Installation Guide

Version 4.X and 5.X

IMPACT technologies

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Table of Contents

Overview

This document contains sections on everything you need to know to install Traffic Analyst including estimated time of completion. It is organized into the following sections:

Section 1: Switch Preparation

Before you can poll, the switch may need to be prepared. Read the sections for those switch types you are interested in, and if necessary, take the actions required to get them ready.

The following table provides a list of the switch types supported by Traffic Analyst and the approximate time it takes to prepare them for polling.

Switch Type	Estimated Preparation Time
Siemens Hicom 300E and 9751 Models 30 and 80	15 minutes
Siemens 9751 Models 10, 40, 50, 70 and ROLM 9000	15 minutes
Siemens HiPath 3000/Hicom 150	15 minutes
Siemens HiPath 4000	120 minutes
Siemens OpenScape Voice	15 minutes
Nortel SL1 and M1 – All Models	30 minutes
Avaya – All Models	30 minutes

Section 2: Software Installation

This section takes you through installation of Traffic Analyst, which includes the Traffic Analyst Server and the Web Server Component.

The following table provides the estimated time it takes to install the software.

PC Type	Estimated Preparation Time
Traffic Analyst Server and Web Server Component	10 minutes

Section 3: Installation of Additional Devices

This section covers issues like buffer boxes, FTP Servers and automatically starting Traffic Analyst. You may be able to skip all of these to Screenshots.

Section 1: Preparation

The preparation required for each type of switch is described in this section.

1.1. Server preparation for the Traffic Analyst Installer

- ☑ Make sure Internet Information Services (IIS), IIS 7 for windows 2008 is installed on the Traffic Analyst server.
- ☑ Make sure .NET Framework 3.5 is installed on the Traffic Analyst server.
- ☑ Windows 2008 R2 need to "Start" the Application Pool for ASP .NET V2.0 Also "Enable 32-Bit Applications, this must be set to True. This is set in IIS Application Pool under Advance Settings.

1.2. Siemens HiPath 4000

1.2.1. Pre-Installation Notes

- For the Siemens HiPath 4000, Traffic Analyst will pull CDR data from the Unix-side of the switch. The software will configure the HiPath for data collection. For a list of AMO that will be configured please contact Impact Technologies Helpdesk. Data collection and switch configuration uses a TCP/IP connection.
- Go to Section 2 titled "*Traffic Analyst Software Instructions"*. To use this setup you will need the following:
  - Access to a PC that is on the same network as the switch
  - Switch IP Address
  - Switch Password required
  - Browser (Microsoft Internet Explorer) on the PC

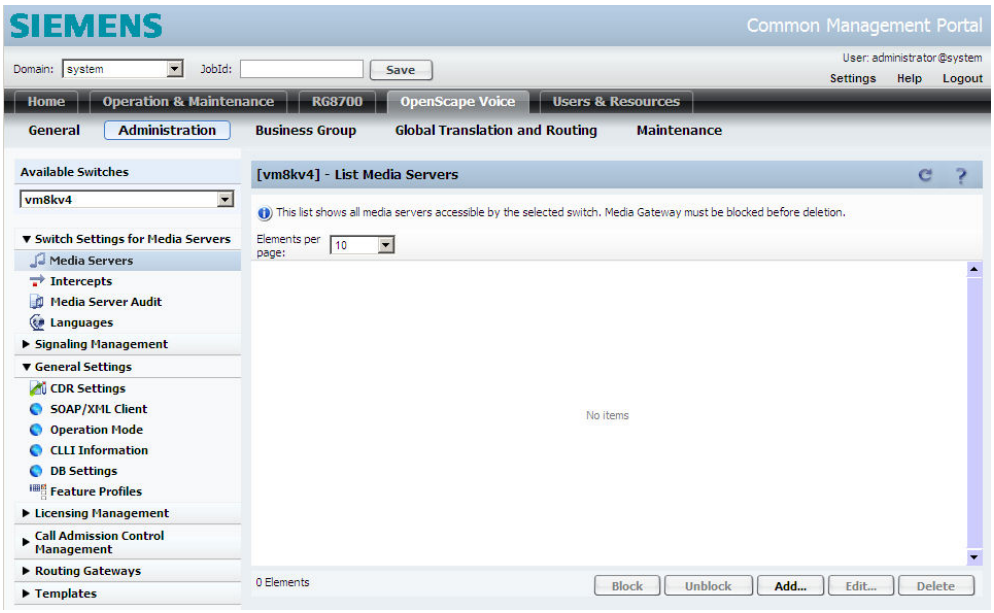
1.3. Siemens OpenScape Voice

1.3.1. Pre-Installation Notes

For an OpenScape Voice switch, you may need to configure the switch to prepare CDR data for Traffic Analyst. This is the case if you have more than one OpenScape Voice switch, or if your OpenScape Voice switch is networked with a HiPath 4000 switch.

Go to your OpenScape Voice Common Management Portal, which you access via a browser. Log in as "Administrator" with your password. Once you access the software, go to the OpenScape Voice tab.

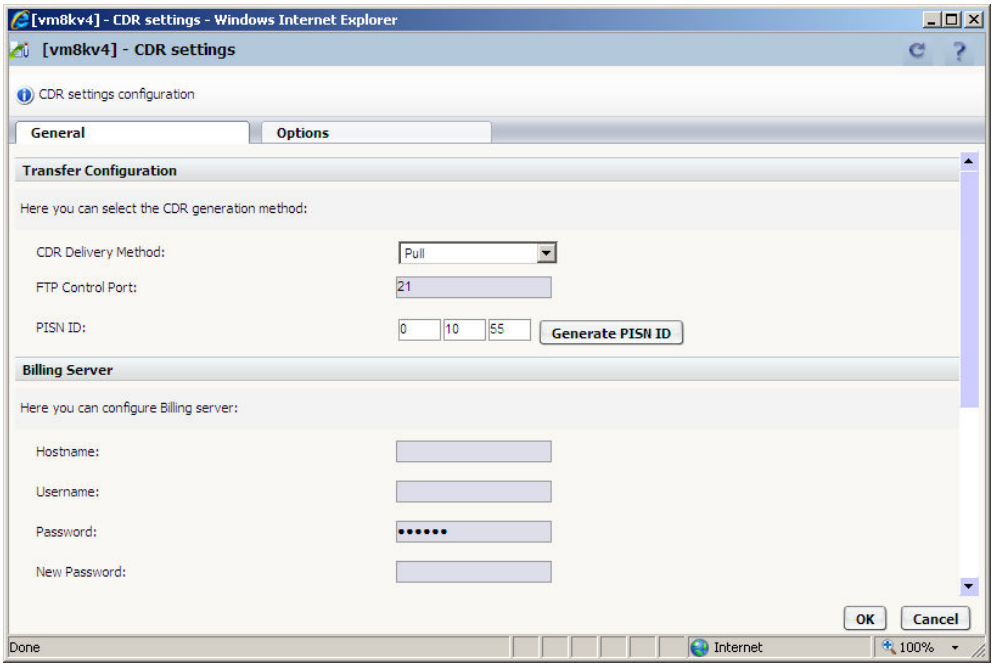
Next, select the "Administration" option under the OpenScape Voice tab.



From this next tab, choose the "General Settings" option from the list of the left. (If you have more than one OpenScape Voice switch, choose the appropriate switch and repeat the following steps for each of the OpenScape Voice.)

Select the CDR Settings option under General Settings. You will see a Configure CDR settings window display.

On the Configure CDR settings window, select "Pull" as the "CDR Delivery Method". The PISN ID is the same as the Node ID in Traffic Analyst, so you can set those three fields to anything you wish, but the same three values separated by dashes must be set on the OpenScape Voice Switch Properties Communication tab in Traffic Analyst for the Node ID.



You can check the fields on the Options tab, but they don't normally need to be changed. The default of 30 days for the data retention period is good unless you are worried about disk space and want to lower it. Normally, Traffic Analyst will collect this data daily regardless, so this data retention period here is only helpful if Traffic Analyst hasn't collected for some reason and needs to go back and get older data.

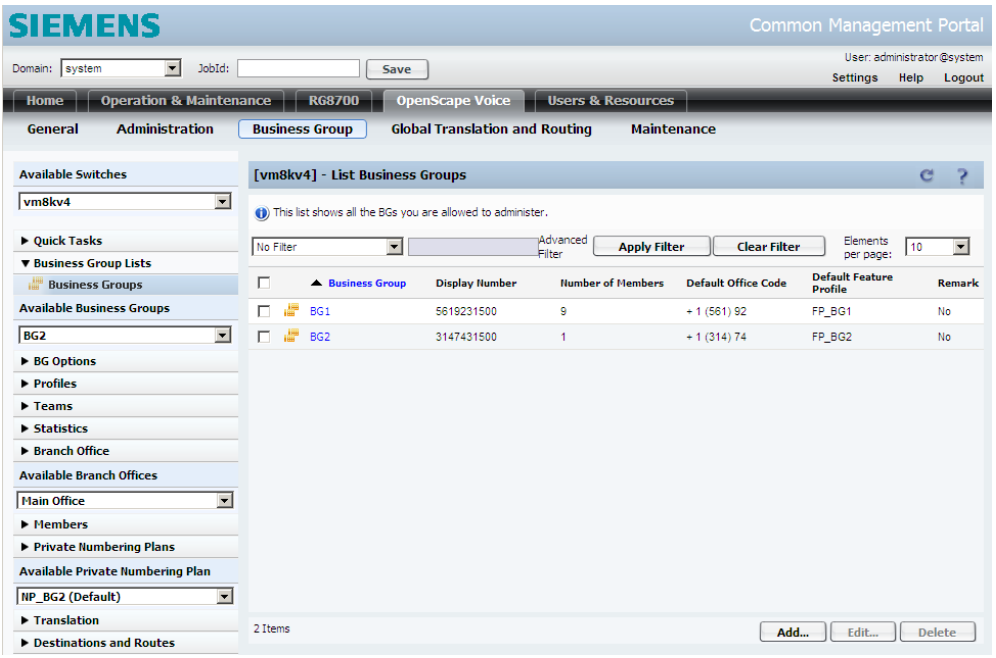
Select "OK" when you are finished.

It is recommended that you set up customer IDs for each business group. For instruction on how to do this, please continue reading the next section.

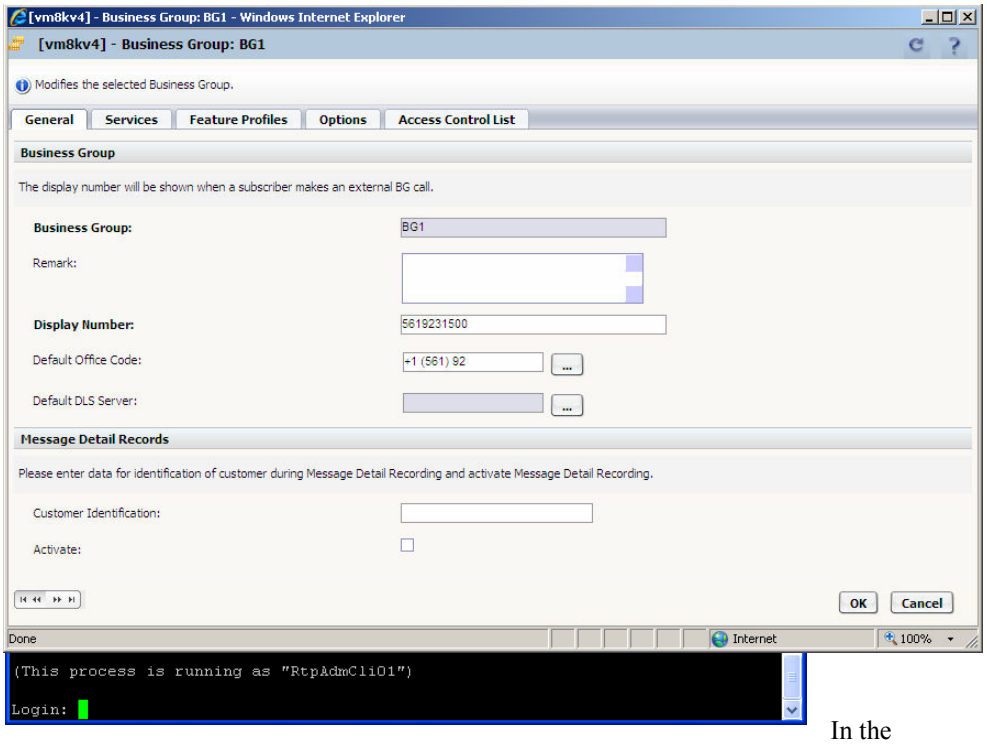
1.3.1.1. Creating Customer IDs for Business Groups (optional)

Creating Customer Identification numbers for each business group will allow you to sort report data by business group.

To edit this information, select "Business Group" from under the OpenScape Voice tab.



Next, select a business group from the list presented by clicking the business group's name.



In the General tab of the Business Group window, find the "Message Detail Records" section at the bottom of the screen. Complete the "Customer Identification" field by entering a string of numbers by which you will identify this business group in reports.

Note: Each business group is not required to have a unique Customer ID. Unique IDs are useful for sorting by business group in reports, however there may be times when you want two or more business groups tied to the same Customer ID. For instance, if you have a site that requires using two business groups and you want to identify the site as a whole in the report, it is acceptable to give both groups the same ID.

Select the "Activate" checkbox to activate the customer identification for this business group.

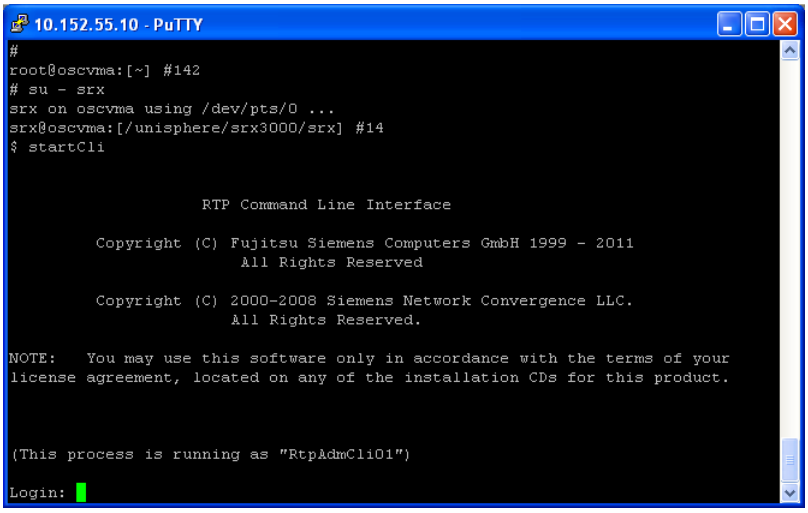
Click "OK" when you are finished to save your changes.

1.4. Instructions for allowing Traffic Analyst API access to the OpenScape Voice Switch

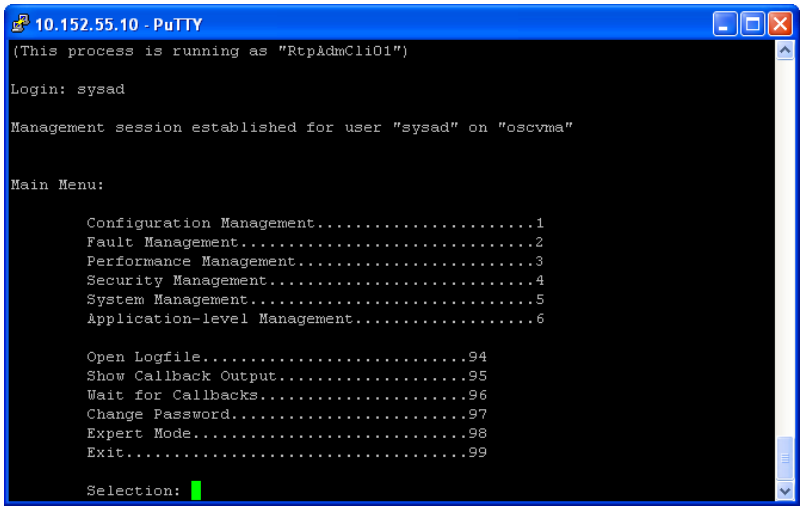
Configuring the OSV to allow access by Traffic Analyst requires using the command line interface of the OSV. This is started by running the command line interface (CLI) which is started by running the command "startCli". Su – srx, sysad. The person following these instructions must know how to log into the SSH shell of the OSV and have all the user names and passwords required to use the CLI. Impact Technologies cannot supply the passwords for a customer site. In the example below, the freeware tool "PUTTY" is used for the SSH connection.

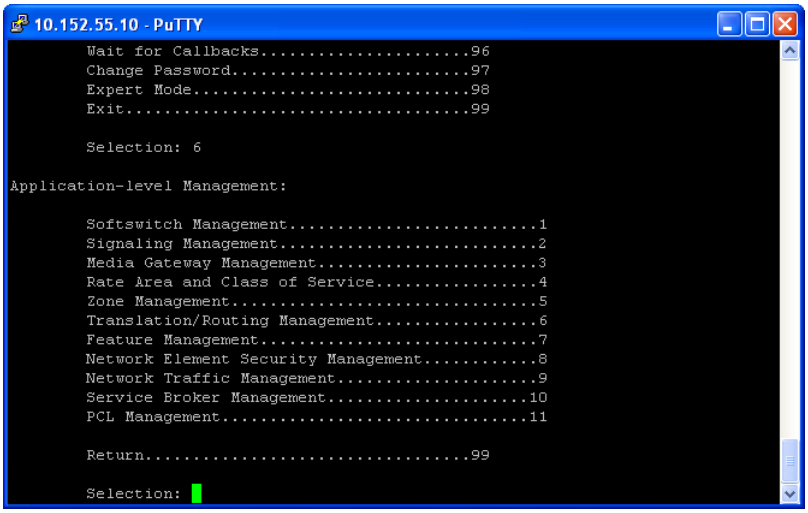
Once a SSH connection is established and the correct user name and password entered, a system prompt (probably "#") appears. Enter "su – srx". Another system prompt then appears (probablye "$" this time). At this point enter "startCli". Any entry message with a "Login:" prompt something like the image below should appear.

At the “Login:” prompt, enter “sysad”. You should then see the main menu.

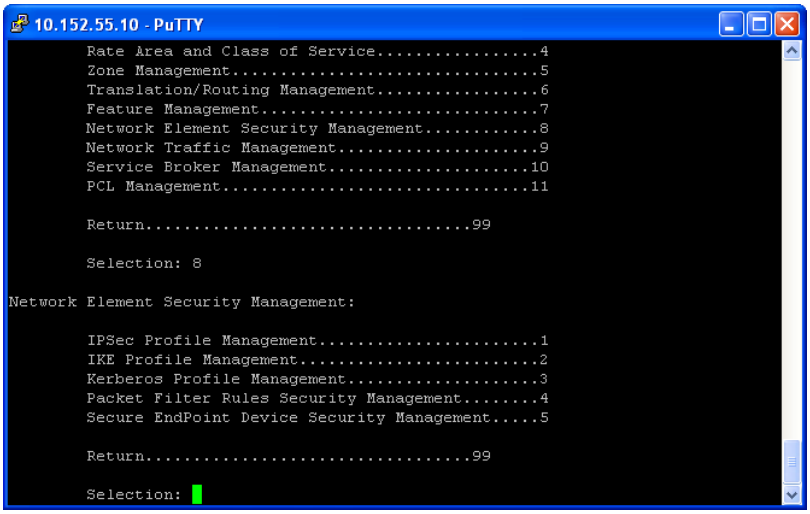


Pick option 6,Application-Level Management. You’ll then see the Application-Level Management menu.

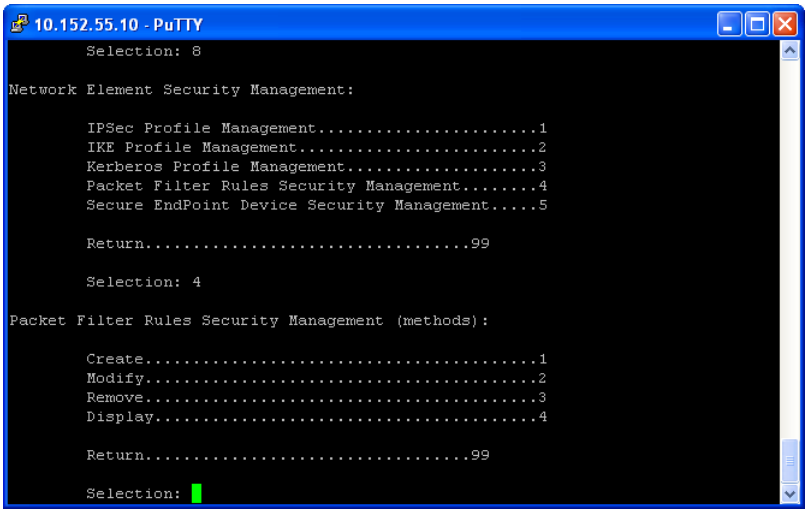




Now pick option 8, Network Element Security Management



Pick option 4, Packet Filter Rules Security Management.



Now we need to create a rule that will given the PC running Traffic Analyst access to the OSV API.

You will need to know the IP address of that PC.

You will also need to enter a mask to go with that IP address.

To allow access for only that one IP address, use the mask value 255.255.255.255. Or you could allow access by any PC on that subnet by using a mask of 255.255.255.0.

To create a new rule, pick option 1, Create.

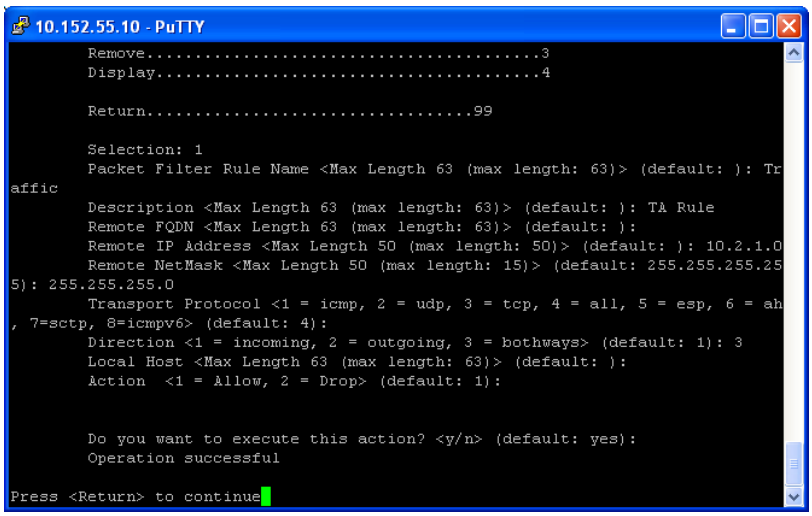
- For the Packet Filter Rule Name, enter “Traffic”.
- For the description, enter “TA Rule”.
- Then hit enter at the Remote FQDN prompt.
- Enter the IP address of the PC running Traffic Analyst at the Remote IP prompt.
- Then enter the mask you chose at the Remote NetMask prompt.
- Hit enter at the Transport Protocol prompt.
- Then enter 3 for bothways at the Direction prompt.

You can just hit enter at the rest of the prompt until you get to the

“Do you want to execute this action prompt” where you hit enter again.

The session should look something like the session show below.

Hit enter again and you’ll be back at a menu.



The OSV is now configured to give access to the PC running Traffic Analyst. Just hit 99 at each menu as they appear to exit out of the CLI.

1.5. Siemens HiPath 3000/Hicom 150

1.5.1. Pre-Installation Action Items

For these switches, Traffic Analyst does not actually poll the data as in making a connection to the switch and getting data. Instead the switch constantly sends data that Traffic Analyst will retrieve. Once a day Traffic Analyst processes the previous day’s data, in addition to hourly data processing.

Traffic Analyst will retrieve data from the switch, HiPath Manager or HiPath 5000 RSM. If retrieving the data directly from the switch, you will use a TCP/IP connection. If

retrieving the data from HiPath Manager or HiPath 5000 RSM, you may use a TCP/IP connection or network file access. If you will be retrieving data from HiPath Manager or HiPath 5000 RSM via TCP/IP, the File Transfer Protocol (FTP) must be used.

If the data is sent via TCP/IP connection, the TCP/IP protocol must be unimpeded. In particular no router, firewall, or other network device should restrict use. Ask your network administrator for further details.

- **Note:** Consoles and Console Groups are not supported.

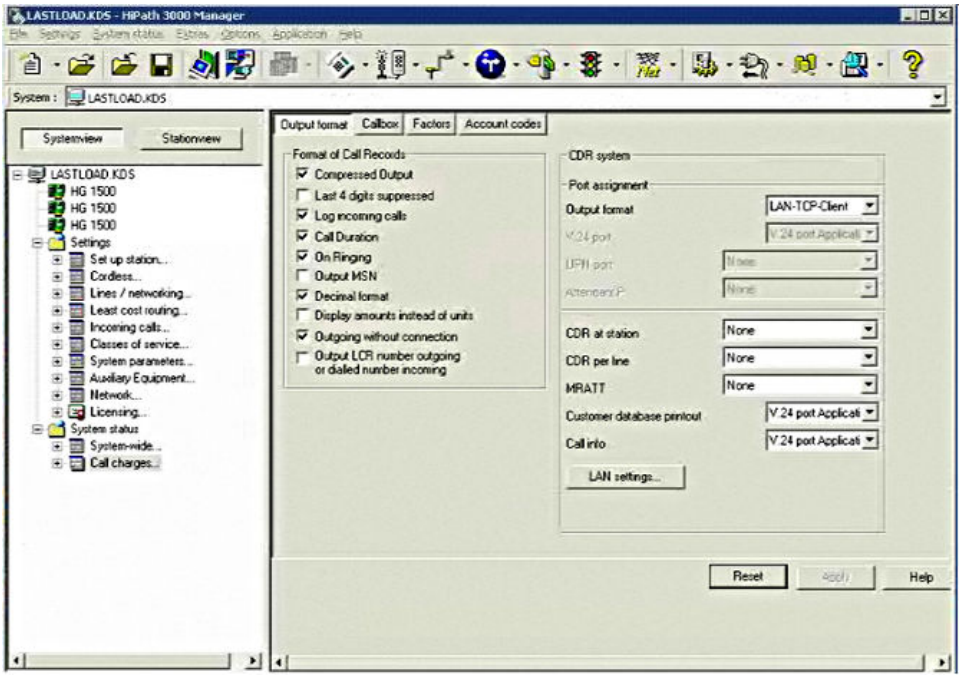
If retrieving data from the switch, HiPath Manager, or HiPath 5000 RSM, there are settings that must be configured on Hicom Assistant or HiPath Manager or before Traffic Analyst can poll.

- **Note:** Siemens Hicom 150 is administered by Hicom Assistant or HiPath Manager. Siemens HiPath 3000 is administered by HiPath Manager.

- **Note:** Only OfficeCom and OfficePro are supported when using Hicom Assistant.

Below are the settings for Hicom Assistant or HiPath Manager.

1.5.1.1. Configure Call Charges Output Format



When configuring the call charges output format, make sure the Format of Call Records section is filled out as such:

Compressed Output – checked

Last 4 digits suppresses – optional

Log incoming calls – checked

Call Duration – checked

On Ringing – checked (option not available in Hicom Assistant)

Output MSN – unchecked

Decimal Format – checked

Display amounts instead of units – unchecked

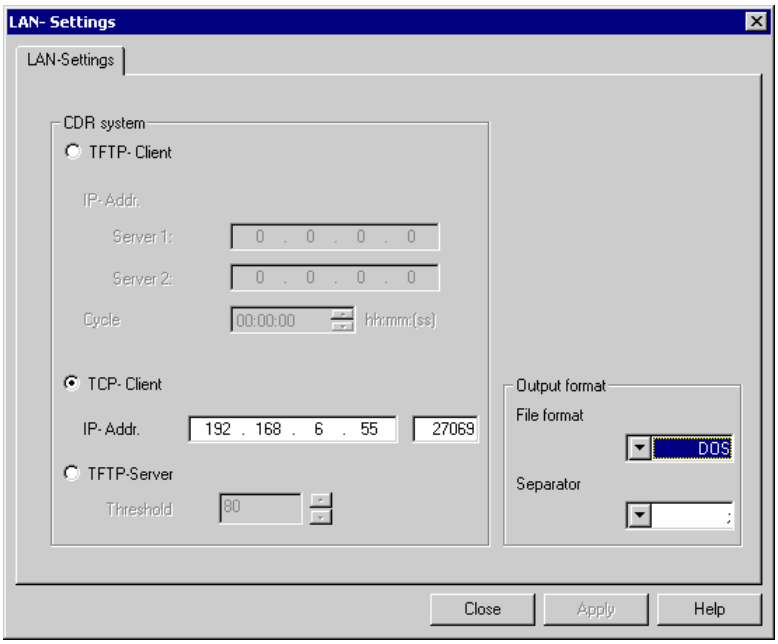
Outgoing without connection – checked

Output LCR number outgoing or dialed number incoming – unchecked

Next, in the **Output format** dropdown (located in the CDR systems section of the window), select LAN-TCP-Client (or None if using HiPath 5000 RSM).

You must click the Apply button to save the changes. (All changes must be sent to the HiPath before data collection can begin.)

Click the **Lan settings…** button to access the following display:



The LAN settings must be as follows:

TCP-Client – selected

IP-Addr – IP address of the Traffic Analyst server (or of the HiPath 5000 RSM)

(port) – 27069 (This is the switch port. If this must be something different please contact Impact Technologies for assistance.)

File format – DOS

Separator - ;

You must click the Apply button to save the changes.

If retrieving data from HiPath 5000 RSM, it must be configured to receive CDR data from the switch.

When the above activities are done, go to the section entitled ***"Traffic Analyst Software Installation".***

1.6. Siemens Hicom 300E and 9751 Models 30 and 80

1.6.1. Pre-Installation Notes

- Note: For normal data collection, Traffic Analyst will poll the Siemens Hicom 300 switches and 9751 Model 30 and 80 switches once a day, usually in the early morning hours. Up to ten days of data may be stored and available on the UNIX partition of the switch.

- Note: For CDR data collection, available only with the web-based version of Traffic Analyst and the purchase of the CDR module, Traffic Analyst will retrieve data from a buffer box once or more than once per hour.

- Note: If the switch is a Siemens **9006.6** there will already be an **FTP user name and password** defined. Username = tal and password = tal, and will be used only if Traffic Analyst will be connecting to the switch using **TCP/IP** (LAN connection).

- Note: Traffic Analyst can alternately connect using **TCP/IP** to a Siemens **9006.6** switch under the following conditions:

    1. The switch must have a network daughter board installed and LAN connectivity configured and enabled.

    2. The TCP/IP protocol must be unimpeded between the Traffic Analyst system and the Switch. In particular no router, firewall, or other network device should restrict the use of the well-known FTP ports. Ask your network administrator for further details.

- Note: If **previous traffic studies** have been run using BELAU, you should delete these studies before polling with Traffic Analyst. Use the AMO "belin" to delete these studies.

1.6.2. Installation Instructions

As you complete each of the following activities, put a check mark in the box next to each of the following items:

1.6.2.1. Confirming the Switch Software Release

Software release **9006.3 with SMR6** or a later version must be installed on the switch. The software release must be installed on the switch before Traffic Analyst can poll. Confirm that the software is installed on the switch.

1.6.2.2. Obtain Switch Username & Password

Obtain the switch user name and password that must be defined and available for Traffic Analyst to log-on to the switch. The username and password must provide access to the "UDSC" menu and contain the LTDR (List Traffic Data Retrieval) option. It is OK if other menu options also appear. Suggested to use the rsca username.

1.6.2.3. Running the AMO Command

The following AMO command should be performed on the RMX side of the switch unless the switch is a Siemens **9006.6**. This command starts up LTDR and the associated traffic metering on the switch:

```
exec-xapc:A1,"act.ltdr -save 10";
```

The number 10 in the above command represents the number of days of traffic data that will be stored on the Unix partition of the switch. It can be a value from 1 to 10. If there is any concern that the Unix partition on the switch may be low on disk space, then reduce this number to 3. Please note that in the above command, there are spaces between "ltdr" and the "–save", and again between "-save" and "10". The command does end with a semi-colon.

If the switch is a Siemens **9006.6**, LTDR is automatically on and set to store 10 days by default.

1.6.2.4. Obtaining a Serial Connection to the Switch

Obtain a Unix switch serial port that will be available for the traffic server to use. If you are using your switch's LAN connection, then see below. Traffic can use a dial-up or direct connection. Traffic will connect with the switch once a day, usually in the early morning, for approximately 20 minutes to an hour. The connection to the Traffic computer can be over a modem (US Robotics Sportster 56K is recommended), a data line or via direct RS-232 cable. Traffic can work with LeeMah keys, if they are in place.

- Note: When the above activities are done, go to the section entitled ***"Traffic Analyst Software Installation".***

1.7. Siemens 9751 Models 10, 40, 50, 70 and ROLM 9000

1.7.1. Pre-Installation Notes

- For these switches, Traffic Analyst will poll once a day, usually in the early morning hours for the previous day's data. The day's data consists of interval-by-interval results for 50 intervals. The interval length is defined on the switch and we recommend 1 hour intervals.

- Traffic Analyst issues the LIST TRAF ALL ALL PAST ALL command to get the following data:

    - trunk groups
    - console groups

- consoles
- lines
- internode or INL
- tone senders
- DTMF registers
- rotary senders
- conference bridges
- event and peg counts
- PhoneMail
- system information

➢ After polling, the data is parsed and stored into hourly results in the Traffic Analyst database.

1.7.2. Installation Instructions

As you complete the following activities, put a check mark in the box next to each of the following items:

1.7.2.1. Confirming the Switch Software Release

Software release 9004.0.38 or later must be installed on the switch. The software release must be installed on the switch before Traffic Analyst can poll. Confirm that the software is installed on the switch.

1.7.2.2. Obtain Switch Username & Password

A **CLI User name and password** must be defined and available for Traffic Analyst to log on with. It should provide access to the following commands:

LIST TRUNK_GROUP NAME (In Config)

LIST TRAF

LIST ATC_GROUP ALL (optional) (In Config)

1.7.2.3. Obtaining a Serial Connection to the Switch

A serial port on the switch must be made available for the traffic server to log onto. Traffic will connect with the switch once a day, usually in the early morning, for approximately 20 minutes to an hour, although large model 70s can take multiple hours. The connection to the Traffic computer can be over a modem, a data line or via direct RS-232 cable, for Model 70's we recommend a direct RS-232 connection. Traffic can work with LeeMah keys, if they are in place.

1.8. Nortel SL1 and M1 – All Models

1.8.1. Pre-Installation Notes (Call Accounting)

- For CDR data, Nortel switches create CDR files that can be pulled from the switch using FTP. Alternatively, the CDR data can be streamed to a buffer box, with the data being pulled from the buffer box using FTP.

- The CDR parameters should be set to output the "New" SL-1 CDR format. This corresponds to setting the FCDR in LD 17 to "NEW".

- NOTE: If CDR has not already been configured on your switch, we recommend you request support from your switch manufacturer to help set up your switch for CDR output. Or, you may also want to reference Nortel's *Call Detail Recording System Administration Guide*.

1.8.2. Pre-Installation Notes (Network)

- For Network data on Nortel switches, data must be polled or captured every interval or it will be lost. Intervals are defined on the switch and can be an hour or ½ hour in length. Traffic Analyst can directly poll the switch on an interval-by-interval basis, or it can work with a variety of buffer boxes to get the data. If buffer boxes are used, multiple days worth of past data may be available for polling.

- Traffic uses Load 2 to get and store the following traffic data reports (the switch report numbers are in parenthesis):

    - Network (TFC001)
    - Trunk Group (TFC002)
    - Console Group (TFC003)
    - Console Member (TFC004)
    - Feature (TFC005)
    - Network Loop (TFS001)
    - Service (TFS002)
    - Dial Tone Delay (TFS003)
    - Processor (TFS004)
    - Selected Terminal (TFS005)
    - Junctor (TFS007)
    - IP Phone Zone Traffic (TFS016)
    - DSP Peg Count (TFC012)

- After polling, the Network data is parsed and stored into hourly results in the Traffic Analyst database.

1.8.3. Installation Instructions

As you complete the following activities, put a check mark in the box next to each of the following items:

1.8.3.1. Configuring the Switch

Traffic data is the only data that should be configured on the port. CDR, alarms, and maintenance messages must be output to a separate port from the LD 2 traffic data. The data streams cannot be sent to the same port.

1.8.3.1.1. Choose the Type of Configuration

1.8.3.1.1.1. Polling Directly from the Switch via Serial Port

If Traffic is polling the switch (rather than a buffer box), and the switch is release 23 or less, then a serial port must be configured for access and a password must be available for Traffic to log on with. LD 2 must be accessible from this port. If the switch is release 25 or higher or Succession 3.0, 4.0, 5.0 connection can be made via serial or TCP/IP.

1.8.3.1.1.2. Polling Directly from the Switch via TCP/IP using FTP

If the switch is release 25 or higher or Succession, then Traffic Analyst can communicate to the switch via TCP/IP using File Transfer Protocol (FTP). Data will be retrieved from the switch disk. The FTP protocol must be unimpeded and the switch login requires a Debug username and password. It is required to have DBA-Package 351. Follow the below commands on the switch.

To enable output of traffic data to the disk (buffer): (Up to 2 MB of data will store on the disk.)

LD117 ENL BUF TRF

To verify outputs of traffic data is enabled:

LD117 STAT BUF

The below status should reply.

TRF ENL

The switch must then be configured to send the LD2 data.

1.8.3.1.1.3. Polling Directly from the Switch via Rlogin

For **rlogin** access:

Username: This should be CPSIDnnnn where nnnn are combinations of zero or ones.
IP or hostname of the switch: Network IP address to the switch.
Note: **no password is required**

For interactive shell access, **Level1** or **Level2**:

Username
Password

1.8.3.1.1.3.1. Traffic Analyst Interaction

Following is the interaction Traffic Analyst will programmatically have with the Nortel switch each hour. With the exception of the first and last step, these represent the same

steps used by Traffic Analyst with a serial connection or IP connection using a Lantronix UDS-10 terminal server.

- Establish the rlogin session with the Nortel switch. "rlogin –l CPSIDnnnn nnn.nnn.nnn.nnn" where the four digits after "CPSID" are a set of ones and zeros, and nnn.nnn.nnn.nnn is the IP Address of the Nortel switch.
- Once the rlogin connection is established enter a <Return> to launch the Nortel interactive shell. Login using your level 1 or level 2 password:
    - >LOGI <respond with username>
    - PASS? <respond with password>
- After the log-in confirmation message type a return.
- At ">" prompt enter: LD 2
- At "." prompts invoke Load 2 commands to retrieve traffic data, such as:
    - . Invc 0 2
    - . Invc 0 3
    - . Invs 1
- When finished with Load 2 commands type four (4) asterisks "****".
- At ">" prompt type LOGO to logout.
- Drop the rlogin connection.

These commands can be performed by hand for confirmation. The first step with require third party software (such as SecureCRT) to establish the rlogin connection. Depending on the software used the input sequence of the rlogin process may differ from that shown above.

1.8.3.1.1.4. Polling Directly from the Switch via SSH

If the switch is Succession 6.0 or higher Traffic Analyst can communicate to the switch via SSH.

For **SSH** access:

Username: This should be CPSIDnnnn where nnnn are combinations of zero or ones.
IP or hostname of the switch: Network IP address to the switch.
Note: **no password is required**

For interactive shell access, **Level1** or **Level2**:

Username
Password

1.8.3.1.1.4.1. Traffic Analyst Interaction

Following is the interaction Traffic Analyst will programmatically have with the Nortel switch each hour.

- Once the SSH connection is established enter a <Return> to launch the Nortel interactive shell. Login using your level 1 or level 2 password:
    - >LOGI <respond with username>

- PASS? <respond with password>

- After the log-in confirmation message type a return.
- At ">" prompt enter: LD 2
- At "." prompts invoke Load 2 commands to retrieve traffic data, such as:
  - . Invc 0 2
  - . Invc 0 3
  - . Invs 1
- When finished with Load 2 commands type four (4) asterisks "****".
- Drop the SSH connection.

These commands can be performed by hand for confirmation. The first step with require third party software (such as SecureCRT) to establish the rlogin connection. Depending on the software used the input sequence of the SSH process may differ from that shown above.

1.8.3.1.1.5. Polling from a Buffer Box

If you are using a buffer box, it must be configured properly. The switch must be configured to output its LD 2 data to the buffer box. The buffer box must be configured so that Traffic can access the data. Buffer boxes support a variety of connectivity and output options, from serial (modem) access to TCP/IP using FTP or Telnet support. See the section entitled "***Working With Buffer Boxes***" later in this document for a list of buffer boxes supported and information on configuring them for access by Traffic Analyst.

1.8.3.1.2. Running the Switch Command for LD 2

To prepare your switch to send the LD2 data to the port, you will need to type the following at a command prompt on the switch:

SSHS [Enter]

1 1 31 12 the first 2 digits represent the beginning date and the last 2 the ending date. (1/1 – 12/31 = all year)

0 23 1 the first 2 digits represent the times of storage and the last is the interval. (Midnight to Midnight and 1 hour intervals)

1 2 3 4 5 6 7 these numbers represent the days of the week to be stored. (Sunday – Saturday)

SSHC [Enter]

1 1 31 12 the first 2 digits represent the beginning date and the last 2 the ending date. (1/1 – 12/31 = all year)

0 23 1 the first 2 digits represent the times of storage and the last is the interval. (Midnight to Midnight and 1 hour intervals)

1 2 3 4 5 6 7 these numbers represent the days of the week to be stored. (Sunday – Saturday)

- Note: When the above activities are done, go to the section entitled ***"Traffic Analyst Software Installation".***

1.9. Avaya – All Models

1.9.1. Pre-Installation Notes

Avaya switch CDR data is retrieved either from the switch's hard disk (called Survivable CDR) or the CDR may be streamed to a buffer box. CDR parameters should be configured to output CDR in the "Expanded" format.

- NOTE: If CDR has not already been configured on your switch, we recommend you request support from your switch manufacturer to help set up your switch for CDR output.

Avaya switch Network data is retrieved using the ASA (Avaya Site Administration) tool. There are 2 steps to prepare the ASA to collect data from the switch, **Defining A Voice System Connection** and **Data Collection Scheduling**. All data is retrieved from the switch using ASA and stored on the local hard drive or network drive. Traffic Analyst then uses these files to create data. A decision as to the frequency of when data will be collected, hourly or daily, needs to be made before switch setup and then Traffic Analyst will have to be setup accordingly. If data will be polled hourly, the trunk groups need a flag turned on to allow hourly measurements.

- NOTE: ASA must be running at all times for Network data collection from the switch to occur.

1.9.2. Installation Instructions (Call Accounting)

After CDR data collection is set-up on your switch, you will need to activate retrieval of it in the Traffic Analyst Administrative Tool. You can do this on the Communications screen while setting up your switch. On the bottom portion of this screen, you will designate where the CDR data is being retrieved from. For detailed instructions on setting up your Avaya switch in Traffic Analyst, please see the section entitled "Avaya Data Directory Communications" in the *Traffic Analyst Administrative Guide*.

1.9.3. Installation Instructions (Network)

As you complete the following activities, put a check mark in the box next to each of the following items:

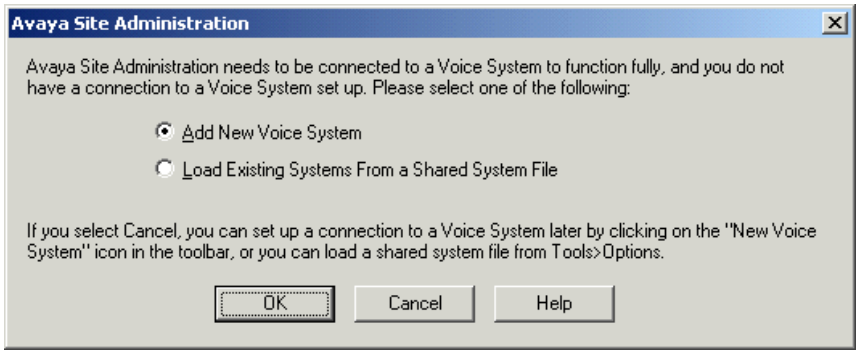
1.9.3.1. Configuring ASA (Avaya Site Administration)

This configuration has 2 steps, **Defining A Voice System Connection** and **Data Collection Scheduling** (Hourly or Daily).

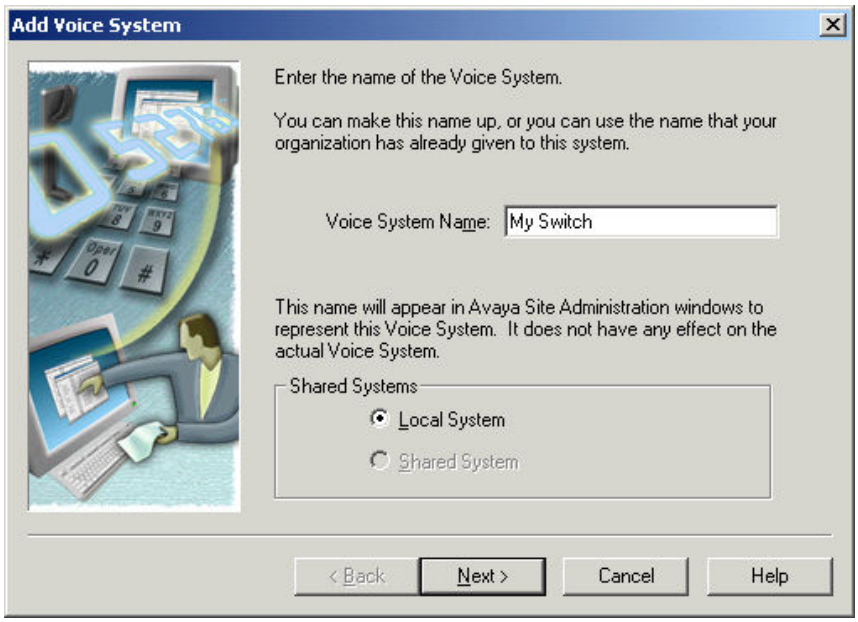
1.9.3.1.1. Defining A Voice System Connection

- ❑ Define the connection.

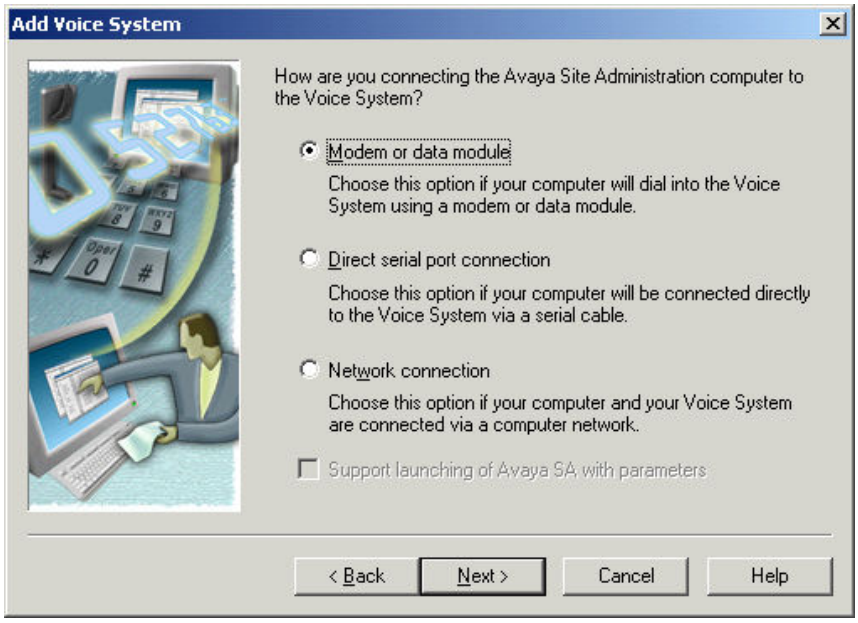
1. Start ASA and select File | New Voice System.



2. Choose **Add New Voice System** and select **OK**.



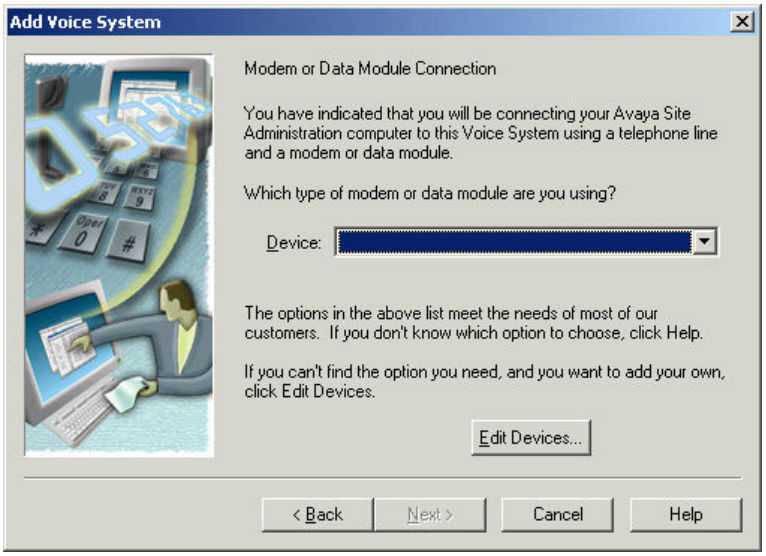
3. Enter a **Voice System Name** and select **Next**.



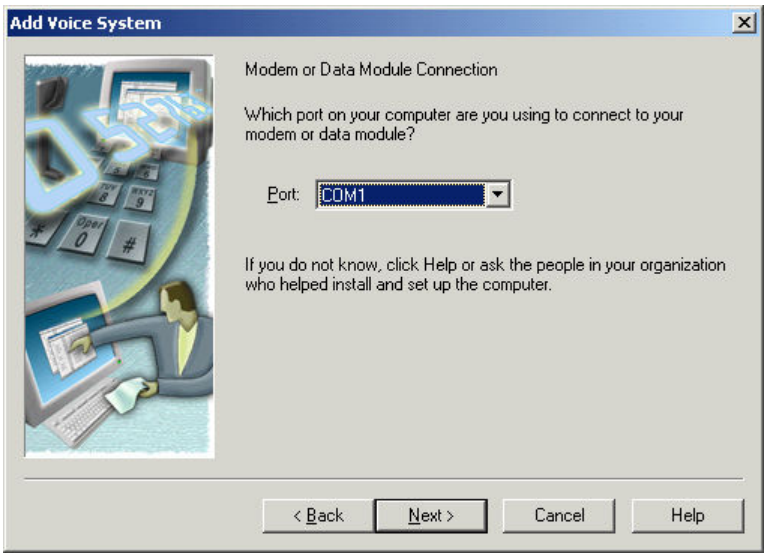
4. Choose the type of connection used to communicate with the switch then select **Next**.

   Modem or data module
   Direct serial port connection
   Network connection

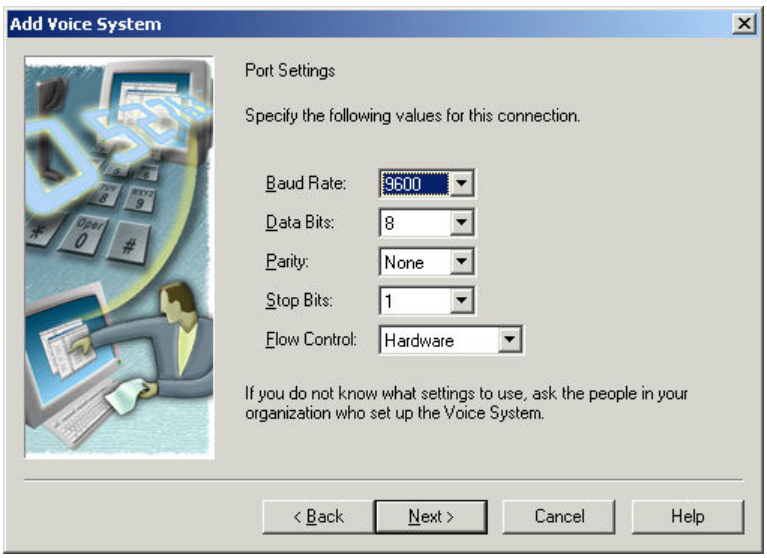
   a) For **Modem or data module** connection:



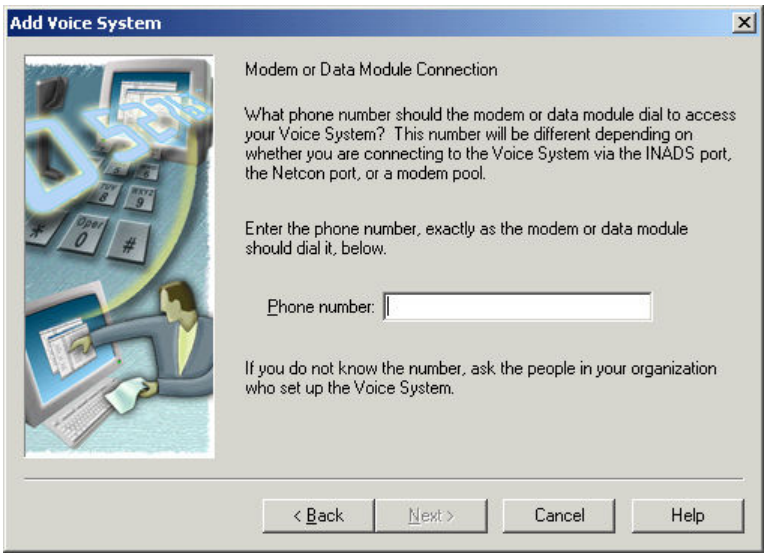
   Choose **Device** from the drop-down list and select **Next**.



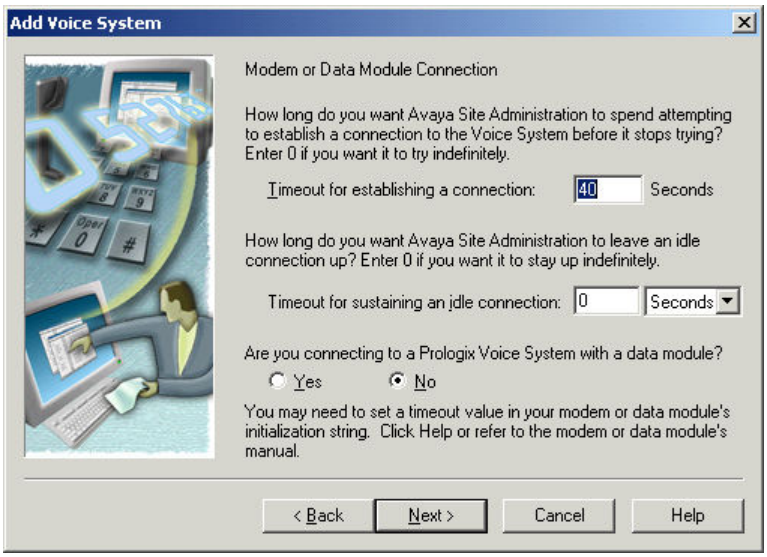
Choose the appropriate **Port** from the drop-down list and select **Next**.



Choose the appropriate **Port Settings** for the communication device and select **Next**.

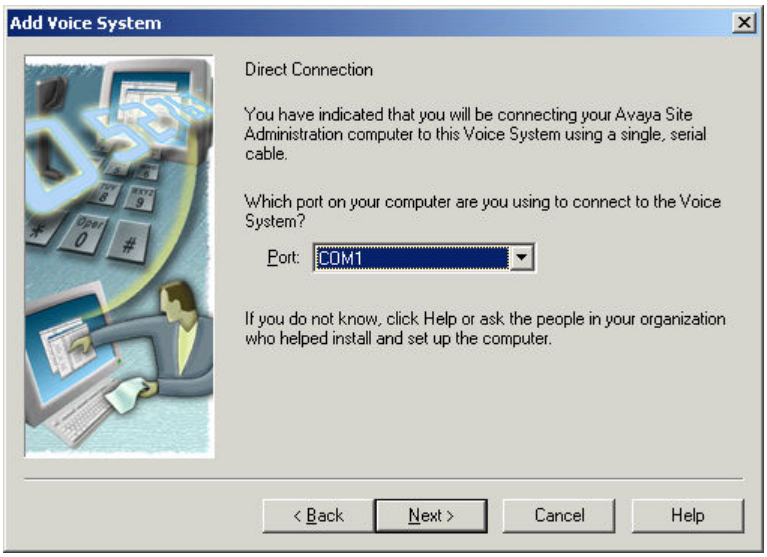


Enter the **Phone Number** of the switch to be dialed, making sure to include any outside access numbers if necessary, then select **Next**.

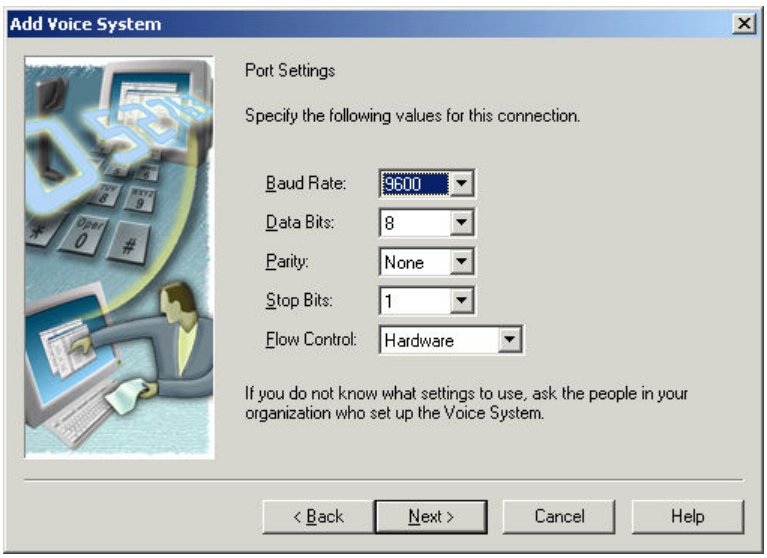


Leave this screen at the default values and select **Next**.

b) For **Direct serial port connection**:

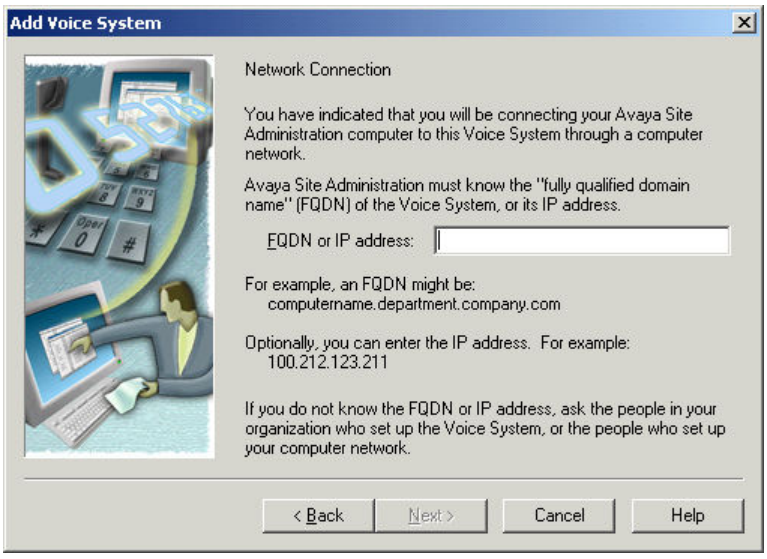


Choose the appropriate **Port** from the drop-down list and select **Next**.

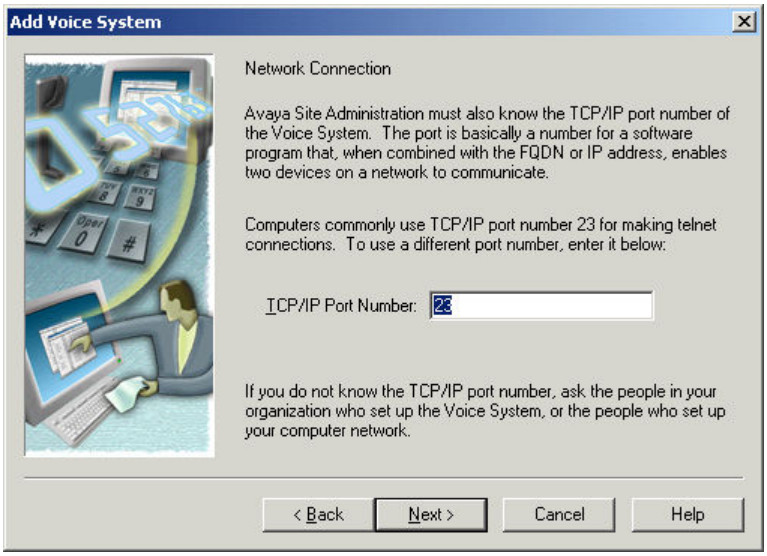


Choose the appropriate **Port Settings** for the communication device and select **Next**.

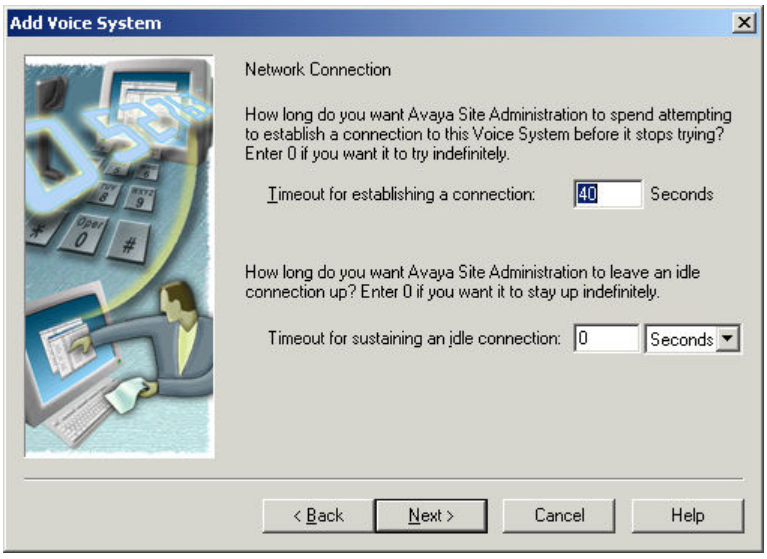
c) For **Network connection**:



Enter the **FQDN or IP address** of the switch.

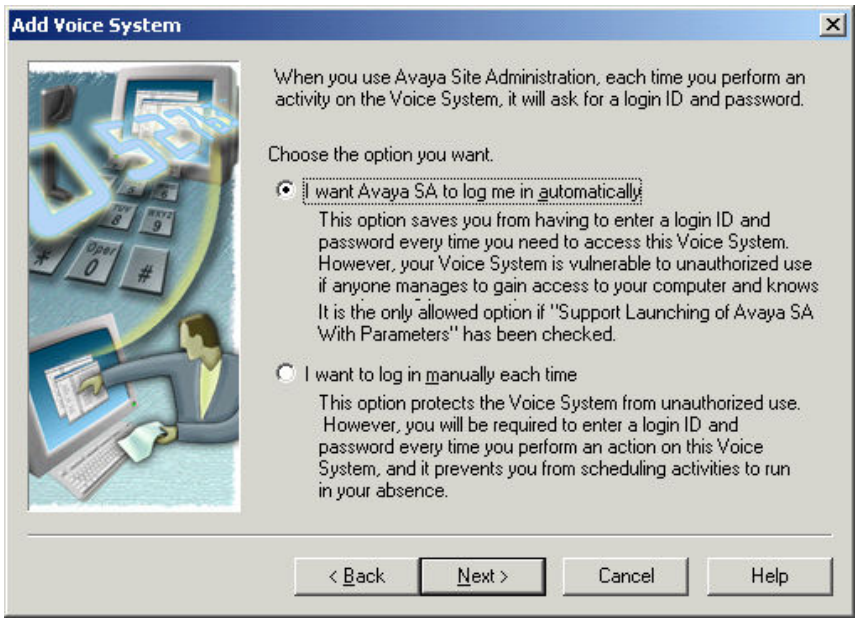


Accept the default **TCP/IP Port Number** of 23 and select **Next**.



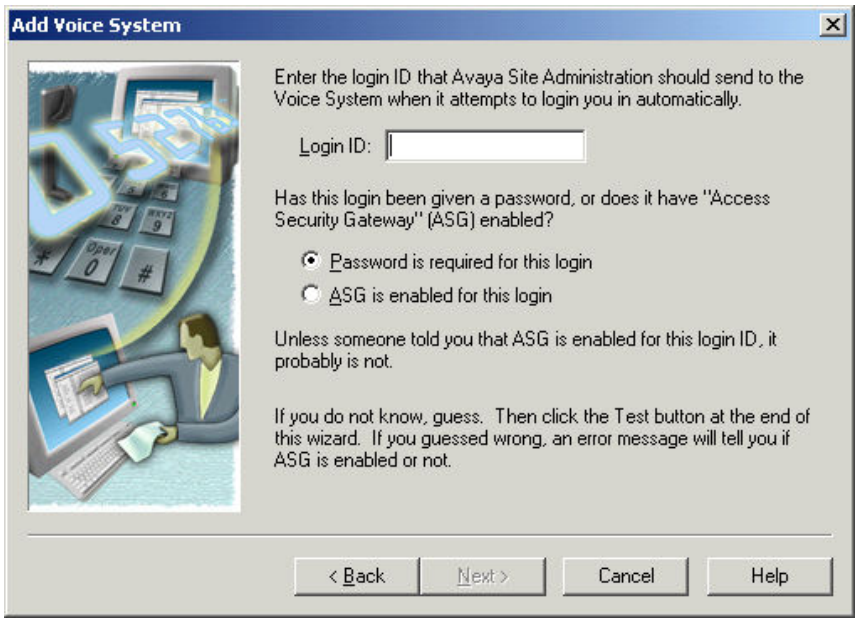
Accept the defaults and select **Next**.

5. Choose **I want Avaya SA to log me in automatically**.



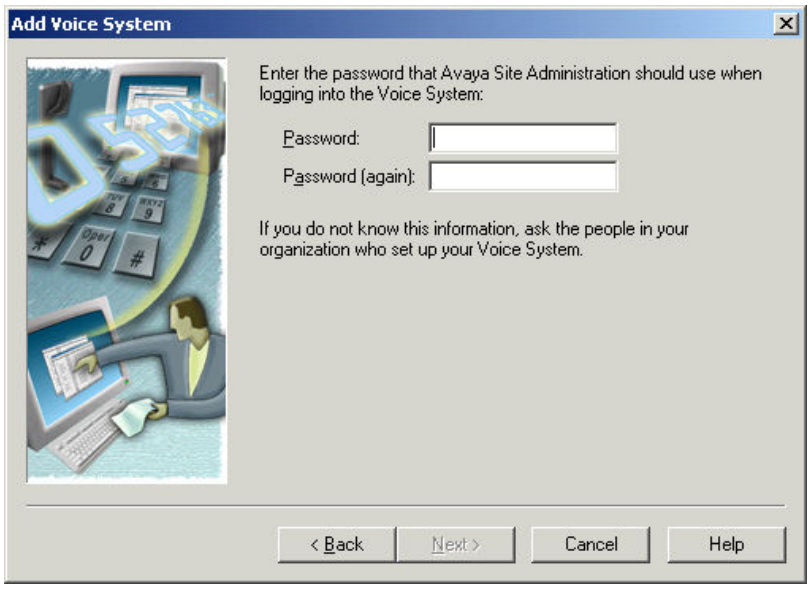
Select **Next**.

6. Enter the **Login ID** (Super-user permissions) and choose either **Password** or **ASG** radio button.


Add Voice System
Enter the login ID that Avaya Site Administration should send to the Voice System when it attempts to login you in automatically.
Login ID:
Has this login been given a password, or does it have "Access Security Gateway" (ASG) enabled?
Password is required for this login
ASG is enabled for this login
Unless someone told you that ASG is enabled for this login ID, it probably is not.
If you do not know, guess. Then click the Test button at the end of this wizard. If you guessed wrong, an error message will tell you if ASG is enabled or not.
< Back
Next >
Cancel
Help

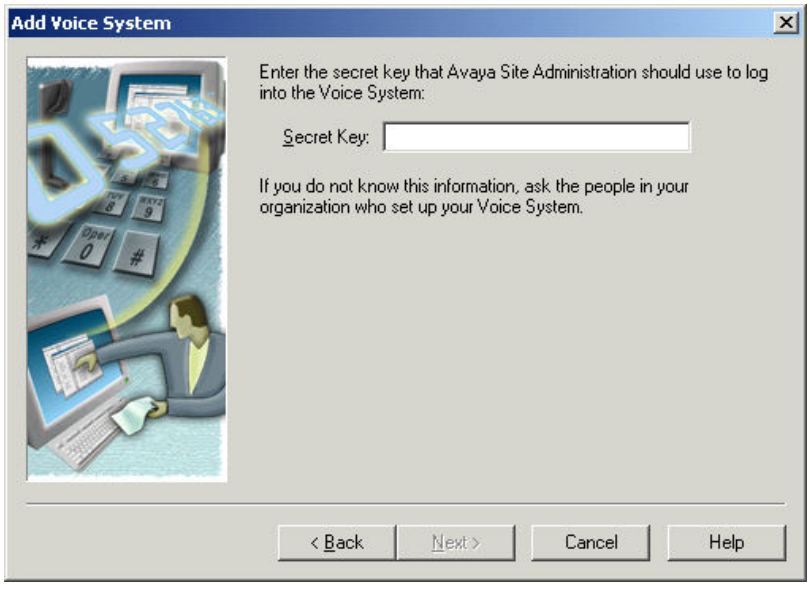
Select **Next**.

a) For **Password** option:



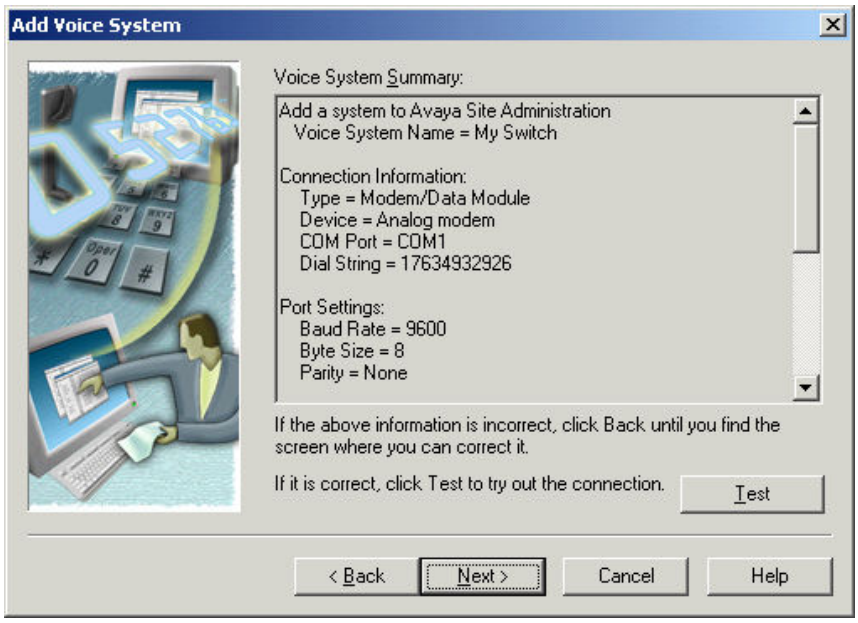
Enter **Password** then select **Next**.

b) For **ASG** option:



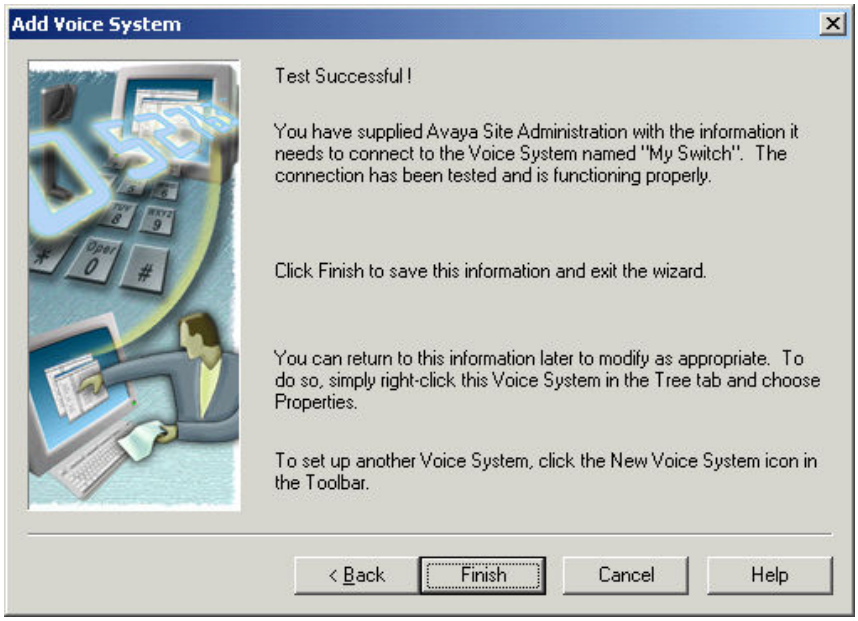
Enter **Secret Key** and select **Next**.

7. Review the Summary Screen.



Select **Test** to attempt the connection with the switch. If test fails, make appropriate changes to the communications until the test is successful then select **Next**.

8. Select **Finish** to complete the setup.



1.9.3.1.2. Data Collection Scheduling

- Data Collection may be scheduled daily or hourly with Traffic Analyst. Data collection will be scheduled hourly when an hourly alarm is assigned to a switch. Follow the appropriate instructions below based on how data collection is scheduled within Traffic Analyst.

1.9.3.1.2.1. Hourly Scheduling

Four reports must be polled from the switch in order to perform Hourly Polling of Traffic Analyst. They are summarized below:

Traffic Data Reports

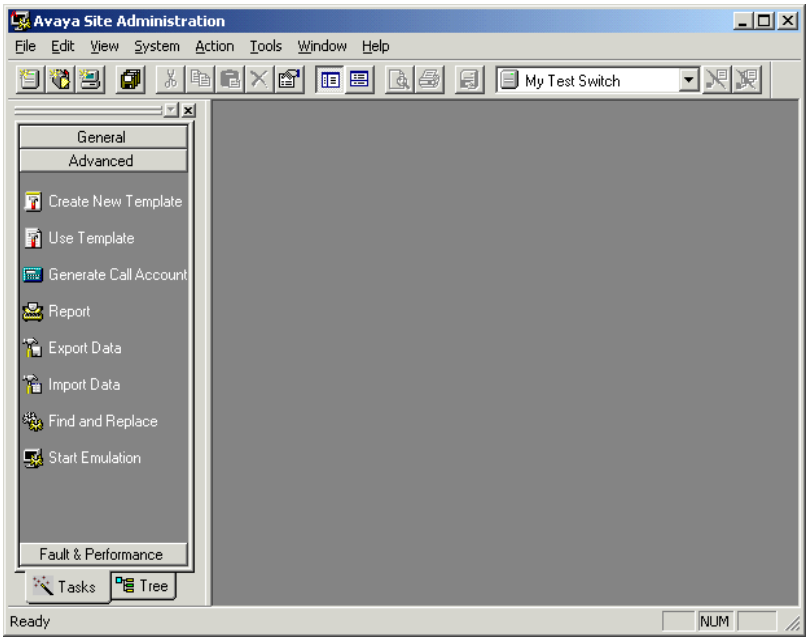
Report	Data Description
aca-parameters	Trunk Group listing.
trunk-group summary	Hourly summary of traffic on all trunk groups except Personal Central Office Line Groups.

Alarm Reports

Report	Data Description
outage-trunk	Lists a maximum of five trunks in each group that were out of service when sampled.
lightly-used-trunk	Lists the five trunk members with the lowest number of calls.

Scheduling Hourly Reports

1. Open ASA.
2. If more than one switch is defined select System | Target System.. | <desired switch>
3. In the Tasks tab, under the Advanced section, click on Report.



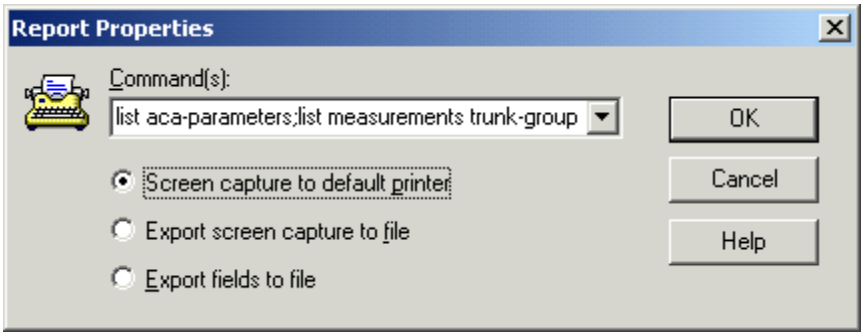
4. In the **Command(s)** field enter:

   list measurements trunk-group hourly <group #>;list aca-parameters;list measurements outage-trunk last-hour;list measurements lightly-used-trunk last-hour;

   Note: The first command "list measurements trunk-group hourly <group>;" must be entered for each trunk group.

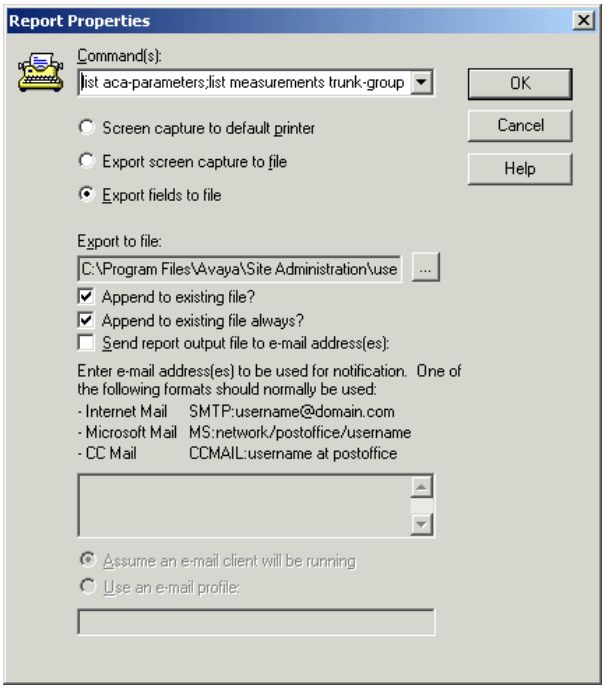
   Example:
   A switch has 5 trunk groups with trunk group number 1,2,3,10,15. The **Command(s)** list would be:

   list measurements trunk-group hourly 1; list measurements trunk-group hourly 2;list measurements trunk-group hourly 3;list measurements trunk-group hourly 10;list measurements trunk-group hourly 15;list aca-parameters;list measurements outage-trunk last-hour;list measurements lightly-used-trunk last-hour;

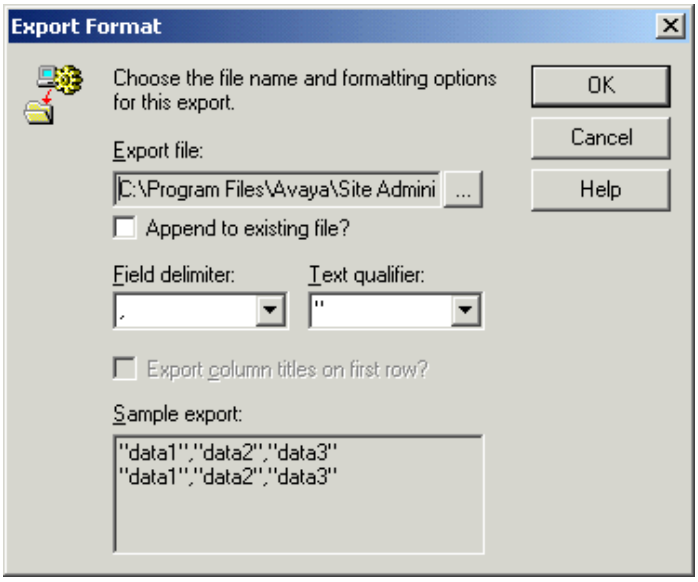


   The first command "list measurements trunk-group hourly <group #>" must be enter for each trunk group.

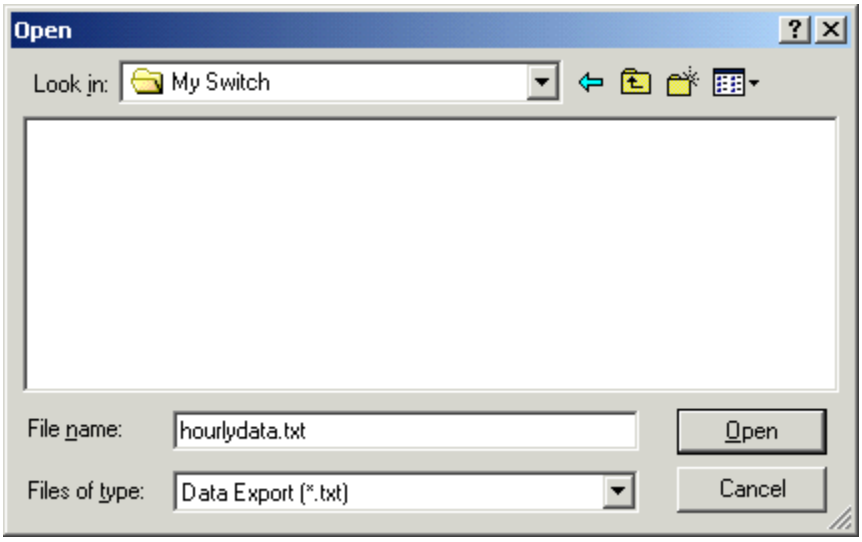
5. Select **Export fields to file** then select **OK**.
6. Select **Append to existing file**.
7. Select **Append to existing file always**.



8. Select the **Browse (…)** button next to **Export to file** field.

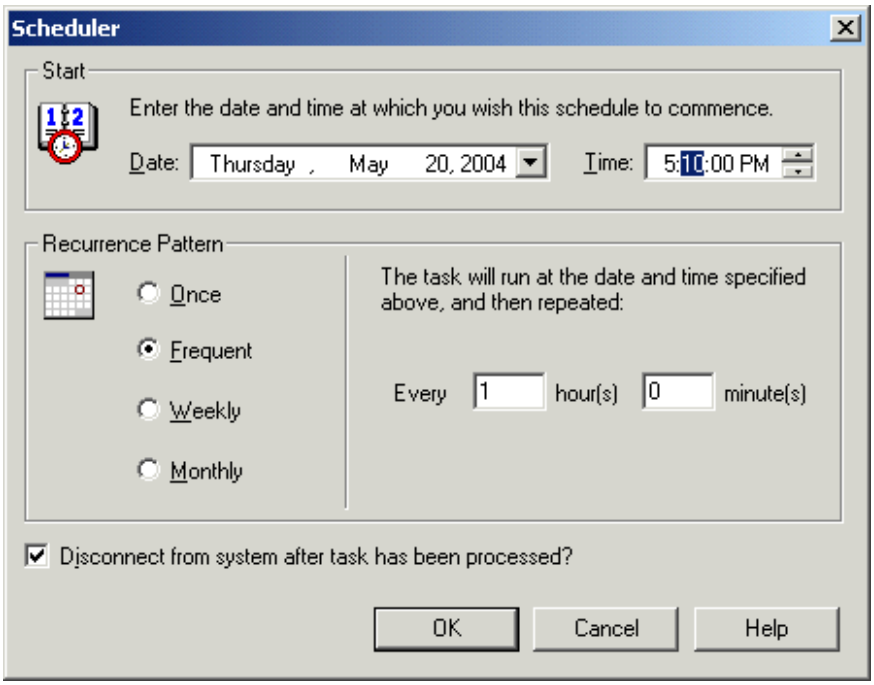


9. Select **Append to existing file**.
10. Select the **Browse (…)** button next to **Export file** field.
11. Change the **File name** to **hourlydata.txt**. If multiple switches, either create a separate folder for each switch or make the filename unique (e.g. ChicagoHourlyData.txt, BostonHourlyData.txt, etc.).



12. Select the target directory from which Traffic Analyst will retrieve the file.
13. Select **Open**.
14. Select **OK**.
15. Select **OK**.

16. Enter the desired start date. This should be the first date you want to start doing Traffic analysis.



17. Enter a 12:10:00 AM for the Time. If your start date is today you will need to readjust the time of day to be 10 minutes after the next hour. This allows the switch time generate the data for the previous time interval. So if it is currently 1:40 PM set the time to 2:10:00 PM.
18. Select **Frequent** as the **Recurrence Pattern**.
19. Enter **Every 1 hour(s)** and **0 minute(s)**.
20. Select **Disconnect from system after task has been processed**.
21. Select **OK**.

1.9.3.1.2.2. Daily Scheduling

Four reports must be polled from the switch in order to perform Daily Polling of Traffic Analyst. They are summarized below:

Traffic Data Reports

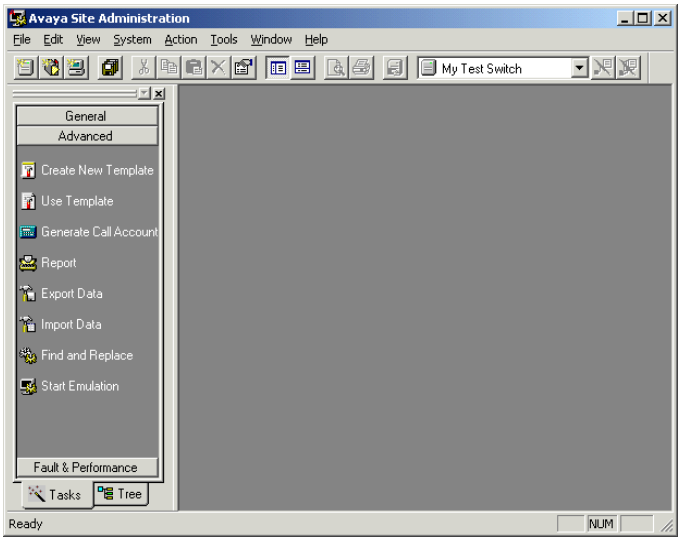
Report	Data Description
aca-parameters	Trunk Group listing.
trunk-group hourly	24 Hour summary of traffic on all trunk groups. Must be run for each Trunk Group

Alarm Reports

Report	Data Description
outage-trunk	Lists a maximum of five trunks in each group that were out of service when sampled.
lightly-used-trunk	Lists the five trunk members with the lowest number of calls.

Scheduling Daily Reports

1. Open ASA.
2. If more than one switch is defined select System | Target System.. | <desired switch>
3. In the Tasks tab, under the Advanced section, click on Report.



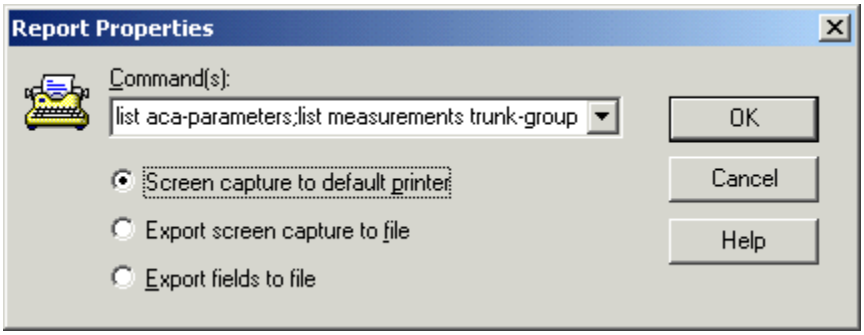
4. In the **Command(s)** field enter:

   list measurements trunk-group hourly <group#>;list aca-paramenters;list measurements outage-trunk yesterday;list measurements lightly-used-trunk yesterday

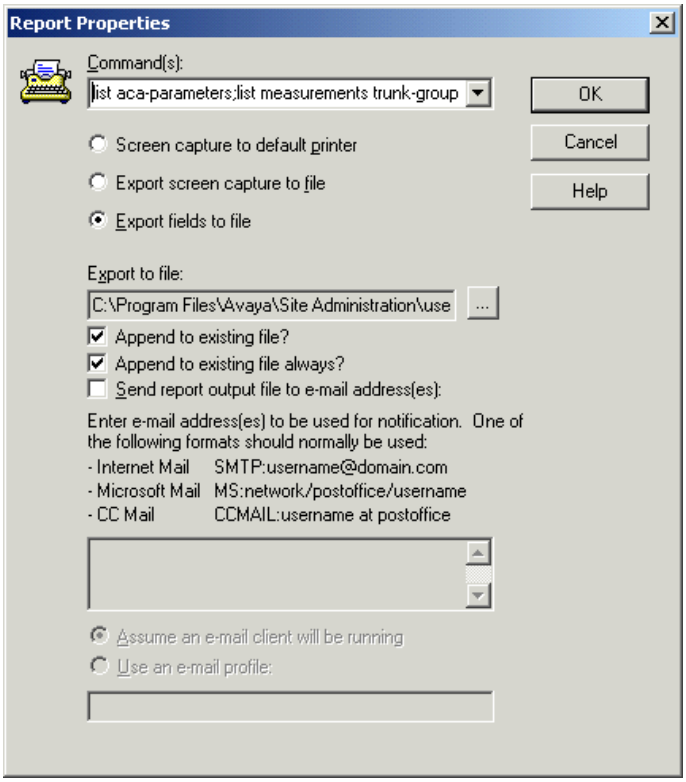
   Note: The first command "list measurements trunk-group hourly <group>;" must be entered for each trunk group.

   Example:
   A switch has 5 trunk groups with trunk group number 1,2,3,10,15. The **Command(s)** list would be:

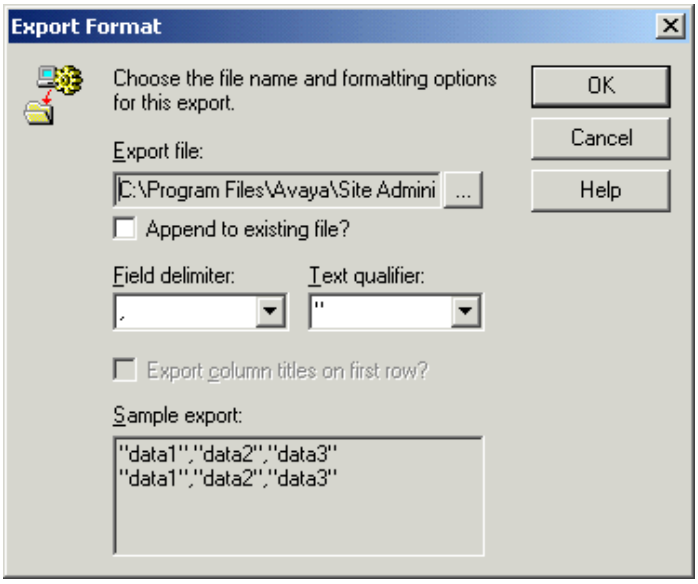
   list aca-parameters;list measurements trunk-group hourly 1;list measurements trunk-group hourly 2;list measurements trunk-group hourly 3;list measurements trunk-group hourly 5;list measurements trunk-group hourly 11;list measurements trunk-group hourly 41;list measurements outage-trunk yesterday;list measurements lightly-used-trunk yesterday



5. Select **Export fields to file**.

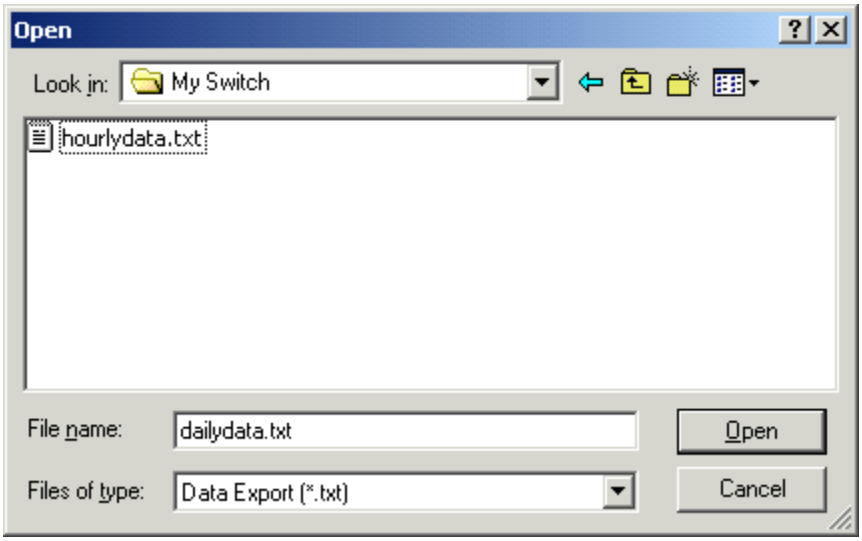


6. Select **Append to existing file**.
7. Select **Append to existing file always**.
8. Select **Browse (…)** next to the **Export to file** field.

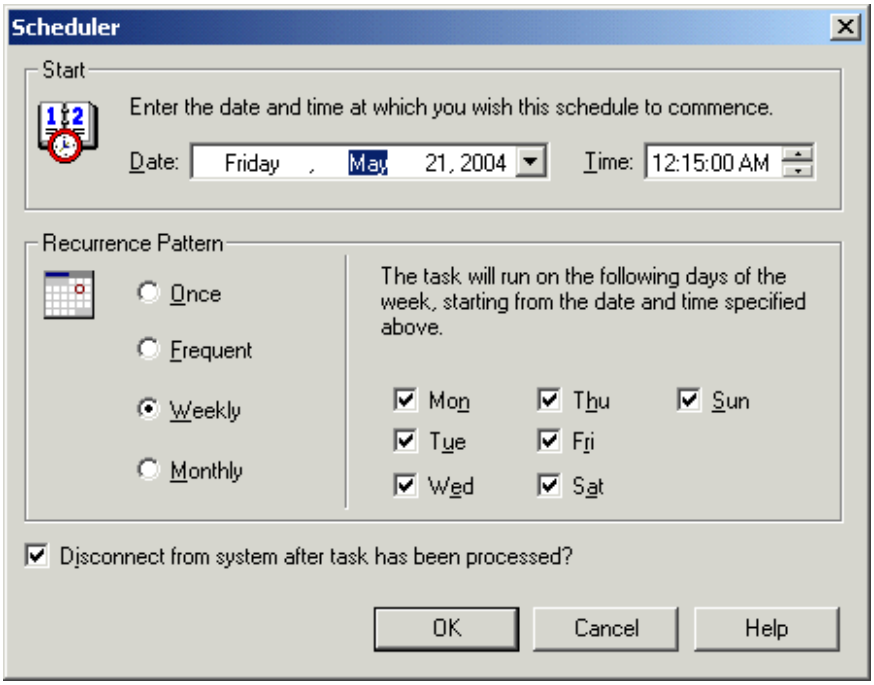


9. Select **Append to existing file**.
10. Select **Browse (…)** next to the **Export file** field.

11. Change **File name** to **dailydata.txt**. If multiple switches, either create a separate folder for each switch or make the filename unique (e.g. ChicagoDailyData.txt, BostonDailyData.txt, etc.).



12. Select the target directory from which Traffic Analyst will retrieve the file.
13. Select **Open**.
14. Select **OK**.
15. Select **OK**.
16. Enter the desired start date (tomorrow or later). This should be the first date you want to start doing Traffic analysis.



17. Enter **12:15:00 AM** for the **Time**. You will need to adjust the time of day if the switch is in a different time zone. You will want to poll 15 minutes after midnight on the switch.
18. Select **Weekly** for the **Recurrence Pattern**.
19. Select all days of the week.
20. Select **Disconnect from system after task has been processed**.
21. Select **OK**.

1.10. Cisco Unified Communications Manager

1.10.1. Pre-Installation Notes

For a Cisco Unified Communications Manager switch, you need to make sure the switch is properly configured to prepare CDR data for Traffic Analyst. This involves configuring the **Cisco Communication Manager Administration**, as well as the **Cisco CDR Repository Manager**.

1.10.1.1. Cisco Communication Manager Administration

Go to the Cisco Communications Manager Administration tool, which you access via a web browser. Once you access the software, go to **System > Service Parameters**.

Select a server, if needed, as well as the service **Call Manager (active)**. Note: All parameters except cluster-wide parameters must be set for each server. If you don't see the parameters described below, choose the **Advanced** button to display the complete list of Service Parameters.

Under **System Parameters**, set the **CDR Enabled Flag** to true.

The **CDR Log Calls With Zero Duration Flag** can be left set to false, though it can also be set to true if you want to see these records in your CDR reports.

Under **Clusterwide Parameters (Device – General)**, if Traffic Analyst Call Accounting reports are licensed, we recommend setting **Call Diagnostics Enabled** to enabled and **Show Line Group Member DN in finalCalledPartyNumber CDR Fields** to true.

The **Display FAC in CDR** setting is up to the user but only appears in Traffic Analyst if Call Accounting is licensed.

The **Add Incoming Number Prefix to CDR**, located under **Clusterwide Parameters (Device – Phone)**, is also up to the user's preference but only appears in Traffic Analyst if Call Accounting is licensed.

Next, from the main Cisco Communication Manager Administration window, select **System > Enterprise Parameters**.

CDR File Time Interval should be left at the default value of 1 minute.

If you are using Traffic Analyst for more than one cluster, make sure that **Cluster ID** is set to a unique string of characters.

The other CDR settings under **Enterprise Parameters** do not apply to Traffic Analyst's CDR processing.

1.10.1.2. Cisco CDR Repository Manager

The Cisco Unified Communication Manager sends CDR files to the Cisco CDR Repository Manager which then distributes the files to other applications.

To configure the Cisco CDR Repository Manager, open Cisco Unified Serviceability.

Choose **Tools > CDR Management**.

The **General Parameters** can be left at their default values.

Under the **Billing Application Server Parameters**, click on the **Add New** button to add a new **Billing Application Server**.

Enter or modify all the parameters for the FTP server to which you want the CDR files sent:

- Host Name/ IP Address
- User Name
- Directory Path.

Choose FTP for the **Protocol**.

Note: Traffic Analyst collects CDR data from a user-supplied FTP server where the Cisco Communications Manager deposits the files. If you are installing Traffic Analyst Advanced, the FTP server that is included with Microsoft IIS can be used. For maximum reliability, we recommend a dedicated FTP server, or even a non-disk based FTP server such as a Scannex *ip.buffer* buffer box.

Section 2: Traffic Analyst Software Installation

Before installing the software, the switch(es) should be prepared for polling.

Make sure all required Windows components have been installed. It is advised to double check for these.

- .Net Framework 3.5 or greater
- IIS or IIS 7 if using Windows 2008

Important Note: You must have administrative privileges to successfully install. Log in to Windows with an administrative user name and password before beginning the installation.

Traffic Analyst can be licensed as a stand-alone program on a single computer, or it can be configured for a client-server environment.

In a client-server environment, you install Traffic Analyst on both server and clients, but there are slightly different installation steps. All switch polling and database storage is done on the server. Clients have a few of the functionality that can be performed from the server, but there are some slight delays that occur with real-time updates during switch polling. You should install the main server first, before any clients.

Before installing the software, the switch(es) should be prepared for polling.

Important Note for Windows 2003, 2008: You must have administrative privileges to successfully install. Log onto Windows with an administrative user name and password before beginning the installation.

Important Notes for Windows 7, 2008, Vista: The ISAPI Redirector (provided by Tomcat) is no longer reliable enough to work on newer releases of IIS 7. Microsoft has stated that the ISAPI Redirectors should be phased out. Applications that depend on this feature should use ARR (Application Request Routing) instead. ARR is an extension module for IIS 7. There are special instructions for configuring TrafficWeb to work with newer versions of IIS 7, using ARR. See *Configuring IIS with ARR (Windows 7, 2008, Vista)* in the Appendix for instructions.

Also, for full functionality, you may need to make sure that install directories are set to "Full Control."

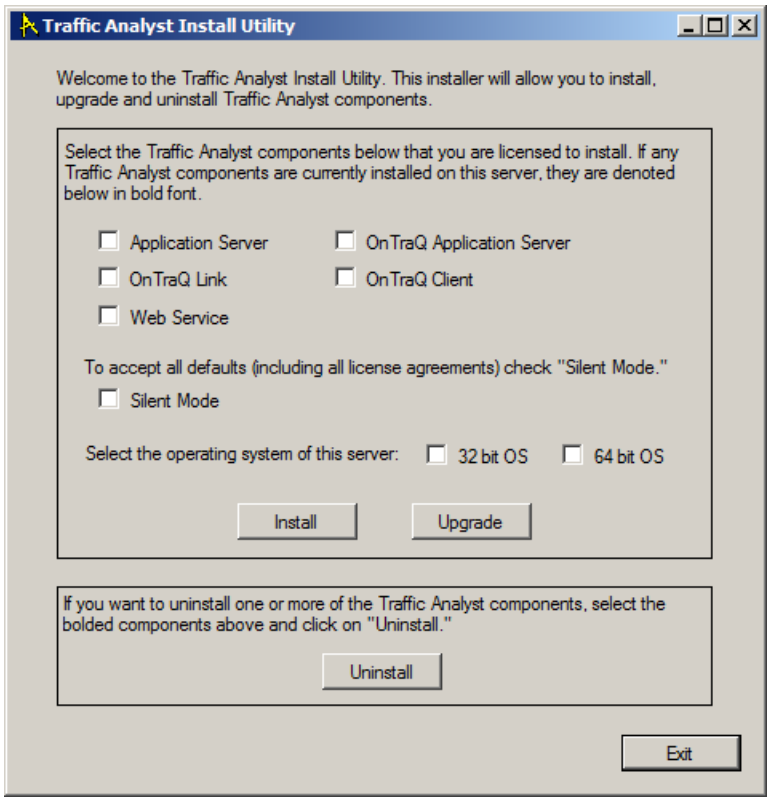
2.1. Installing a Traffic Analyst Server or client

Follow the steps below to install a Traffic Analyst configuration. Please note that if the Setup program finds DLL files on your system that are older than the DLLs it will install, it asks you if you want to replace them. Select the "Install new and keep old DLL" option in this event.

Put the CD you received from Impact Technologies in your CD drive. Or, if you are installing from a network directory, locate the directory where the Impact Technologies CD has been copied.

Run the **ImpactInstall.exe** program. **Note: If using Windows Server 2008, right-click ImpactInstall.exe and select "Run as Administrator." This is done so that proper security access is given to the install process.**

The following windows appears:



Licensed	Network	Console	CDR	OnTraQ
Application Server	X	X	X	X
OnTraQ link				X
Web Server	X	X	X	
OnTraQ Application Server				
OnTraQ Client				

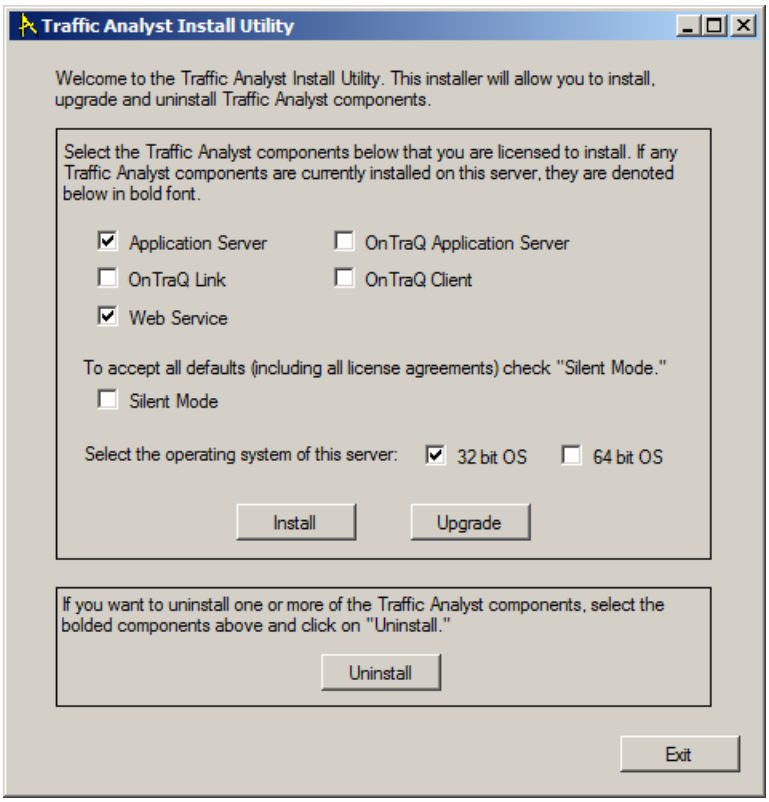
OnTraQ Application Server must be installed on the same server as CAP Management.

Silent Mode – check if all defaults are preferred

You must select an operating system. 32 bit or 64 bit. If you are not sure go to Start – Accessories-System Tools – System Information System Type will tell you if 32 bit or 64 bit. X86 based PC = 32 bit

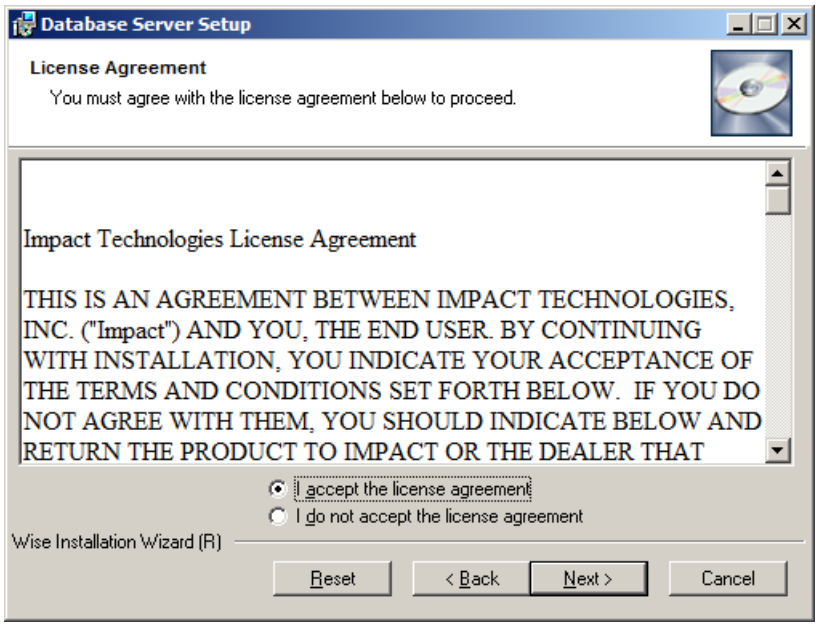
Click on **Install** for first time installation.

In this example we are going to install the Application Server and Web Service on a 32 bit OS.

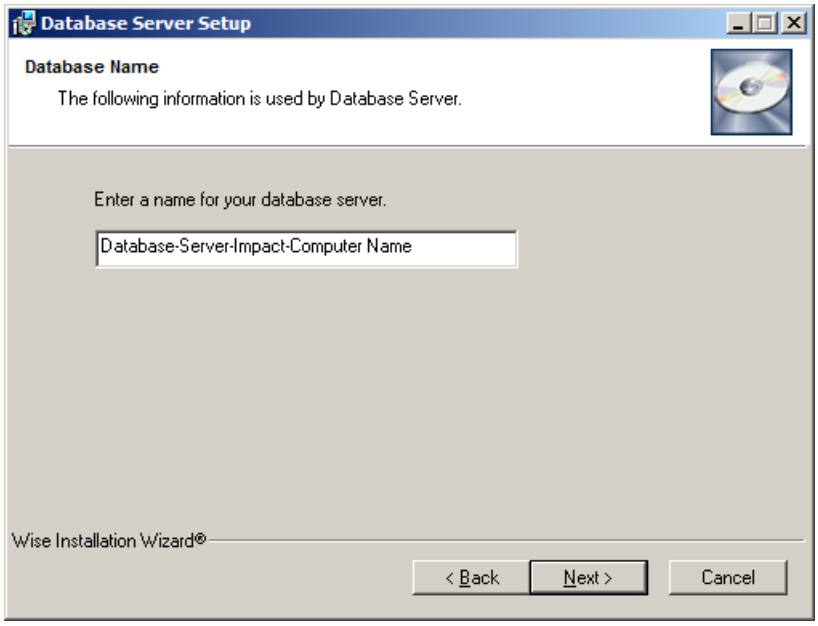


Click on Application Server and Web Service, 32 bit OS and click on Install

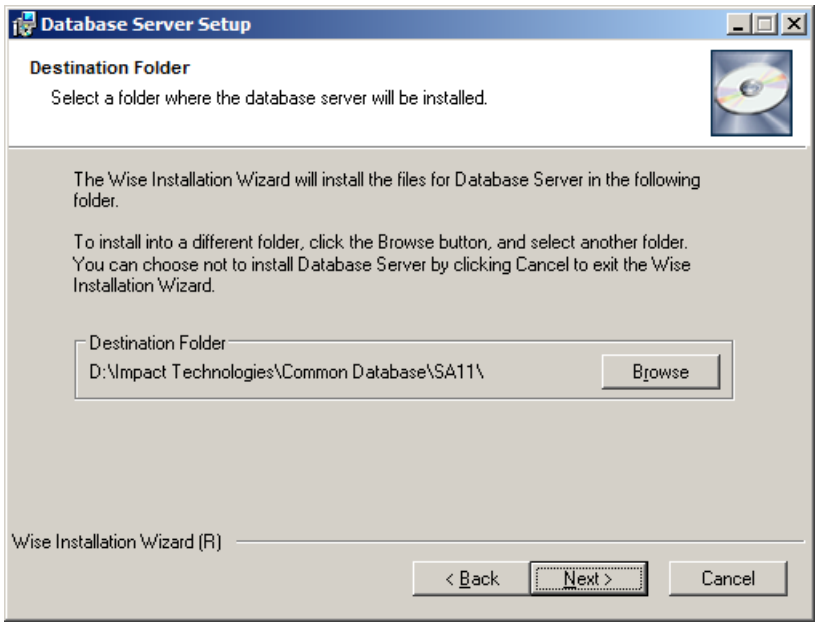
Click Next



Accept license agreement and click on Next

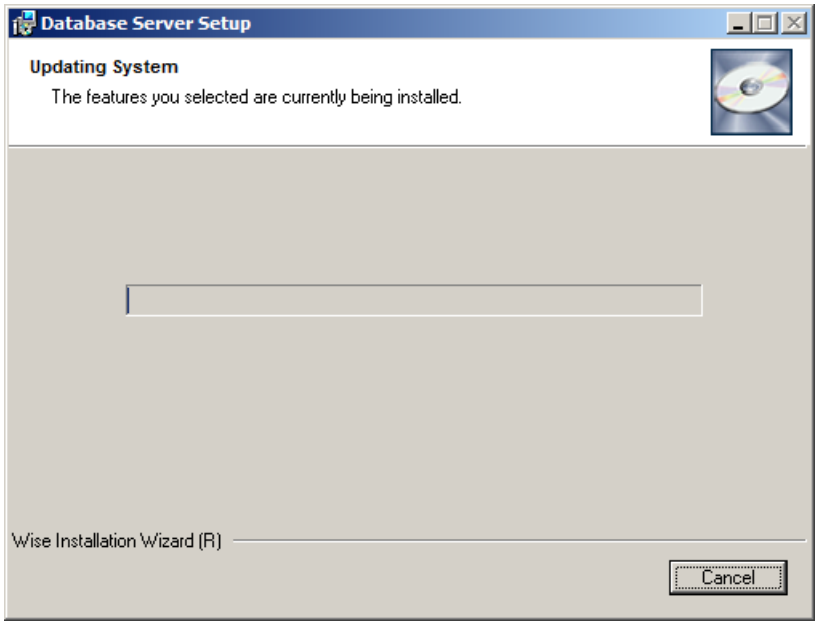


The computer name will append to the default database name Database-Server-Impact, it is suggested to accept this name and click Next. If you change the name just make a note of the new name as you can not have two installations with the same database name.

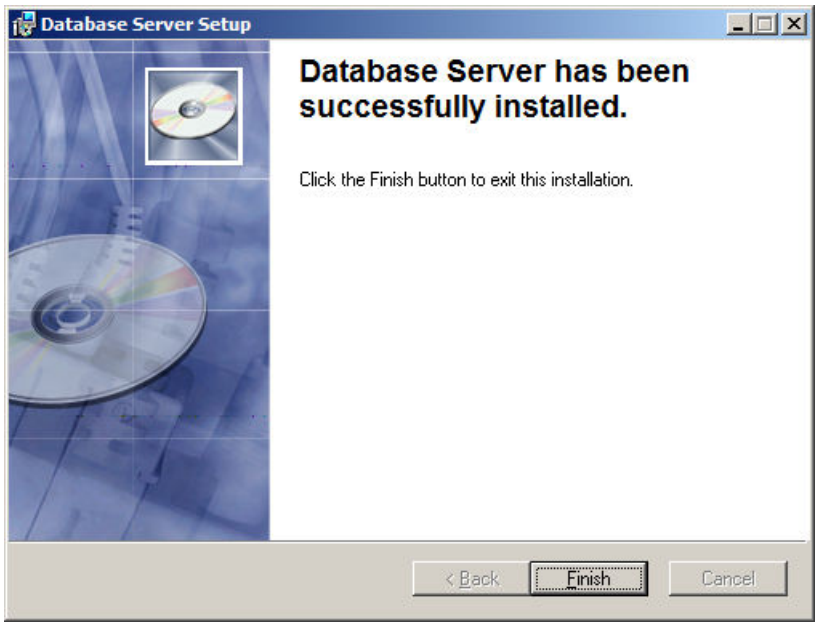


Click on Next. If you need to change the drive you will do so here.

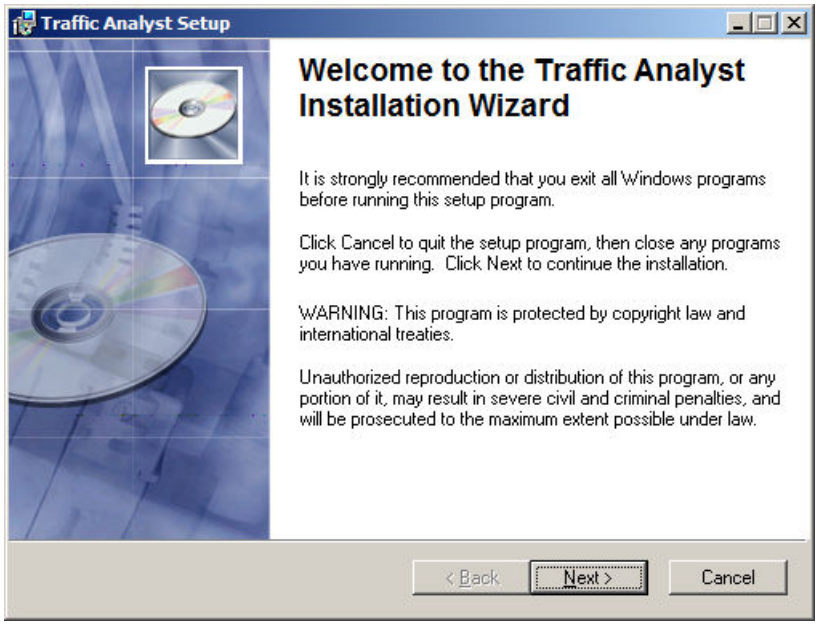
Must be a local drive.



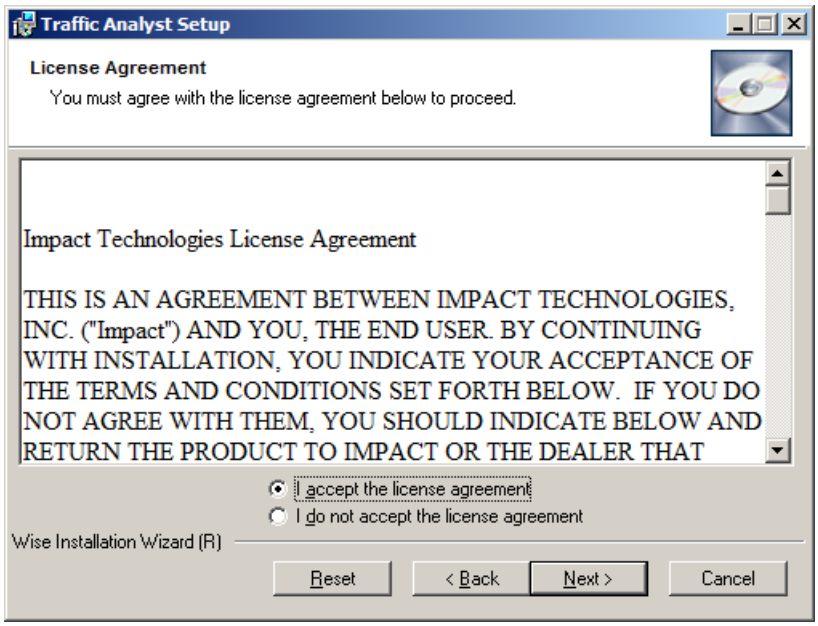
Installation will start.



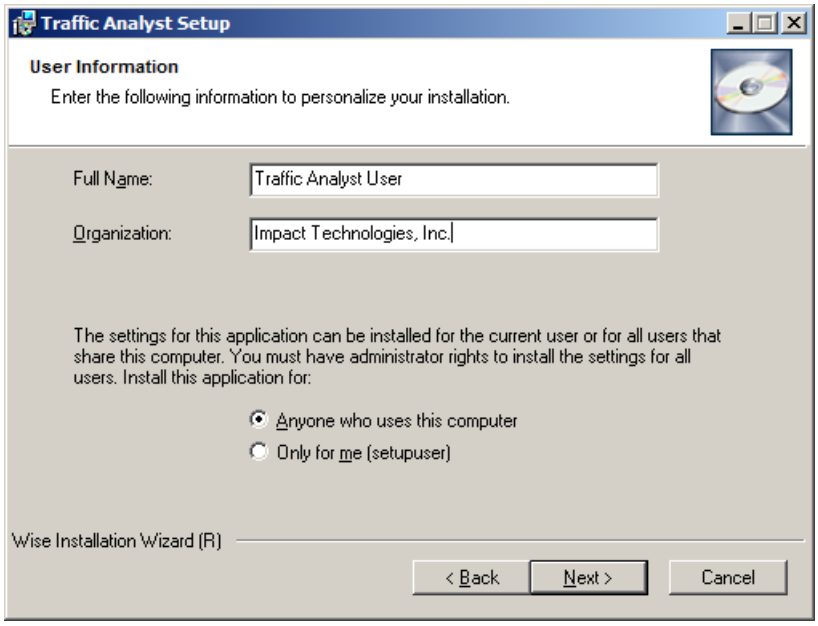
The first step has completed now it will start the application installation.



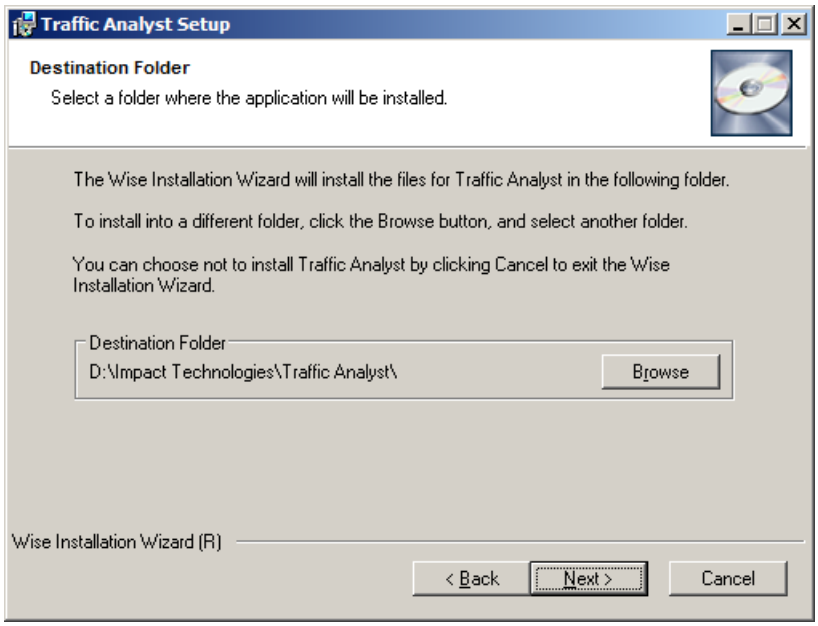
Click on Next



Accept the license agreement and click on Next

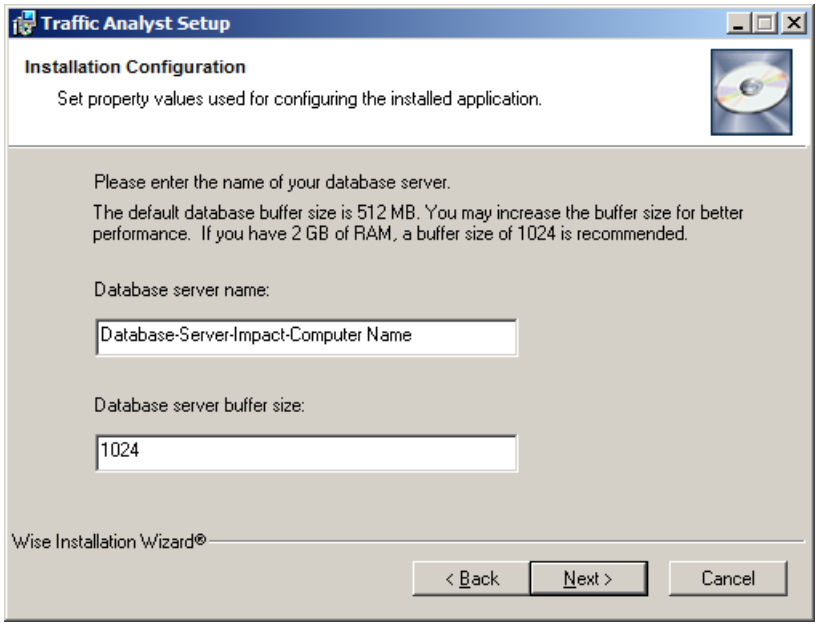


Click on Next



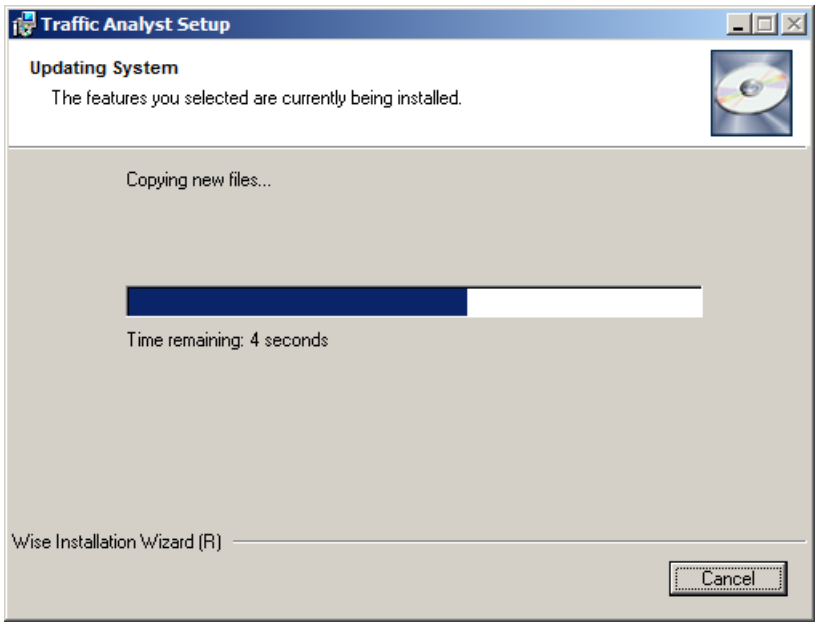
Click on Next. If you need to change the drive you will do so here. Must select a drive with the appropriate disk space available.

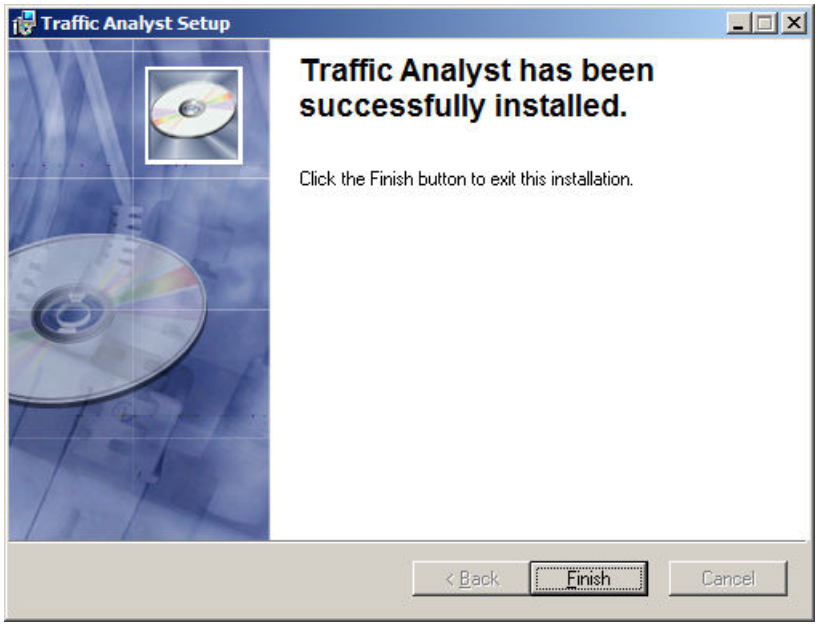
Must be a local drive.



Default is 512. If you have 2 GB RAM enter 1024, IF 3GB RAM enter in 1536.

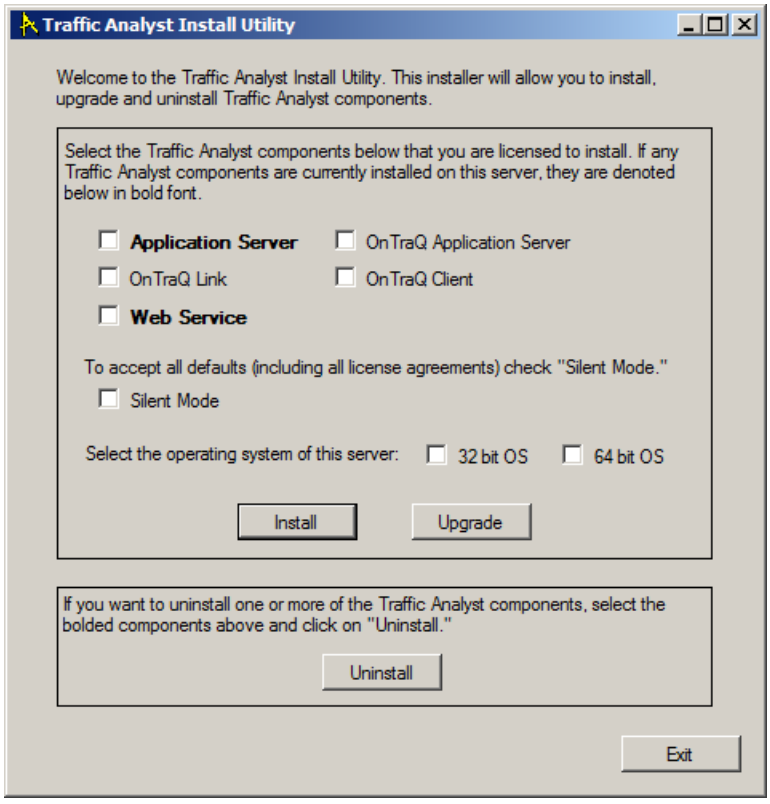
Click on Next





Application server is now completed. See Section 2.2 "*Installing Web Application*" for step by step instructions.

The other components selected for installations will start now. When completed the Install Utility Screen will appear. All installed components are now displayed in "Bold" letters.

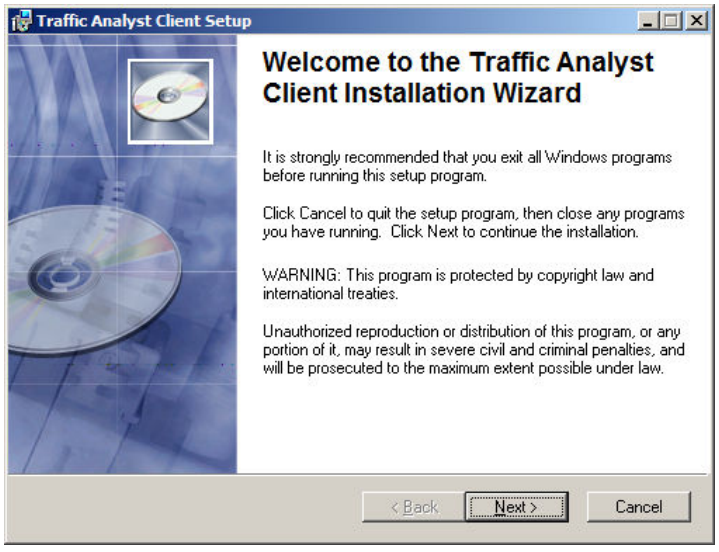


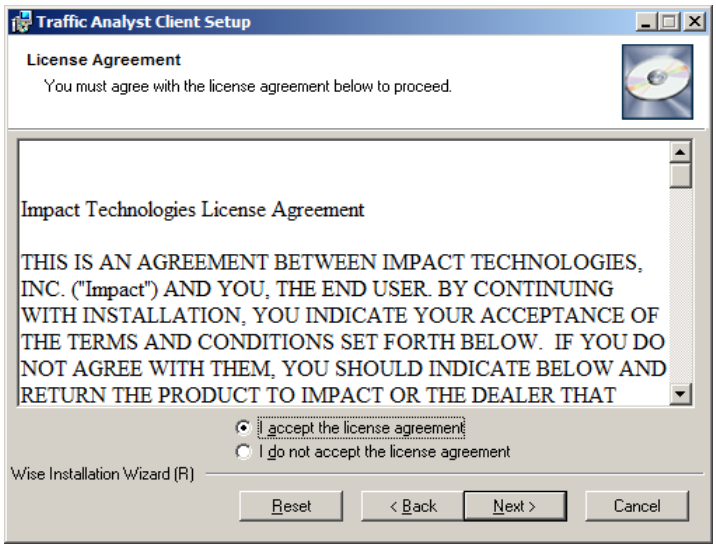
2.1.1. Installing Traffic Analyst Client on Workstation

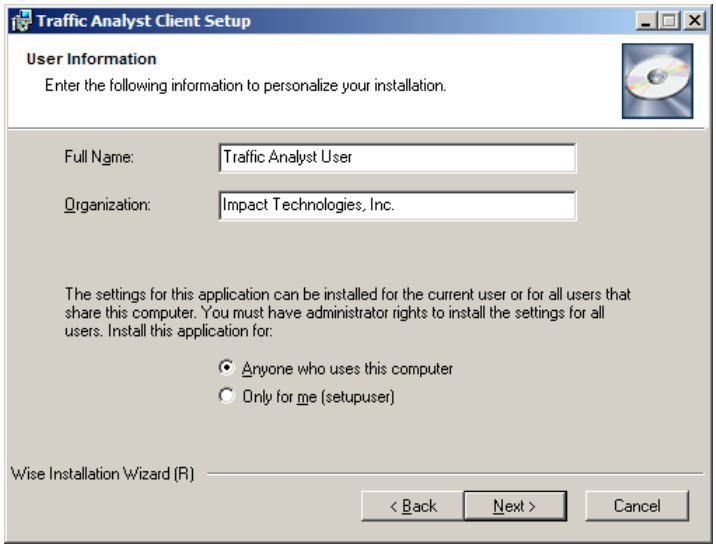
Before installing the client software you will need to know the database name of the database installed on Traffic Analyst server. Also IP or Host name of the server where the database is running.

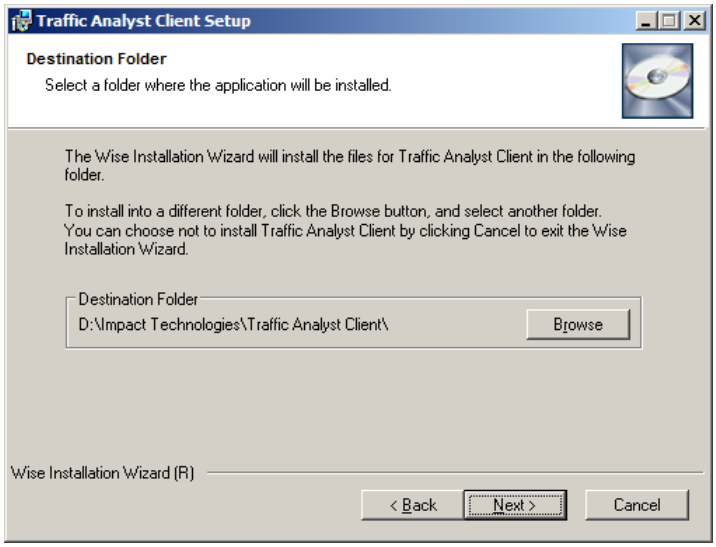
Copy the **TrafficAnlaystClientSetup.msi** file from the Install CD to the workstation for installation.

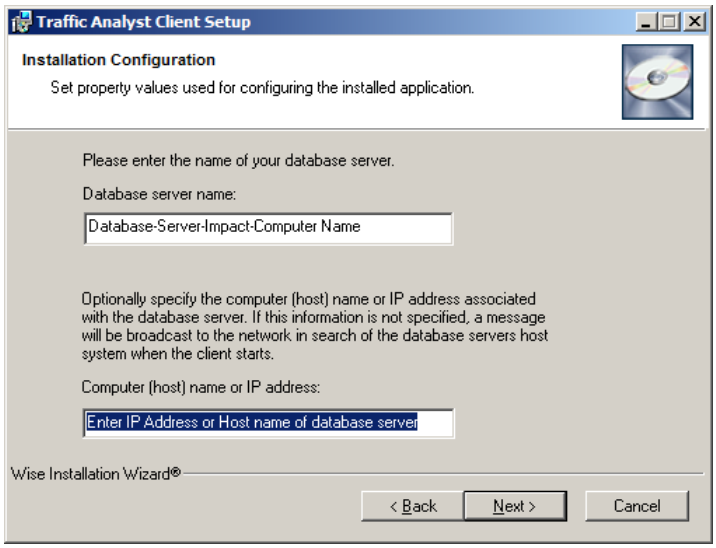
Follow the install wizard:




Traffic Analyst Client Setup
License Agreement
You must agree with the license agreement below to proceed.
Impact Technologies License Agreement
THIS IS AN AGREEMENT BETWEEN IMPACT TECHNOLOGIES, INC. ("Impact") AND YOU, THE END USER. BY CONTINUING WITH INSTALLATION, YOU INDICATE YOUR ACCEPTANCE OF THE TERMS AND CONDITIONS SET FORTH BELOW. IF YOU DO NOT AGREE WITH THEM, YOU SHOULD INDICATE BELOW AND RETURN THE PRODUCT TO IMPACT OR THE DEALER THAT
I accept the license agreement
I do not accept the license agreement
Wise Installation Wizard (R)
Reset
< Back
Next >
Cancel


Traffic Analyst Client Setup
User Information
Enter the following information to personalize your installation.
Full Name:
Traffic Analyst User
Organization:
Impact Technologies, Inc.
The settings for this application can be installed for the current user or for all users that share this computer. You must have administrator rights to install the settings for all users. Install this application for:
Anyone who uses this computer
Only for me (setupuser)
Wise Installation Wizard (R)
< Back
Next >
Cancel


Traffic Analyst Client Setup
Destination Folder
Select a folder where the application will be installed.
The Wise Installation Wizard will install the files for Traffic Analyst Client in the following folder.
To install into a different folder, click the Browse button, and select another folder.
You can choose not to install Traffic Analyst Client by clicking Cancel to exit the Wise Installation Wizard.
Destination Folder
D:\Impact Technologies\Traffic Analyst Client\
Browse
Wise Installation Wizard (R)
< Back
Next >
Cancel



2.1.2. Adding Traffic Analyst to the Startup Folder

You can add Traffic Analyst to the Startup folder so that it starts up automatically whenever its computer is rebooted. Here are the steps:

1. Create a shortcut to the Traffic Analyst program file named ta2000.exe. On most systems, this is found in the c:\Impact Technologies\Traffic Analyst\bin directory. Copy this shortcut into the Startup Folder.

2. After the short cut is finished, right click on the shortcut and select "Properties" from the pop up menu.

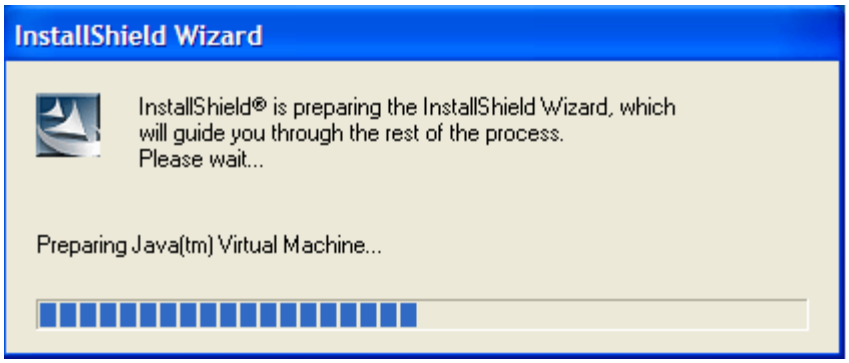
3. Go to the Shortcut Tab. In the Target field add the argument -w60 to the end of the line. This delays the startup for 60 seconds, which should give enough time for any other applications you are loading to come up first. Be sure a space exists between the application file and the command line option. Your target string may appear as below.

```
C:\Program Files\ta2000\bin\ta2000.exe -w60
```

2.2. Installing Web application

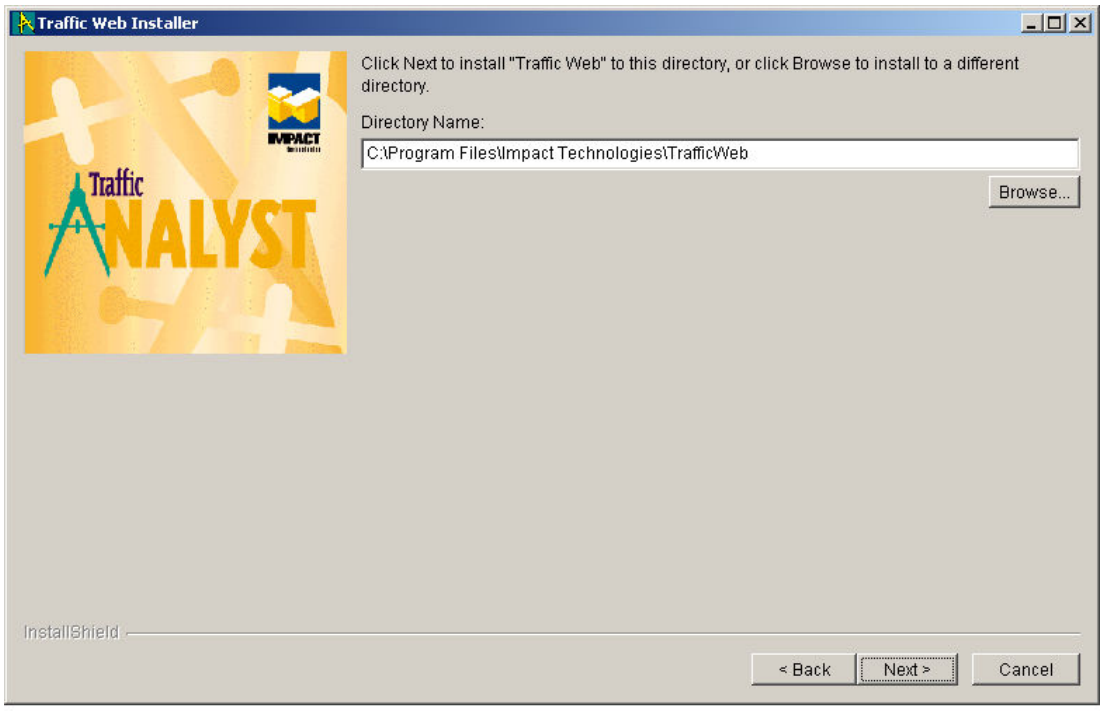
Before the Web application can be installed make sure that IIS is installed. Also, if using a Windows Server 2008, Application Request Routing (ARR) also needs to be installed and configured.

As the Web installation starts the Install Wizard will appear and start the preparation of the Java Virtual Machine.

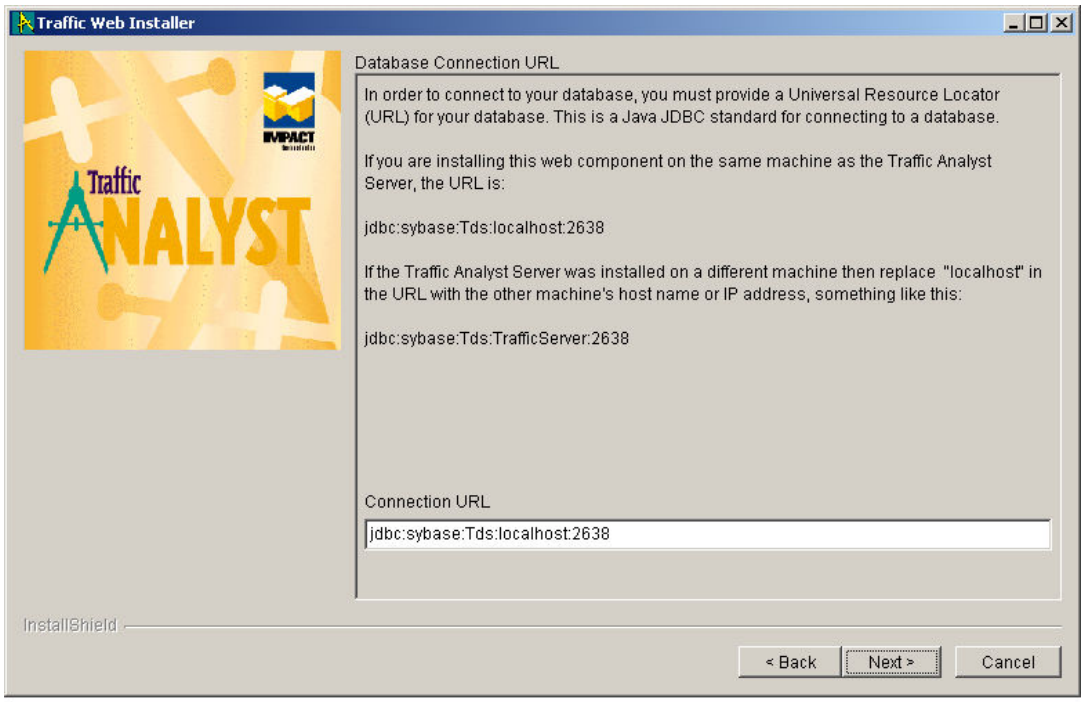


Next the License screen will appear Accept license after reviewing and click on Next

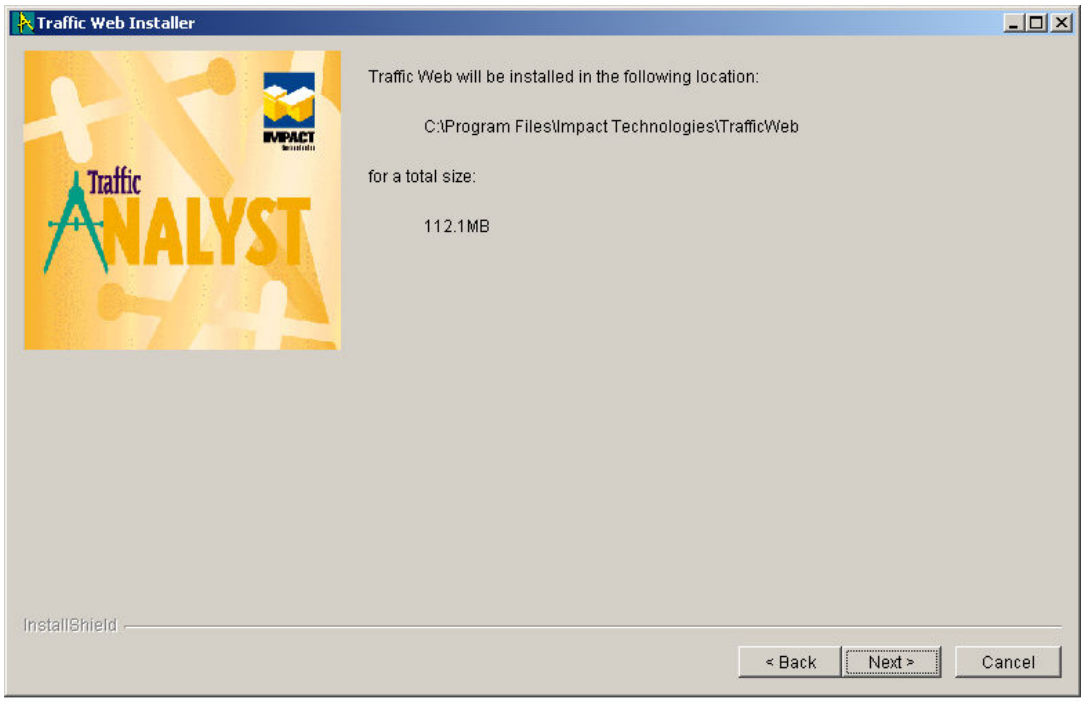
A window displays prompting you to accept the default installation directory for Traffic Analyst Web. Accept the default or browse to select a different location for the installation, and then click on **Next**.



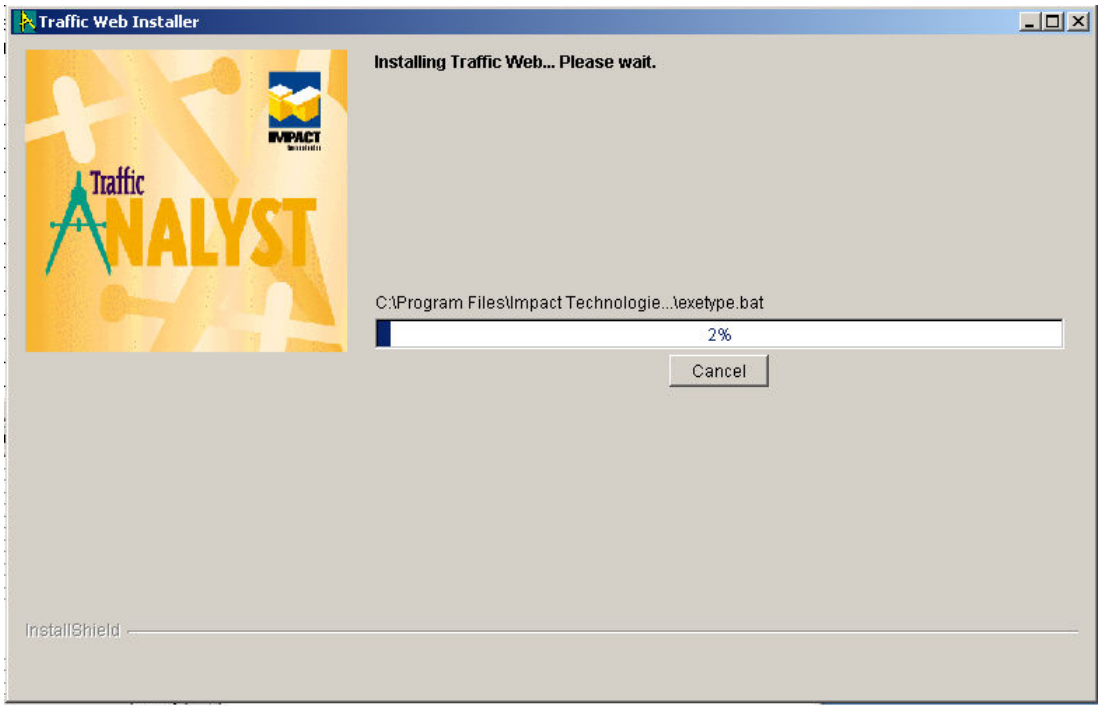
A window appears asking for the URL (Universal Resource Locator) for your database. If the web component is being installed on the same machine as the Traffic Analyst Server (recommended), then the URL is ***jdbc:sybase:Tds:localhost:2638***. If the web component and Traffic Analyst Server are not installed on the same system, then the URL will be the same except replace ***localhost*** with the computer name of the Traffic Analyst Server.



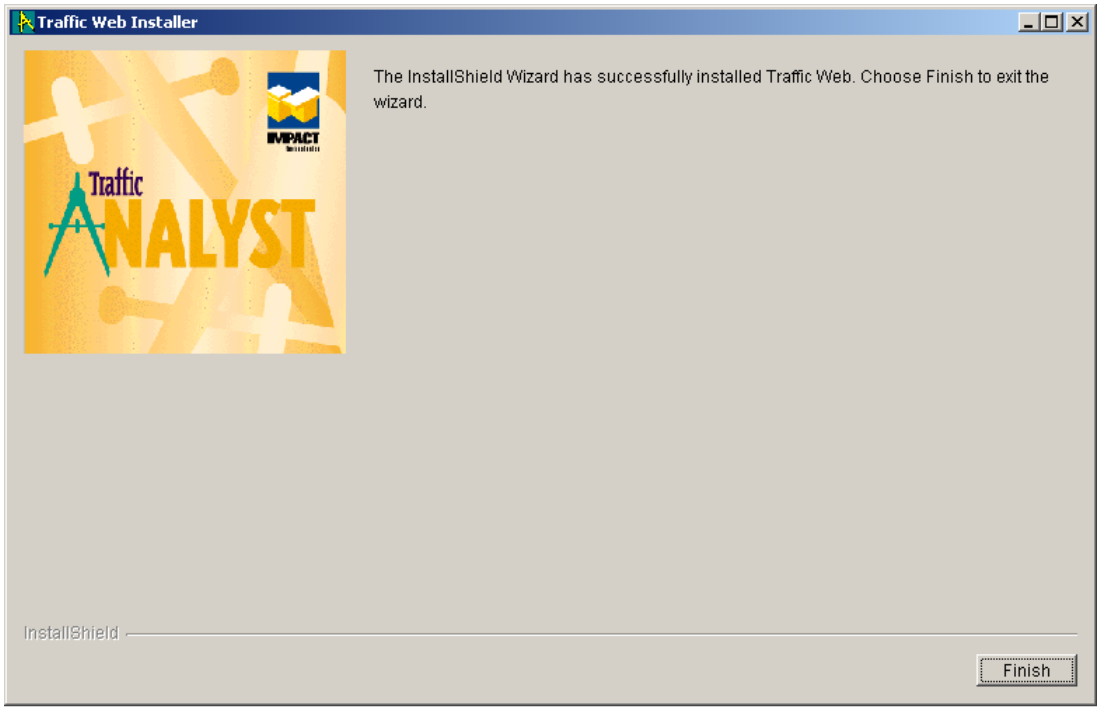
A window displays showing the location and size of the installation. Click on **Next** to continue. If you wish to change anything, click on **Back** to return to the appropriate window.



You will then see an "Installing Traffic Web…Please wait." window.



When the progress shows 100%, there may be a few **minutes** before the next window appears while the configuration finishes. When finished, a window appears showing the installation as successful. Click on **Finish** to complete and exit the installation.



Please note that you may see a window prompting you to reboot if the install had to update any files that were already in use on your system. After you restart your computer (if necessary), you are finished installing Traffic Analyst on this machine.

To start Traffic Analyst Web browser enter the URL http://*server ip address*/trafficweb/

The next section, ***Installation of Additional Devices***, is only necessary if you need to setup a Lantronix device or buffer boxes for polling by Traffic Analyst.

If these sections aren't necessary of you, go onto the document entitled ***Traffic Analyst Users Guide***, found on the Traffic Analyst CD.

Section 3: Installation of Additional Devices

3.1. Lantronix Device Server

Traffic Analyst works with the UDS-10 Device Server manufactured by Lantronix.

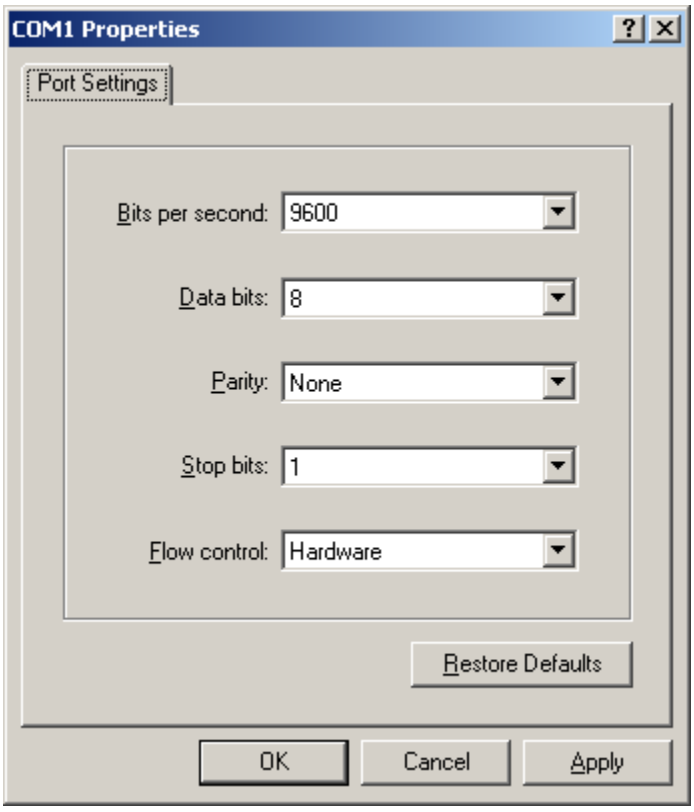
Lantronix UDS-10 Setup

To configure the Lantronix, the following Network information is needed:

- A static IP address
- Subnet Mask IP Address
- Gateway IP Address

Connect via PC serial port to UDS-10 serial port using Standard Modem cable.

Using HyperTerminal or ProComm Plus, start a session and configuring the comm port to 9600, 8, N, 1.



While powering on the UDS-10, hold down the "x" key on the keyboard until the UDS-10 Menu appears.

- Hit [Enter] to get to the Change Setup menu.
- Hit 0 (zero) and [Enter].
- Enter the static IP address that you will be using.
- Answer "Y" to Set Gateway.
- Enter the gateway address the same way as the IP address.
- Netmask: You will need to enter the number of bits that match your network configuration. Please refer to the **IP Addressing** section of the **Lantronix Installation Guide** that came with the Lantronix Device to determine the correct setting.
- "Change telnet config password" hit N and [Enter]
- When back at the Change Setup menu, select 9 and [Enter]. This will save your settings and disconnect you from the UDS-10.

Connect the UDS-10 to the network via an Ethernet cable. Once connected, the "link" light should be a steady green (which means that it is connected to the network) and the "net Tx/Rx" flashing yellow (which shows network traffic).

If everything is configured correctly, connection via the IP Address should be available. Go to Start…Run and type in "telnet xx.xx.xx.xx 9999" (where x represents the IP address you assigned the UDS-10). The 9999 after the IP address will signify that we are going in on the maintenance port.

If the port the Lantronix is connected to will be something other than 9600, 8, N, 1, then the Channel 1 configuration will need to be changed. From the Main Menu, select option 1 and change the fields to correspond to the correct information.

The device is now ready to connect to the port of the PBX.

To use the Lantronix with **Traffic Analyst** software you will need to install the **Comm Port Redirector** software.

Note:

The IP Port is the port number configured on the Lantronix. IP port number 10001 is the default and is recommended. Only change the default port number if this has been changed during the Lantronix setup. Check the option for a Lantronix password if one has been configured. Then enter the password. See Lantronix Installation Guide for more information.

3.2. Working with Buffer Boxes

Traffic Analyst works with the following buffer boxes. If you are using a buffer box that is not on the list, contact Impact Technologies for assistance.

- Western Telematic's PollCat NetLink
- Western Telematic's PollCat NetLink Jr (NLJ-512)

- Scannex

Following is a discussion on setting up these boxes.

3.2.1. Western Telematic

3.2.1.1. PollCat NetLink – NetLink Jr

Traffic Analyst can poll data from Western Telematic's PollCat NetLink via TCP/IP or modem. It does this once a day, usually just after midnight and before the next day starts. The PollCat Netlink will accumulate all data for a day and provide it to Traffic Analyst on request.

Before you start, make sure that you have a Ethernet connection, if polling via TCPIP, available at the switch since the PollCat must be connected to your network once configuration is complete. Or if not polling via TCPIP you will need a modem line to connect to the PollCat.

Once you turn on the PollCat, you should see the Green light above "ON" and a flashing amber light above "RDY".

To setup PollCat for TCPIP:

Connect to PollCat via Modem (PollCat has built in internal 56K modem) or Direct Connect from your PC serial port (comm port) to the Console Port (DCE). These port are located on the back of the PollCat. You can use ProComm or HyperTerminal for this. Default settings for Direct Connect are 9600 8, N, 1 and 57600, 8, N, 1 for Modem.

After 3 unsuccessful attempts at the PollCat password, the PollCat will disconnect you.

Once connected, hit [Enter] to get the Main Menu. If you get ERROR instead of the Main Menu, it is looking for a password. By default, the password is SUPER and is case-sensitive.

Once at the Main Menu, type in 22 (Port Configuration) and hit [Enter].

On the Port Configuration Menu, type in 6 (Network Port) and hit [Enter].

The following items need to be changed on the Network Port screen:

1. IP Address – This is a static IP address that your Networking or IT department must assign.

2. Subnet Mask – This may or may not need to be changed. You will have to check with your Networking or IT department.

3. Gateway Addr - This is a IP address that your Networking or IT department must supply you with.

To change these items, select the appropriate number that corresponds to the item you need to change.

Enter each address as needed and then hit [ESC] to return to the Port Configuration Menu.

This portion will need to be completed if polling with TCPIP or Modem:

Now select PBX Port A, PBX Port B or PBX Port AUX, whichever one that the Traffic data will be coming in on, and hit [Enter]. For POLLCAT Jr. (NLJ-512), you will only have a PBX Port A. Settings 1-4 for the PBX Port MUST match the settings to the port you are going to be using on the PBX, otherwise the PollCat will not be able to communicate with the switch.

Hit [ESC] until you are back at the Main Menu.

You need to SAVE the parameters to the PollCat otherwise if power is lost to it, the changes made will be lost.

To save, type 7 (Save Parameters) and hit [Enter]. Answer Y at the "Sure?" prompt and hit [Enter]. Hit [Enter] after it has saved to return to the Main Menu.

Back at the Main Menu, type 8 (Exit Command Mode) and hit [Enter]. You should get an on-screen message of "Command Mode Exited". At this point you can close your terminal program (HyperTerminal, ProComm, etc…)

Since we have added the TCP/IP address to the PollCat, we need to test it to make sure that we can communicate with it since Traffic Analyst will only use the TCP/IP connection to communicate with the PollCat. Make sure you are testing it from the computer that will have Traffic Analyst installed on it. You will need to use telnet, which is a standard Windows program. Click on the Start button, then Run or get to a Command Prompt (DOS prompt). Type in "telnet xx.xx.xx.xx" without the quotes and where "x" is the IP address of the PollCat that you assigned to it. This should open a new window.

NOTE: If you get a message that says "Cannot connect to xx.xx.xx.xx", then you either have the wrong IP address or something is not configured correctly on the PollCat.

You should now see "POLLCAT-NETLINK" on the screen. This does require a password to access it. By default it is SUPER and is case-sensitive. You will not see the password as you type it. Make sure you hit [Enter] after you type in the password. You should now get a READY message. Hit [Enter] to get to the Main Menu. You can now make future changes using the telnet connection.

Once you have finished configuring the PollCat, you now need to connect it to your switch. There is a cable supplied with the PollCat that has one end marked as "PBX" and the other end as "POLLCAT". There is also a connector that is marked as "Null Connector" which you need to connect to the "PBX" end of the cable before plugging it into your PBX.

Once you have plugged in all the cables, including the Ethernet connection, the PollCat should be ready to accept data from the PBX. You will have to configure your switch to export the data on the port we are connected to.

To assist in this set-up, here is how Traffic Analyst works with the PollCat NetLink:

1. Traffic Analyst will try to access the Command Mode of the PollCat through TCP/IP port #23, using the Host Name or IP Address defined in its Switch Communications settings or via a modem using the Modem number and baud/parity rate you set up. These settings need to match what is setup in the PollCat.

2. Traffic Analyst first looks for the prompt "PollCat-NetLink" and if it sees it, Traffic Analyst sends the password defined in its Switch Communications settings and waits for a "Ready" prompt to display. (Note: the password is case sensitive, so be careful that it is entered into Traffic Analyst correctly.)

If Traffic Analyst does not see the "PollCat-Netlink" prompt, it looks for the "Ready" prompt anyway, and proceeds if it finds it. It also looks for the "Enter Selection" prompt, meaning that the PollCat menu has been enabled for a network connection, and if found, Traffic proceeds appropriately. If none of these prompts appear within the timeout time, then Traffic Analyst stops and logs a failure.

3. Assuming Traffic Analyst has obtained Command Mode with the PollCat, it issues the following command to retrieve the data: **^B01,STD,SP**

   Where SP is PA (port A), PB (port B) or PX (auxiliary), whichever port is used to collect traffic data and defined in Traffic Analyst's Switch Communication settings. The STD command segment requests standard (non-alarm) records.

4. All data up to the END DATA message will be collected. Traffic will then issue this command: **^B25,Y**

   This resets all records in the port's current memory partition.

5. Last, Traffic issues the **^B09** command to exit the Command Mode and discontinue the connection.

3.2.2. Omnitronix

3.2.2.1. Poll-Safe

Traffic Analyst can poll data from Omnitronix Poll-Safe buffer box PS680 or PS635 via a modem. It does this once a day, usually just after midnight and before the next day starts. The Poll-Safe will accumulate all data for a day and provide it to Traffic Analyst on request.

The size of the buffer box should be able to hold enough records for a full day and maybe two days if a problem happens when trying to dial into the buffer box. For sizing recommendation, usually a 2MB unit is large enough but it is a good idea to connect Impact Technologies if you have questions on which buffer box is right for you.

Please refer to your user manual to setup the buffer box to your switch.

To configure the buffer box you will need to connect to the buffer box using ProComm or Windows HyperTerminal. You will see the Connect message soon but it may 10 seconds or so before you see the Answer String of POLLSAFE PS680 or POLLSAFE PS635p. At this point you should be able to enter commands and see responses from the Poll-Safe. You will want to type a ^B (hold the Control key down and type a B).

Now you can type STATUS or a question mark (?). You should see a status display transmitted. Next you will want to go through the SETUP. It is very important to setup the date and time, the baud rate and parity setting of the input port. This is the port that will be connected to the port of your PBX. These settings will need to match the port settings of the PBX exactly. Compress will also need to set to OFF.

Once you have finished configuring the Poll-Safe, you now need to connect it to your switch. The Input port is Configured as DTE port, most PBX ports are configured as DCE therefore most likely required configuration is a just a straight through cable. If the PBX port is also DTE you will need a NULL modem adapter also.

Connect the serial cable to the Poll-Safe Input port. When this connection is properly made, the RXD IN LED should turn GREEN. If the RXD IN LED is RED then something is not correct and you should try a different cable. If it is neither RED nor GREEN, then insert the null modem adapter between the Poll-Safe and the cable from the PBX or you can change the jumpers to the Poll-Safe to be DCE. You will need to reference your user's manual for information.

The RDX IN LED will be GREEN and will flicker RED when data is being transmitted from the PBX.

Since the Poll-Safe PS680 can understand PollCat commands Traffic Analyst will use those commands for the Poll-Safe. The Poll-Safe PS635 does not understand the PollCat command so the Poll-Safe commands are used to access the data and clear the buffer after data collection has occurred.

3.2.3. Scannex

Traffic Analyst can poll data from the Scannex once an hour (or more frequently if needed).

When you set up Traffic Analyst for use with the Scannex, you will need to enter a user name and password that the Scannex will recognize. You will also need to enter the filename of the file Traffic Analyst will retrieve. Consult your Scannex documentation for this information.

There is a utility available from the Scannex website, SE Discoverer, that you can use to help you with the Scannex set up. As of this writing, the URL for downloading this Scannex utility is as follows:

SE Discover program - http://www.scannex.com/tools/setup_sediscover.exe

Please note that this URL can change at any time, so you may have to go to scannex.com to search for it.

You can also download the IP User Manual at:

http://www.scannex.com/docs/ipbuffer_manual_20080502.pdf

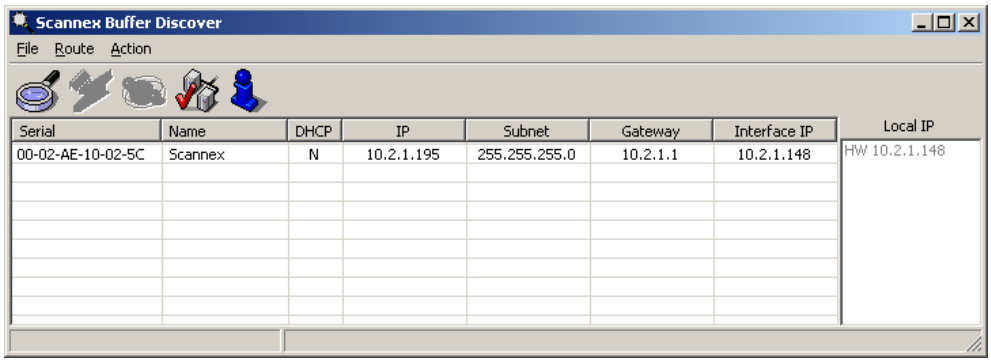
Again, this URL is subject to change.

3.2.3.1. Setting up the Scannex ip.buffer

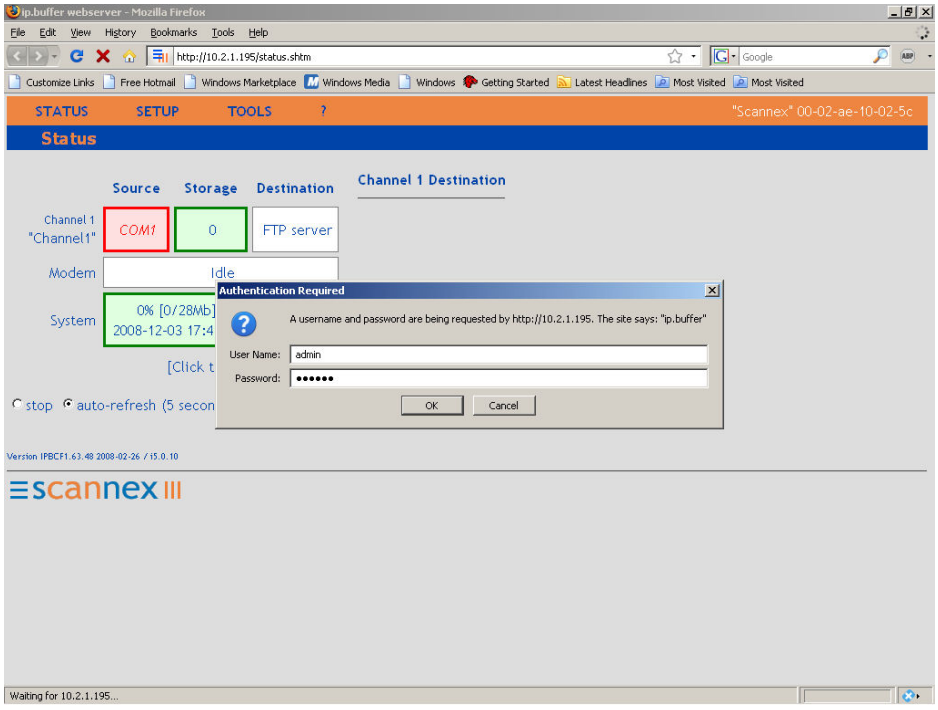
Assuming you are connecting it to the LAN (with a direct connect serial cable to the PBX), connect the ip.buffer to your LAN (and the serial cable to the PBX) and connect to power outlet.

1. Open up **SE Discover** program.

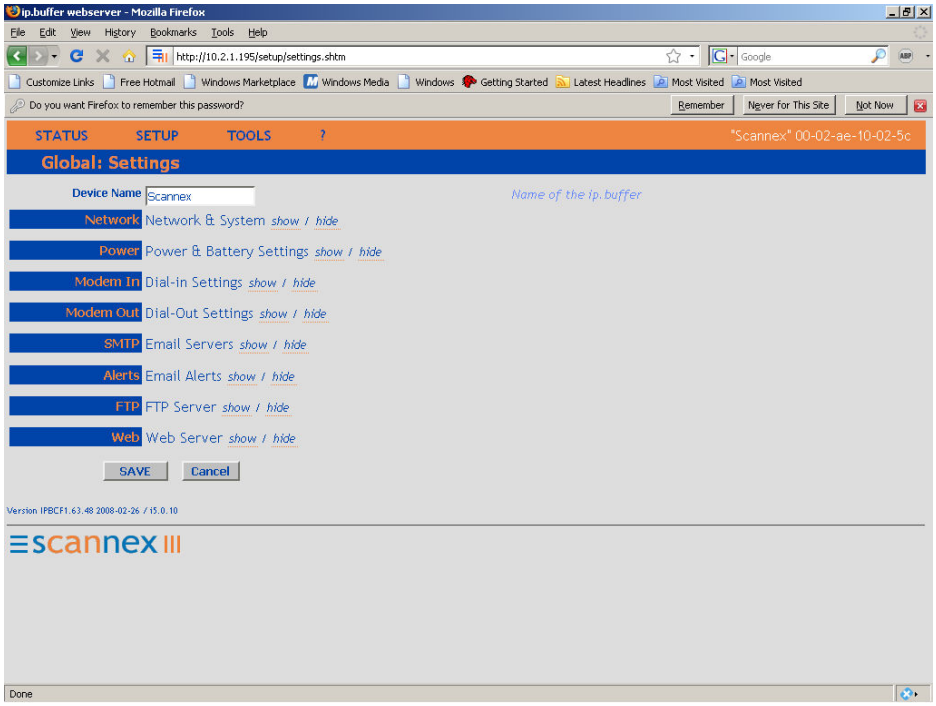
2. Click on the Spyglass icon. The ip.buffer should now be seen in the box below. Single click the buffer and then click the World symbol.



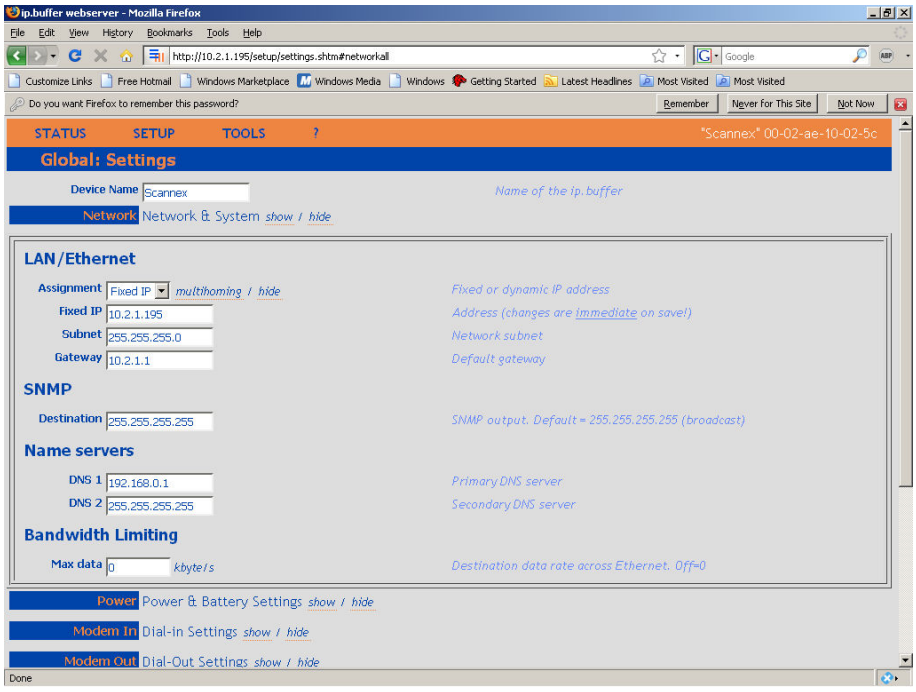
3. This should now take you to the web browser page of the ip.buffer. Click on the Set-up tab and enter the Username (**admin**) and Password (**secret**).



4. Click on Global Settings.



5. Now click on Network (Network & System) settings ……show tab.



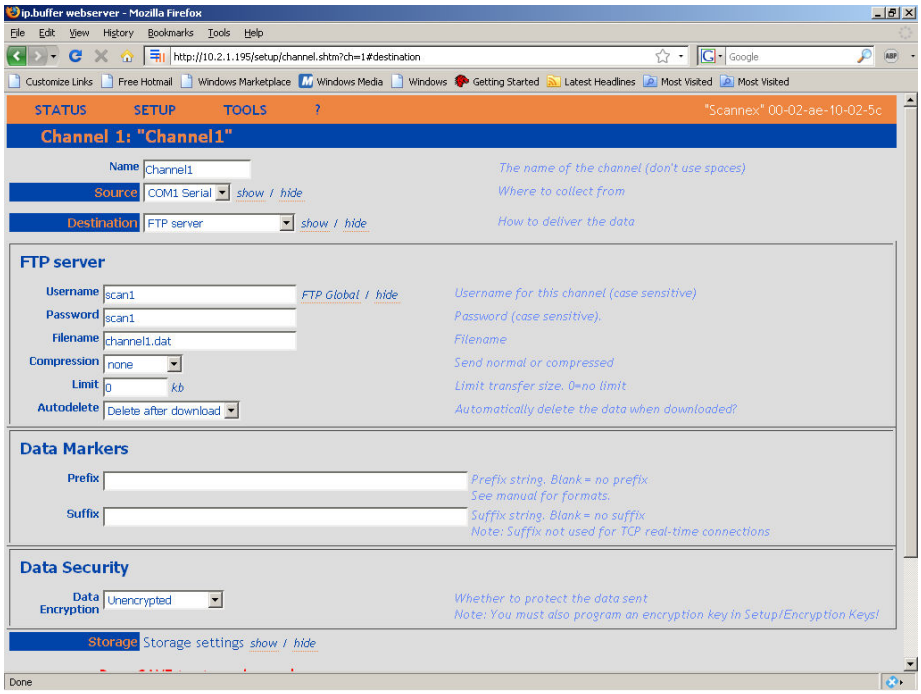
6. Change the fields to match your chosen IP address Subnet & Gateway, and then go to the bottom of the page and click Save.

7. Click on Global Date & Time and check to be sure that the time is correct. Click on Save when satisfied.

8. Click on Channels ….Channel 1.

9. In Source, the default should be Com 1 Serial, which is correct.

10. In Destination, select the correct output, FTP Server. Then click the Show tab to adjust the settings to your requirements.



11. In the Autodelete field, make sure that Delete After Download is selected.

12. Note the Username, Password, and Filename in the FTP Server section. This information needs to be entered in the Traffic Analyst Communication tab for this switch. It's the information that Traffic Analyst will use to access the buffer box. The file name is the name of the file containing the CDR data that Traffic Analyst will retrieve.

13. When you are finished, click on Save. Your buffer box should be set up properly now. You may now close the Scannex ip buffer web-browser page.

Section 4: Appendix

4.1. Configuring IIS with ARR (Windows 7, 2008, Vista)

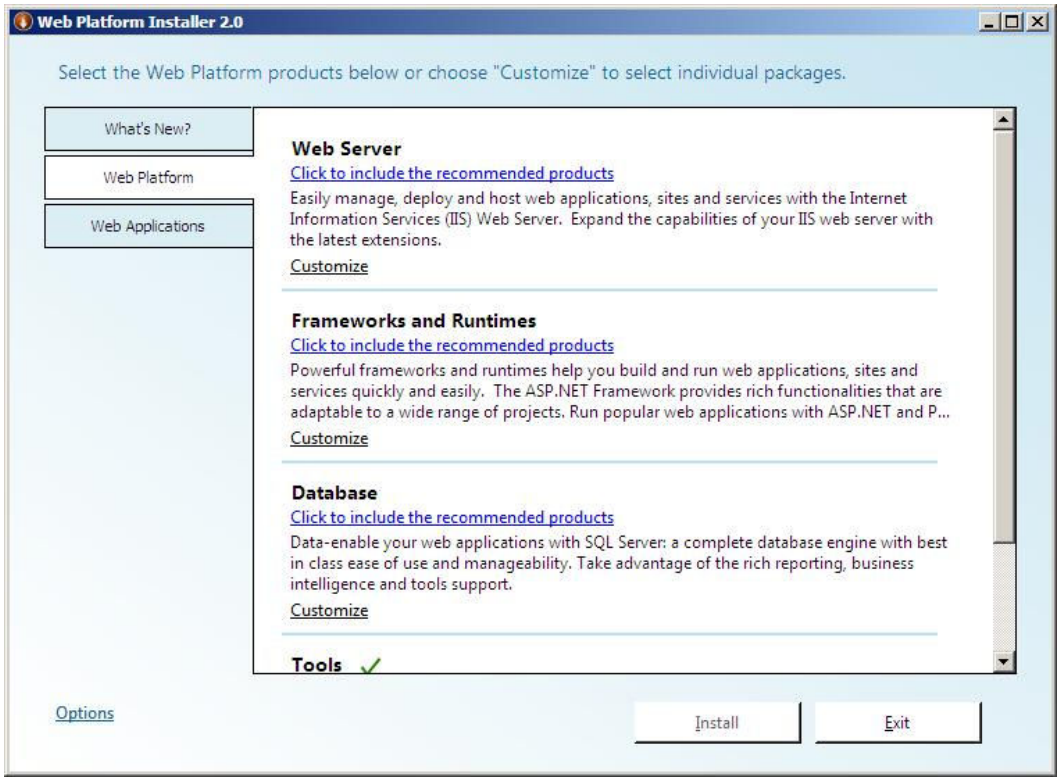
Follow the steps below to ensure that TrafficWeb is properly configured for using IIS to send Web requests to and from the TrafficWeb application via Tomcat services.

NOTE: If not already on the server, IIS must be installed first, before installing ARR. To check if IIS is installed, open Administrative Tools from the Control Panel and then open the IIS Manager. If you are unable to open IIS, it probably is not installed.

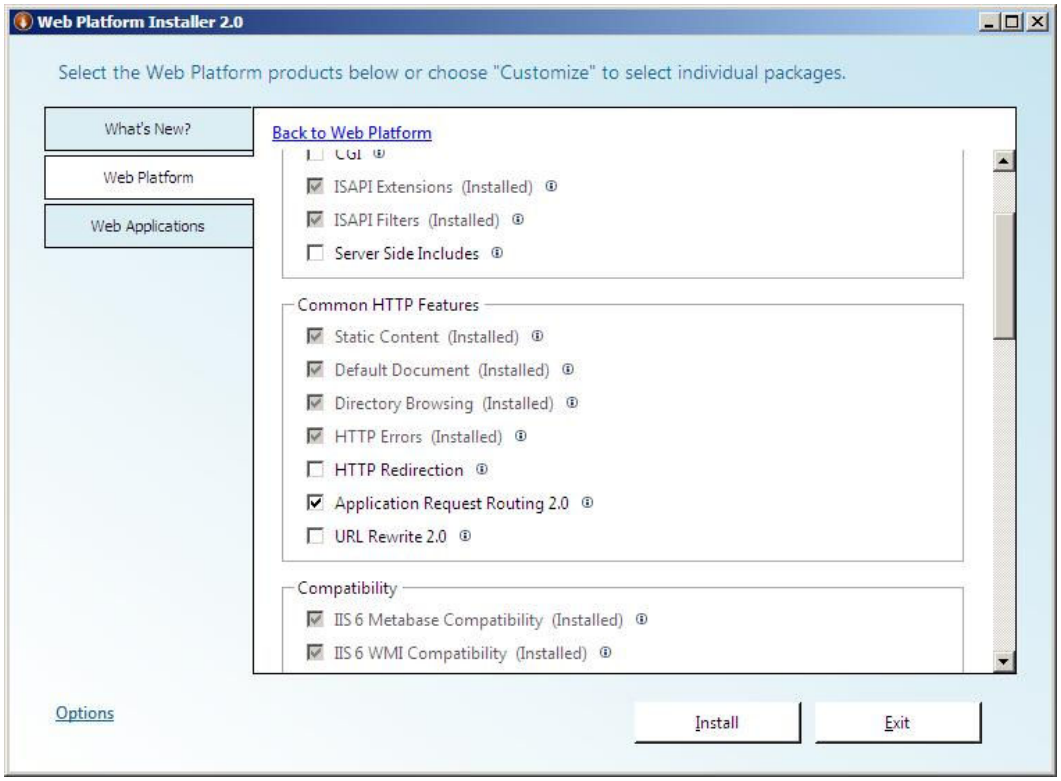
First, download and install ARR version 2.0 or later. To find an available download, enter "Microsoft Application Request Routing" into your favorite search engine. Once this is downloaded, run the installer. (Note: The ARR installer displays a dialog near the end of the install - which mentions the location of the log file. Make sure you examine this log file. The installer does not alert the user of all install errors; therefore, you must manually read this log file before assuming the installer worked.)

Follow these instructions when using Web Platform Installer to install ARR.

Select the Web Platform tab. Then, under Web Server, select Customize.

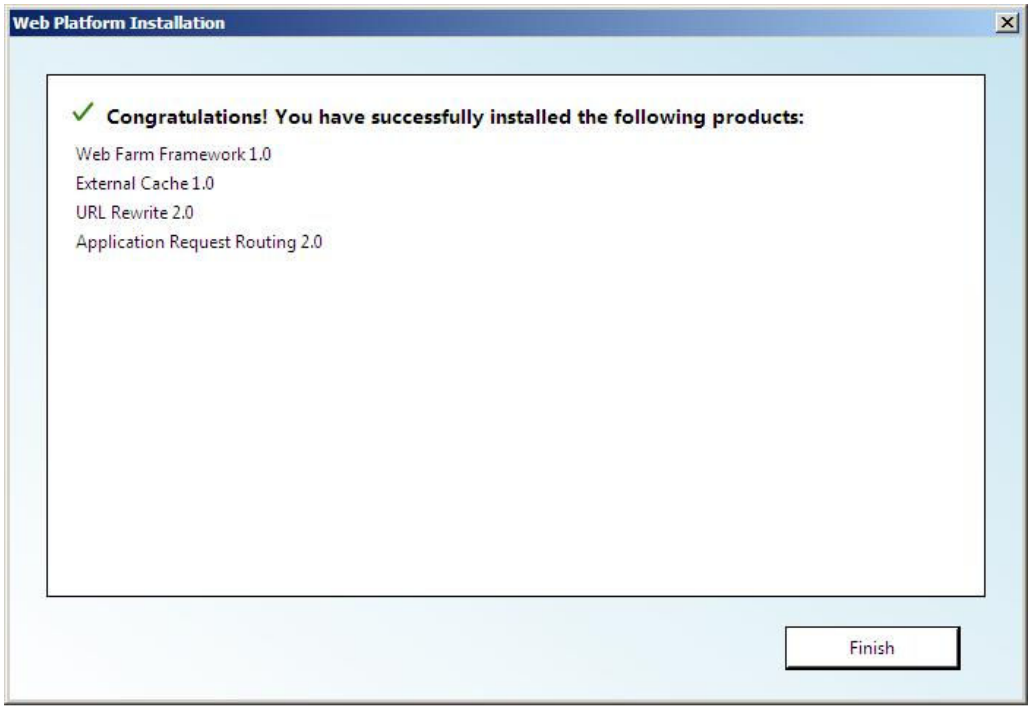


Next, select the Application Request Routing option, located under the Common HTTP Features heading.



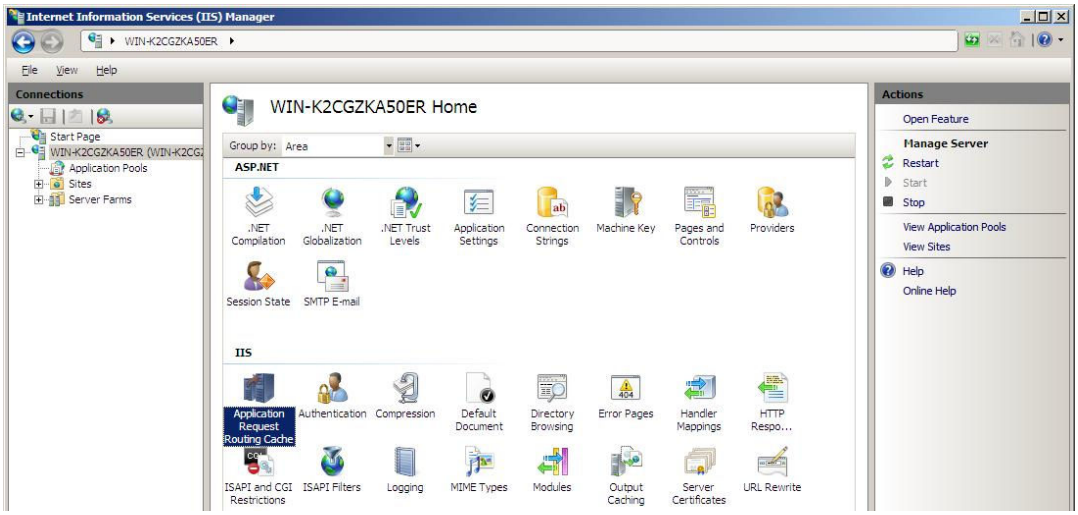
Click the Install button. Another window will appear. Click "I Accept" to agree to Microsoft license terms. Note: You may be prompted to reboot your computer after the installation is complete. If so, reboot your computer and continue with configuration.

When ARR is finished installing, a window will appear informing you that the install was successful. Select Finish to close this window.

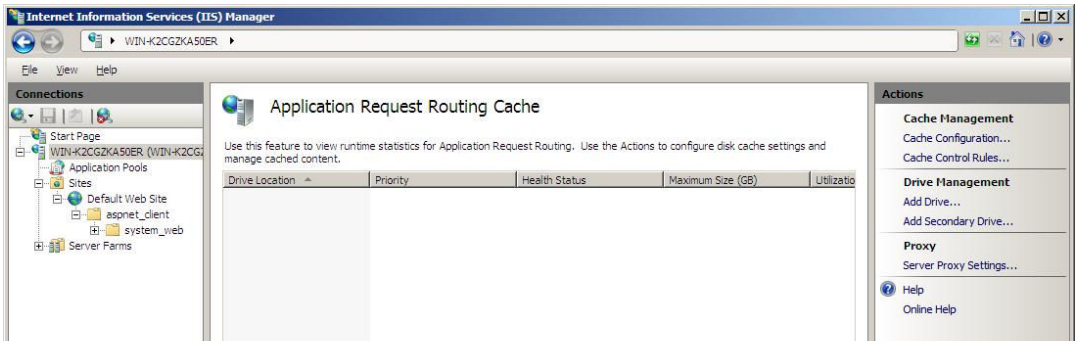


After ARR is successfully installed, open the IIS Manager. You are going to configure IIS with a new ARR "Rewrite URL" rule.

To configure IIS and ARR, click on the main IIS entry in the IIS Manager tree. You should see an "Application Request Routing" option. Select this option to open ARR.



The following screen appears. Select Server Proxy Settings from the sidebar on the right to go on to the next step.

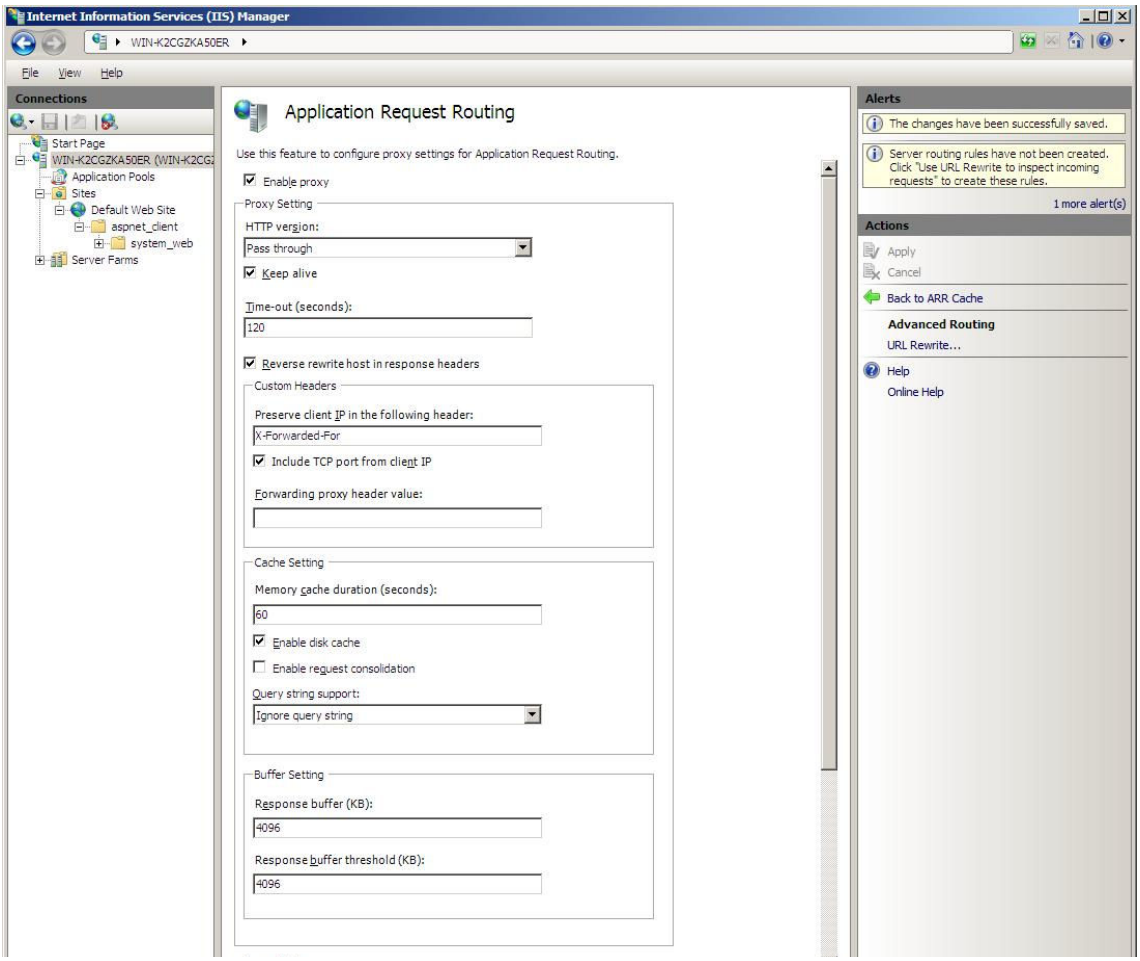


A new screen, labeled Application Request Routing, will appear. A sample configuration for this screen with recommended settings is provided on the next page.

It is important that the following fields are filled out accordingly:

- **Enable proxy** – checked
- **HTTP Version** – Pass through
- **Keep alive** – checked
- **Time-out** – enter an amount of time; 120 seconds recommended
- **Reverse rewrite host in response headers** – checked
- **Preserve client IP in the following header** – X-Forwarded-For

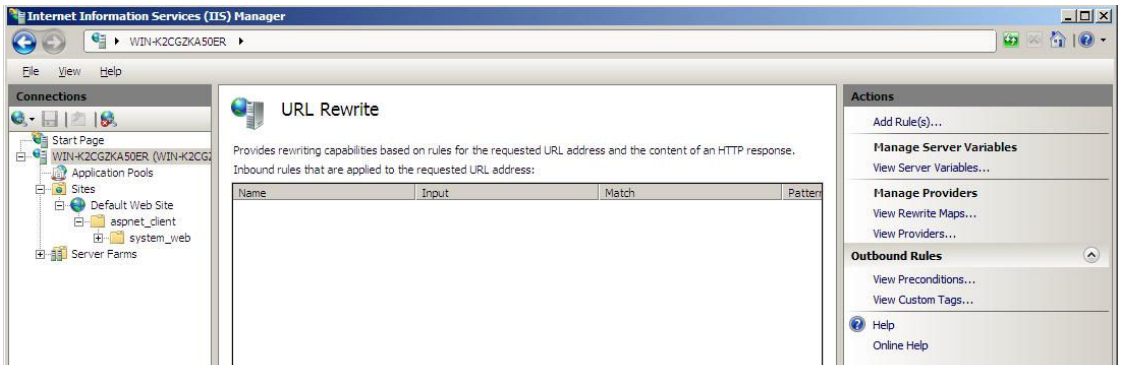
The remaining fields may either be left as the default or changed as needed.



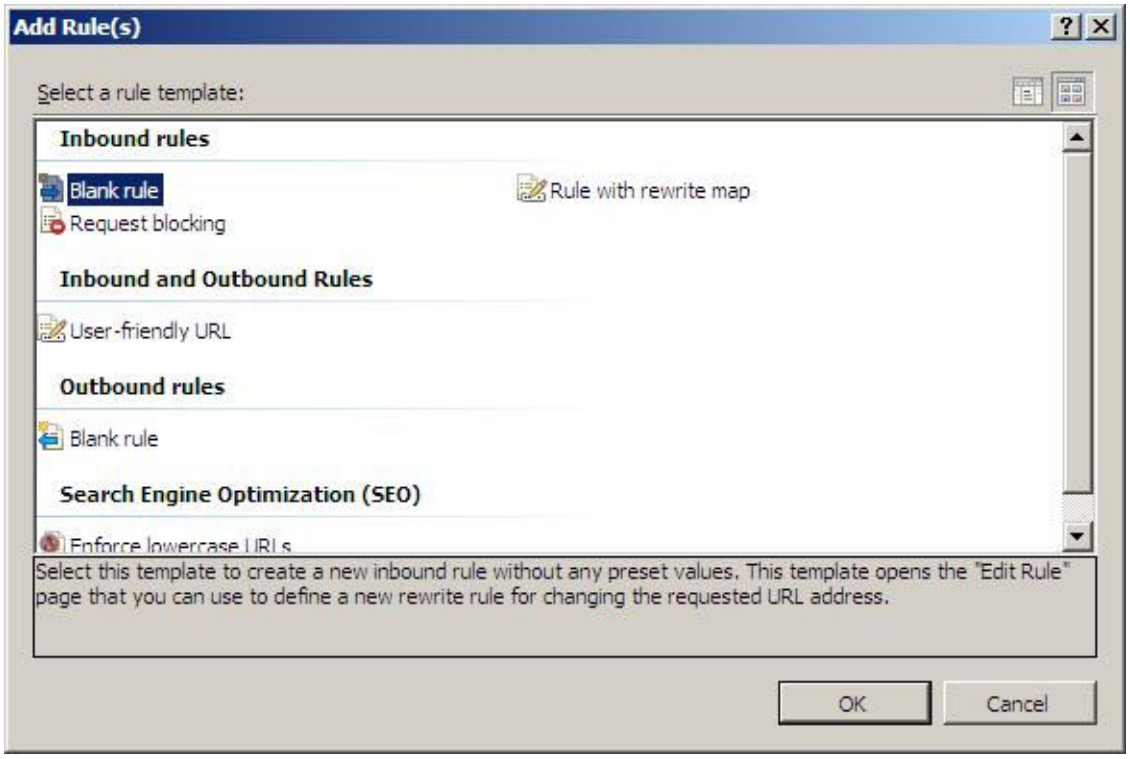
Scroll down to see the rest of the fields on this screen.

Once this is configured, click Apply (located on the right sidebar in the Application Request Routing screen) to save your changes. Then, click on the URL Rewrite… option, also located in the right sidebar.

The URL Rewrite screen will appear. Select Add Rule(s)… from the right sidebar.

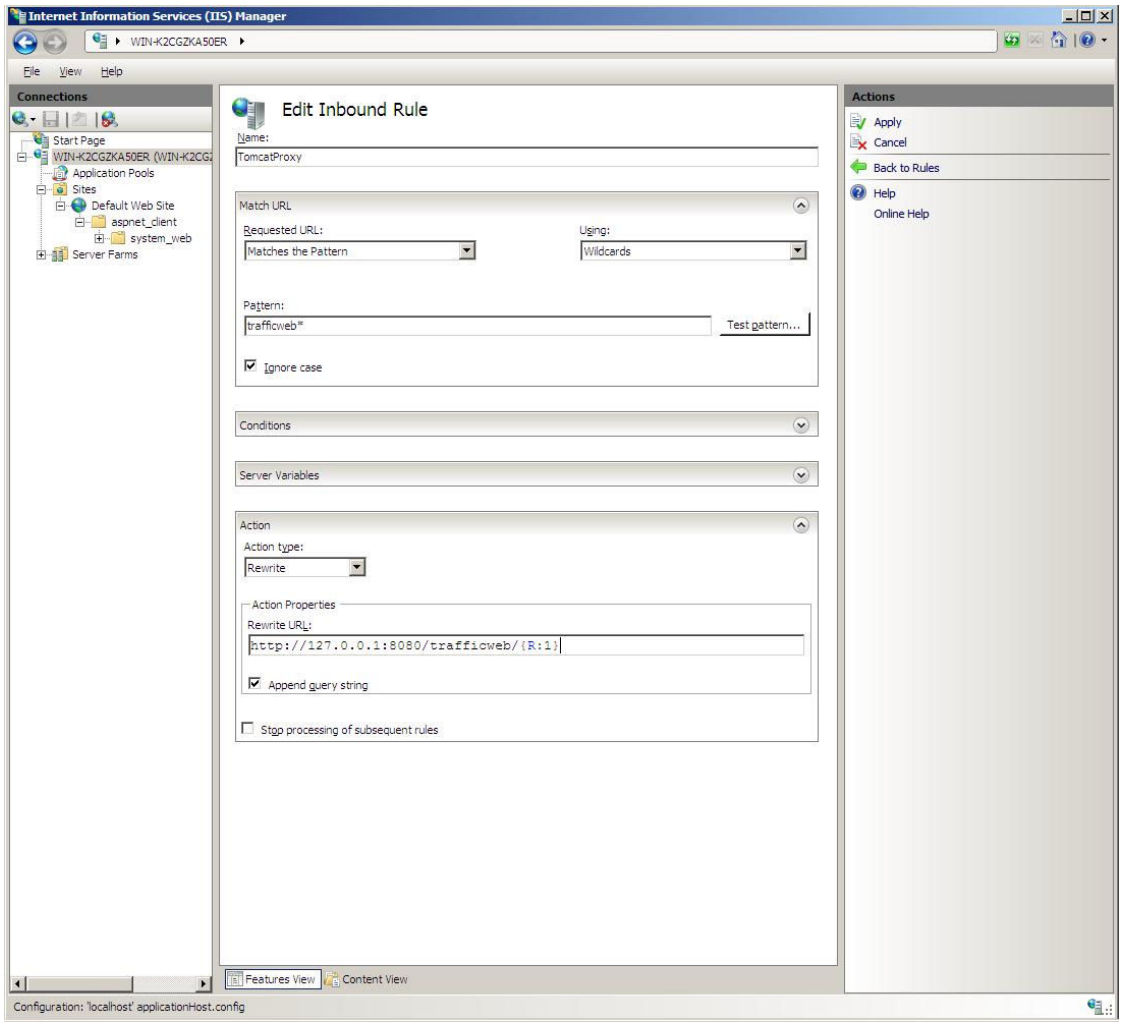


An Add Rule(s) dialog box will appear. Under Inbound Rules, select Blank Rule and click OK.



You are now on the Edit Inbound Rule screen. Designate a name (e.g. TomcatProxy) for this rule in the Name field and make sure these fields are filled out as follows:

- **Requested URL** – Matches the pattern
- **Using** – Wildcards
- **Pattern** – trafficweb*
- **Ignore case** – checked
- **Action type** – Rewrite
- **Rewrite URL** – http://127.0.0.1:8080/trafficweb/{R:1}
- **Append query string** – checked
- **Stop processing of subsequent rules** – unchecked



Be sure to click Apply (in the right sidebar) to save your changes.