JulMar PBX Simulator Configuration and User's Guide

TSP++ Version 3.00
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Contents

Introduction

This document provides an overview of the information needed in order to configure and use the JulMar PBX simulator and associated utility programs.

System Requirements

The PBX Simulator (referred to hereafter as *JPBX*) can be installed onto any machine running Windows 95/98 or Windows NT 4/5. The station and trunk utilities can be run on the same machine or other Windows machines connected to the same network. Each machine will need to have TCP/IP and Windows Sockets support installed.

Modeling

JPBX models the features of a simple Automatic Call Distributor (ACD). An ACD is designed to distribute a large volume of incoming calls in a predetermined and equitable fashion and to collect and manage statistics concerning those calls. The calls are distributed to people, typically called agents, which are organized into groups or teams and are trained to serve the requests of particular inbound callers.

The ACD differs from the Public Branch Exchange (PBX) and Key telephone system (KTS) in terms of its main purpose. PBX and KTS systems are primarily designed to manage a corporate telephone system where the main concentration of calls is station-to-station traffic (i.e. internal calls). The ACD system is primarily concerned with large amounts of inbound traffic from the outside world. In addition, the ACD is typically more expensive than a PBX system.

The JPBX software models a simple ACD with limited capabilities. It does not support supervisor monitoring, or extensive data gathering that would be found with a commercial ACD system. The JPBX system models the following ACD components:

Agents

An agent is a person manning an ACD station. They are sometimes referred to as operators. They are identified by an *agent-id*, which is typically a numeric identifier. The agent would normally log into an agent station to perform work. The agent has a current *agent state* associated with it, which determines how the ACD treats the agent for incoming call traffic. The supported agent states in JPBX are:

a) **READY** – the agent is ready to accept an incoming call. Any call directed to the agent's station will automatically be connected to the agent.
b) **NOT READY** – the agent is not prepared to accept incoming calls. Any call directed to the agent's station will show up on the display and will require the agent to answer the call before it is connected to the station.
c) **IN CALL WORK** – the agent is finishing work related to a previous call. The ACD will not direct calls to the agent. Any incoming call that direct-dialed

the station will show up on the display and will require the agent to answer the call before it is connected to the station.

d) **SIGNED OUT** – The agent is not associated with a station.
e) **BUSY** – The agent has at least one active outgoing call.
f) **BUSY ACD** – The agent has at least one active incoming call.

Agent Groups

An agent group is a collection of agents that are assigned to the same types of tasks. An example would be a group dedicated to technical support for a particular product. Calls are typically routed to a group of agents, allowing the first available agent in the group to take the incoming call.

Agent Stations

An agent station is a telephone station that requires an agent to sign on and authenticate before it is activated and available for incoming or outgoing calls. A station has a phone unit associated with it with a display, buttons, lamps, etc.

Trunks

A trunk device is a connection to a line that is outside the switch and has no in-switch dialable number. Any outgoing call placed by an agent or predictive dialer and any incoming call from outside the switch is always on a trunk device. The JPBX software allows up to 1000 trunks to be defined. Each trunk has a trunk state, which may be one of the following:

a) **AVAILABLE** – The trunk is currently available for a call
b) **INBOUND** – The trunk currently has an inbound call on it.
c) **OUTBOUND** – The trunk currently has an outbound call on it.
d) **OUT OF SERVICE** – The trunk currently is not available due to some hardware failure.

Queue

A queue is a holding place for calls that are currently on the switch. A queue is created by JPBX for each agent group defined in the switch configuration. Calls may be transferred to a queue and will be handled by the first available agent in the queue (if there is one).

Voice Response Unit

The VRU is a phone device which has the capability of collecting digits from the caller. The JPBX emulator doesn't allow for different functions based on the digits although this could be implemented with a TAPI program-monitoring calls on the line device.

Route Point

A route point is an incoming trunk handler device that routes the incoming call to its destination. This destination might be a station, queue, or VRU. A route point is associated with one or more trunk devices and can be configured to auto-route to a destination or to wait for a command from an external router to route the call.

Predictive Dialer

The predictive dialer device is an outgoing call progress device. It can detect the media on the line and report back what type of answer occurred (i.e. human, answering machine, etc). It's primary purpose in call centers is for "blind dialing" a large list of numbers and then transferring to human agents when a person is detected. Otherwise a message is played for the answering machine and the dialer hangs up. The JPBX

emulated dialer allows for the target pickup to be selected during configuration or during real-time through a dialog. It supports the following detection types:

a) **VOICE** – A person picked up the phone.
b) **BUSY** – The line is busy
c) **NO ANSWER** – There was no answer.
d) **MACHINE** – An answering machine picked up the phone.
e) **UNKNOWN** – The phone was answered but the type could not be detected.

Configuration

There are several steps in configuring the JPBX Software. When the program is first started, the screen should resemble (note that fonts and colors may be different due to Windows color schemes):

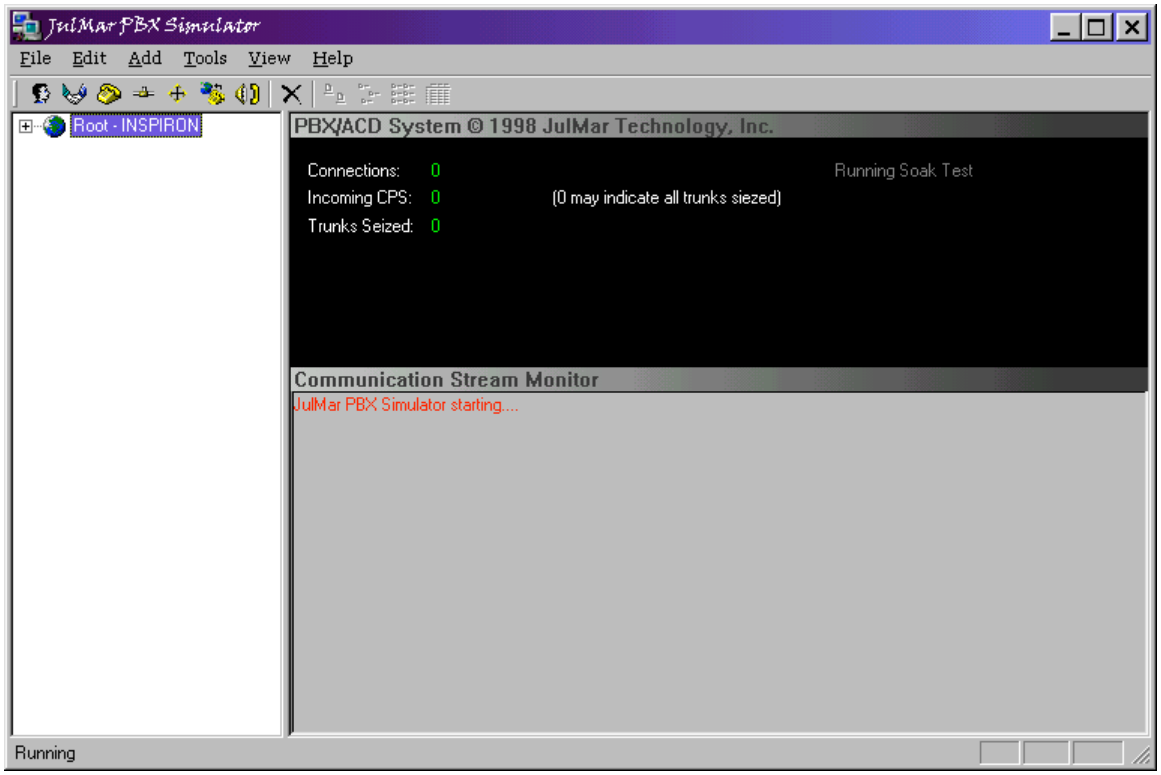


Figure 1: JPBX Main Screen

Main Screen Elements

The main screen elements are:

Toolbar

On the top of the screen, just under the menu bar is a toolbar allowing quick access to many of the menu commands. These include:

Adds a new agent to the PBX configuration.
Adds a new agent group to the PBX configuration
Adds a new agent station to the PBX configuration
Adds a new trunk to the PBX configuration
Adds a new route point to the PBX configuration
Adds a new predictive dialer to the PBX configuration
Adds a new voice response unit to the PBX configuration
Deletes the currently selected object from the PBX configuration
Switch the list view to the large-icon view
Switch the list view to the small-icon view
Switch the list view to the small-icon list
Switch the list view to the detail view

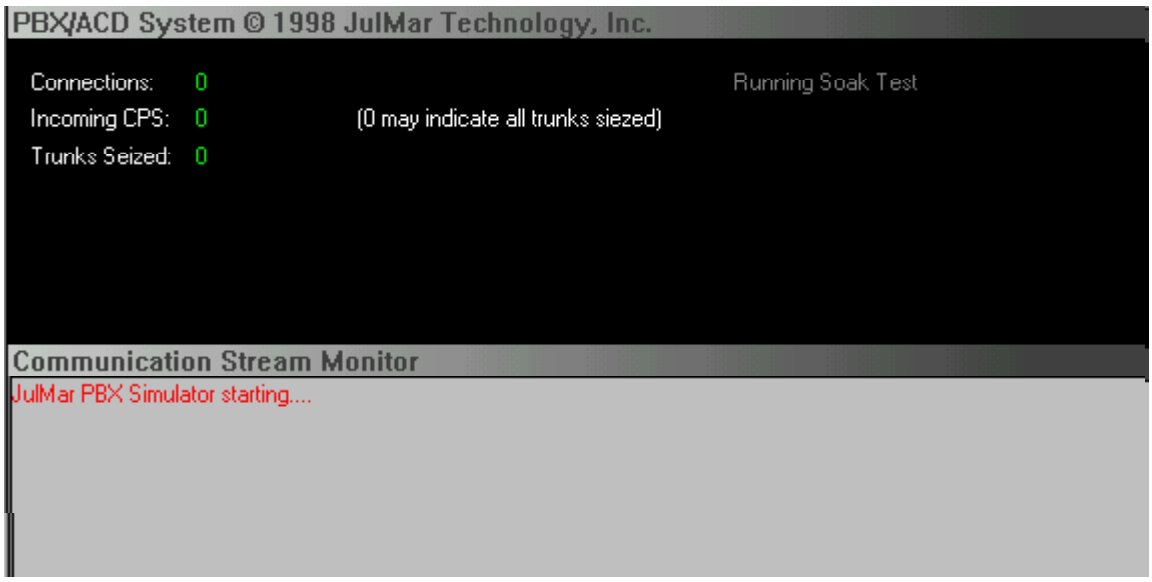
Device Tree List

On the left side of the screen is the device tree list which has at the top the key "Root" followed by the TCP/IP name of the machine which the software is running on. The device tree list shows all of the main device categories in the following form:

Under each of the device categories is listed each defined device in that category.

Statistics View

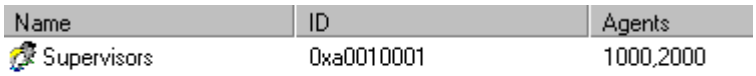
When the "Root" node is selected in the device tree list, the ACD statistics screen is shown on the right side of the screen. This looks like:



Connections – This shows the number of TCP/IP connections that are currently active against the PBX simulator. It is incremented each time a socket connection is detected and decremented when a socket is released.
Incoming CPS – The Incoming Calls Per Second is a counter of the current number of calls which have come in on the trunks within the last second.
Trunks Seized – This is the total number of trunks currently allocated to either inbound or outbound calls.
Running Soak Test – This indicates whether a soak test is currently running, if the text is in red, then a test is currently in progress. Otherwise it is not running.
Communication Stream Monitor – This is a list of the last 200 WinSock messages passed to and from all active socket connections. The global settings allow this buffer to be saved to disk as well as in this list.

Agent Group View

This view is shown when either the agent group header or a specific agent group is



selected in the device list.
Name – This is the name of the agent group defined when the group was created.
ID - This is the unique identifier of the agent group. This is set by JPBX.
Agents – This is the list of agents which may log onto this agent group. If an agent is not listed, then it may not log into the group.

Agent View

This view is shown when either the agent header or a specific agent is selected in the device list.

Name	State	Agent Groups
1000	Signed Out	Supervisors
2000	Signed Out	Supervisors
3000	Signed Out	None

Name – This is the unique name of the agent (agent-id) defined when the agent was created.
State – This is the current state of the agent
Agent Groups – This is the list of groups which this agent may log into.

Station View

This view is shown when either the station header or a specific station is selected in the device list.

Extension	Name
1000	Mark's Station
1003	Julie's Station
1004	Test Station

Extension – This is the unique dialable number of the station defined when the station was created.
Name – This is the name of the station defined when the station was created.

Queue View

This view is shown when either the ACD queue header or a specific queue is selected in the device list.

Name	Queue ID	# Calls Queued	Oldest Call	# Agents
Supervisors	9000	0		0

Name – This is the name of the queue. It is taken from the agent group which created the queue.
Queue ID – This is the unique dialable number which identifies this queue. This is assigned by JPBX.
 # Calls Queued – This is the current count of queued calls in this queue.
Oldest Call – This is the number of seconds the oldest call has been queued
 # Agents – This is the number of agents currently logged into this queue.

Trunk Information View

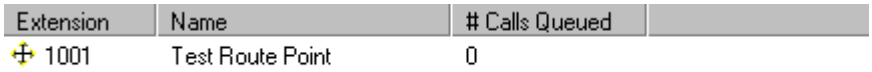
This view is shown when either the trunk header or a specific trunk is selected in the device list.

Trunk ID	State	Call Information
0001	Available	
0003	Available	
0004	Available	

Trunk ID – This is the unique trunk id assigned by JPBX for this trunk.
State – This is the current state of the given trunk
Call Information – This is the call information for the call on the given trunk.

Route Point View

This view is shown when either the route point header or a specific route point is selected in the device list.

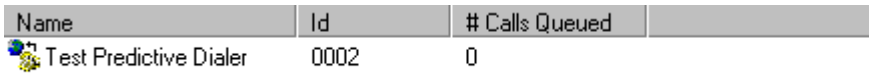


Extension	Name	# Calls Queued	
1001	Test Route Point	0	

Extension – This is the unique dialable number extension of the route point. This is assigned during creation of the route point.
Name – This is the name of the route point assigned during the creation of the device.
 # Calls Queued – This is the total number of calls queued at this route point either being routed or waiting for a route command from an external router.

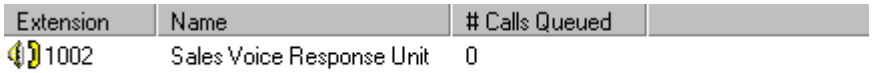
Predictive Dialer View

This view is shown when either the predictive dialer header or a specific dialer is



Name	Id	# Calls Queued	
Test Predictive Dialer	0002	0	

selected in the device list.
Name – This is the name of the dialer, determined when the device is created.
Id – This is the unique numerical identifier of the dialer.
 # Calls Queued – This is the total number of calls being dialed currently on the dialer.



Extension	Name	# Calls Queued	
1002	Sales Voice Response Unit	0	

Interactive Response Units View

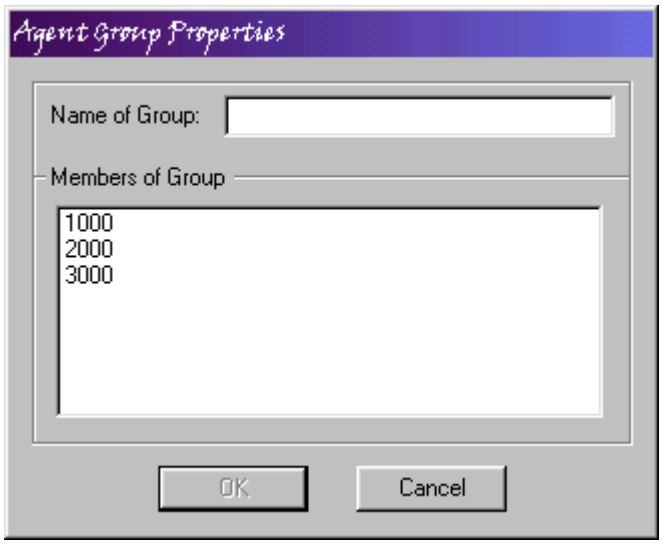
Extension – This is the unique dialable number for the VRU unit.
Name – This is the name of the VRU, determined when the device is created.
 # Calls Queued – This is the total number of calls being managed on this VRU currently.

Agent Groups

Agent groups allow agents to be organized in terms of their duties and type of calls they should receive.

Adding an agent group

To add a new agent group, either click the **new agent group** button or use the **Add/Agent Group** menu option. This will display a dialog like:



The unique group identifier is generated automatically, JPBX allows up to 999 groups to be created in the configuration.

Name of Group – This is for the name of the agent group and should be (although is not required to be) unique within the PBX configuration.

Members of Group – This lists all the agents defined in the PBX configuration currently and allows you to select which agents may log into this group. If you select no agents, then the group will create a queue which has no automated routing.

Editing an existing group

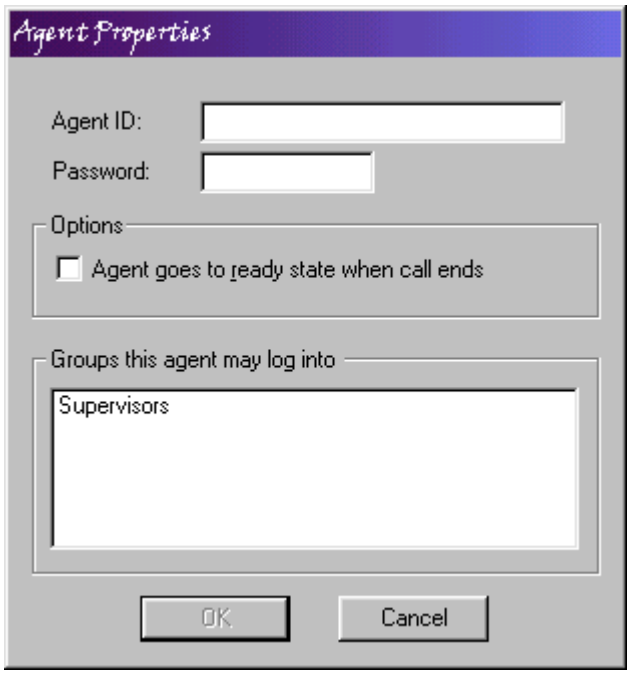
To edit an existing group, select it in the device tree list and double-click on it, or right click on it and select **Properties**.

Agents

An agent is a person manning an ACD station. They are sometimes referred to as operators.

Adding an agent

To add a new agent, either click the **new agent** button or use the **Add/Agent** menu option. This will display a dialog like:



Agent ID – Type the unique agent identifier into this box. Normally, agent-ids are numeric but JPBX doesn't enforce this. The agent-id may be up to 25 characters.

Password – This is an optional password which is required for the agent to logon. If you do not enter a value into this field, then no password will be required when the agent logs into a station.

Agent goes to ready state when call ends – This determines what state the agent will transition to when the last call is disconnected from the station. If the checkbox is checked, then the agent will automatically move to the **READY** state and receive the next available call. If not checked, the agent will transition to the **NOT READY** state and will have to manually change the agent state. The agent can override this by setting the agent state while on the connected call (i.e. next state).

Groups this agent may log into – This is analogous to the agent group dialog; it determines which groups the agents may log into and field calls for. If the agent is not part of any group, then it will never receive ACD calls even when in the **READY** state.

Editing an existing agent

To edit an existing agent, select it in the device tree list and double-click on it, or right click on it and select **Properties**.

Stations

The agent stations are singular phone devices which support a single agent at a time and can accept and place calls to other stations or trunks.

Adding a new station

To add a new station, either click the **new station** button or use the **Add/Station** menu option. This will display a dialog like:

Dialable Number – This is the station extension. It must be between 1000 and 8900. The default value is the next available station given the current configuration.

Description – This is the textual description of the station.

Groups which may log onto this station device – This determines which agents (based on the agent groups) may use this station device. If none are selected then any group may log into the station.

Editing an existing station

To edit an existing station, select it in the device tree list and double-click on it, or right click on it and select **Properties**.

ACD Queues

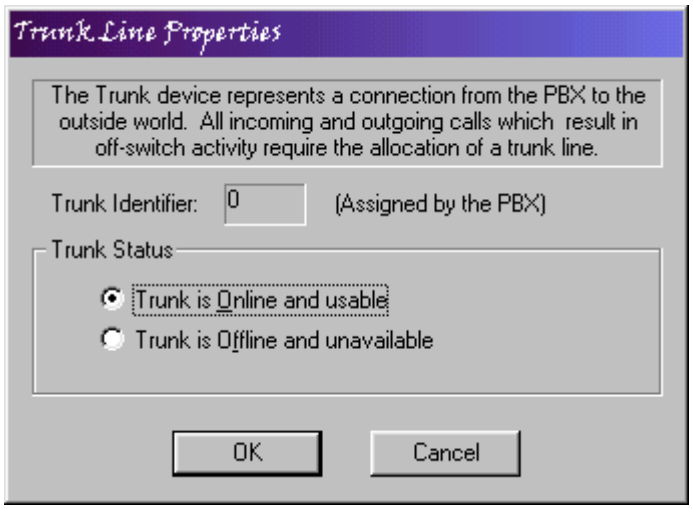
The ACD queue represents the queue for a single agent group. This device may not be created directly (instead, create an agent group) and has no direct properties to change or view.

Trunks

The trunk devices represent end-points for calls. When an incoming call comes into the switch, it is first noticed on a trunk device. Conversely, when an outgoing call is placed with an out-of-switch designation ('9' followed by more than 4 digits), a trunk is allocated for the call traffic. Trunks are considered limited resources and incoming/outgoing calls are rejected when all the trunks are used. JPBX allows for up to 999 trunks to be defined in the system.

Adding a new trunk

To add a new station, either click the **new trunk** button or use the **Add/Trunk** menu option. This will display a dialog like:



Trunk Identifier – This is the unique numeric identifier assigned by JPBX when the trunk is created. Initially it will be zero, but if the properties are edited later, the identifier will be between 1 and 999.

Trunk Status - This is the current state of the trunk. Normally it will be **Online**, but if you want to make the trunk unavailable for traffic for some reason, it may be marked **Offline** and it will ignored by JPBX until made available once more.

Editing an existing trunk

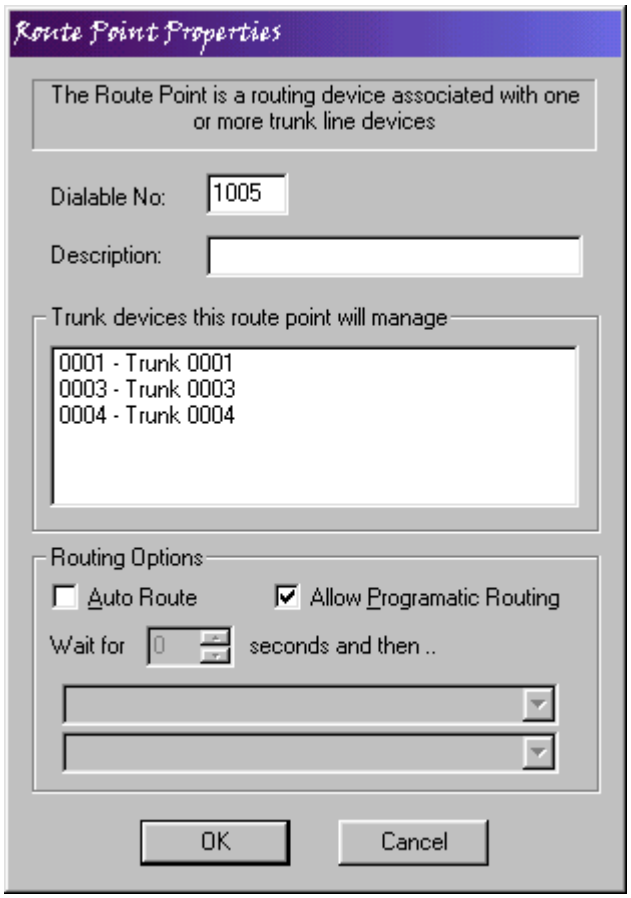
To edit an existing trunk, select it in the device tree list and double-click on it, or right click on it and select **Properties**.

Route Points

The route point object watches incoming call activity on trunks and performs automated or programmatic transfers to a station, VRU or queue. If a trunk does not have a route point assigned to it, incoming calls will sit on the trunk until released.

Adding a new route point

To add a new station, either click the **new route point** button or use the **Add/Route Point** menu option. This will display a dialog like:



Dialable Number – This is the route point extension. It must be between 1000 and 8900. The default value is the next available extension given the current configuration.

Description – This is the textual description of the route point.

Trunk devices – This lists all the defined trunks in the system and allows for one or more to be selected. This route point will manage all selected trunks. Note that if more than one route point selects the same trunk, the first route point (by extension) will actually manage the trunk device.

Auto Route – This determines whether the route point automatically routes incoming calls. If selected, the other controls become enabled and settable.

Allow programmatic Route – This determines whether an outside routing command can influence this route point. If this is not checked, route commands issued through the switch interface will be rejected for this route point.

Wait for... – This determines the number of seconds that the route point waits before making a routing decision. If the programmatic route option is selected, this is the number of seconds the route point waits for a route command.

Command – This is the command to execute once the wait time has been reached. It can be:

a) Do nothing – Do nothing, let the call sit until something external influences it.
b) Transfer to – Transfer the call to the **TransferTo** element.
c) Drop Call – Disconnect the call

TransferTo – This is a list of valid stations, VRUs, and queues which calls may be transferred to by this route point. This is only available if the **TransferTo** option is selected in the **Command** box. Only one line may be selected.

Editing an existing route point

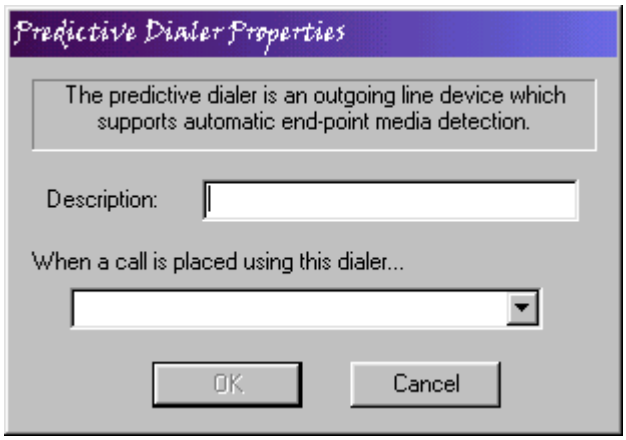
To edit an existing route point, select it in the device tree list and double-click on it, or right click on it and select **Properties**.

Predictive Dialers

The predictive dialer device is an outgoing device which places a call to an off-switch destination, detects the answer type and if answered by a person, optionally transfers the call to a station, VRU or queue.

Adding a new dialer

To add a new station, either click the **new dialer** button  or use the **Add/Dialer** menu option. This will display a dialog like:



Description – This is the textual description of the dialer and is used as the name in the caller-id information when a transfer is initiated.

When a call is placed – This determines the end-result of a predictive dial. It can be one of the following:

a) **Answered by Machine** – Picked up by an answering machine.
b) **Answered by Person** – Picked up by a person.
c) **Answered by undeterminable** – Picked up, but could be machine or person
d) **Destination is BUSY** – Could not connect due to busy signal.
e) **No answer** – Nobody answered the phone.
f) **Prompt using a dialog** – Prompt for the result through a dialog.
g) **Random response** – JPBX picks a response from a-e.

If the dialog prompt option is selected, then when the call is placed, the following dialog is shown to allow a direct response for this call:

Editing an existing dialer

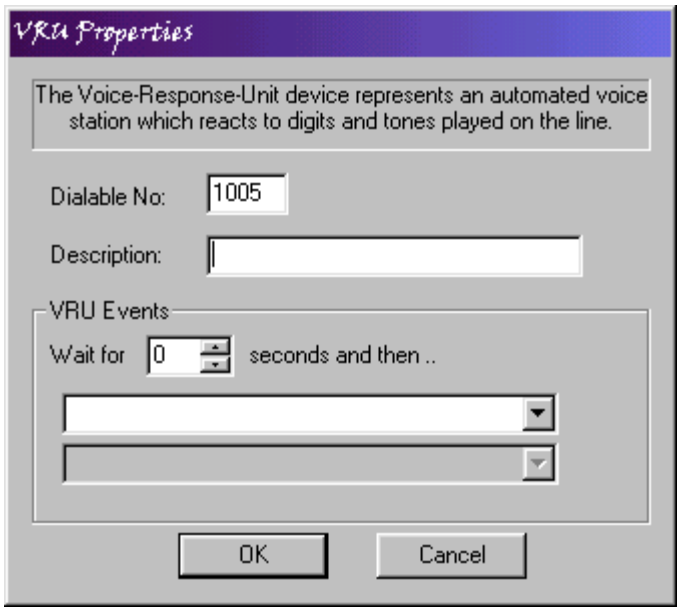
To edit an existing predictive dialer, select it in the device tree list and double-click on it, or right click on it and select **Properties**.

Interactive Voice Response Units (IVRUs)

The VRU is a station-like device which in a production environment would be used to clarify an incoming call through a recorded message followed by the receipt of digits from the caller to direct the call to a destination based on the information requested by the caller. The simulated IVR in JPBX is a simple device capable of receiving digits from the caller and transferring the call to a single destination once a time limit is reached. It does not perform any function with the received digits. A monitor program could record the digits and perform a transfer itself from the VRU to another destination if desired.

Adding a new dialer

To add a new VRU, either click the **new VRU** button or use the **Add/VRU** menu option. This will display a dialog like:



Dialable Number – This is the VRU extension. It must be between 1000 and 8900. The default value is the next available extension given the current configuration.

Description – This is the textual description of the VRU.

Wait for... – This determines the number of seconds that the VRU waits before making a routing decision.

Command – This is the command to execute once the wait time has been reached. It can be:

a) **Do nothing** – Let the call sit until something external influences it.
b) **Transfer to** – Transfer the call to the **TransferTo** element.
c) **Drop Call** – Disconnect the call

TransferTo – This is a list of valid stations and queues which calls may be transferred to by this VRU. This is only available if the **TransferTo** option is selected in the **Command** box. Only one line may be selected.

Editing an existing VRU

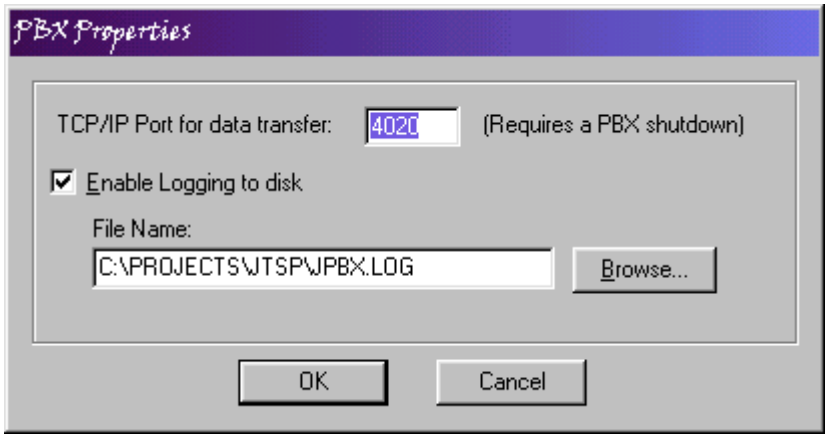
To edit an existing VRU, select it in the device tree list and double-click on it, or right click on it and select **Properties**.

Deleting a PBX object

To delete any of the PBX objects, simply select the object in the device tree list (or the view list on the right) and click the delete button ✕ or right-click on the object and select **Delete**. Note that the Queue object cannot be deleted directly. To delete a queue, delete the agent group which it is connected to.

Global Settings

You can change the global properties of the JPBX software through the **Edit/Global Properties** menu item. The dialog looks like:



TCP/IP Port – This is the port through which client programs (such as the TSP) communicate to the switch. You must enter the same port on both the server and any client programs.

Enable Logging- This option causes the JPBX system to store its communication log to disk. This is turned off by default. If selected, you must enter a valid path and filename in the edit control.

Filename – This is the filename to store the JPBX log into. It is written as the log is generated so this slows the JPBX software down considerably, but if you are reporting a problem against the JPBX system, you must send a log into JulMar to determine the cause of any error.

Operation

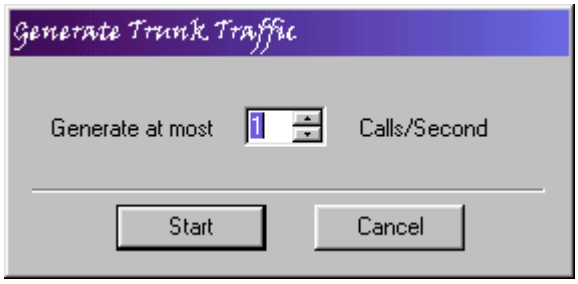
In general, most of the operational aspects of the JPBX software occur in the client programs. The server simply manages the requests and maintains the global state of all the stations and agents. The simulator does have one feature that is run through the main panel however, the soak test.

Soak Test

The soak test is a generation of incoming call traffic on a certain interval (from 1 to 20 calls per second). It causes an incoming call to be generated on a trunk and get processed by the simulator as if it were placed with the **Trunk** client.

Starting the soak test

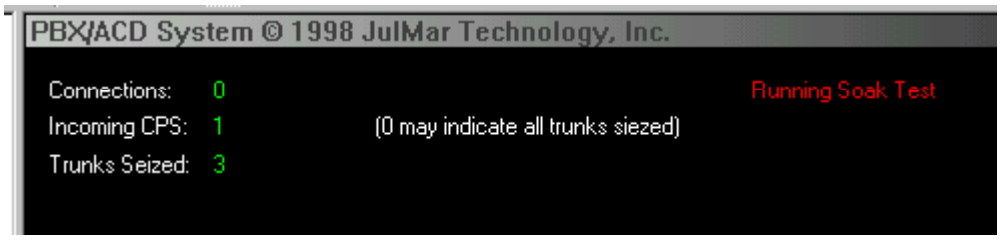
To start a soak test, use the **Tools/Generate Incoming Traffic** menu option. It brings up a dialog like:



Generate at most – This is the density of traffic to generate. It can be from 1-20 calls per second.

Start – This starts the soak test.

Once a test is started, the system starts generating inbound trunk calls on random available trunks at the rate given. Once the system is saturated (i.e. no more trunks are available), the test stops until a trunk is available at which point it resumes operation. The statistics view will change to reflect that a soak test is running and will look like:

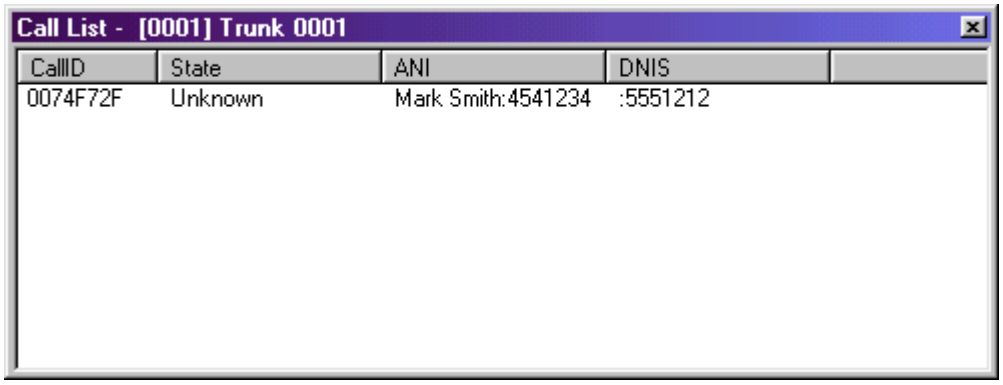


Stopping the soak test

To stop an active soak test, use the **Tools/Generate Incoming Traffic** menu option and press the **Stop** button on the dialog.

Monitoring the active call list on a line

If you would like to see the active calls on a particular line, you can select the line in the device tree list or on the list view for the line type and right-click the line. Select **Call List** from the context menu and it will display a movable non-modal dialog which looks like:



Call ID – This is the unique 32-bit number assigned by the PBX for the call.

State – This is the current state of the call. On a trunk, the call is always in the **UNKNOWN** state.

ANI – This is the caller information in "**NAME:NUMBER**" format.

DNIS – This is the called number information, in "**NAME:NUMBER**" format.

This window will remember it's size and position the next time it is opened.

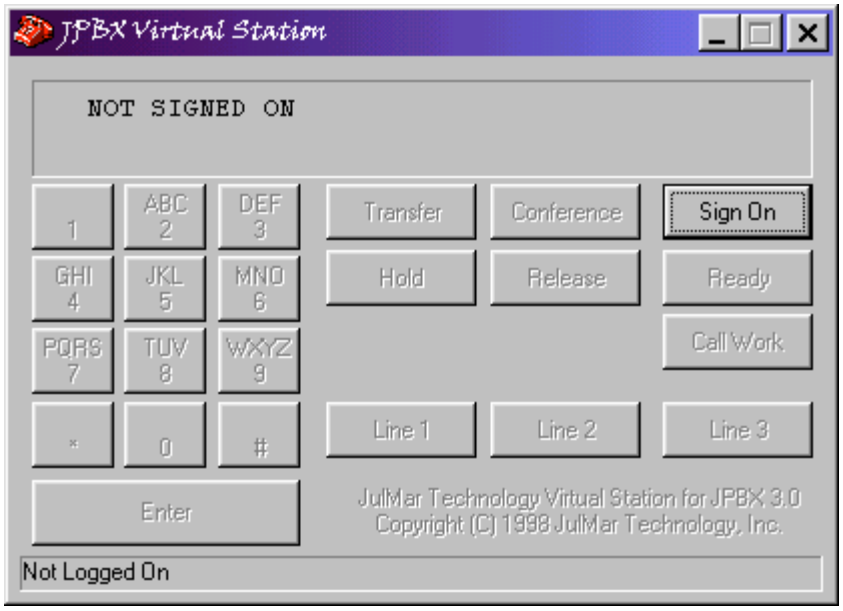
Station Client

To simulate the presence of agents on the switch, a software station client is provided with JPBX. It is a separate executable installed in the same directory as the server. The name of the executable is **JPSTATION.EXE** and it may be moved to any machine on the same network if you don't want to run it on the same machine as the PBX simulator.

To run the station client, either run the executable directly (using the **Start Menu/Run** command) or through the simulator **Tools/SoftPhone** option. This will run the station client on the same machine as the simulator. If you want to run the station on another machine, you will have to copy the **JPSTATION.EXE** file and run it yourself.

Note: You should always make sure to drop any calls before exiting the station software. Exiting the software does **not** drop any active calls – they stay active until you re-login to the station and drop them or use another tool to send the appropriate PBX command to remove them.

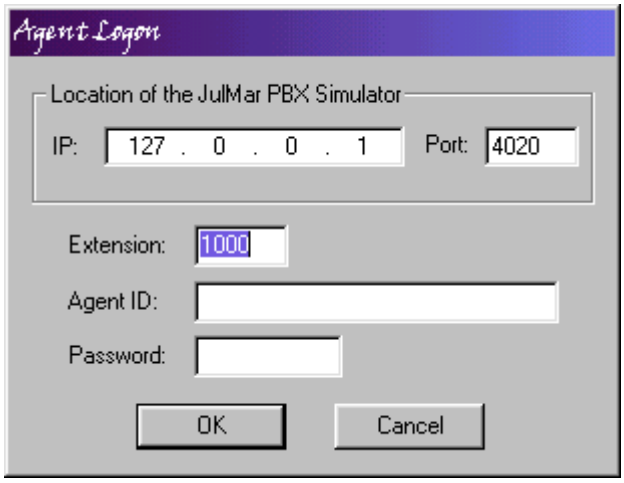
Once you start the station, it will display a dialog which looks like a typical ACD station:



Note that all of the buttons except **Sign On** are disabled upon startup. This is because the station is not activated and has no agent signed into it. The first step in using the station is to sign in.

Sign In

To sign into the PBX, press the **Sign On** button, the following dialog will be displayed:



IP Address – This is the TCP/IP address of the JPBX simulator. If it is on the same machine, simply use the IP address **127.0.0.1**. Otherwise, use the IP address of the machine on the network that is running the JPBX software.

Port – This is the numeric port (from 1 – 9999) that the server is listening to. This is configured in the **Global Settings** of the JPBX software and defaults to **4020**. Unless you have changed this value in the JPBX settings, use this value.

Extension – This is the extension (station) to log into. This normally would be hard-coded into the station hardware but cannot be done here since this is a software emulator. This should be a station defined in the PBX hardware that has no other software client associated with it.

Agent ID – This is the agent id to log this station in with. It must be an existing agent that is not logged into any other station.

Password – This is the optional password for the agent id given. If a password is defined in the agent profile, it should be specified here. If no password was entered for this agent, then this field should be left blank.

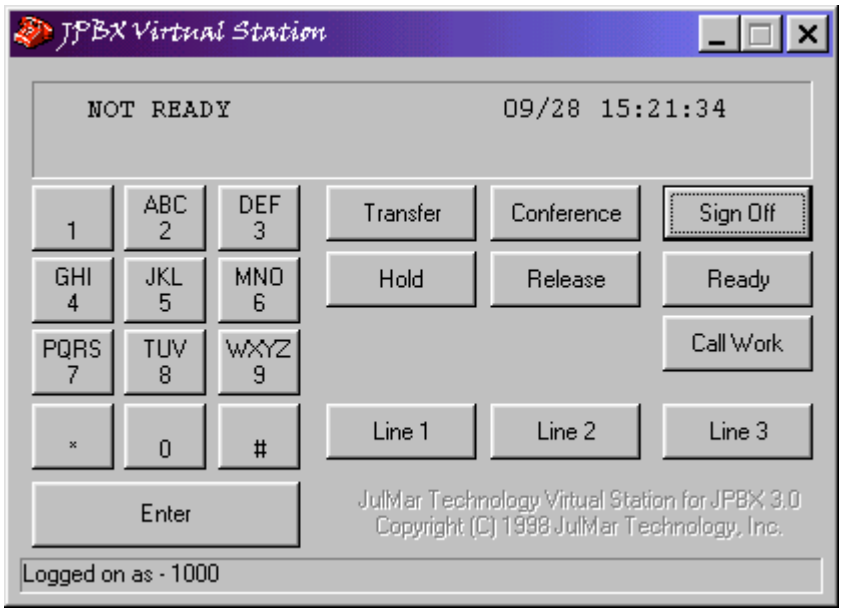
Once **OK** is pressed, the logon command will be sent to the JPBX simulator. If no simulator is detected at the IP address/port, an error box will be displayed:

Errors

If any error occurs during an operation on the station, the specific error that occurred will be displayed in the status bar of the station software.

Phone Components

Once a successful logon has occurred, the phone unit will become available:



The various components of the phone station are:

1) **Display** – This area is updated directly by the JPBX software and indicates the current state of the station from the PBX's perspective. It has several forms:

When no calls are pending on the station, the display will look like:

AGENT STATE	DATE/TIME

When a call is active on the station, the following information will be available:

ACTIVE CALL NETWORK INFO	
	X CALLS PENDING

The "X CALLS PENDING" field will only be present if there are holding or offering calls on the station. When a conference is created, the following display will be generated:

CONFERENCED
STATIONS CONFERENCED IN

When an outgoing call is placed, the following display will be present:

DIGITS DIALED X CALLS PENDING

The "X CALLS PENDING" field will only be present if there are holding or offering calls on the station.

2) **Digit Buttons** – The digit buttons represent the normal handset operations of a DTMF phone. They are used to enter phone numbers and to generate tones on an active call.
3) **Agent State buttons** - These buttons include the **Ready, Sign Off** and **Call Work** buttons and cause the agent state to be adjusted either immediately (if there is no active call) or right after all calls are released. The **Sign Off** button can only be used when the agent is in the **Not Ready** state.
4) **Special Function buttons** – These buttons include the **Transfer, Conference, Hold** and **Release** buttons. They perform special functions (documented below).
5) **Line Buttons** – These buttons allow the agent to move between the active calls on the station. Each station may have up to three active calls at any given time.

To Sign off

To sign off the station, the agent must be in the **Not Ready** State as indicated by the display. To change to the **Not Ready** state, see the section on changing agent states. When this button is pressed and completes successfully, the connection to the PBX is dropped and the station reverts to unavailable.

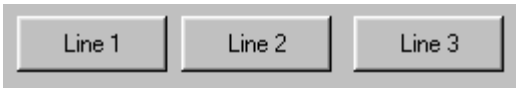
Agent states

The agent always starts in the **Not Ready** State when first logged on. The **Ready** button allows the agent to move between the **Ready** and **Not Ready** states. The **Call Work** button allows the agent to move between the **In Call Work** and **Not Ready** states. Simply press the button to switch the state. If there are any calls on the station, the state will not be reflected until all calls are released at which point, the desired state is entered.

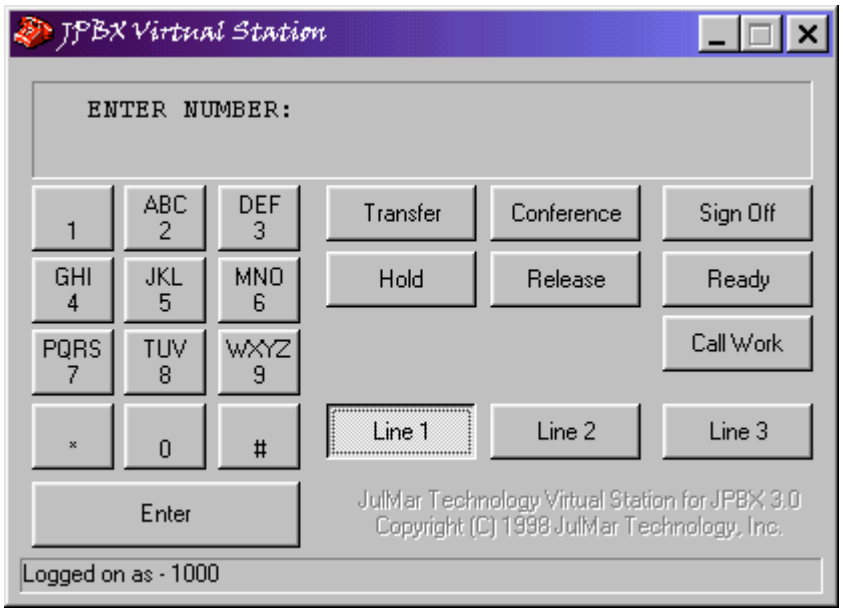
Depending on the switch configuration, the agent may normally move to the **Ready** state when the final call is disconnected (see **Agent Properties**), by pressing the **Call Work** or **Ready** button, this can be changed by the agent.

To place a call

To place an outgoing call, the agent must be in the **Not Ready** state. Then, press an available line key from the line buttons:



The button will depress and the display will change to **ENTER NUMBER:**



Type in the number that will be the destination using the digit keypad. This can be another station or a VRU. If you want to place an outgoing trunk call, dial **'9'** before the number and make sure to dial more than 4 digits.

Once you are done dialing the number press the **ENTER** key to send the request to the PBX. If an error occurs, the text will appear in the status box. If the call is successful, the display will change and the button text will be altered to reflect the called information.

To place a call on hold

Either press the **Hold** button while you are on the selected call, or press the **LINE** button for another call which will automatically place the active call on hold.

To retrieve a call off hold

To retrieve a holding call, simply press the **LINE** button that corresponds to the call.

To disconnect a call

Make sure the desired call is active (the **LINE** button is depressed), and press the **RELEASE** button. If successful, the **LINE** button will be restored to normal and the display will change.

To transfer a call

To transfer a call to another station, place the given call on Hold, dial the target party to transfer the call to and press the **TRANSFER** button.

To conference two or more calls together

Dial each party which will be a leg in the conference, placing each on hold as necessary. Press the **CONFERENCE** button to retrieve all the calls into a conference. If successful, all the buttons in question will depress and the display will change to reflect a conference.

To break a conference

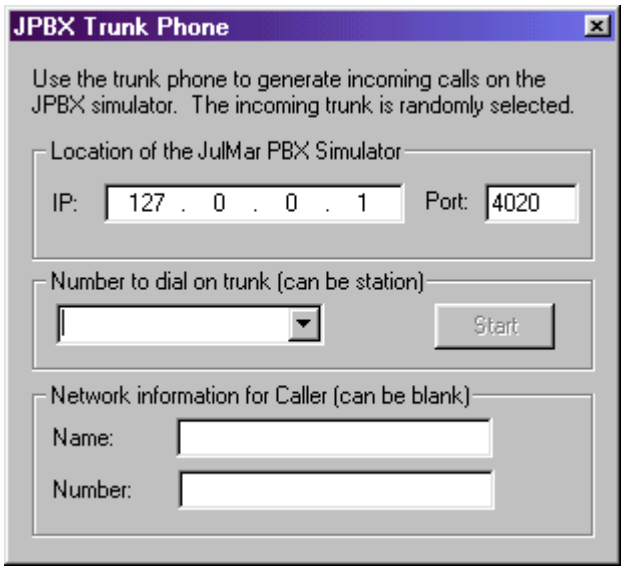
To destroy a created conference, simply press one of the line buttons to place all other parties on hold. Once this is done, the conference is broken into separate calls with only one call active (the one pressed). You may then drop one or more parties and re-conference if desired.

Trunk Client

To simulate single incoming trunk calls on the switch, a software trunk client is provided with JPBX. It is a separate executable installed in the same directory as the server. The name of the executable is **JPTRUNK.EXE** and it may be moved to any machine on the same network if you don't want to run it on the same machine as the PBX simulator.

To run the trunk client, either run the executable directly (using the **Start Menu/Run** command) or through the simulator **Tools/Trunk Client** option. This will run the trunk client on the same machine as the simulator. If you want to run the trunk software on another machine, you will have to copy the **JPTRUNK.EXE** file and run it yourself.

Once you start the trunk, it will display a dialog which looks like:



IP Address – This is the TCP/IP address of the JPBX simulator. If it is on the same machine, simply use the IP address **127.0.0.1**. Otherwise, use the IP address of the machine on the network that is running the JPBX software.

Port – This is the numeric port (from 1 – 9999) that the server is listening to. This is configured in the **Global Settings** of the JPBX software and defaults to **4020**. Unless you have changed this value in the JPBX settings, use this value.

Number to dial – This is the DNIS for the incoming trunk call. This represents the number that the caller dialed which got them to a trunk. This allows you to use any number and see how routing by DNIS might be accomplished.

Name – This is the name of the caller (ANI). It may be blank.
Number – This is the number of the caller (ANI). It may be blank

To place a call

Enter the appropriate information into the dialog and press the **Start** button. This will cause a trunk to be allocated and a new incoming call will be placed into the switch.

To stop a call

To stop the call, simply press the same button (labeled **Stop** once a call is successfully placed). This will simulate a client hanging up the phone on the far end of the trunk.