



CTIMUX

Installation Manual

Version 2.0

G3 NOVA Communications SRL
28 Iacob Felix, Sector 1, Bucharest, ROMANIA
Phone: +1 (877) 239-0356
www.g3novacommunications.com

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Overview

The Challenge

The Panasonic TDA PBX series currently support only one CSTA client connection.

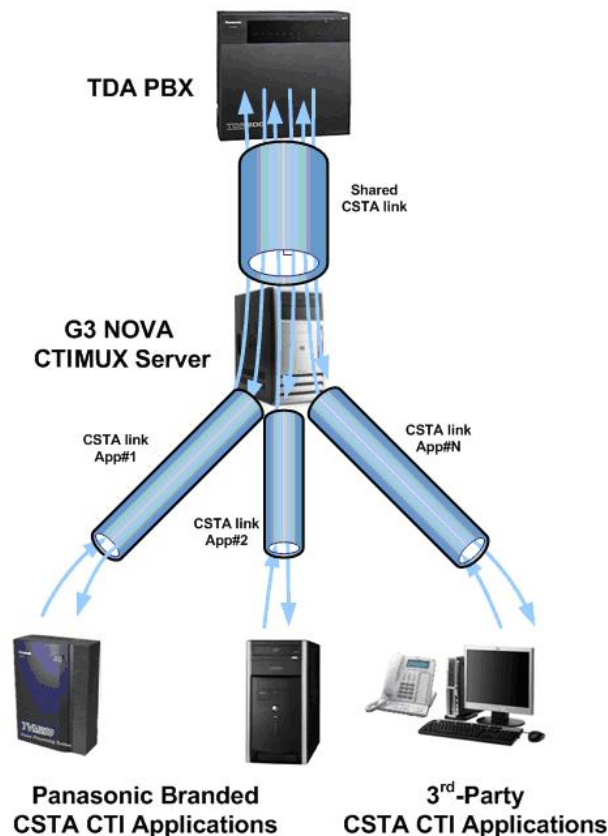
On the other hand, more and more Panasonic branded and 3rd party applications are being developed to work with the TDA systems. Most of these applications need to work with the PBX concurrently. The fact that there is only one CSTA client interface for each PBX, limits the operation to one application at a time.

It becomes more and more of a need to share the CSTA link across several Client CTI Applications in order to have multiple applications working concurrently with the same TDA PBX.

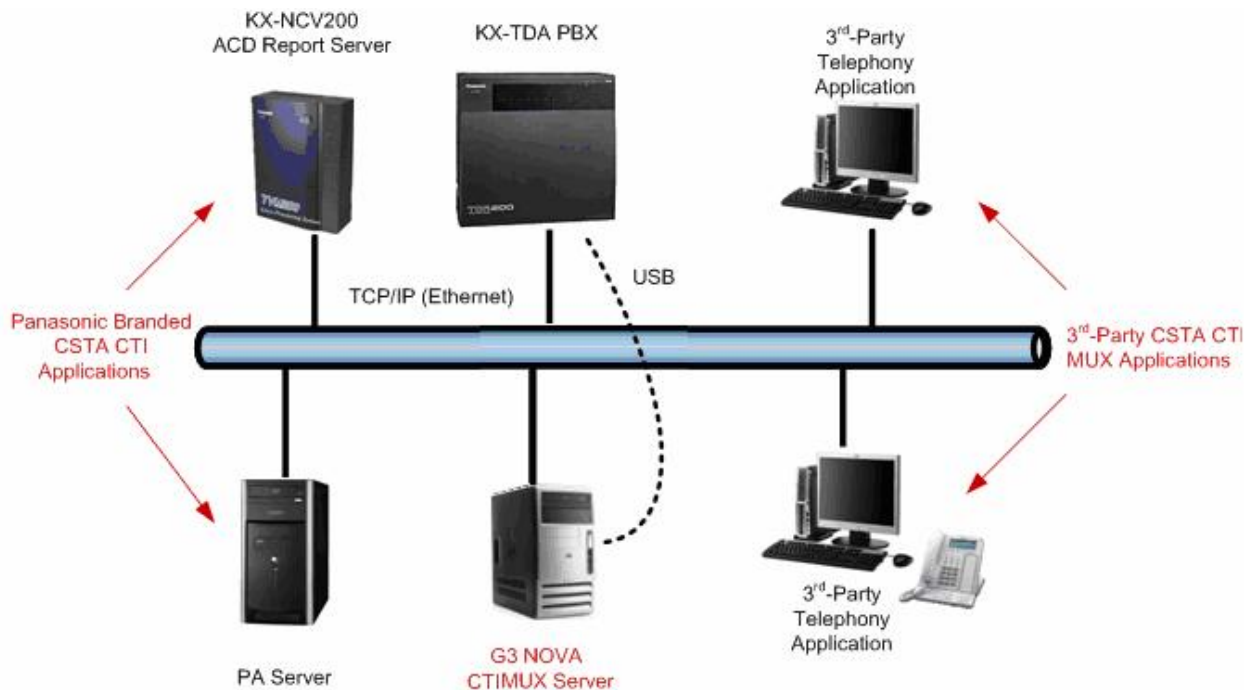
The Solution

The scope of this document is to present the new software component designed and developed by G3 NOVA Communications that dispatches the CSTA protocol messages back and forth between multiple CSTA CTI Client Applications and one TDA PBX.

The new software component is designed and implemented as the server (**CTIMUX Server**) having the CTI applications as clients.



CTIMUX works either over TCP/IP or using the USB connection to the PBX like highlighted in the diagram below.



Product Specification

Main Features

- The Client CTI Applications transparently connect through the CTIMUX and operate as they would be connected directly to the PBX. The CTIMUX does not affect the normal PBX functionality over the CTI link. It only allows multiple CTI applications to share the same CTI link
- All the Client CTI Applications connected through the CTIMUX will be able to concurrently Monitor and Control all the devices in the PBX that can be normally monitored and controlled through the CSTA link as if the Client CTI Application would be connected directly to the PBX without going through the CTIMUX

The management of the PBX devices that can be controlled through CSTA is done by the applications themselves, this means that the applications are free to try to use any of these devices they want even if the device is in use by another application. In this case the PBX will respond with the appropriate busy message.

In the case of the NCV200 and the PA Server, G3 NOVA will provide a Configuration manual that will describe how to configure these applications to avoid any resources conflict.

- The CTIMUX supports a single TCP/IP or USB connection to the PBX system

- The CTIMUX comes with a configuration GUI that allows the user to configure:
 - Type of the connection to the TDA PBX (TCP/IP or USB)
 - IP Address and TCP/IP port used to connect to the TDA PBX
 - TCP/IP Port used by all CSTA CTI Applications
 - Licensing mechanism
- The CTIMUX supports up to 2(two) CSTA Client CTI Applications, NCV200 or PA Server, working concurrently with the PBX at the same time in the first release in October 2006.
- The CTIMUX supports up to 8 (eight) CSTA Client CTI Applications, NCV200, PA Server or 3rd party TAPI, working concurrently with the PBX at the same time in the second release in January 2007.

PBXs Supported

The following TDA PBXs are supported by the CTIMUX:

- KX-TDA 15,30,50 (Through USB)
- KX-TDA 100
- KX-TDA 200
- KX-TDA 600

Operating Systems

CTIMUX runs on the following Operating Systems:

- Windows 2000 Server and Professional
- Windows 2003 Server
- Windows XP Professional SP1 & SP2

The CTIMUX is developed in portable C so it can be easily ported to Linux, Linux OS is not supported at this time.

Hardware Requirements

At the minimum, the host computer has to have the following configuration assuming that the only application running on that host is the CTIMUX Server:

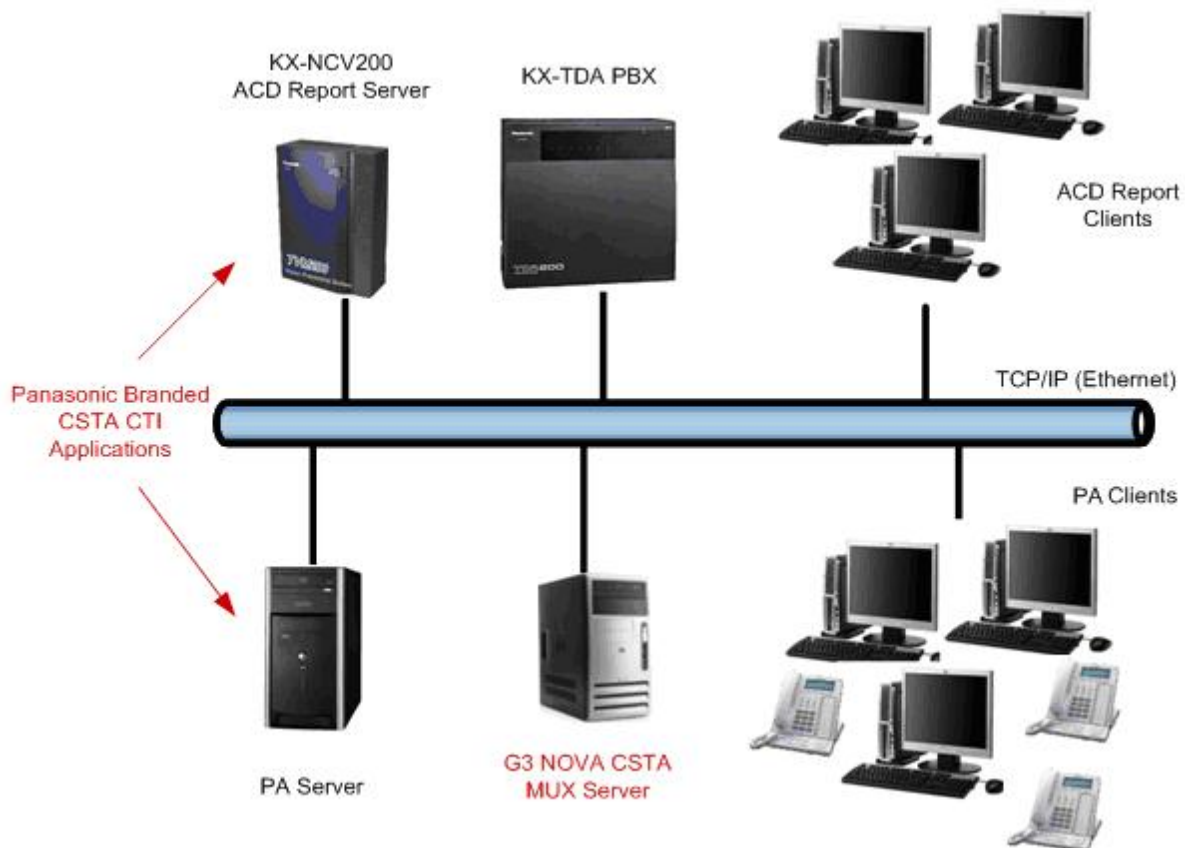
- **CPU** – Celeron at 1 GHz
- **RAM** – 512 MB
- **HDD** – 50 MB free disk space
- **VIDEO** – 1024x768
- **LAN** – 10BaseT or higher

The CTIMUX is able to run either on a separate host (see the above requirements) or it can be installed on the same host with any of the Panasonic Branded or 3rd-party CTI Application in which case the system requirements are higher and depend on the resources used by the other applications running on the same host with the CTIMUX.

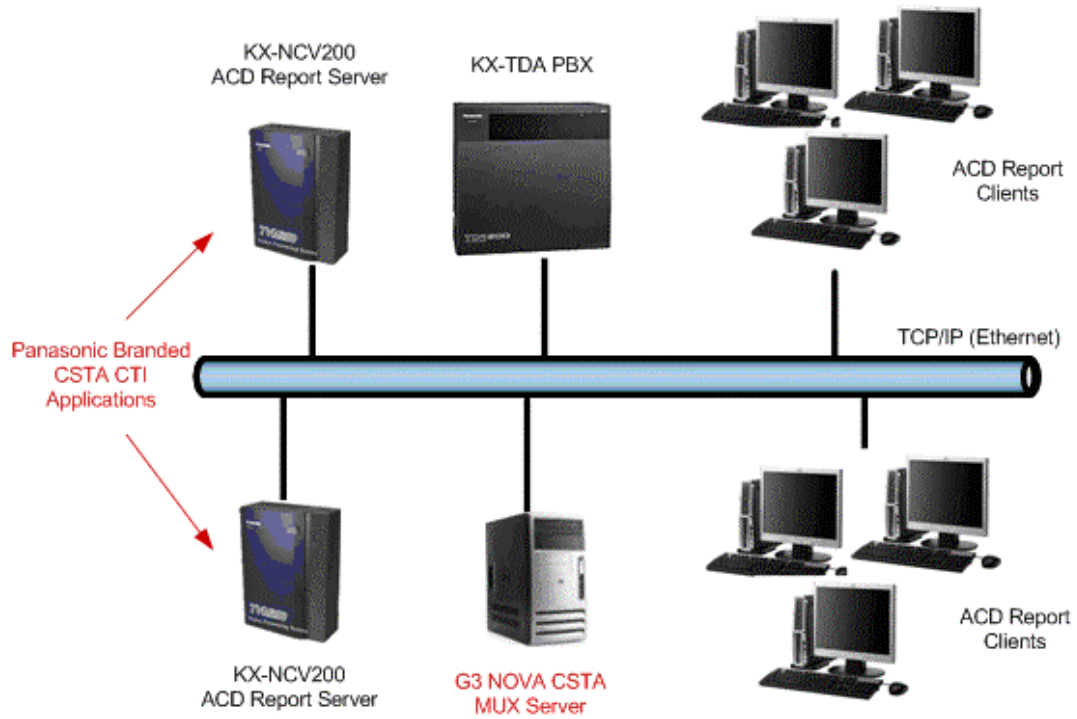
Configurations Supported

CTIMUX guarantees that **ONLY** the Panasonic KX-NCV200 ACD Report and the Panasonic Phone Assistant (PA) Servers work concurrently over the CSTA link with the same TDA PBX in any combination of 2 according to the diagrams below.

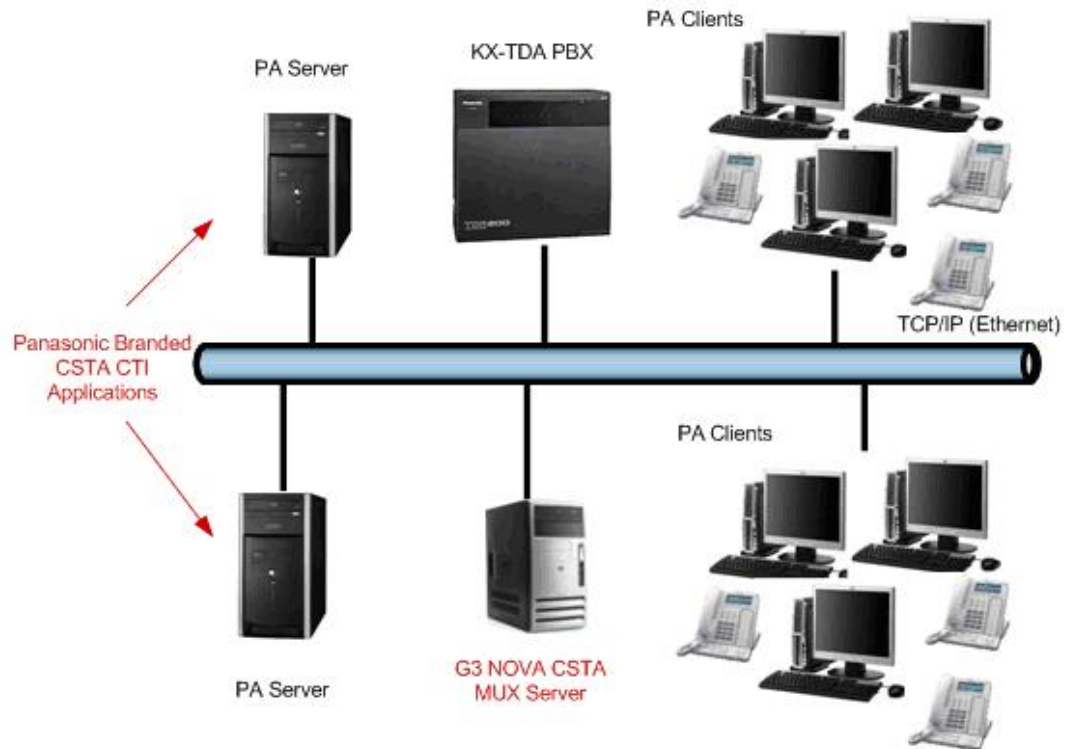
NCV200 working concurrently with the PA Server through the CTIMUX with the KX-TDA PBX



Two NCV200 working concurrently through the CTIMUX with the KX-TDA PBX



Two PA Servers working concurrently through the CTIMUX with the KX-TDA PBX



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Installing CTIMUX

Host Requirements

The minimum requirements for CTIMUX Windows host:

- **Operating System** – Windows 2000 Server and Professional, Windows 2003 Server, Windows XP Professional, Service Pack 1 or Service Pack 2
- **CPU** – Celeron at 1 GHz
- **RAM** – 256 MB
- **HDD** – 50 MB free disk space
- **VIDEO** – 1024x768
- **LAN** – 10BaseT or higher

Software Installing

To install the CTIMUX software:

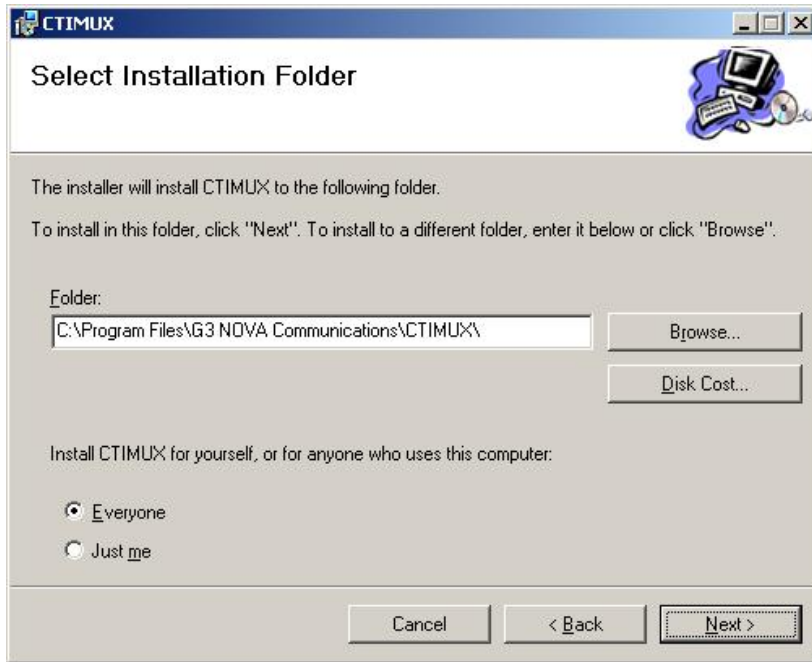
1. Double-click on **setup.exe** on the installation CD to start the CTIMUX installer application.

Name	Size	Type
WindowsInstaller3_1		File Folder
CTIMUX_Setup.msi	2,128 KB	Windows Installer Package
setup.exe	350 KB	Application

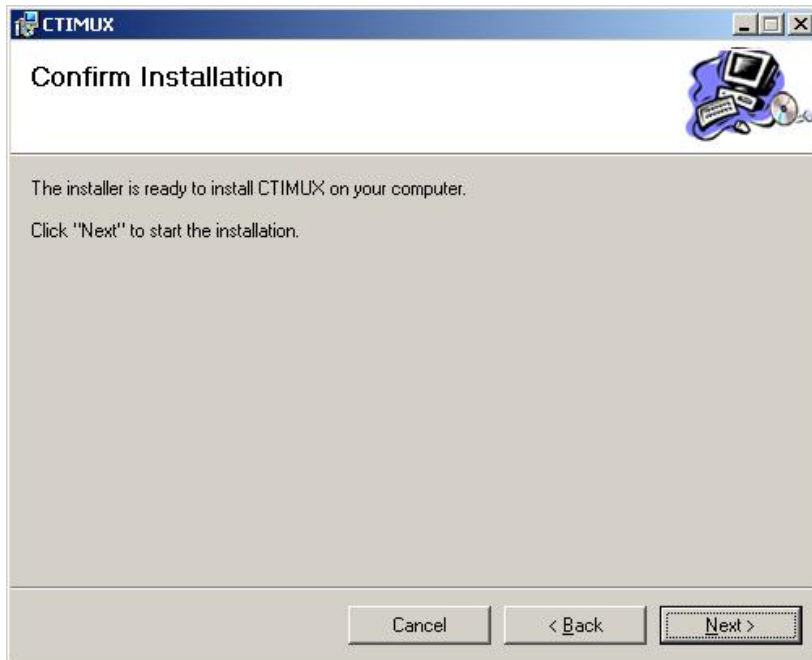
2. The *CTIMUX Setup Wizard* displays.



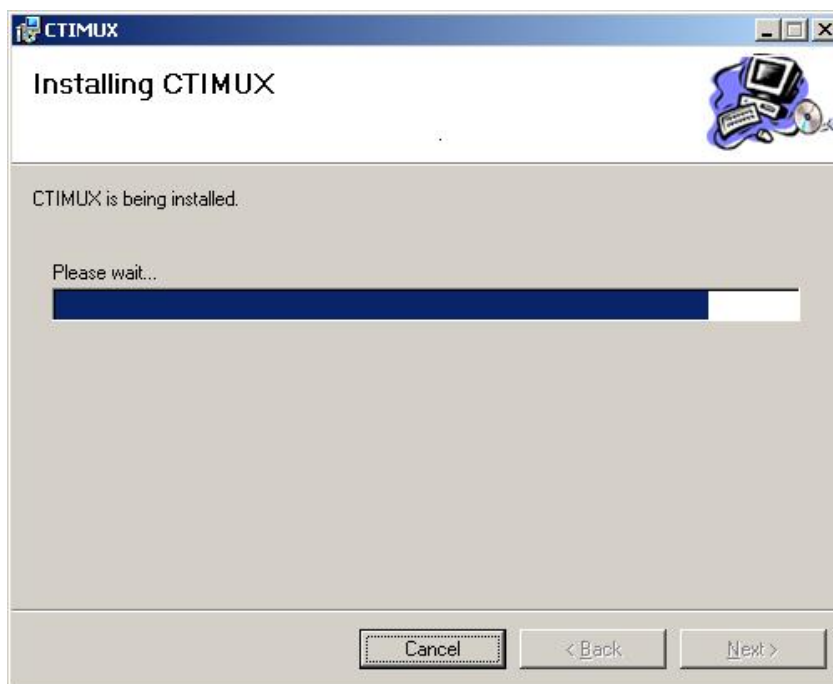
3. Click the **Next** button. The *Select Installation Folder* screen appears.



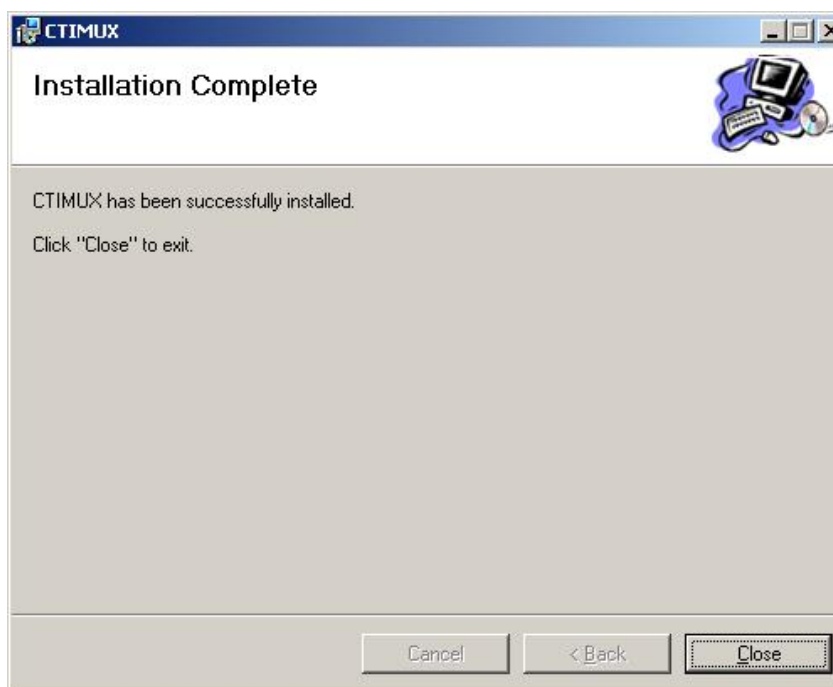
4. Change the CTIMUX installation folder if you like so and then click on the **Next** button. The *Confirm Installation* screen appears.



5. If everything is OK regarding to the previous steps, click on the **Next** button. The installation starts over and the *Installing CTIMUX* screen displays the current progress status.



6. Finally, the wizard informs you that the installation is completed.



7. Press the **Close** button to close the wizard.

The CTIMUX software has been successfully installed.

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Getting Started with CTIMUX

Starting CTIMUX

To run CTIMUX:

1. Go to Start menu -> Programs -> G3 NOVA Communications -> CTIMUX and click on CTIMUX shortcut, or
2. Click on the CTIMUX shortcut on the Windows Desktop



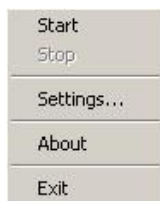
The small CTIMUX icon displays in the Windows icon tray.



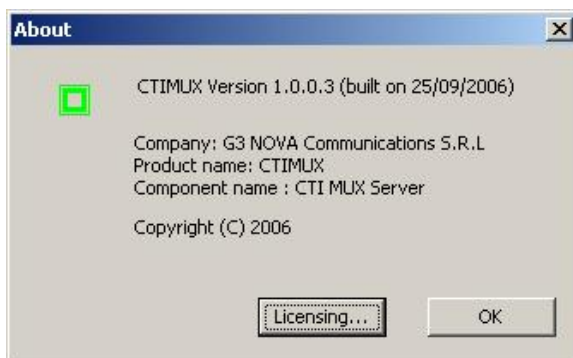
Software Licensing

To license CTIMUX software:

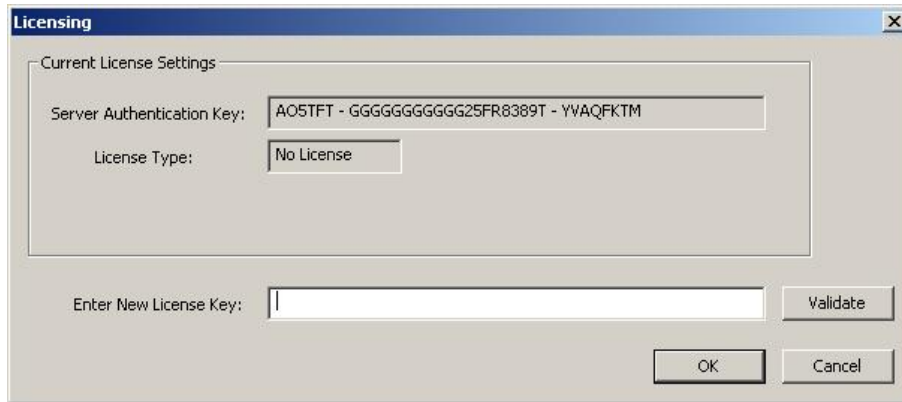
1. Right click on the CTIMUX icon in Windows icon tray. The *Configuration menu* is displayed.



2. Select the *About* option in the menu. The *About* dialog is displayed.



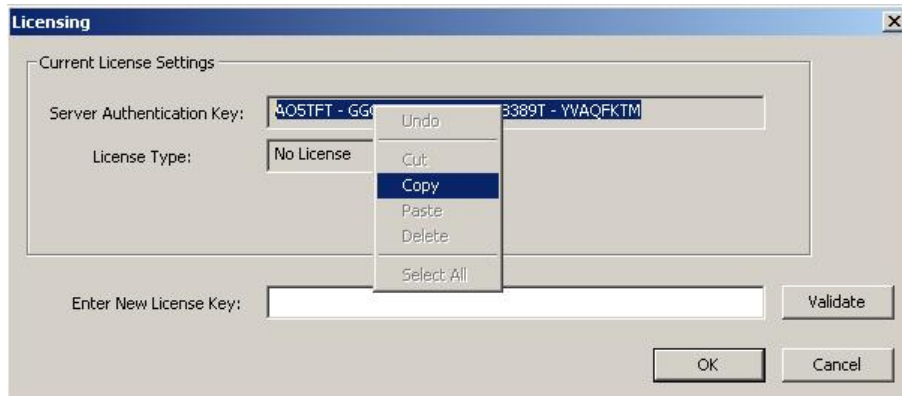
- Click on *Licensing* button. The *Licensing* dialog is displayed.



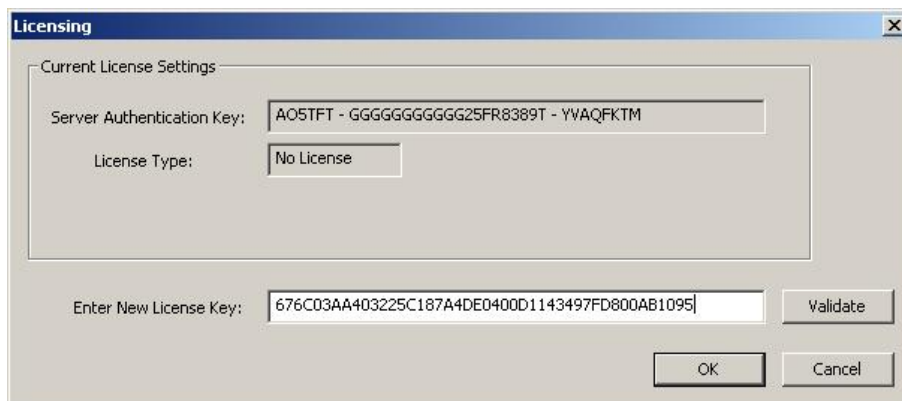
- Select the string in the *Server Authentication Key* (SAK) field.

NOTE: The Server Authentication Key is tightly linked to both the software and the hardware installed on the CTIMUX host PC.

- Right click on the string selected. Select *Copy* option.



- Paste SAK and send it via email to support@g3novacommunications.com. G3 NOVA will generate the License Key based on your SAK and send it back to you shortly.
- Copy the License Key received from G3 NOVA and then paste it to *Enter New License Key* field.



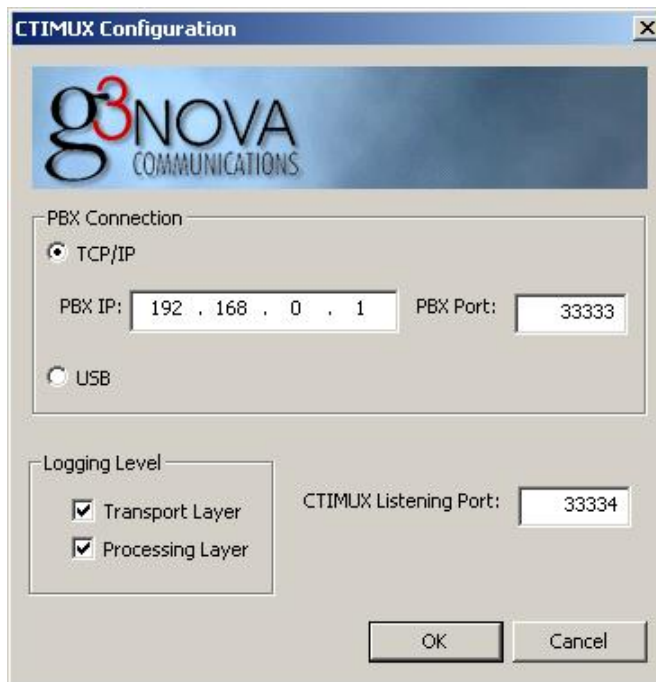
- Click on **Validate** button. Verify that *License Type* field shows the License Key type you had purchased. If so, the CTIMUX was properly licensed and ready for operation. Click on **OK**.


Configuring CTIMUX and Panasonic CTI Client Applications

CTIMUX works either over TCP/IP or using the USB connection to the PBX, depending on the TDA resources and/ or Customer requirements.

To properly configure the CTIMUX for operation over TCP/IP

1. Connect the CTIMUX PC via UTP cable to the company LAN.
2. Make sure that the TDA PBX (via CTI Link card) and the Panasonic CTI Client Applications are connected to the same network.
3. Click on the CTIMUX icon in Windows icon tray. The *CTIMUX Configuration* dialog appears.



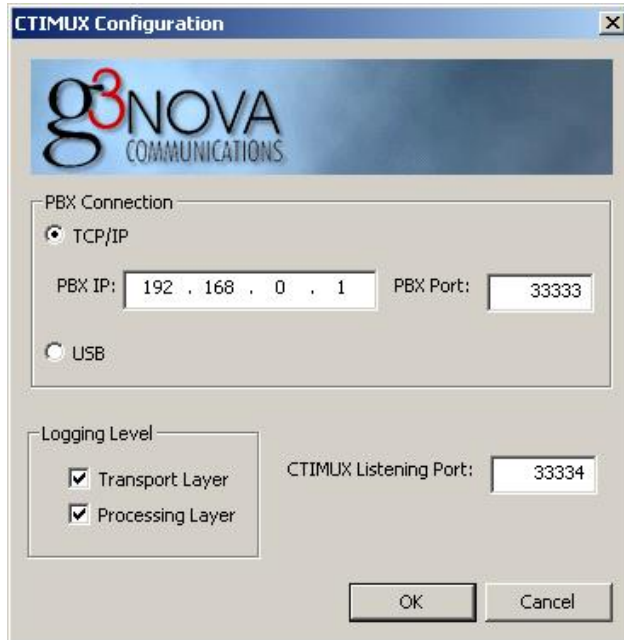
4. Set the *PBX IP Address* and the *PBX Port* fields to the current TDA PBX settings. Click on OK.
5. Check that the CTIMUX icon in the Windows icon tray comes green  in about 2 seconds and the tool tip indicates like below.

```
PBX Connection (192.168.168.34:33333) , PBX STATE (Connected)
Number of clients: 0
```

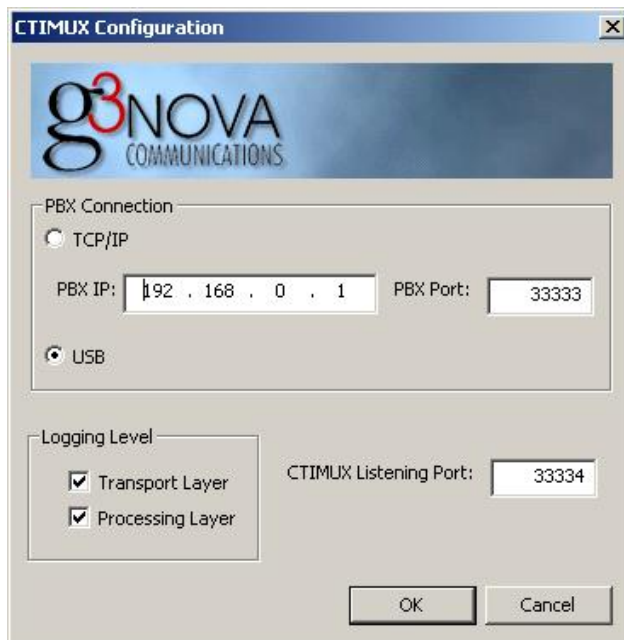
6. The CTIMUX is running and it's properly connected to the PBX. Refer next [To properly configure the Panasonic CTI Client Applications to connect to CTIMUX](#) topic in this document.


To properly configure the CTIMUX for operation over USB

1. Connect the CTIMUX PC via USB cable to the TDA PBX.
2. When the CTIMUX is first connected to the TDA PBX via USB, a Windows wizard should appear and ask you to select the appropriate USB driver. Browse **<Install Dir>\USB Drivers** (by default C:\Program Files\G3 NOVA Communications\USB Drivers) and install the USB driver.
3. Connect the CTIMUX PC via UTP cable to the company LAN.
4. Make sure that the Panasonic CTI Client Applications are connected to the same network.
5. Click on the CTIMUX icon in Windows icon tray. The *CTIMUX Configuration* dialog appears.



6. Select *USB* option and click on OK.



7. Check that the CTIMUX icon in the Windows icon tray comes green  in about 2 seconds and the tool tip indicates like below.

```
PBX Connection (192.168.168.34:33333) , PBX STATE (Connected)
Number of clients: 0
```

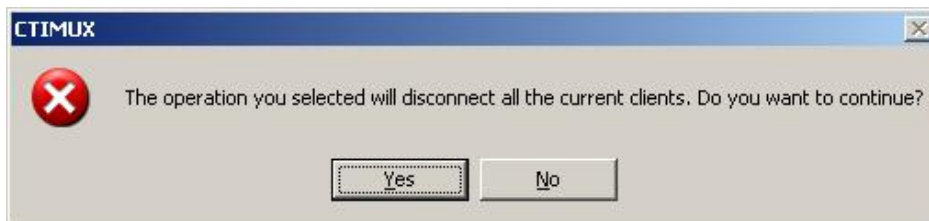
8. The CTIMUX is running and it's properly connected to the PBX. Refer next [To properly configure the Panasonic CTI Client Applications to connect to CTIMUX](#) topic in this document.

To manually Stop the CTIMUX Server

1. Right click on the CTIMUX icon in Windows icon tray. The *Configuration menu* is displayed.



2. Select *Stop* menu option.
3. If there are CTI Client Applications connected to CTIMUX, the following warning message is displayed.

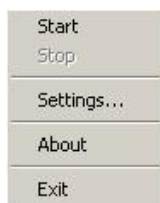




4. Check the CTIMUX icon in the Windows icon tray  and the tool tip message displayed.

```
PBX Connection (192.168.1.180:33333) , PBX STATE (Not Connected)
Number of clients: 0
```


To manually Start the CTIMUX Server

1. Right click on the CTIMUX icon in Windows icon tray. The *Configuration menu* is displayed.



2. Select *Start* menu option.
3. Check that the CTIMUX icon in the Windows icon tray goes to  and finally to , and the tool tip message displayed is the following:

```
PBX Connection (192.168.168.34:33333) , PBX STATE (Connected)
Number of clients: 0
```

4. If there is other Application that is already connected to the PBX via CTI Link, the CTIMUX icon goes to  and the tool tip message displayed is the following:

```
PBX Connection (192.168.1.180:33333) , PBX STATE (Rejected)
Number of clients: 0
```

To properly configure the Panasonic CTI Client Applications to connect to CTIMUX

1. All Panasonic CTI Client applications shall be configured to connect to the G3 NOVA CTIMUX instead to connect to the TDA PBX.
2. Configure the KX-NCV200 ACD Report/ Phone Assistant Server product to connect via TCP/IP to CTIMUX using the **CTIMUX host IP Address** and **Port 33334**.
3. You can inspect anytime the number of Panasonic CTI Client applications connected to CTIMUX by dragging the mouse cursor over the CTIMUX icon in the Windows icon tray and checking the tool tip message, like presented below.

```
PBX Connection (192.168.168.34:33333) , PBX STATE (Connected)
Number of clients: 2
```

Product Support

G3 NOVA Communications tech support specialists are always available to answer your questions regarding CTIMUX at:

- US toll free: +1 (877) 239-0356
- Sales: sales@g3novacommunications.com
- Support: support@g3novacommunications.com