

## CTI Server and Media Server Maintenance Guidelines

**T**his procedure addresses the principles for backing up the *CTI Server* and the *Media Server*, installing OS updates and patches, proper Server shutdown and restart, ensuring Servers are running properly, using Remote Desktop, and performing scheduled maintenance.

### Backing Up the CTI Server

#### Backup a Database

There are several file locations on the *CTI Server* for which you must perform a backup. The location of these files may vary depending on what drive the CTI and SQL applications were installed.

Typically, the TFB folder is installed on the C: drive, but it could be installed on the D: drive. The TFB folder is quite large – it can be up to one Gigabyte. Several SQL databases are also in the folder, where the number of databases depends on different features with which the *CTI Server* is enabled.

The best practice is to backup all SQL databases whose names start with `tfb_`. The backup utility varies by customer since it is the customer's responsibility to maintain current backups. Most companies back up the SQL databases somewhere onto their network. CTI depends on several other programs, but you cannot perform a backup unless you are doing a mirror image backup.

Dialogic and CT\_ADE (VOS) are not programs that can be restored. It is easier to install the dialogic drivers and CT\_ADE (VOS) from scratch.

Copies of these software programs are left with customers at installation, however, these two programs are readily available at TFB and do not take long to install.

- C:\tfb\ folder and its subdirectories – includes all programs and data to run the CTI application.
- C:\tfb.net folder and its subdirectories – this directory and its subdirectories include some stored procedures for SQL and *Configuration Manager*.
- C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data\tfb\_\*. \* (backup all databases that begin with tfb\_) – contains all the configuration files for the CTI applications.

**Note**

*If your backup cannot handle that much data all at once, you can perform a piece-by-piece backup.*

The following subdirectories are the most important. You must still include the SQL databases. You may lose everything else, but with the following directories, your CTI can be backed up and running within a shorter period of time.

- C:\tfb\bin\ – contains all tfb programs.
- C:\tfb\bin\ad\ – contains contact director programs.
- C:\tfb\data\ – contains some configuration files.
- C:\tfb\dvps\ (be sure to include all of its subdirectories) – contains all prompts.
- C:\tfb\ad\ – contains contact director files.
- C:\tfb.net folder and its subdirectories.
- C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data\tfb\_\*. \* (backup all databases that begin with tfb\_) – contains all the configuration files for the CTI applications. TFB recommends that you implement a regular schedule for backing up a database, and that you use your own site-wide backup policies.

## Backup Flat Files and Prompts

It is recommended that you perform a full backup of the TFB directory, however, a backup of only the flat file configuration is available. This utility will backup call configuration/prompt files, but it does not include any SQL databases. The resultant backup takes less disk space, because most required directories are copied should a rebuild be required. The important directories are zipped and stored in a backup directory, which can then be copied onto the network or to another server.

Although most companies have their own backup procedures, TFB recommends that you perform the procedure below, especially if you are not familiar with how or when to perform a backup.

A good practice is to always perform a full system backup, which includes the TFB directory and the SQL databases (refer to the [Backup a Database](#) section for the *CTI Server*). A full system backup should be done at least twice each month to a location other than the *CTI Server*. A utility backup can then be performed every week, perhaps more often, depending on how many changes are made on the *CTI Server* on a given day. The backup directory should also be copied to a location other than the *CTI Server*.

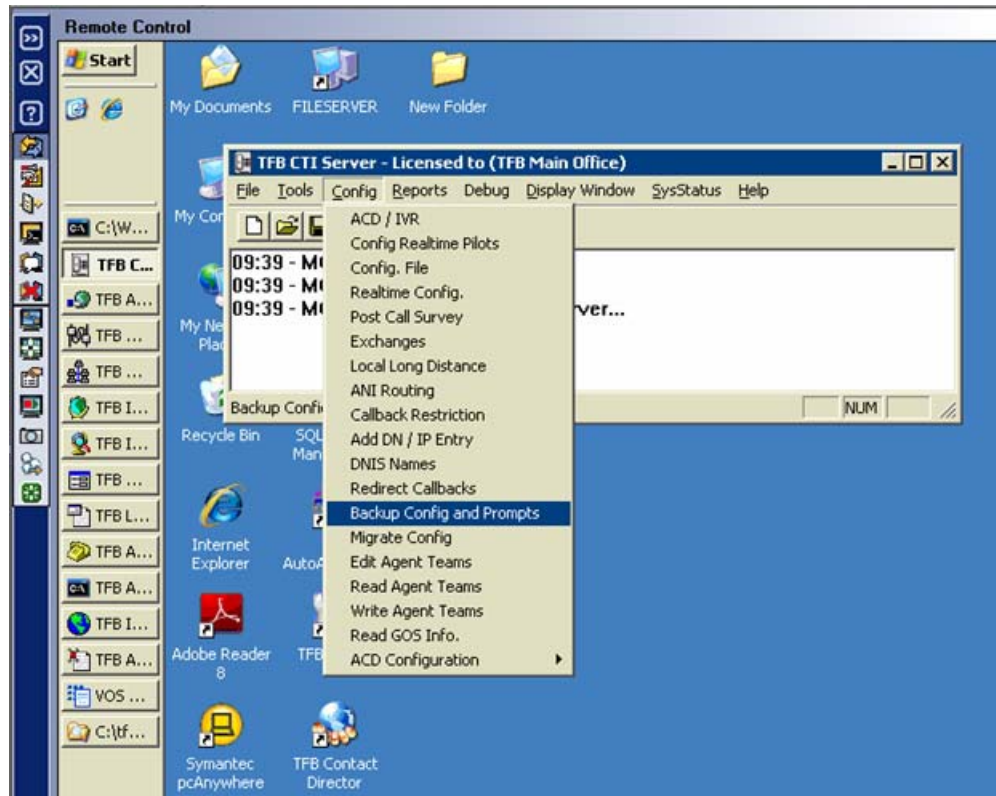
**Note**

*TFB does NOT recommend backing up the server to itself. If the hard drive fails, the backup is lost. Having a backup is critical for when you would need to restore a server. The advantage of having a backup could mean down time of only 30 minutes to a couple of hours vs. several days.*

Follow this procedure to perform a utility backup.

1. Select the *TFB Server* icon (small white phone) near the bottom of the desktop.
2. Select *Config* from the *TBB CTI Server* top-level menu, as shown in [Figure 1](#).

A drop-down menu appears.



**Figure 1 Backup the Configuration and Prompts**

3. Select *Backup Config and Prompts* from the drop-down menu, as shown in [Figure 1](#).

A DOS utility window opens, and you will see files being copied and zipped, which should take several minutes to complete. All of the zipped files are copied to the directory `C:\tfb\bkup`.

4. Now, copy the directory to a location other than on the server.

## Backup Log Files

A full TFB folder backup includes all log files. Below, are the directories that contain any type of log files that might require a separate backup.

**Note** *A utility backup does not backup any log files.*

- C:\tfb\AgtAT – all agent audit files used in ACD reports.
- C:\tfb\CallAT – call audit files used in ACD reports.
- C:\tfb\campaigns – any campaigns that have been run.
- C:\tfb\logs – raw information for daily call activity.
- C:\tfb\reports – all callback and campaigns run for a specific day.
- C:\tfb\SmdrAT – all SMDR data used in ACD reports.
- C:\tfb\SurveyAT – any survey data for a specific day.

## Backing Up the Media Server

The *Media Server* contains all reporting data, therefore, it relies heavily on SQL. The database can become quite large – anywhere from one Gigabyte up to 30 Gigabytes, depending on the quantity of data stored. All subdirectories are contained in one folder on the *Media Server*, and one large database file is also resident on the *Media Server*.

Typically, the configuration is contained on the C: Drive, however, the SQL database should be installed on the D: drive. When the *Media Server* is configured, the operating system and the TFB configuration files are placed on the C: drive, and the D: drive is configured for data. Regarding available disk space, the D: drive is the larger of the two.

Due to the size of the database, some type of backup device should be used to copy the database to another server or to a backup server somewhere on the network. Unlike the *CTI Server*, the *Media Server* has only one SQL database to backup.

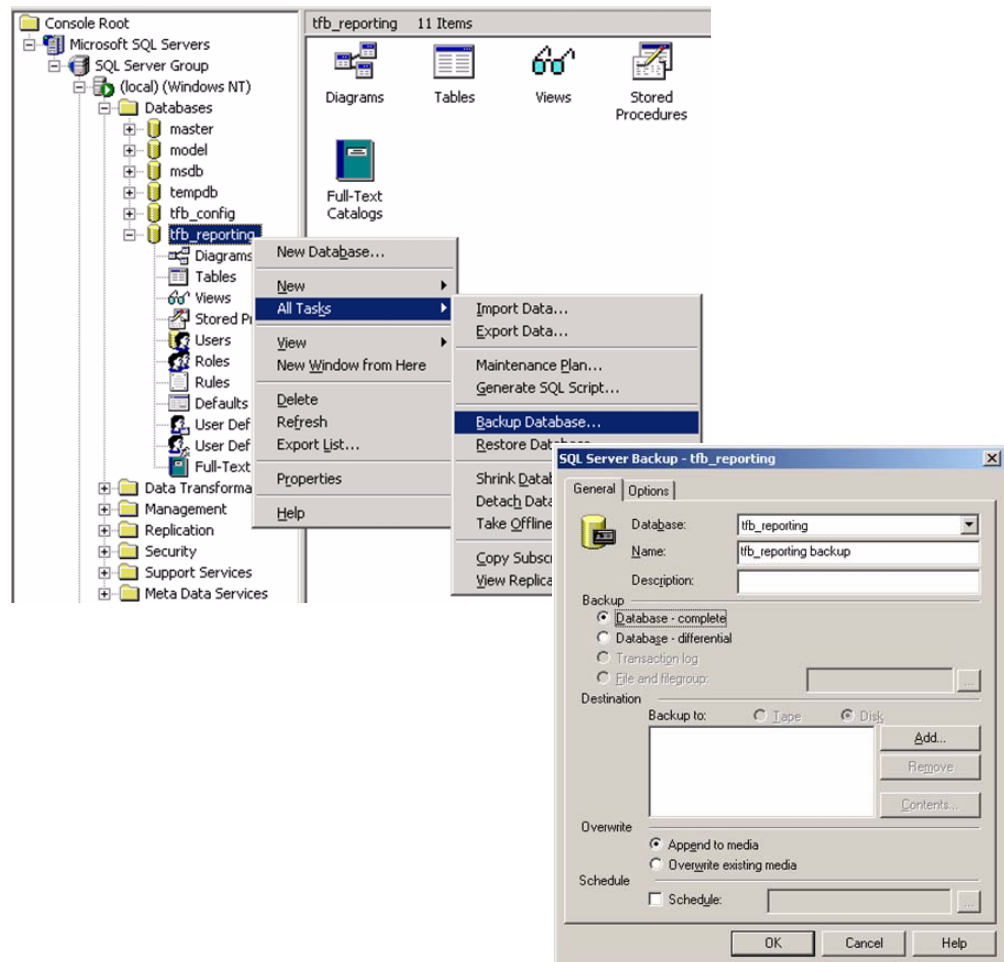
The files to back up are located in the following directories:

- C:\tfb.net – folder and all its subdirectories that contains all the configuration files such as PHP files, etc.
- D:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data\tfb\_reporting.mdf
- D:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Data\tfb\_reporting\_log.ldf

## Backup a Database

Backing up the database is not a difficult task. The *SQL Server Enterprise Manager Wizard* makes the process simple.

1. Open *SQL Server Enterprise*.
2. To select the databases to backup, right-click, select *All Tasks*, and then select *Backup Database*, as shown in [Figure 2](#).



**Figure 2 Backup the Media Server Database**

A window opens.

3. Select *Backup Database*, and then click **Add...** to add a location at which to store the backup of the database, as shown in [Figure 2](#). In this example, a backup is being made of the database `tfb_reporting.sql` to the directory, `e:\mssqlbu\dsl_tfb_reporting_2009.bak`.
4. It is recommended that the backup be scheduled to occur automatically.

This requires that you check the maintenance schedule and set a time for the backup.

5. Now, you are ready.

In this example, a database backup is made to a file, and is scheduled every week on Sundays – the old file is overwritten. Your IT department may then backup the database to tape, or use an existing enterprise backup system that you already have installed.

**Note** *TFB recommends that you implement a regular schedule for backing up a database, and that you use your own site-wide backup policies.*

## Backup Other Flat Files

Currently, a utility on the *Media Server* to backup any configuration files is not available.

The best procedure is to simply back up the `C:\tfb.net` folder, which contains all the necessary files, except for the databases, to recover a *Media Server*.

# Installing OS Updates and Patches

Schedule *CTI Server* OS and patch updates to be performed only at night.

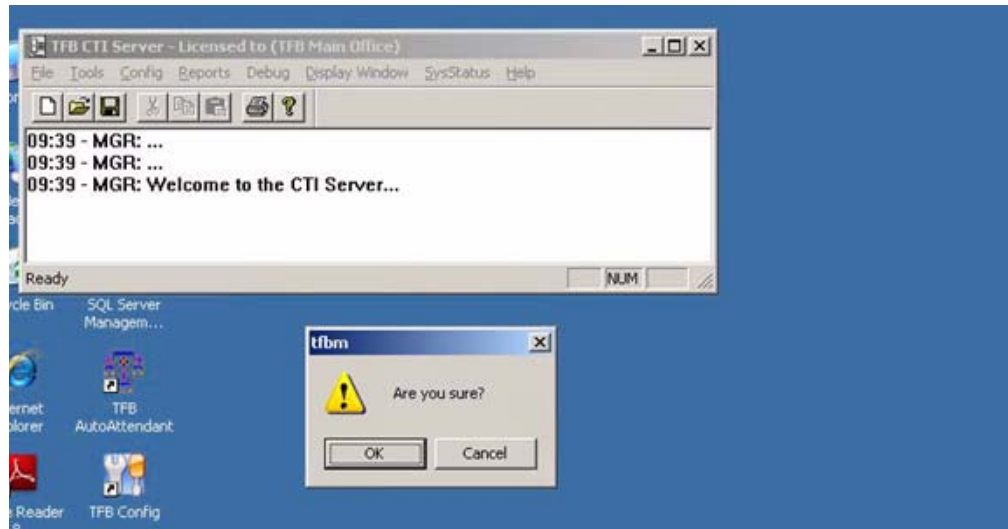
## Proper Server Shutdown

1. To properly shutdown the *CTI Server*, select the *CTI Server* program from the task bar.

The *CTI Server* program has a small phone beside the name.

2. Select *File*, then either exit or click the **X** on the upper-right side of the program main window.

The system prompts with a message inquiring if you are sure, as shown in [Figure 3](#).



**Figure 3 System Inquiry for Proper Server Shutdown**

3. Click **YES** to properly shutdown CTI.

All programs that are associated with CTI that are running in the task bar close.

**Note**

*Selecting YES ends all call processes going into the IVR. This should be done cautiously at the customer's discretion.*

4. If you are performing a reboot or a power down from this point, once the CTI application has been turned off, close all remaining programs.
5. Follow the standard Windows procedures for performing a shutdown or rebooting from Windows.

## Restarting the Server

Although most *CTI Server* applications are configured to launch automatically at startup (the CTI executable has been put into the start up folder), the application will NOT launch automatically until you have logged into Windows.

Once you log into Windows, the CTI application will automatically launch without further user action. This process takes approximately two minutes, during which time all applications will load, specifically, the dialogic drivers.

**Note**

*However, if your system has been configured to run as a service, the CTI program does not have to wait for the Windows login. Contact Support if you are interested in configuring your system to run as a service.*

1. To configure the application to start automatically (not as a service), add the following command to the startup folder:

```
c:\tfb\bin\tfbm.exe /SOD
```

2. To launch the *CTI Server* application manually, double-click on the icon labeled TFB Server (circled), shown in [Figure 4](#).



**Figure 4 TFB Server Icon on the Desktop**

With some applications, this icon may be named *CTI Server*. Regardless of the name, the icon will function the same.

Once the program is launched, it will open up several programs in the task bar, which is located on the left side of the desktop, as shown in [Figure 4](#). The number of programs that open depends on the features with which

each system is enabled. If your CTI layout does not match what is shown in *Figure 4*, this is not a concern. This figure illustrates that all features are enabled.

3. After starting *CTI Server* application, wait approximately 30 - 45 seconds, which is the time required for CTI to properly subscribe to the ACD.
4. You may now place a test call into the system.

### Some Guidelines for Restarting the CTI Server

- Restarting the server can be done at any time. However, TFB recommends trying to schedule reboots after business hours to avoid an interruption in reporting services.
- Restarting/rebooting will not cause a loss of any data. Data will not be inserted over the time span for when the server was down, but will be automatically inserted during the next reconcile. You may expedite this by reconciling the current day using the `reconcile now` command.
- Make sure that you perform a manual login, not an auto login. Performing an auto login may result in one user running in the background (disconnected).

### Accessing the TFB Server Using Remote Desktop

While there are several software communications programs available that you can use to access the *CTI Server*, typically, TFB uses PCANYWHERE, VNC, or Remote Desktop. Most communications programs are compatible for use with the *CTI Server*, however, problems could arise if you are using Remote Desktop.

When accessing the *CTI Server* through Remote Desktop, as a new session is created, the CTI applications are set to launch automatically with each new session that is opened, therefore, Windows will launch what's in the startup folder.

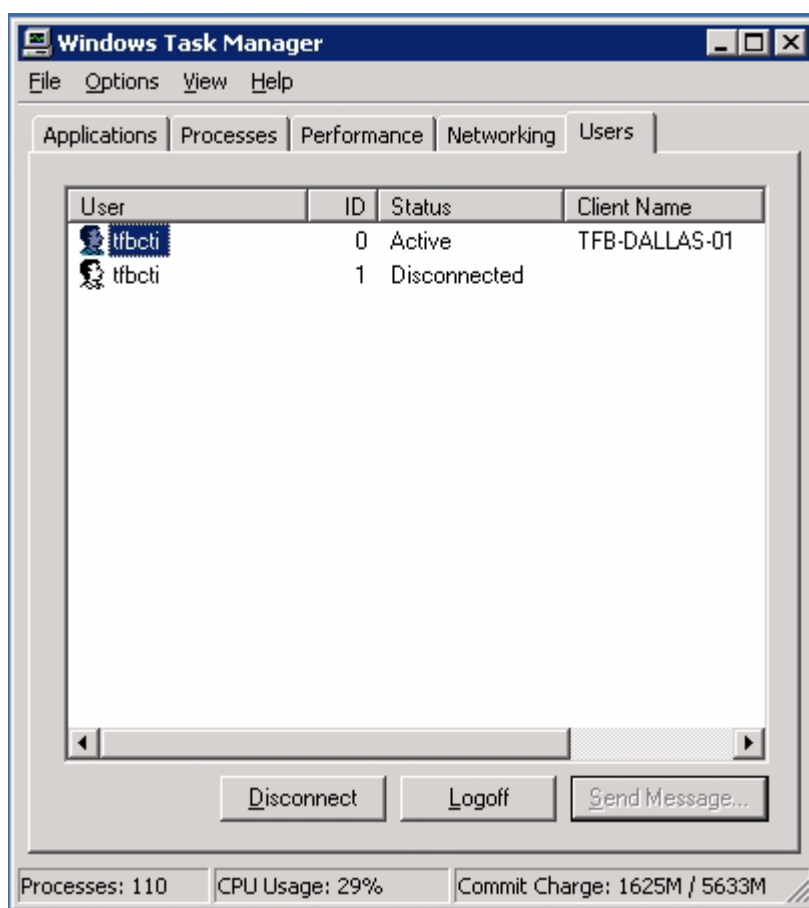
When using Remote Desktop, it is very important to use either the `/console` or `/admin` option.

1. From your workstation, open up a command (cmd) window, and type one of the following commands:
  - If you are running Windows Service Pack 2, you must use the `/console` option.
  - If you have Windows Service Pack 3, or higher, you must use the `/admin` option.

Failure to make the correct entry will result in too many IVR applications/programs running, and will also interfere with CTI running correctly.

- If using Windows XP SP3, or greater, use `mstsc.exe /admin`.
  - If using Windows XP SP2, or previous, use `mstsc.exe /console`.
  - If using Windows Server to log in, use `mstsc.exe /console`.
2. To see how a user has logged into the server, go to the Task Manager, shown in [Figure 5](#).

The only user that should be listed is ID 0. In [Figure 5](#), you can see that there is an additional session (ID 1). User ID 1 incorrectly logged in, and this will cause problems. The best way to resolve this problem is to select that user and then click **Disconnect**. There should only be one user using Remote Desktop, and the status for that user should indicate *Active*.



**Figure 5 Task Manager – Showing Incorrect User Login**

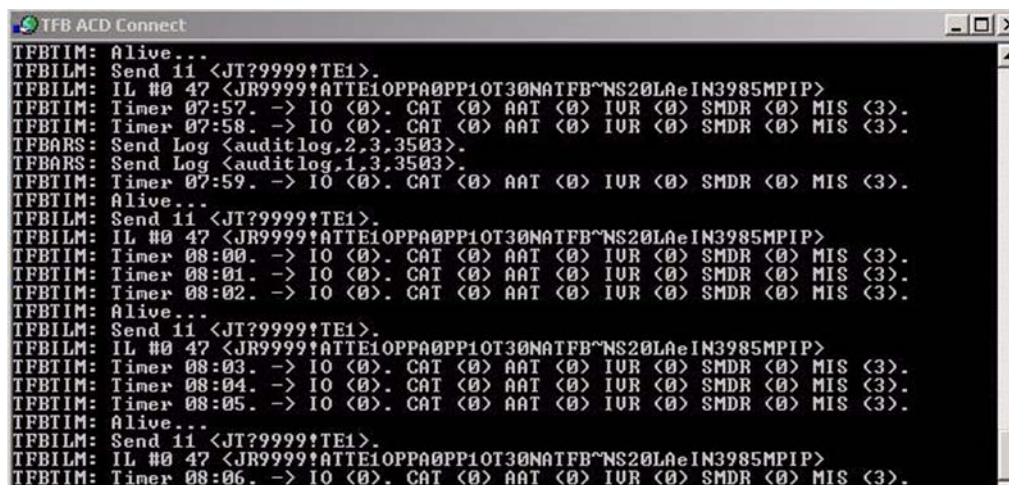
## Autostart

Autostart is run only on the *CTI Server*, not on the *Media Server*.

- To perform an Autostart, run `tfbm.exe /sod`. The Autostart program resides in the `tfbbin` directory.

## Check that the Server is Running Properly

There are a couple of conditions to look for that indicate that CTI applications have launched successfully. [Figure 6](#) illustrates the *ACD Connect* window, which represents the connection to the ACD.



```

TFB ACD Connect
TFBTIM: Alive...
TFBILM: Send 11 <JT?9999!TE1>.
TFBILM: IL #0 47 <JR9999!ATTE1OPPA0PP1OT30NATFB~NS20LaeIN3985MPIP>
TFBTIM: Timer 07:57. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Timer 07:58. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBARS: Send Log <auditlog.2,3,3503>.
TFBARS: Send Log <auditlog.1,3,3503>.
TFBTIM: Timer 07:59. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Alive...
TFBILM: Send 11 <JT?9999!TE1>.
TFBILM: IL #0 47 <JR9999!ATTE1OPPA0PP1OT30NATFB~NS20LaeIN3985MPIP>
TFBTIM: Timer 08:00. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Timer 08:01. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Timer 08:02. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Alive...
TFBILM: Send 11 <JT?9999!TE1>.
TFBILM: IL #0 47 <JR9999!ATTE1OPPA0PP1OT30NATFB~NS20LaeIN3985MPIP>
TFBTIM: Timer 08:03. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Timer 08:04. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Timer 08:05. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.
TFBTIM: Alive...
TFBILM: Send 11 <JT?9999!TE1>.
TFBILM: IL #0 47 <JR9999!ATTE1OPPA0PP1OT30NATFB~NS20LaeIN3985MPIP>
TFBTIM: Timer 08:06. -> IO <0>. CAT <0> AAT <0> IUR <0> SMDR <0> MIS <3>.

```

**Figure 6** ACD Connect Window

Without this connection, CTI applications will not function. A good connection is one where there is data constantly scrolling in the screen. A bad connection is one where you will see the term “ACD connect failed”. If you see this several times while data is scrolling within the screen, this indicates that the *CTI Server* has lost its connection to the ACD, indicating either a network or a PBX issue. Contact Support if you need additional assistance.

[Figure 7](#) illustrates the VOS display, which shows all the ports that are in each dedicated server.

```

Voice Operating System 1000000 bytes free
 01 Onhk 02 Onhk 03 Onhk 04 Onhk
Line 4 Looking for OC at 075838.
Line 4 Looking for OC at 075908.
Line 4 Looking for OC at 075938.
Line 4 Looking for OC at 080009.
Line 4 Looking for OC at 080039.
Line 4 Looking for OC at 080109.
Line 4 Looking for OC at 080139.
Line 4 Looking for OC at 080209.
Line 4 Looking for OC at 080239.
Line 4 Looking for OC at 080309.
Line 4 Looking for OC at 080339.
Line 4 Looking for OC at 080409.
Line 4 Looking for OC at 080439.
Line 4 Looking for OC at 080509.
Line 4 Looking for OC at 080539.
Line 4 Looking for OC at 080609.
Line 4 Looking for OC at 080639.
Line 4 Looking for OC at 080709.
CTL+BREAK to Exit
001 09/08/25 08:07:37

```

Figure 7 VOS Display

This figure shows four ports. If you see all ports displayed, then the CTI application has been properly launched. If there are ports missing or this screen fails to launch, this is a good indication of either a malfunctioning dongle or dialogic card. Contact Support if you need additional assistance.

## Scheduled Maintenance

### User Responsibilities

Maintenance	Procedures
<b>Perform Regular Backups</b>	<ul style="list-style-type: none"> <li>• Backup the SQL Server instance on your CTI Server whenever configuration changes are made.</li> <li>• Backup the SQL Server instance on your Media Server weekly.</li> <li>• Backup the Log and Audit trail files on your CTI Server weekly.</li> <li>• Backup the prompts on your CTI Server whenever new prompts are recorded.</li> </ul>
<b>Hard Drive Maintenance</b>	<ul style="list-style-type: none"> <li>• Keep fragmentation on server hard drives at appropriate levels.</li> </ul>
<b>Microsoft Updates</b>	<ul style="list-style-type: none"> <li>• Patch your Servers for both Windows and SQL Server Service Packs as recommended by Microsoft.</li> <li>• <b>DO NOT USE AUTOMATED UPDATE PROCESSES THAT RESET THE SERVER.</b></li> </ul>

Maintenance	Procedures
<b>Virus and Security Software</b>	<ul style="list-style-type: none"> <li>Apply virus and other security measures per your policies.</li> <li><b>DO NOT USE AUTOMATED UPDATE PROCESSES THAT RESET THE SERVER.</b></li> </ul>
<b>NEVER</b>	<ul style="list-style-type: none"> <li><b>Set up processes or updates that automatically reboot unattended servers.</b></li> </ul>

## Additional Maintenance Information For Your IT Staff

Maintenance	Procedures
<b>CTI Server Settings</b>	<ul style="list-style-type: none"> <li><b>The IP address on CTI Server must be static.</b> Be sure to let your support channel know if you plan to change it.</li> <li><b>Group policy settings should not be changed on either the CTI or the Media Server after implementation.</b> Be sure to let your support channel know if you plan to change related settings. This includes changing security settings, and removing or adding these Servers in the domain.</li> <li>Contact your support channel if you require the IP address of this server to change, or if you are adding or removing the Server from a domain.</li> </ul>
<b>Changing Permissions on Any Integrated Systems</b>	<ul style="list-style-type: none"> <li>TFB Integration to your other systems for custom IVR, reporting, and screen pop relies on access and permission settings! Let your support channel know if you plan to change access parameters to a database, voice logger, or application TFB is integrated with! Contact your support channel if need to change any access information such as passwords, user names, machine names, database names, or addresses.</li> </ul>
<b>Regular Server Maintenance</b>	<p>Those on your IT staff who are responsible for maintaining servers should know the following:</p> <ul style="list-style-type: none"> <li>Server fragmentation level should be kept to manageable levels, with special emphasis on the Media Server.</li> <li>Windows updates should be applied per your policy and Microsoft recommendations.</li> <li>Automatic Updates of OS, Security Applications, and so on should not be configured to restart the server(s) automatically, as this could interrupt service and cause discontinuity in reporting.</li> </ul>

## Recommended Maintenance Tasks

TASK	Daily	Weekly	As OEM Advises	After Changing	Per Your Policies
<b>Differential Backup:</b> Media Server SQL Database - off peak hrs (reporting data).	YES				YES
<b>Full Backup:</b> CTI Server SQL Database - off peak hrs (configuration data).		YES		YES	YES
<b>Full Backup:</b> Media Server SQL Database - off peak hrs (reporting data).		YES			YES
<b>Full Backup:</b> CTI Server Log and Audit Trail files (reporting data).		YES			YES
<b>Full Backup:</b> Voice Prompt files (\\tfb\dvps\*.*)).				YES	
<b>Hard Drive:</b> Defrag CTI Server HD during off-peak hours.					YES
<b>Hard Drive:</b> Defrag Media Server HD during off-peak hours.		YES			
<b>Hard Drive:</b> Run HD diagnostics on CTI Server and Media Server HD during off-peak hours.					YES
<b>Hard Drive:</b> Check available space on HD >2GB on CTI Server. >10GB on Media Server.		YES			
<b>Apply OS Patches:</b> Apply MFR Patches to OS on CTI Server and Media Server.			YES		YES
<b>Apply SQL Server Patches:</b> Apply MFR Patches to OS on CTI Server and Media Server. First shutdown applications properly.			YES		YES
<b>Check Errors:</b> Review CTI Server and Media Server desktop for Errors.	YES				
<b>Reset CTI Server:</b> After PBX/ACD is upgraded to new version, or physical connections to CTI Server are interrupted.				YES	
<b>YES – Recommended</b>					

## System Backup Schedule

TFB servers use an SQL Server for configuration and reporting data. There is an instance of SQL Server on the *CTI Server* and another on the *Media Server*. Frequent backups will help preserve the security of your data.

### SQL Backups

Backup	Procedures
<b>MEDIA SERVER</b>	<p>Media Server contains reporting data in a SQL Server database, if you are using ACD Reports. This should be backed up regularly during off peak hours.</p> <p>TFB recommends:</p> <ul style="list-style-type: none"> <li>• A differential backup nightly during off peak hours</li> <li>• A full backup weekly during off peak hours</li> <li>• <b>All backups are to a separate platform</b></li> </ul>
<b>CTI SERVER</b>	<p>CTI Server contains configuration data in a SQL Server database. This should be backed up regularly during off peak hours after configuration changes are made.</p> <p>TFB recommends:</p> <ul style="list-style-type: none"> <li>• A full backup weekly during off peak hours</li> <li>• <b>All backups are to a separate physical platform</b></li> </ul>

### Other File Backups

Backup	Procedures
<b>CTI SERVER</b>	<p>CTI Server contains raw reporting data as a backup to the SQL database on the Media Server. In addition, all recording prompts are stored as WAV files.</p> <p>TFB recommends:</p> <ul style="list-style-type: none"> <li>• A full backup weekly of the TFB folder off the root of the main drive</li> <li>• <b>All backups are to a separate platform</b></li> </ul>