Startup, Shutdown, and Failover

Unified CCE Service Control

The Unified CCE Service Control application is an interface into the Windows platform's service control manager, which starts and stops services.

Figure 1: Unified CCE Service Control
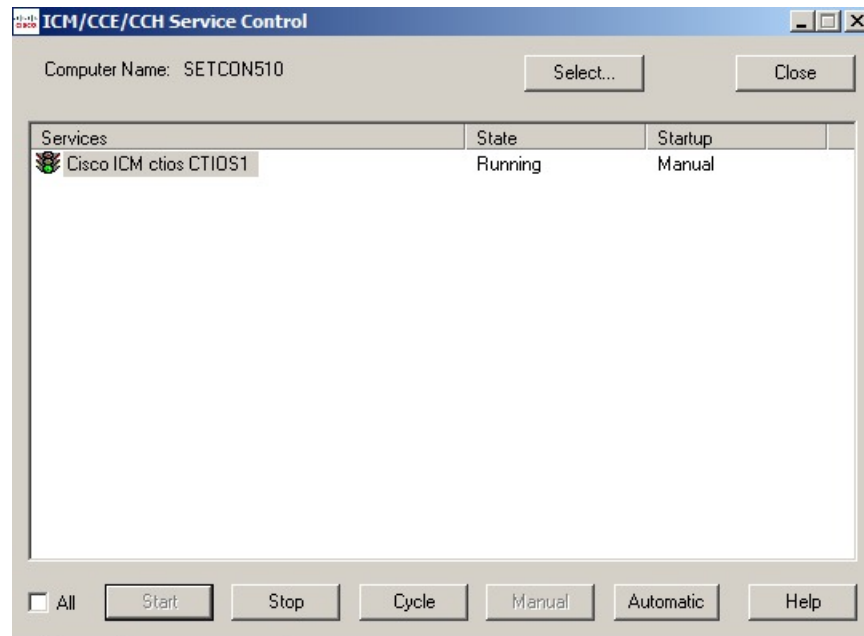
To start, stop, or cycle the processes in the CTI OS Server, use the appropriate tabs from the Unified CCE Service Control window. To set CTI OS to start automatically on Windows startup, select the service name and click the Automatic button.

> **Note**   CTI OS is not displayed in the Service Manager in the ICM Websetup page.

When the CTI OS service starts, it launches processes listed in the following table.

Table 1: CTI OS System Processes

Process Name	Process Description	Runs In Console Window
CtiosServerNode	The main CTI OS Server process. This process manages all CTI OS objects and listens for and manages client connections.	Yes
CTIOSTrace	The CTI OS tracing utility. This process uses the Unified ICM Event Management System (EMS) to trace server messages to local log files in EMS format.	No
NM	The Unified ICM NodeManager (fault tolerance manager). Each Unified ICM service is started by NodeManager, and NodeManager restarts any abnormally terminated processes.	No
NMM	The Unified ICM NodeManagerManager (system fault tolerance). Each Unified ICM Node (e.g. CTI OS) starts up a NMM process to handle system-level faults. In the event of a unrecoverable system fault, NMM restarts the host computer.	No

CTI OS Failover

The server processes are managed by a fault tolerance/recovery platform called NodeManager. NodeManager creates and monitors each process running as part of the CTI OS service, and automatically restarts abnormally terminated processes.

Failover of CTI OS Related Components

CTI OS handles failover of related components as described in the following sections.

> ⚠ **Caution**   The CTI OS desktop can buffer actions if an agent clicks buttons during a failover. Those actions can then take effect when the failover completes. You should warn agents not to click desktop buttons during a failover.

IP Phones

If an IP phone goes out of service, CTI OS sends an event to all soft phones associated with the IP phone that their IP phone is out of service. In addition, the affected softphones display the message "Offline." When the IP phone is back in service, agents must manually log in.

Switches

If a switch goes out of service, CTI OS sends an event to all softphones associated with the switch that the switch is offline. In addition, the affected softphones display the message "Offline." When the switch is back in service, agents must manually sign in.

Peripheral Gateway

Because the Peripheral Gateway (PG) is a fault-tolerant process pair, CTI OS is not affected if the PG merely switches active sides. If the PG goes offline, CTI OS sends an "Offline" message to each softphone client.

CTI Server Failure

On a CTI Server failure, the CTI OS Server usually reconnects almost immediately to the redundant CTI Server. If reconnection to the redundant CTI Server is not possible, the CTI OS Server sends a failure response to any requests made to the CTI Server.

In addition, CTI OS sends an event message to all softphone clients. On receipt of this message, the softphone clients display an "Offline" message.

When the CTI Server comes back online, CTI OS performs a snapshot of all agents, devices, and calls to reestablish state information.

CTI OS Server Failure

On a CTI OS Server failure, CTI OS disconnects all softphones from the failed CTI OS Server. These softphones attempt to reconnect automatically to another CTI OS Server; if reconnection is not possible, CTI OS sends an event message to all softphone clients. On receipt of this message, the softphone clients display an "Offline" message.

NodeManager restarts the CTI OS Server. When the CTI OS Server process comes back online, CTI OS performs a snapshot of all agents, devices, and calls to reestablish state information.