>
> Timeout means that a lock request has waited for a resource (or for claims on a resource for a particular claim class to be released) longer than this time.
>
> For data sharing, the actual timeout period is longer than the timeout value.
>
> Install parameter RESOURCE TIMEOUT on panel DSNTIPI, or ZPARM IRLMRWT in DSN6SPRM.

**Field Name:** QWP4TOUT

## IRLM AUTOMATIC START (IRLMAUT)

Indicates whether IRLM is started automatically by DB2.

Install parameter AUTO START on panel DSNTIPI, or ZPARM IRLMAUT in DSN6SPRM.

**Field Name:** QWP4IAUT

## IRLM START PROCEDURE NAME (IRLMPRC)

The name of the IRLM procedure invoked by MVS if AUTO START is YES.

The name cannot be the same as the subsystem name given for SUBSYSTEM NAME.

Install parameter PROC NAME on panel DSNTIPI, or ZPARM IRLMPRC in DSN6SPRM.

**Field Name:** QWP4IPRC

## SECONDS DB2 WILL WAIT FOR IRLM START (IRLMSWT)

The IRLM wait time in seconds.

DB2 autostart abends if IRLM does not start within this time.

Install parameter TIME TO AUTOSTART on panel DSNTIPI, or ZPARM IRLMSWT in DSN6SPRM.

**Field Name:** QWP4ISWT

## U LOCK FOR REPEATABLE READ OR READ STABILITY (RRULOCK)

Indicates whether the U (UPDATE) lock is used when using repeatable read (RR) or read stability (RS) isolation to access a table.

When YES, the U lock is used for an updated cursor with repeatable read or read stability.

When NO, the S lock is used for an updated cursor with repeatable read or read stability. If the cursor in the running applications includes the clause FOR UPDATE OF, but updates are infrequent, S locks generally provide better performance.

Install parameter U LOCK FOR RR/RS on panel DSNTIPI, or ZPARM RRULOCK in DSN6SPRM.

**Field Name:** QWP4RRU

## X LOCK FOR SEARCHED UPDATE/DELETE (XLKUPDLT)

The locking method used when performing a searched UPDATE or DELETE.

When NO, DB2 uses an S or U lock when scanning for qualifying rows. For any qualifying rows or pages the lock is upgraded to an X lock before performing the update or delete. For nonqualifying rows or pages the lock is released if using ISOLATION(CS). For ISOLATION(RS), or ISOLATION(RR), an S lock is retained on the rows or pages until the next commit point. This option is used to achieve higher rates of concurrency.

When YES, DB2 gets an X lock on qualifying rows or pages. For ISOLATION(CS), the lock is released if the rows or pages are not updated or deleted. For ISOLATION(RS) or ISOLATION(RR), an X lock is retained until the next commit point. This is beneficial in a data sharing

environment when most or all searched updates and deletes use an index. The downside is that if searched updates or deletes result in a tablespace scan, the likelihood of timeouts and deadlocks greatly increases.

Install parameter X LOCK FOR SEARCHED U/D on panel DSNTIPI, or ZPARM XLKUPDLT in DSN6SPRM.

**Field Name:** QWP4XLUD

### IMS/BMP TIMEOUT FACTOR (BMPTOUT)

The number of RESOURCE TIMEOUT units that an IMS BMP connection waits for a lock to be released.

The default value is 4, meaning that an IMS BMP connection can wait 4 times the resource timeout value for a resource.

Install parameter IMS BMP TIMEOUT on panel DSNTIPI, or ZPARM BMPTOUT in DSN6SPRM.

**Field Name:** QWP4WBMP

### IMS/DLI TIMEOUT FACTOR (DLITOUT)

The number of RESOURCE TIMEOUT units that a DL/I batch connection waits for a lock to be released.

The default value is 6, meaning that an IMS BMP connection can wait 4 times the resource timeout value for a resource.

Install parameter DL/I BATCH TIMEOUT on panel DSNTIPI, or ZPARM DLITOUT in DSN6SPRM.

**Field Name:** QWP4WDLI

### WAIT FOR RETAINED LOCKS (RETLWAIT)

Indicates whether a request is suspended until an incompatible retained lock becomes available.

This value is only significant in a data sharing environment. It indicates how long a transaction should wait for a lock on a resource if another DB2 in the data sharing group has failed and is holding an incompatible lock on that resource. Locks held by failed DB2 members are called retained locks.

This value is a multiplier that is applied to the connection's normal timeout value. For example, if the retained lock multiplier is 2, then the timeout period for a call attachment connection that is waiting for a retained lock is twice the normal CAF timeout period. The default is 0, meaning applications do not wait for incompatible retained locks, the lock request is immediately rejected and the application receives a "resource unavailable" SQLCODE.

Install parameter RETAINED LOCK TIMEOUT on panel DSNTIPI, or ZPARM RETLWAIT in DSN6SPRM.

**Field Name:** QWP4WAIT

### ENABLE DB CHECKING

Enable database checking.

**Field Name:** QWP4DBCK

### IRLM INITIALIZATION TIME

The time, in seconds, between Db2 periodic checks for IRLM initialization completion. There is currently no external parameter to control this time, but it is part of the IFCID 106 record, which is the basis for this section of the report. Db2 will keep checking until IRLM completes initialization or until the IRLM Wait Time (IRLMSWT) is reached. IRLM Wait Time is the total amount of time Db2 will wait for IRLM initialization.

**Field Name:** QWP4ISWI