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# Interaction Concentrator Deployment Guide

Troubleshooting

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This section describes problems that you might encounter when starting or running your Interaction Concentrator (ICON) application, and how to resolve them.

## Restrictions

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To avoid a wide range of startup and runtime problems, observe the following restrictions:

- Do not disconnect ICON from Configuration Server during startup.
- Do not change any connections on the **Connections** tab of the ICON Application during runtime.

## Startup Problems

## Startup Problems

The following are the most common startup problems:

### [+] ICON does not connect to the Configuration Server

Possible causes of this problem are as follows:

Command-line parameters on the ICON Application object's **Server Info** tab incorrectly specify the Configuration Server host and port.

- **Solution:** Correct the command-line parameters and restart the application. For more information about the command-line parameters, [Command-Line Parameters](#).

Configuration Server is not running, or it is inaccessible over the network.

- **Solution:** Start Configuration Server or re-establish the network connection.

### [+] ICON Exits at Startup

See the ICON log file for the reasons for the startup failure. Possible reasons include:

The Application name specified in the ICON startup command line does not correspond to any existing Application object in the Configuration Layer.

- **Solution:** Create the Application object. For more information about creating and configuring the ICON Application, see [Deploying Interaction Concentrator](#).

The Application name specified in the ICON startup command line refers to an Application object that is not of the Call Concentrator application type.

- **Solution:** Remove the Application object of the incorrect type, and then use the correct template to create a new Application object of the Call Concentrator type. For more information about creating and configuring the ICON Application object, see [Deploying Interaction Concentrator](#).

There is no assignment to a Database Access Point (DAP) Application object on the **Connections** tab of the ICON Application object.

- **Solution:** Add to the ICON Application object's **Connections** tab any DAP Application objects through which this ICON instance will access Interaction Databases (IDBs).

The DAP Application object assigned on the ICON Application object's **Connections** tab does not have an associated DB Server application.

- **Solution:** Associate a DB Server with the DAP Application object. For more information, see the DAP tab in the [Configuration and Installation](#) page.

The ICON instance has been configured to process call attached data (role = gud), but ICON cannot open the file specified in the `adata-spec-name` configuration option. The following error message in the log file indicates the existence of this condition:

```
Std 02016 Unable to open attached data file '<attached data specification file name>', error code XXX
```

- **Solution:** Verify the following and correct as required.
  - The file specified in the `adata-spec-name` configuration option exists. If the file does not exist, create a new one or use the default attached data specification file (`ccon_adata_spec.xml`) provided in the Interaction Concentrator installation package.
  - The Interaction Concentrator user (the account under which ICON has been started) has the required permissions to read the attached data specification file.

### Important

If you make changes to the attached data specification file, you must restart ICON for them to take effect.

The persistent queue file has become corrupted.

- **Solution:** Force ICON to create a new persistent queue file by doing one of the following:
  - Using operating system commands, move or rename the corrupted `.pq` file. On restart, ICON will create a new `.pq` file with the original file name in the original location.

- Reset the pq-dbname configuration option in the ICON Application object. On restart, ICON will create a new .pq file with the new file name in the specified location. See the pq-dbname configuration option under Persistent Queue in the callconcentrator section on the [Configuration Options](#) page. With either method, all unprocessed data in the old .pq file will be lost to ICON and IDB.

There is no free disk space on the disk where the apstorage.db file resides.

- **Solution:** Free up memory on the disk or add more disk memory. For more information about the apstorage.db file, see "Populating Agent Login Session Data" in the [Interaction Concentrator 8.1 User's Guide](#).

## Runtime Problems

### Runtime Problems

The following are the most common runtime problems:

#### [+] ICON does not connect to T-Server or Interaction Server

Possible causes of this problem are as follows:

There is no assignment to the T-Server Application object or the Interaction Server Application object on the ICON Application object's **Connections** tab.

- **Solution:** Add to the ICON Application object's **Connections** tab any T-Server or Interaction Server Application objects from which this ICON instance will receive interaction-related information.

The T-Server or Interaction Server application is not running, or it is not accessible over the network.

- **Solution:** Start the application or re-establish the network connection.

The T-Server or Interaction Server Application object cannot connect to its Switch link.

- **Solution:** See the applicable troubleshooting guide for your particular T-Server or Multimedia Interaction Server.

The release of the T-Server or Interaction Server Application object is not compatible with Interaction Concentrator. T-Server release 7.2 is the minimum version required by any release of Interaction Concentrator. Multimedia Interaction Server release 7.5 is the minimum version required for Interaction Concentrator support of eServices. For more information about Interaction Concentrator compatibility and interoperability with other Genesys components, see "Compatibility" on the [Planning Your Deployment](#) page.

- **Solution:** Upgrade the T-Server or Interaction Server Application object to a compatible release.

The Switch object associated with the T-Server Application object does not have all the necessary DN

objects configured.

- **Solution:** Create the DN objects. For more information, see the *Deployment Guide* for your particular T-Server.

## [+] ICON Does Not Receive Call-Related Events from T-Server

Possible causes of this problem are as follows:

ICON was not restarted after changes were made on the ICON Application object's **Connections** tab.

- **Solution:** Stop ICON, then restart.

ICON was not restarted after a backup instance was configured of a T-Server to which Interaction Concentrator has a connection configured on the **Connections** tab.

- **Solution:** Stop ICON, then restart.

There is no connection between the ICON Application object and T-Server.

- **Solution:** See "No Connection to T-Server or Interaction Server" on the Runtime Problems tab.

## [+] ICON Does Not Write Information to the Database

Possible causes of this problem are as follows:

The database parameters are incorrectly specified on the DAP Application object. These parameters include the user name and password.

- **Solution:** Specify the correct values on the DAP Application object's **DB Info** tab, then restart ICON. For more information, see the DAP tab in the [Configuration and Installation](#) page.

DB Server is not running, or it is inaccessible over the network.

- **Solution:** Start DB Server or re-establish the network connection.

The RDBMS server is not available, or the IDB to which DB Server is trying to connect is not available.

- **Solution:** Take the necessary steps to make the database server and database available.

The DAP Application object has been configured for a role that prevents it from writing certain classes of information to the database.

- **Solution:** Reconfigure the role option for the DAP Application object. Restart ICON. For more information about configuring a DAP, see the DAP tab on the [Configuration and Installation](#) page, and the description of the role configuration option under ICON Role in the callconcentrator section on the [Configuration Options](#) page.

IDB has not been initialized by the Interaction Concentrator initialization scripts.

- **Solution:** Run the Interaction Concentrator initialization scripts. For more information, see the IDB tab on the [Configuration and Installation](#) page.

ICON was not restarted after changes were made on the ICON Application object's Connections tab.

- **Solution:** Stop ICON, then restart.

ICON was not restarted after a backup instance was configured of a T-Server to which Interaction Concentrator has a connection configured on the **Connections** tab.

- **Solution:** Stop ICON, then restart it.

Records are accumulating in the in-memory queue and are not being written to IDB.

- **Solution:** This might not be a problem. Configuration options control whether a size threshold or timeout triggers the transfer of records from the in-memory queue to the persistent queue, from which the records are then written to IDB. Wait for the event that triggers the transfer, and re-evaluate your configuration as necessary. For more information see the In-memory queue configuration options in the [callconcentrator](#) section on the [Configuration Options](#) page.

The program logic consistently produces an error because of incorrect RDBMS settings. For example, there may be insufficient free space available on the RDBMS for data storage, or the rollback segment may be too small.

- **Solution:** Review the error messages reported in the ICON log file. If you have configured an HTTP Listener, you can also view the error messages on the Database Writer performance counter web page (for more information, "Monitoring Interaction Concentrator" in the [Interaction Concentrator 8.1 User's Guide](#)). Provide the appropriate fix on the RDBMS side. For example, if the error messages cite no free space available for data storage, increase the table space.  
If the error was entirely related to the RDBMS problem, you do not need to restart ICON or perform any manipulation of the persistent queue (.pq file). However, if the .pq file has become corrupted and there are additional errors in the program logic, you must replace the .pq file.

## [+] ICON Has Lost Synchronization with the Configuration Database

There are a number of reasons why ICON might lose synchronization with the Configuration Database, especially following a shutdown of ICON.

Loss of synchronization has the following impact on IDB:

- ICON fails to capture data about configuration objects created while ICON was stopped.
- ICON does not mark configuration data as deleted in cases where the applicable configuration objects were deleted while ICON was stopped.
- ICON fails to capture changes in associations between objects (while it is stopped).

**Solution:** If you suspect that your configuration data in IDB is inconsistent with Configuration Database, perform a manual resynchronization. See "How to Resynchronize Configuration Data" in the [Interaction Concentrator 8.1 User's Guide](#).

## [+] ICON Does Not Function Correctly

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Possible causes of this problem are as follows:

A connection configured on the Connections tab of the ICON Application was removed or changed while ICON was operating.

- **Solution:** Stop ICON. Verify that the connections that have been configured on the Connections tab of the ICON Application object are as required for the deployment, then restart ICON. For more information about configuring connections, see "Configure the Connections tab" on the ICON tab of the [Configuration and Installation](#) page.

## Merge Problems

### Merge Problems

The most common problems encountered in executing the merge procedure (gsysIRMerge or gsysIRMerge2) are as follows:

For more information about the merge procedure, "Merge Stored Procedure" in the [Interaction Concentrator 8.1 User's Guide](#).

### [+] Merge Procedure Does Not Complete Successfully

In general, the most likely reason the merge procedure fails is an inconsistency in IDB. The database inconsistency might be introduced by ICON, by the downstream reporting application, through manual intervention, or in some other way. For example, if ICON writes a duplicate G\_IS\_LINK record while the merge procedure is executing, the RDBMS might report a primary key violation. Describing the possible causes of this problem in detail is beyond the scope of this document.

The following tables store information about the state of the merge procedure:

- GSYS\_PENDING\_IR
- GSYS\_PENDING\_LINK
- GSYS\_SYSPROCINFO

**Solution:** Review the error messages reported in the ICON log file, and take appropriate action to resolve the cause of the failure. You might also have to reset the merge procedure so that it recovers from its failed state (see "Merge Procedure Recovery" below). Then restart the merge procedure.

#### Merge Procedure Recovery

Interaction Concentrator provides a stored procedure, gsysIRMergeReset, to simplify the steps to reset the merge procedure to recover from a failed state. To invoke the procedure, use an SQL statement like the following (the exact syntax depends on the RDBMS):

```
EXEC gsysIRMergeReset
```

### Important

Under some circumstances, merge procedure recovery is not required. For example, the merge procedure may fail to complete successfully as a result of a deadlock condition. In this case, no special action is required other than to run the procedure again. However, if an error is discovered in the merge procedure, execute the stored procedure to reset the merge procedure.

## [+] Merge Procedure Does Not Execute

Possible causes of this problem are as follows: The stored procedure was called incorrectly.

- **Solution:** Verify the syntax of the call to execute `gsysIRMerge` or `gsysIRMerge2`, and correct the execution command as required. For more information, see "Executing the Merge Procedure" in the [Interaction Concentrator 8.1 User's Guide](#).

There is an error in the database or in database performance that is not specifically related to the merge procedure or to ICON—for example, insufficient disk space or insufficient privileges.

- **Solution:** Review the error messages reported in the ICON log file. Provide the appropriate fix that the RDBMS requires, then restart the merge procedure.

The database error might be related to an inconsistency in IDB, in the sense that it was exposed or induced by an inconsistency in IDB, or resulted in an inconsistency in IDB. In these cases, reset the merge procedure (see "Merge Procedure Recovery" above), then restart the merge procedure. If the merge procedure still fails to execute, contact Genesys Customer Care.

## [+] Merge Procedure Performance Is Slow or Unstable

Possible causes of this problem are as follows:

On a DB2 platform, default values of certain database parameters result in an excessive number of deadlocks.

- **Solution:** Contact Genesys Customer Care for assistance with database locking issues.

There is an inconsistency in IDB that does not cause the merge procedure to fail, but that significantly interferes with merge procedure performance.

- **Solution:** Reset the merge procedure (see "Merge Procedure Recovery," above), then restart the merge procedure. If the problem persists, review database settings and try general database tuning adjustments. If the problem still persists, contact Genesys Customer Care.