Cisco Unified Workforce Optimization

WFM Troubleshooting Guide 10.0

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Introduction

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Overview

This document provides basic troubleshooting information for Cisco Workforce Optimization Workforce Management (WFM).

WFM Documentation

The following documents contain additional information about Workforce Management 10.0.

- *Workforce Management Installation Guide*

- *Workforce Management Administrator User Guide*

- *Workforce Management Application User Guide*

- *Workforce Management Reports Reference*

- *Workforce Management Historical Import Tool Installation Guide*

- *Workforce Management Release Notes*

Technical Information

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Overview

This chapter covers the following topics.

- WFM Components (page 8)
- Service Failure Effects (page 9)

WFM Components

A WFM system contains the following components:

- Workforce Management ACC (Adherence Conformity Calculator) service
- Workforce Management Capture service
- Workforce Management Compile service
- Workforce Management Jetty service
- Workforce Management Mana service
- Workforce Management Product Adapter service
- Workforce Management Real Time service
- Workforce Management Request service
- Workforce Management RTE (Real Time Engine) service
- Workforce Management Schedule service
- Workforce Management Sync service
- Workforce Management Tomcat service

See the *Workforce Management Installation Guide* for information on configuration, hardware, and third-party software requirements.

Service Failure Effects

Table 1 describes the primary symptoms that appear when a WFM service fails to start.

NOTE: The effects listed do not identify what happens when a service crashes.

Table 1.   Service failure effects

Service	Effect of Failure
ACC service	Historical adherence and conformance data does not appear in reports.
Capture service	Historical data cannot be retrieved.
Compile service	Historical data cannot be compiled by day, week, month, or year.
Request service	Distribution/forecast requests cannot be run.
RTE service	Adherence module cannot receive agent state changes.
Schedule service	Schedule requests cannot be run.
Sync service	Agent, team, and queue information is not automatically synchronized with Unified CCX.
Tomcat service	Users are unable to log in to the WFM legacy application.
Jetty service	Users are unable to log in to the WFM legacy application.
Product Adapter service	Data is not rendered to Workforce Optimization.
Mana service	Failure notifications are not received.

Capacity and Performance

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Overview

This chapter covers the following topics.

Product Limitations

There is no solution-level, automated failover or autorecovery for the WFM database. It is recommended that you back up the WFM database daily using the SQL Server backup utility.

Failover

WFM automatically connects to a secondary Unified CCX database when the primary ACD (if the secondary ACD exists).

SQL Server Maintenance Recommendations

SQL Server requires regular maintenance to ensure peak performance. You can automate the maintenance task and schedule it for once a week during off-peak hours.

The common database maintenance tasks include:

- Checking data integrity. This task checks the structural integrity of the data and verifies the database is not corrupt.

- Reorganizing/rebuilding indexes. This task defragments the database indexes. Index fragmentation can cause performance issues. Indexes should be rebuilt using the Offline option in a non-Enterprise version of SQL Server.

- Updating statistics. This task performs sampling of the data in the database to optimize tables and indexes so they can be used more efficiently, thus increasing performance for the distribution of data in the tables.

- Backing up and managing log files. Regular database and transaction log backups are recommended along with truncating/shrinking the transaction logs to free up disk space and gain efficiency.

Backing Up and Restoring the WFM Database

This section describes how to back up and restore the WFM database using Microsoft SQL Server management tools.

> **NOTE:** WFM supports the backup and restore only of the current version, not from one version to the next.

> **NOTE:** If Cisco Security Agent (CSA) is running on your WFM server, shut CSA down before you back up the WFM database. The backup might fail if CSA is running while you use the SQL Server backup utilities.

Backing up the WFM Database

Follow these steps to back up the WFM database.

To back up the WFM database:

1. On the SQL Server computer, start Microsoft SQL Server Management Studio and log in. The Microsoft SQL Server Management Studio window appears (Figure 1).

   Figure 1.   Microsoft SQL Server Management Studio window

2. In the Object Explorer pane, expand the SQL Server instance node.

3. Right-click Databases and choose Tasks > Backup. The Back Up Database window appears (Figure 2).

Figure 2.   Back Up Database window
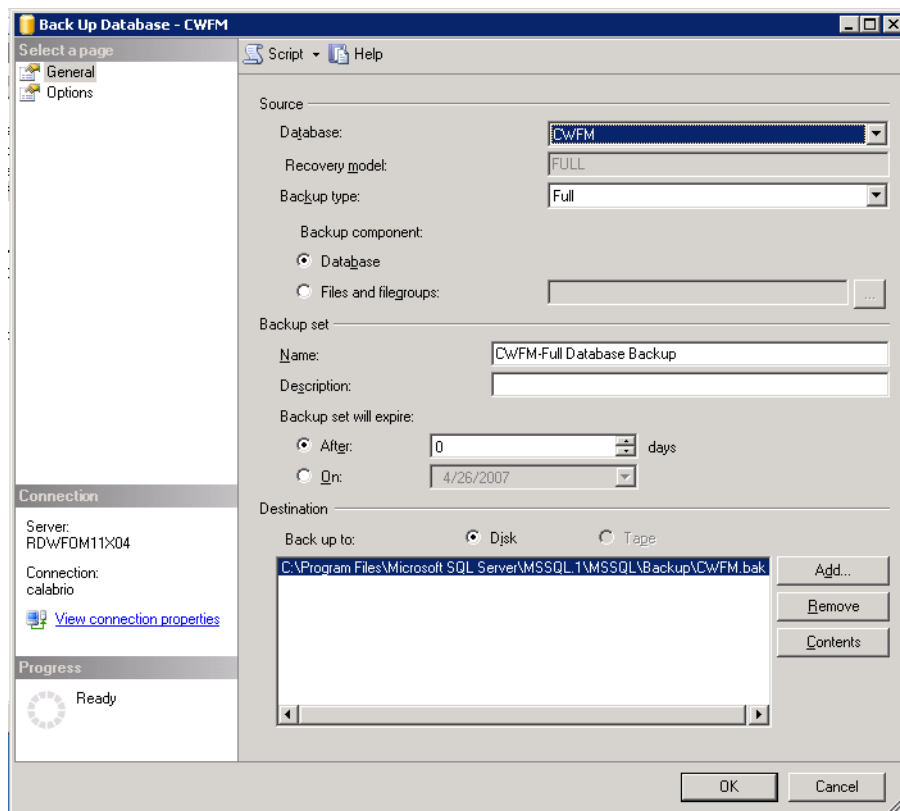
4. Complete the window as follows:

    a. Select the database to back up.

    b. Select the type of backup you want to perform on the specified database.

    c. Enter the backup set name and description.

    d. Choose when the backup will expire.

    e. Select the backup device, Disk or Tape.

    NOTE: If there are no tape devices attached to the server, the Tape option is disabled.

5. Click Add to enter a backup destination. The Select Backup Destination dialog box appears.

6. Select a destination file name or backup device and click OK.

> **NOTE:** It is a good idea to include the time and date in the file name for the backup database.

7. Click OK again to back up the database. An information dialog box appears indicating the backup operation has completed successfully.

8. Click OK to dismiss the confirmation dialog.

Restoring the WFM Database

Follow these steps to restore the WFM database.

To restore the WFM database:

1. On the SQL Server computer, start Microsoft SQL Server Management Studio and log in.

2. In the Object Explorer pane, expand the SQL Server instance.

3. Right-click Databases and choose Restore Database. The Restore Database window appears (Figure 3).

Figure 3.　　Restore Database window
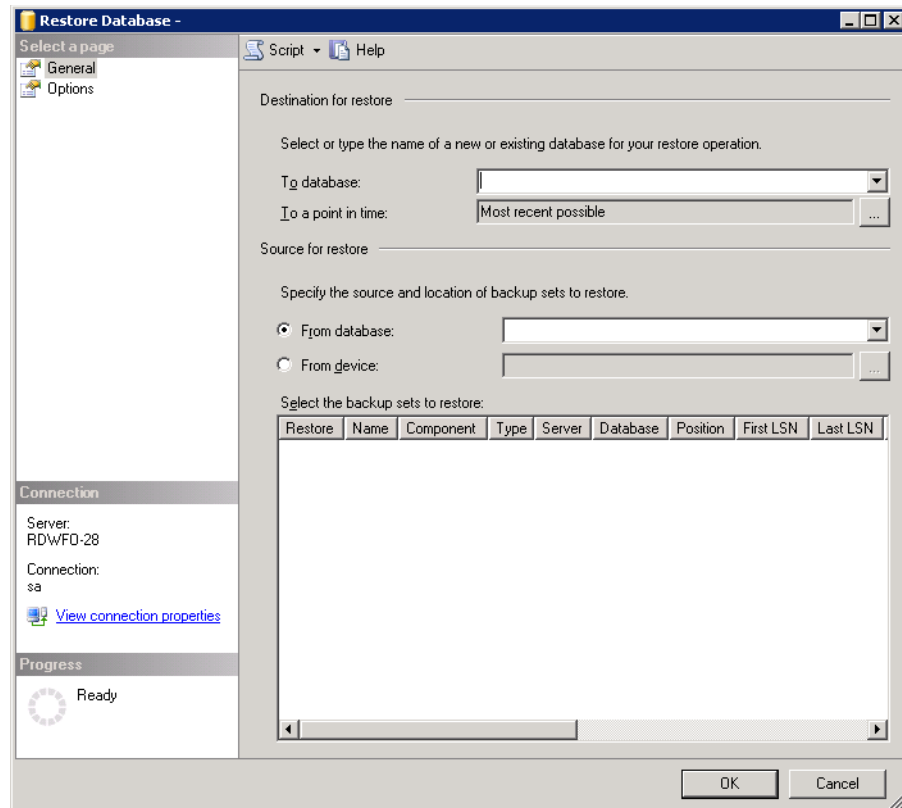
4. From the To database drop-down list, select the name of the database to which you want to restore the backup database.

5. From the From database drop-down list, select the name of the backup database you want to restore from.

6. In the Select a page pane, click Options. The Options window is displayed (Figure 4).

Figure 4.   Options window
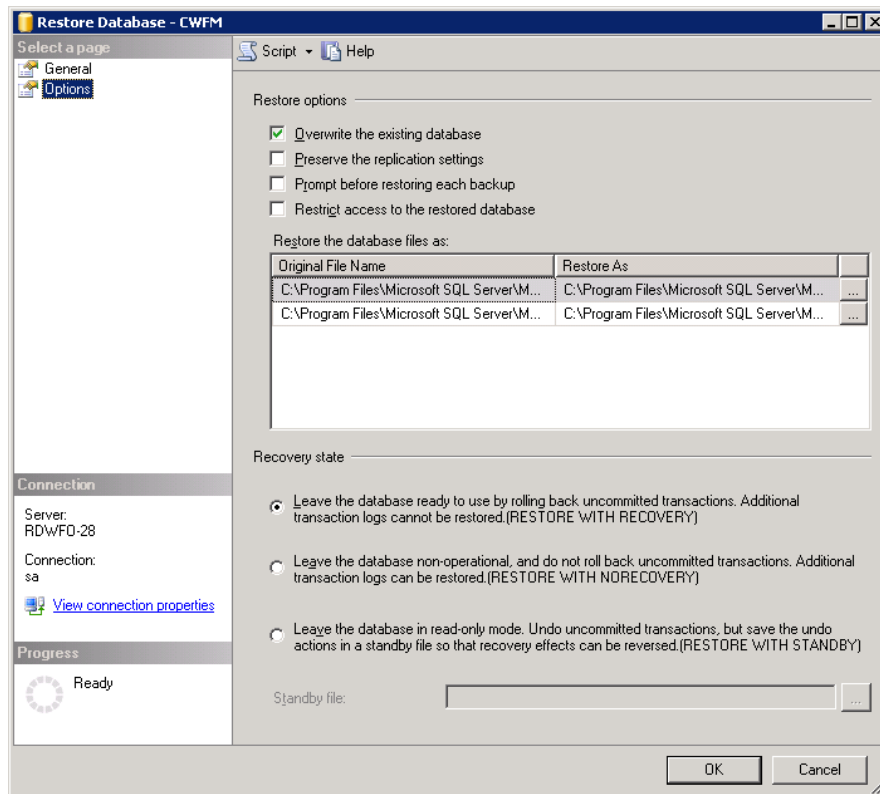
7. Complete the window as follows.

   a. Select Overwrite the existing database.

   b. Ensure that the paths for both CWFM and CWFM_Log are correct.

8. Click OK. Microsoft SQL restores the database and displays a dialog box when the restore is complete.

9. Click OK to dismiss the confirmation dialog box.

Defragmenting the WFM System Hard Disk and the WFM Database

When WFM starts responding slowly and tasks take longer than normal to perform, it is time to defragment the WFM system hard disk and the WFM database.

Defragmenting the WFM Database Server

NOTE: This procedure assumes the server is running Windows Server 2003. If your server uses a different operating system, refer to that OS's documentation for information on defragmentation.

Follow these steps to defragment the server that hosts the WFM database.

To defragment the WFM database server:

1. Log on to the WFM database server as an administrator and choose Start > Control Panel > Administrative Tools > Computer Management. The Computer Management window appears.

2. Select Storage > Disk Defragmenter from the left-hand pane (Figure 5).

Figure 5. Disk Defragmenter window
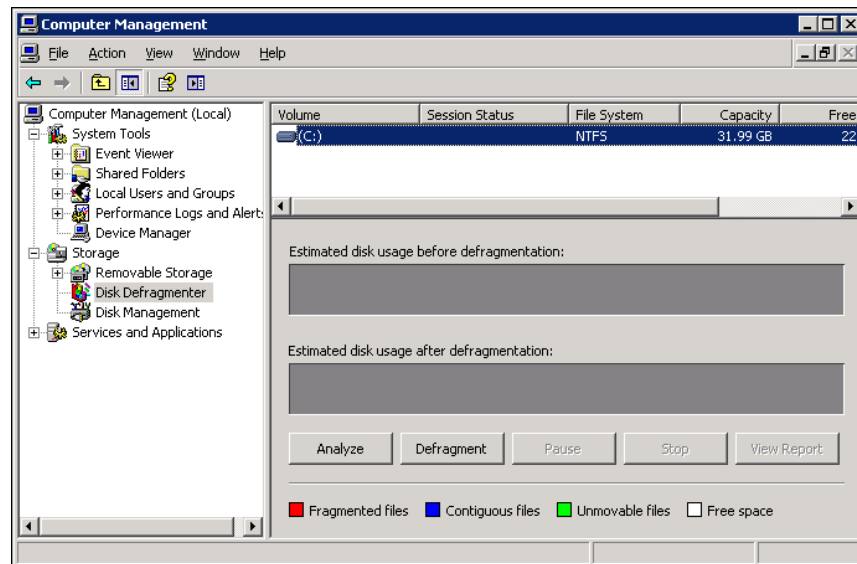
3. Select the drive on which the WFM database resides, and then click Defragment. Defragmentation can take several hours, depending on the size of the drive and the severity of its fragmentation (Figure 6).

Figure 6.   Estimated disk usage before and after defragmentation
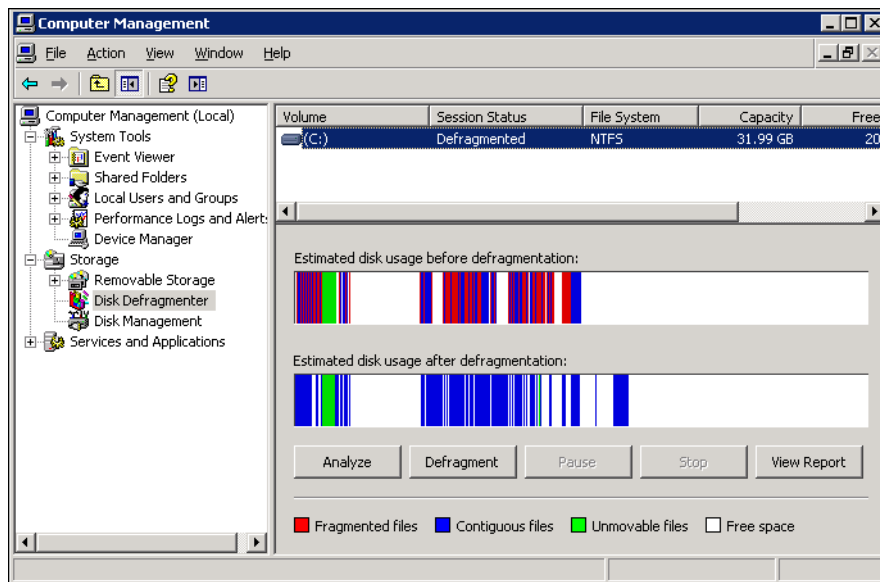
4. When the defragmentation is completed, click OK. The estimated disk usage after defragmentation should look better than before and performance should improve.

Defragmenting the WFM Database Indexes

The data in the WFM database can often become highly fragmented after prolonged use. Rebuilding the database indexes will reorganize the data into a more efficient structure and can improve the performance of the system.

To defragment the indices of WFM database:

1. Log on to the WFM system as an administrator.

2. On the SQL Server computer, start Microsoft SQL Server Management Studio and log in. The Microsoft SQL Server Management Studio window appears.

3. In the navigation pane, select Databases > CWFM, and then click New Query on the toolbar.

4. Copy and paste the following SQL query into the new query pane on the right ([Figure 7](#)). This query will tell you how much each index is fragmented.

Figure 7.   SQL Server window containing the query script
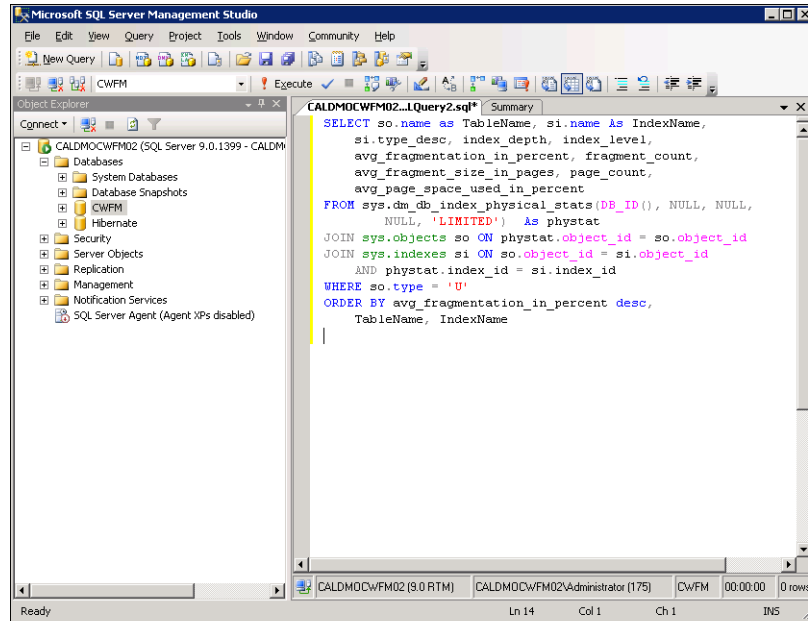

```
SELECT so.name as TableName, si.name As IndexName,
        si.type_desc, index_depth, index_level,
        avg_fragmentation_in_percent, fragment_count,
        avg_fragment_size_in_pages, page_count,
        avg_page_space_used_in_percent
FROM sys.dm_db_index_physical_stats(DB_ID(), NULL, NULL, NULL,
'LIMITED')  As phystat
JOIN sys.objects so ON phystat.object_id = so.object_id
JOIN sys.indexes si ON so.object_id = si.object_id
        AND phystat.index_id = si.index_id
WHERE so.type = 'U'
ORDER BY avg_fragmentation_in_percent desc, TableName,
IndexName
```

5. Click Execute. The SQL query analyzes the data tables in the database. This process can take several minutes. After the execution is completed, the results of the query are shown in the results window (Figure 8).

Figure 8.   SQL Server window showing the query and its results

Fragmentation in each table is quantified by percentage in the avg_fragmentation_in_percent column.

The fragmentation should ideally be 0 for all tables. High levels of fragmentation will cause an extreme amount of delay when data from the table is requested. Another key indicator for WFM performance is the fragmentation level plus the page count. A table can have significant fragmentation, but if it has a low page count, then the effects of fragmentation might or might not be noticed.

6. Run another SQL query to fix the fragmentation. Click New Query to open a new query pane.

7. Copy and past the SQL query script provided on page 23 into this new window, and then click Execute. The query can take several minutes to run.

8. After the defragmentation SQL query has run, run the SQL query from Step 4 again to check the fragmentation level. The fragmentation values will have changed (Figure 9).

Figure 9.   Results of running the query to fix the fragmentation

Since defragmentation is not a perfect process, some of the tables still have a high degree of fragmentation. These tables, however, show improvement in the page_count column, which means that the effects of fragmentation will not be as pronounced.

Defragmentation SQL Query Script

```
-- The following script can be used to rebuild all the indexes
-- on all the tables in the database.
-- It also performs the rebuild OFFLINE and does not change the
-- FillFactor on the index.
-- All the indexes are in this file and hence, to rebuild the indexes
-- offline, it is possible to run them all together.

ALTER INDEX ALL ON dbo.AgentCDR
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.AgentStatus
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAlerteRepertoires
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAlertesEmises
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAlerteSouscripteur
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAlertesServices
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAlertesSouscriptionServ
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAlertesSouscriptionsTech
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAlertesTechniques
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalAnnualisationHeuresFrance
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalApplicationsxSite
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalBaremes
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalBaremesxCritere
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalBudgetVacancesxPreposes
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCalendrierEvenemtsSpeciaux
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCampagnes
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCdn
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCdnxService
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalClients
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCompetences
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
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ALTER INDEX ALL ON dbo.CalCompetencesxPreposes
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCompetencesxService
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCompetencesxSite
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalConditionsTravailxProfil
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalConditionsxProfil
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalConditionsxSite
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalContraintesxPrepose
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ALTER INDEX ALL ON dbo.CalContraintesxSite
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ALTER INDEX ALL ON dbo.CalCourbesxCampTelemarketing
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ALTER INDEX ALL ON dbo.CalCriteres
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalDatesFermeesEnregistrement
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ALTER INDEX ALL ON dbo.CalDatesFermeesEvenmtsSpeciaux
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalDatesFermeesxCampTelemarket
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalDatesFermeesxPostage
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalDatesFermeesxService
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ALTER INDEX ALL ON dbo.CalDatesSpecialesxService
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ALTER INDEX ALL ON dbo.CalDistributionxIntervxService
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ALTER INDEX ALL ON dbo.CalDomainesProductivite
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ALTER INDEX ALL ON dbo.CalDomainesxGroupes
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalEquipes
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalEquipesxSite
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ALTER INDEX ALL ON dbo.CalEquite
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalEstimatBesoinsPrepxService
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ALTER INDEX ALL ON dbo.CalEvenementsSpeciaux
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ALTER INDEX ALL ON dbo.CalFuseau
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
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ALTER INDEX ALL ON dbo.CalHistoriqxIntervallexService
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ALTER INDEX ALL ON dbo.ConMotsCles
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.ConPointagesxPrepose
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.ConSynonymesMotCle
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CourrierElectronique
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisHistoriquesxDnxAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisHistoriquesxDnxJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisHistoriquesxDnxMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisHistoriquesxDnxSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisHistoriquesxServicexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisHistoriquesxServicexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisHistoriquesxServicexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
```

```
ALTER INDEX ALL ON dbo.HisHistoriquesxServicexSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxCompetencexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxCompetencexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxCompetencexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxCompetencexSem
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxEquipexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxEquipexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxEquipexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxEquipexSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexIdxAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexIdxJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexIdxMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexIdxSem
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxPreposexSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxServicexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxServicexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxServicexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.HisRendementxServicexSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.newtbConfig
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.PreCeduleEnregistrement
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.PreEvenementsxPreposesxJours
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.PreResultatsxPreposesxJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.PreResultatsxPreposexInterv
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxContraintexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
```

```
ALTER INDEX ALL ON dbo.StaHeuresxContraintexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxContraintexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxContraintexSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexProjetxAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexProjetxJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexProjetxMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexProjetxSem
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxPreposexSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxProjetxAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxProjetxJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxProjetxMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxProjetxSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexProjetxAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexProjetxJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexProjetxMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexProjetxSem
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxServicexSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxTousxAnnee
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxTousxJour
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxTousxMois
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.StaHeuresxTousxSemaine
        REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
```

```
            ALTER INDEX ALL ON dbo.StaHrsxEquipexServicexInt
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxPreposexContraintexAnne
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxPreposexContraintexJour
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxPreposexContraintexMois
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxPreposexContraintexSem
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxServicexContraintexAnne
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxServicexContraintexJour
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxServicexContraintexMois
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.StaHrsxServicexContraintexSem
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbBreaksxWorkConditions
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbBulletinBoard
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbColumns
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbConstraintTypeGeneric
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbDayOfWeek
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequest
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequestBid
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequestConstraint
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequestEmail
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequestEmailxAgent
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequestEmailxTeam
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequestSwap
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbRequestVacation
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbSchedPrioritiesByService
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbSchedulePriorities
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbSecurityPrivilege
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbSecurityPrivxProfile
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
            ALTER INDEX ALL ON dbo.tbSecurityProfile
                    REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
```

```
ALTER INDEX ALL ON dbo.tbSecurityUserxProfile
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.tbServiceMerge
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.tbTypePeriode
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.tbViewColumn
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.tbViewConfig
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.TRAV_COMP_HRS
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.TRAV_EQUITE_JOUR
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.TRAV_FIL_SOURCES
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.TRAV_HISTO_SERV_INTERV
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.TRAV_LOGIN_X_AGENT
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalBlocNotes
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalCompetencesMinimumxService
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalConditionsTravail
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalDispoxPreposeTeleassurances
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalDomaines
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalParametresxService
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalPayeExtract
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalPostages
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalProfilPostesCalabrio
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalProfilsPonctuelsxPrepose
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalProfilsxPrepose
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalRequetesCompilateur
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalRequetesImpressionAutomat
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalScenariosPrevisionsxService
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalServices
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalTauxAbsencesxService
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.CalTraitementsServeur
      REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
```

```
ALTER INDEX ALL ON dbo.LisListes
       REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.PicPhotos
       REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
ALTER INDEX ALL ON dbo.PrePointages
       REBUILD WITH (STATISTICS_NORECOMPUTE = OFF, ONLINE = OFF)
```

Logs and Debugging

4

Overview

This chapter covers the following topics.

-
-

Logs and Debugging

Applications and services use logging to report status and problems. Each application and service creates two files:

■ **Log files** (files with the LOG file extension) contain status messages and, if problems occur, warning and other error messages. All messages in log files are identified by an error code. See "Error Messages" on page 41 for more information on error codes.

■ **Debugging files** (files with the DBG file extension) are empty when debugging is not enabled. When debugging is enabled (the default setting), the files contain diagnostic information that can help resolve issues.

Log and debugging files are located in the ...\Cisco\WFO_WFM\log folder on the client or server computer.

By default, logging is enabled.

The default configuration settings limit each log and debugging file to a maximum of 10 MB and 20 rolling files for WFM services and 5 MB and 5 rolling files for applications. For example, when a service's log or debug file reaches 20 MB, it is closed and renamed, and a new file is started.

Files with the CFG extension produce logs using this numbering scheme:

> <name>0001.log is created and filled.
> <name>0002.log is created when the first file is full.
> <name>0001.log is cleared and reused when the second file is full.
> <name>0002.log is cleared and reused when the third file is full.
> And so on.

Files with the PROPERTIES extension produce logs using this numbering scheme:

> <name>.log is always the file currently being filled.
> <name>.log.1 is the most recent filled file.

Debugging logs follow these same numbering schemes, but use the DBG file extension instead of the LOG file extension.

Log Message Formats

The following are the formats used by the various log and debug file messages and an example of that format.

C++ and Java LOG file messages

> Format: <timestamp> <level> <error code> <error text>

Example: 2008-02-10 12:44:17,703 INFO WMPI0000 Starting WFM
                Post Install

C++ DBG file messages

Format: <timestamp> [<thread ID>] <level> <text>

Example: 2008-02-12 10:10:21:015 DEBUG [0xfac]
                corbaInitialize:: Server port is <59011>

Java DBG file messages

Format: <timestamp> <level> [<thread name>] <class:line>
                <text>

Example: 2007-04-07 15:40:31.954 STACK [Th2] Init#:run:113
                ClaimException…

Java (log4j) LOG file messages

Format: <timestamp> [<thread name>] <level>
                [LINE-<number>] [<class:method>] <text>

Example: 2007-04-07 14:54:00,067 [Th2] INFO [LINE-1534]
                [Init:un] Started.

Configuration Files

Each application and service has an associated configuration file that controls logging and debugging (among other things). These files can be edited in a text editor to change the logging and debugging parameters.

Configuration files are located in the …\Cisco\WFO_WFM\config folder on the client or server computer.

> **CAUTION:** Edit configuration files only as described in this section. Improper changes can result in logging and/or program failure, including the possible loss of data. You might want to make a safety backup of any file you edit before you make changes to it.

The WFM configuration and log files are described in Table 2.

Table 2.   WFM configuration and log files

Application/Service	Configuration File	Log/Debug File
GIS Connector Tool	…\config\P$CAPTURE.CAL	
WFM ACC service	…\config\wfm_acc_ logger.properties	…\log\WFM_ACCXXXX.log …\log\WFM_ACCXXXX.dbg

Table 2.   WFM configuration and log files (cont'd)

Application/Service	Configuration File	Log/Debug File
WFM Capture service	...\config\wfm_capture_ logger.properties	...\log\WFM_CaptureXXXX.dbg ...\log\WFM_CaptureXXXX.log
WFM Compile service	...\config\wfm_compile_ logger.properties	...\log\WFM_CompileXXXX.dbg ...\log\WFM_CompileXXXX.log
WFM Configuration Setup	...\config\postinstall.properties	...\log\postinstall.log ...\log\postinstall.dbg
WFM Jetty service	...\config\jetty.properties	...\log\jetty.dbg ...\log\jetty-request-YYYY_MM_ DD.log
	...\config\C1Surrogate.properties	...\log\C1SurrogateXXXX.dbg ...\log\C1SurrogateXXXX.log
WFM Mana service	...\config\manaservice.properties	...\log\manaXXXX.log ...\log\manaXXXX.dbg
WFM Product Adapter service	...\config\wfmadapter.properties ...\config\wfm.properties	...\log\wfmadapterXXXX.dbg ...\log\wfmadapterXXXX.log
WFM Real Time service	...\config\wfmgc.properties ...\config\wfmrealtime.properties	...\log\WFMGenConnectorXXXX. dbg ...\log\WFMGenConnectorXXXX. log
WFM Request service	...\config\wfm_request_ logger.properties	...\log\WFM_RequestXXXX.dbg ...\log\WFM_RequestXXXX.log
WFM RTE service	...\config\service4j-wfmrte.cfg	...\log\service4j-wfmrteXXXX.log ...\log\service4j-wfmrteXXXX.db g
	...\config\wfmrte.properties	...\log\wfmrteXXXX.log ...\log\wfmrteXXXX.dbg
WFM Sync service	...\config\SyncServer.cfg	SyncServerXXXX.log
WFM Tomcat service	...\Tomcat\conf\logger.properties	...\log\webclientXXXX.log ...\log\webclientXXXX.dbg

Enabling Debugging

By default, debugging is enabled. When debugging is enabled, keep in mind that the more detail the debugging threshold provides, the slower the performance of your PC and the bigger the size of the debug file. High debugging thresholds might also affect the performance of other applications running on your PC.

There are four types of configuration files. Each type of file uses a different syntax to enable debugging. The procedures below describe the steps that must be followed for each type of file.

> **IMPORTANT:** Disable debugging when it is no longer needed.

The available debugging thresholds are displayed in Table 3.

> **NOTE:** Not all thresholds can be used in all configuration files. See the procedures below for which thresholds can be used in particular files.

Table 3.   Debugging Thresholds

Threshold	Description
Info	Tracks significant events during the normal life cycle of the application. Information messages are not errors and require no corrective action. This information can be useful when troubleshooting. It also can be used as historical status information.
Debug	Usually sufficient for diagnosing a problem. Will not affect system performance.
Call	Tracks function entry and exit.
Trace	Provides a large amount of diagnostic information. May affect system performance.
Stack	Provides only stacktraces, which give more debugging information when errors and warnings occur.
Dump	Provides a very large amount of detailed diagnostic information. Likely to affect system performance.
Off	Turns off debugging.

To enable debugging in files with a CFG extension:

1. In a text editor, open the desired configuration file.

2. Under the section headed [Debug Log], set the debugging threshold to DEBUG, CALL, TRACE, or DUMP. For example:

   THRESHOLD=DEBUG

   The line might already exist or you might have to add a new line.

3. Save the configuration file. The change takes effect immediately. You do not have to restart the application or service.

To enable debugging in files with a PROPERTIES extension:

1. In a text editor, open the desired configuration file.

2. Locate the line that starts with:

   log4j.rootLogger=<threshold>#com.spanlink ...

   and replace <threshold> with DEBUG, TRACE, STACK, or DUMP.

3. Locate the line that starts with:

   log4j.appender.DBG.Threshold=<threshold>#com.spanlink ...

   and replace <threshold> with the same value you used in Step 2.

4. Save the configuration file. The change takes effect according to the splk4j.watch.check setting (by default, within 90 seconds). You do not have to restart the application or service.

To enable debugging in log4j files:

1. In a text editor, open the desired configuration file.

2. Locate the line that starts with:

   log4j.rootLogger=<threshold> ...

   and replace <threshold> with DEBUG or TRACE.

3. Save the configuration file.

4. Restart the application or service for the new setting to go into effect.

To enable logging and debugging in CAL files:

1. In a text editor, open the desired configuration file.

2. Ensure that the following lines are set as follows:

   LogMessages=ON

   DebugMessages=DEBUG

   The available debug levels are OFF, DEBUG, CALL, TRACE, and DUMP.

3. Save the configuration file.

4. Restart the application or service for the new setting to go into effect.

Disabling Debugging

It is important to disable debugging when it is no longer needed for diagnostic purposes. Debugging can affect the performance of your PC if it is left enabled.

To disable debugging in files with a CFG extension:

1. In a text editor, open the desired configuration file.

2. Under the section headed [Debug Log], set the debugging threshold to OFF. For example:

   THRESHOLD=OFF

3. Save the configuration file. The change takes effect immediately. You do not have to restart the application or service.

To disable debugging in files with a PROPERTIES extension:

1. In a text editor, open the desired configuration file.

2. Locate the line that starts with:

   log4j.rootLogger=<threshold>#com.spanlink …

   and replace <threshold> with STACK.

3. Locate the line that starts with:

   log4j.appender.DBG.Threshold=<threshold>#com.spanlink …

   and replace <threshold> with OFF.

4. Save the configuration file. The change takes effect according to the splk4j.watch.check setting (by default, within 90 seconds). You do not have to restart the application or service.

To disable debugging in log4j files:

1. In a text editor, open the desired configuration file.

2. Locate the line that starts with:

   log4j.rootLogger=<threshold> …

   and replace <threshold> with INFO.

3. Save the configuration file.

4. Restart the application or service for the new setting to go into effect.

To disable logging and debugging in CAL files:

1. In a text editor, open the desired configuration file.

2. Ensure that the following lines are set as follows:

   LogMessages=OFF

DebugMessages=OFF

The available debug levels are OFF, DEBUG, CALL, TRACE, and DUMP.

3. Save the configuration file.

4. Restart the application or service for the new setting to go into effect.

Error Messages

Error messages are classified by the level of severity of the error. These levels are:

- **Fatal**. The program cannot continue.

- **Major (Error)**. The program has suffered a loss of functionality, but it continues to run.

- **Minor (Warn)**. There is a malfunction that is a nuisance but that does not interfere with the program's operation.

- **Informational**. Not an error, this is related information that may be useful for troubleshooting.

Error Code	Description	
SCHS2000	Text:	Invalid data for <item>
	Type:	Error
	Description:	Configuration data is missing or invalid in the database, registry, or a file.
	Action:	Replace or fix the data value. Check the status of the network if the database is not local.
SCHS2001	Text:	Could not access the database, registry, or a file for <item>
	Type:	Error
	Description:	An error occurred while trying to access the database, registry, or a file
	Action:	Make sure the database is running and accessible. Check the status of the network if the database is not local.
SCHS2002	Text:	System error: <cause>
	Type:	Error
	Description:	An unexpected (operating) system error occurred.
	Action:	Check the system manually for this error.

Error Code	Description	
SCHS2003	Text:	Ended loading data at input line <linenum> of <filename>
	Type:	Error
	Description:	The LoadDb program could not process the indicated line of the named file. This message indicates where processing of the input file(s) ends. The message just prior to this one should indicate a more specific reason for the failure.
	Action:	Address the message immediately preceding this one.
SCHS2004	Text:	Lines read = <total>: <succeeded> succeeded and <failed> failed.
	Type:	Error
	Description:	The LoadDb program processed only part of the input data. This message indicates how much of the input files were processed. The messages just prior to this one should indicate more specific reasons for the failure.
	Action:	Address the messages immediately preceding this one.
SCHS2005	Text:	An unexpected error occurred: <reason>
	Type:	Error
	Description:	An unexpected error occurred.
	Action:	Contact your system administrator.
SCHS3000	Text:	Data storage error -- <operation>: <reason>
	Type:	Warn
	Description:	Could not perform database operation.
	Action:	Check network connectivity. Check if database is accessible.
WDIS1000	Text:	Failed to load the Request: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to load the Request.
	Action:	Check logs, consult system administrator and restart the service.

Error Code	Description	
WDIS1001	Text:	Failed to load the service: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to load the service.
	Action:	Check logs, consult system administrator, and restart the service.
WDIS1002	Text:	Failed to update the Request: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to update the Request.
	Action:	Check logs, consult system administrator, and restart the service.
WDIS1003	Text:	Failed to load historical data: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to load history.
	Action:	Check logs, consult system administrator, and restart the service.
WDIS1004	Text:	Failed to get sufficient historical data for trend: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to determine a trend.
	Action:	Check logs, consult system administrator, and restart the service.
WDIS1005	Text:	Failed to get update forecast data: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to update forecast data.
	Action:	Check logs, consult system administrator, and restart the service.

Error Code	Description	
WDIS1006	Text:	Failed to load agent activities: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to load agent activities.
	Action:	Check logs, consult system administrator, and restart the service.
WDIS1007	Text:	Failed to load the Request: <message>
	Type:	Fatal
	Description:	An error occurred when attempting to calculate agent adherence and conformity.
	Action:	Check logs, consult system administrator, and restart the service.
WDIS2000	Text:	Failed to locate forecast data for the day <forecastDate> <message>
	Type:	Error
	Description:	No forecast data found for day.
	Action:	No action.
WMCP2000	Text:	Could not access the database, registry or a file for <item>
	Type:	Error
	Description:	An error occurred while trying to access the database, registry, or a file.
	Action:	Make sure the database is running and accessible. Check the status of the network if the database is not local.
WMCP2001	Text:	Could not access the database, registry or a file for <item>
	Type:	Error
	Description:	An error occurred while trying to access the database, registry, or a file.
	Action:	Make sure the database is running and accessible. Check the status of the network if the database is not local.

Error Code	Description	
WMCP2002	Text:	System error: <cause>
	Type:	Error
	Description:	An unexpected (operating) system error occurred.
	Action:	Check the system manually for this error.
WMCP2003	Text:	Ended loading data at input line <linenum> of <filename>
	Type:	Error
	Description:	The LoadDb program could not process the indicated line of the named file. This message indicates where processing of the input file(s) ended. The message just prior to this one should indicate a more specific reason for the failure.
	Action:	Address the message immediately preceding this one.
WMCP2004	Text:	Lines read = <total>: <succeeded> succeeded and <failed> failed.
	Type:	Error
	Description:	The LoadDb program processed only part of the input data. This message indicates how much of the input files were processed. The messages just prior to this one should indicate more specific reasons for the failure.
	Action:	Address the message immediately preceding this one.
WMCP2005	Text:	An unexpected error occurred: <reason>
	Type:	Error
	Description:	An unexpected error occurred.
	Action:	Contact your system administrator.
WMCP2006	Text:	Could not parse or convert data: <reason>
	Type:	Error
	Description:	Data could not be parsed or converted.
	Action:	Correct the data if it appears in a user interface. Contact your system administrator.

Error Code	Description	
WMCP2007	Text:	Could not execute the request: <requestId>: <reason>
	Type:	Error
	Description:	Request could not be executed.
	Action:	Contact your system administrator.
WMCP2008	Text:	Could not load the request: <reason>
	Type:	Error
	Description:	Request could not be loaded.
	Action:	Contact your system administrator.
WMCP3000	Text:	Data storage error -- <operation>: <reason>
	Type:	Warn
	Description:	Could not perform database operation.
	Action:	Check network connectivity. Check if database is accessible.
WMCS1004	Text:	Cannot load <dataTypeName> <name> from the database: <reason>
	Type:	Fatal
	Description:	A fatal error occurred while trying to load data from the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2000	Text:	Cannot add <dataTypeName> <name> to the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to add data to the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.

Error Code	Description	
WMCS2001	Text:	Cannot find <dataTypeName> <name> in the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to find data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2002	Text:	Cannot update <dataTypeName> <name> in the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to update data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2003	Text:	Cannot delete <dataTypeName> <name> in the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to delete data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2004	Text:	Cannot load <dataTypeName> <name> from the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to load data from the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2005	Text:	Cannot update <dataTypeName> <name> in the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to update data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.

Error Code	Description	
WMCS2006	Text:	Cannot process <operation>: <reason>
	Description:	An error occurred while trying to process data.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2007	Text:	Cannot update <dataTypeName>, ID <id>, in the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to update data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2008	Text:	Cannot delete <dataTypeName>, ID <id>, in the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to delete data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2009	Text:	Cannot load <dataTypeName>, ID <id>, from the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to load data from the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS2010	Text:	Cannot populate <screenControl>: <reason>
	Type:	Error
	Description:	An error occurred while trying to populate the screen with data.
	Action:	Make sure the database is running and accessible. Check the status of the network.

Error Code	Description	
WMCS2011	Text:	An unexpected error occurred: <reason>
	Type:	Error
	Description:	An unexpected error occurred.
	Action:	Contact your system administrator.
WMCS3000	Text:	Cannot find <dataTypeName> <name> in the database: <reason>
	Type:	Warn
	Description:	An error occurred while trying to find data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMCS3001	Text:	Cannot find <dataTypeName> <name> in the database: <reason>
	Type:	Warn
	Description:	An error occurred while trying to find data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMFW1000	Text:	Invalid <name> value <value> in <location>: <reason>
	Type:	Fatal
	Description:	Configuration or installed data is missing or invalid.
	Action:	Replace or fix the data value. Check the status of the network.
WMFW2004	Text:	Error executing a remote process: <reason>
	Type:	Error
	Description:	An error occurred while trying to execute a remote process.
	Action:	Verify that services are running. Check the status of the network.

Error Code	Description	
WMFW2007	Text:	Invalid <name> value <value> in <location>: <reason>
	Type:	Error
	Description:	Configuration or installed data is missing or invalid.
	Action:	Replace or fix the data value. Check the status of the network.
WMFW2008	Text:	Error accessing the database: <reason>
	Type:	Error
	Description:	An error occurred while trying to access the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMFW2009	Text:	Fail to switch to backup ACD <poolname> <reason>
	Type:	Error
	Description:	An error occurred while trying to access the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.
WMFW3000	Text:	Removed selected bad connection from pool.
	Type:	Warn
	Description:	A bad connection was removed from the pool.
	Action:	None.
WMFW3001	Text:	Database connection was bad: <reason>
	Type:	Warn
	Description:	Connection in database connection pool was bad.
	Action:	None.
WMFW3002	Text:	Database connection <poolName> does not exist.
	Type:	Warn
	Description:	Pooled connection does not exist.
	Action:	None.

Error Code	Description	
WMFW3003	Text:	Cannot close <dataType> <name>: <reason>
	Type:	Warn
	Description:	An error occurred while trying to close a connection.
	Action:	None.
WMPI2000	Text:	Invalid data for <stepName>
	Type:	Error
	Description:	Configuration data is missing or invalid in the database, registry, or a file.
	Action:	Replace or fix the data value. Check the status of the network if the database is not local.
WMPI2001	Text:	Could not access the database, registry or a file for <stepName>
	Type:	Error
	Description:	An error occurred while trying to access the database, registry, or a file.
	Action:	Make sure the database is running and accessible. Check the status of the network if the database is not local.
WMPI2002	Text:	System error: <cause>
	Type:	Error
	Description:	An unexpected (operating) system error occurred.
	Action:	Check the system manually for this error.
WMPI2003	Text:	Ended loading data at input line <linenum> of <filename>
	Type:	Error
	Description:	The LoadDb program could not process the indicated line of the named file. This message indicates where processing of the input file(s) ended. The message just prior to this one should indicate a more specific reason for the failure.
	Action:	Address the message immediately preceding this one.

Error Code	Description	
WMPI2006	Text:	Lines read = <total>: <succeeded> succeeded and <failed> failed.
	Type:	Error
	Description:	The LoadDb program processed only part of the input data. This message indicates how much of the input files were processed. The messages just prior to this one should indicate more specific reasons for the failure.
	Action:	Address the messages immediately preceding this one.
WMPI2014	Text:	An unexpected error occurred: <reason>
	Type:	Error
	Description:	An unexpected error occurred.
	Action:	Contact your system administrator.
WMPI3002	Text:	Data storage error -- <operation>: <reason>
	Type:	Warn
	Description:	Could not perform database operation.
	Action:	Check network connectivity. Check if database is accessible.
WMSD2000	Text:	Invalid data for <item>
	Type:	Error
	Description:	Configuration data is missing or invalid in the database, registry, or a file.
	Action:	Replace or fix the data value. Check the status of the network if the database is not local.
WMSD2001	Text:	Could not access data source for <item>
	Type:	Error
	Description:	An error occurred while trying to access the database, registry, or a file.
	Action:	Make sure the database is running and accessible. Check the status of the network if the database is not local.

Error Code	Description	
WMSD2002	Text:	System error: <cause>
	Type:	Error
	Description:	An unexpected (operating) system error occurred.
	Action:	Check the system manually for this error.
WMSD2003	Text:	Ended loading data at input line <linenum> of <filename>
	Type:	Error
	Description:	The LoadDb program could not process the indicated line of the named file. This message indicates where processing of the input file(s) ended. The message just prior to this one should indicate a more specific reason for the failure.
	Action:	Address the message immediately preceding this one.
WMSD2004	Text:	Lines read = <total>: <succeeded> succeeded and <failed> failed.
	Type:	Error
	Description:	The LoadDb program processed only part of the input data. This message indicates how much of the input files were processed. The messages just prior to this one should indicate more specific reasons for the failure.
	Action:	Address the message immediately preceding this one.
WMSD2005	Text:	An unexpected error occurred: <reason>
	Type:	Error
	Description:	An unexpected error occurred.
	Action:	Contact your system administrator.
WMSD3000	Text:	Data storage error -- <operation>: <reason>
	Type:	Warn
	Description:	Could not perform database operation.
	Action:	Check network connectivity. Check if database is accessible.

Error Code	Description	
WMSE2000	Text:	Invalid data for <item>
	Type:	Error
	Description:	Configuration data is missing or invalid in the database, registry, or a file.
	Action:	Replace or fix the data value. Check the status of the network if the database is not local.
WMSE2001	Text:	Could not access database for <item>
	Type:	Error
	Description:	An error occurred while trying to access the database, registry, or a file.
	Action:	Make sure the database is running and accessible. Check the status of the network if the database is not local.
WMSE2002	Text:	System error: <cause>
	Type:	Error
	Description:	An unexpected (operating) system error occurred.
	Action:	Check the system manually for this error.
WMSE2006	Text:	Could not parse or convert data: <reason>
	Type:	Error
	Description:	Data could not be parsed or converted.
	Action:	Correct the data if it appears in a user interface. Contact your system administrator.
WMSE3000	Text:	Data storage error -- <operation>: <reason>
	Type:	Warn
	Description:	Could not perform database operation.
	Action:	Check network connectivity. Check if database is accessible.
WMWC2000	Text:	Cannot get connection on <name>: <reason>
	Type:	Error
	Description:	An error occurred while trying to get a connection from the pool.
	Action:	Verify that services are running. Check the status of the network.

Error Code	Description	
WMWC2001	Text:	Internal error: <reason>
	Type:	Error
	Description:	An unexpected internal error occurred.
	Action:	Contact your system administrator.
WMWC2002	Text:	Cannot find bundle key <key>: <reason>
	Type:	Error
	Description:	An error occurred while trying to find a bundle key.
	Action:	Verify that the language bundle properties files are in <INSTALL_DIR>/Tomcat/webapps/c3/WEB-INF/classes/com/odysoft/calabrio/ui/resource.
WMWC2003	Text:	Unexpected server error: <reason>
	Type:	Error
	Description:	An unexpected error occurred on the server.
	Action:	Verify that services are running. Check the status of the network.
WMWC3000	Text:	Cannot serialize object <id>: <reason>
	Type:	Warn
	Description:	An error occurred while trying to serialize the report context.
	Action:	Make sure the disk is not full.
WMWC3001	Text:	Cannot find <dataLabel> <dataName> in the database: <reason>
	Type:	Warn
	Description:	An error occurred while trying to find data in the database.
	Action:	Make sure the database is running and accessible. Check the status of the network.

Troubleshooting

5

Overview

The following topics describe solutions to common problems found when configuring and administering WFM.

WFM Installation Problems

Problem   The Configuration Setup tool displays the following error message when the WFM database cannot be created or updated because permission was denied or a database already exists.

Could not execute data for step Create WFM DB:
Could not create Reports database.
Could not update database.
CREATE DATABASE permission denied in database 'master'.

Solution   Perform the following task to resolve the problem.

1. Verify the SQL Server Login name is configured correctly. The following roles must be assigned to the SQL Server Login name:

   ■ dbcreator

   ■ sysadmin

   The instructions for creating the SQL Server Login for WFM can be found in the *WFM Installation Guide*.

2. Remove the Hibernate database if it exists.

3. Run WFM Configuration Setup (postinstall.exe) again.

Workforce Management Administration Problems

Problem   The following message appears when a user logs into WFM Administrator.

HTTP Status 403 - Access to the requested resource has been denied.

Solution   There are no roles assigned to the user. Assign at least one role to the user.

Problem   Agents who do not exist in the WFM database appear in reports. The following message appears in the log:

Failed to add the skill. An unexpected exception occurred.

Solution   A failure occurred when the Sync Service tried to add agents to the database. Unified CCX is case sensitive and WFM is not case sensitive. For example, Agent John Doe's user ID in Unified CCX is johndoe. The Sync Service adds johndoe to the WFM database. Agent John Doe is then deleted from Unified CCX and the Sync Service deactivates johndoe in the WFM database. Agent John Doe is then entered again in Unified CCX with the user ID, JohnDoe. The Sync Service generates an error due to the unique ID constraint—it considers johndoe and JohnDoe to be the same user ID, while Unified CCX does not.

Use unique user IDs for each user in Unified CCX. Do not enter identical user IDs in Unified CCX where the only difference between the two user IDs is case-sensitivity.

Problem   A user modifies the ID or name of a team that is administered in Unified CCX.

Solution   Restart the Sync service to synchronize the Unified CCX database with the WFM database.

Problem   A user mistakenly deletes a CSQ or a team that is administered in Unified CCX.

Solution   Restart the Sync service to synchronize the Unified CCX database with the WFM database.

Problem   Agents who are marked as inactive in Unified CCX appear in WFM as configurable agents and can be scheduled for work.

Solution   Access Unified CCX Administration (appadmin). Go to the Resources page under RmCm Configuration. Delete the inactive agents from the Inactive Agents list.

Problem   You have assigned the Supervisor, Scheduler, or Administrator role to a user in WFM. The user can see the names of the supervisor, scheduler, or administrator tasks in the Navigation menu, but cannot perform any of those tasks.

Solution   By default, WFM assigns the Agent role to users that are imported from Unified CCX. You cannot assign a different role to an imported user.

If Active Directory is enabled for your WFM server, complete the following steps to assign the Supervisor, Scheduler, or Administrator role to a WFM user.

1. In WFM, delete the user that was imported from Unified CCX.

2. In WFM, create a new user with the same name as the user you just deleted.

3. Assign the desired role to the WFM user you created in step 2.

After WFM is synchronized with Unified CCX, the user you deleted in step 1 will reappear in WFM. Do not activate the user that was imported to avoid conflict with the user you created in step 2.

If Active Directory is disabled for your WFM server, create a second login for the user to whom you would like to assign the Supervisor, Scheduler, or Admin role.

Problem   A blank page appears in the browser after logging into Workforce Management. The user cannot access WFM.

Solution   Verify SQL is up and running, restart the Tomcat service, and then try logging into Workforce Management again.

Problem   A Call Forecast fails to complete. Its status remains in the 1 (Processing) state on the Server Request List.

Solution   Perform the following task to resolve the problem.

1. Restart the Request service. The status for the Forecast Call changes to 9 (Unsuccessful) state.

2. Resubmit the Call Forecast request.

WFM Service Problems

Problem   When uninstalling WFM software via the Control Panel Add or Remove Programs utility, the WFM uninstaller can't stop the Capture service, and eventually times out. The Capture service is left in a stopping state.

Solution   Reinstall WFM, manually stop the Capture service, and then use the Add or Remove Programs utility to uninstall WFM.

Problem   ACD data and the corresponding WFM captured data do not match on the Unified CCX platform. The call data reported by WFM is too low.

The Capture service pulls ACD statistics 15 minutes after an interval ends. If the contact center has calls in progress for longer than 15 minutes at this time, then those calls are not included in that data capture.

Solution   There are two solutions to this problem.

1. Manually recapture the historical data

2. Increase the capture delay

NOTE: Increasing the capture delay might resolve this issue for future intervals, but it will not address data that has already been captured. To address existing data you must manually recapture the historical ACD data.

To increase the capture delay, follow these steps.

1. Create the file ...\WFO_WFM\config\custom_capture_ configuration.properties on the WFM Capture service server.

2. In a text editor, add the following text to the file:

    capture.interval.delay.minutes=<minutes>

    where <minutes> is the desired number of minutes for the length of the capture interval. The default value is 15; the maximum value is 135.

3. Restart the WFM Capture service.

Workforce Optimization and Workforce Management Application Common Problems

Problem   A user might have to wait up to 30 seconds to open the Reporting application after the server is booted. This only happens to the first user who accesses a report after the server is booted.

Solution   None. Some time is required when the first user accesses the Reporting application. The Reporting application connects to the database, establishes privileges, and displays a menu based on the user's role. After the connection is established, you can quickly access reports.

Problem   The Agent Productivity Report shows no data for a period when agents have been continuously taking calls.

Solution   Agent sessions lasting more than 24 hours are not supported. Agents have to log out once every 24 hours to ensure productivity reports show correct data.

Problem   WFM or Workforce Optimization fails to create a report when the CSV option is selected in the Format field. The following message appears when you try to generate a report with the CSV format.

To access CSV/PDF files, enable Internet Explorer Security Setting: Automatic prompting for file downloads

Solution   Perform the following steps to resolve the problem.

1. In the Internet Explorer, choose Tools > Internet Options. The Internet Options window appears.

2. Click the Security tab and then click Custom Level.

3. Scroll down to Automatic Prompting for File Downloads under Downloads, choose Enable, and click OK.

4. Click Yes to dismiss the warning dialog and click OK to dismiss the Internet Options window.

5. Resubmit the CSV report. The File Download dialog appears.

6. Click Open to display the report.

Problem   Popup windows do not appear after clicking their corresponding links in WFM.

Solution   Popups are being blocked by your browser. Turn off your browser's popup blocking options.

Problem   The following message appears when the user logs into Workforce Optimization.

Credentials are not correct. Try again.

Solution   Reenter the login information and try again. If the error persists, contact your administrator. This message might indicate the user is not assigned a role. Assign a role to the user in Workforce Management to resolve this problem.

Problem   When viewing the WFM application using Internet Explorer 7.0, double images appear in the application user interface.

Solution   The DPI setting on your monitor is set to display Large size (120 DPI) fonts. Change the DPI setting on your monitor to Normal size (96 DPI).

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