

# Internet Applications

## Overview

The **Internet Application** screen provides access to some advanced features of the Level One ISDN Router. Selecting the **Internet Application** tab will display a screen like the example below.

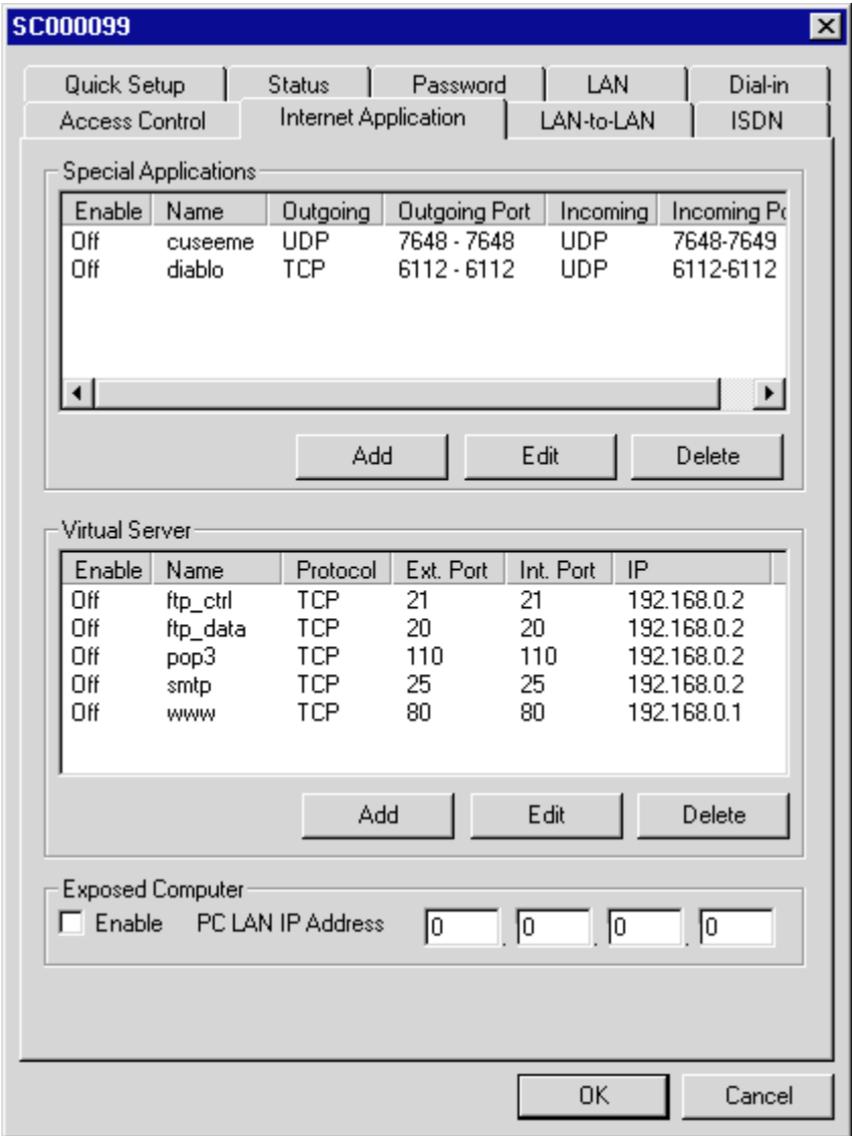


Figure 1: Internet Tab

# Special Applications

This feature is only required if you wish to use Internet applications which require 2-way communication, multiple connections, or combined TCP/UDP connections.

- Examples of such applications are Internet Videoconferencing, Telephony, Games Servers, and other special-purpose Servers. A number of the more common applications have been pre-defined, and will appear in the list.
- Generally, you will become aware of the need for this feature when an Internet application is unable to function correctly.
- At any time, only one (1) PC can use each Special Application.

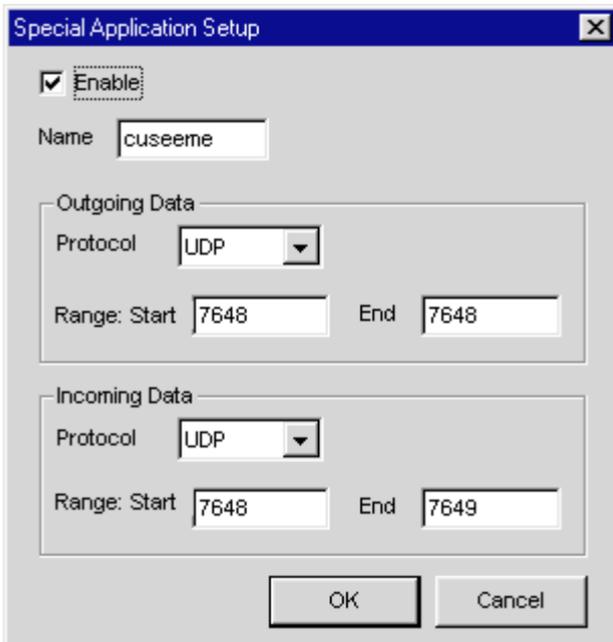
## Operation

**To use an existing entry:**

- Select an entry by clicking in the first column.
- Toggle the **Enable/Disable** state by double-clicking the first column for the entry.
- The *Edit* and *Delete* buttons apply to the selected entry.

**To create a new entry:**

1. Click the **Add** button. A screen like the following will be shown.



*Figure 2: Special Applications*

2. Enter data as described below.
3. Click OK when finished. The new entry will appear in the list, and can be enabled and disabled like the pre-defined entries.

## Data - Special Applications

<b>Enable</b>	Use this to Enable or Disable support for this application, as required.
<b>Name</b>	Enter a descriptive name to identify this application entry.
<b>Outgoing Data</b>	
<b>Protocol</b>	The protocol (TCP or UDP) used when you connect to the special application service.
<b>Port Range: Start</b>	The beginning of the range of port numbers used by the application server, for data you send to it. If the application uses a single port number, enter it in both the "Start" and "Finish" fields.
<b>Port Range: Finish</b>	The end of the range of port numbers used by the application server, for data you send.
<b>Incoming Data</b>	
<b>Protocol</b>	The protocol (TCP or UDP) used when the application or service sends data to you.
<b>Port Range: Start</b>	The beginning of the range of port numbers used by the application server when data is sent to you. If the application uses a single port number, enter it in both the "Start" and "Finish" fields.
<b>Port Range: Finish</b>	The end of the range of port numbers used by the application server, when data is sent to you.

# Virtual Servers

## Overview - Virtual Servers

This feature is available only if you are using the Level One ISDN Router for shared Internet access, rather than for LAN-to-LAN connection.

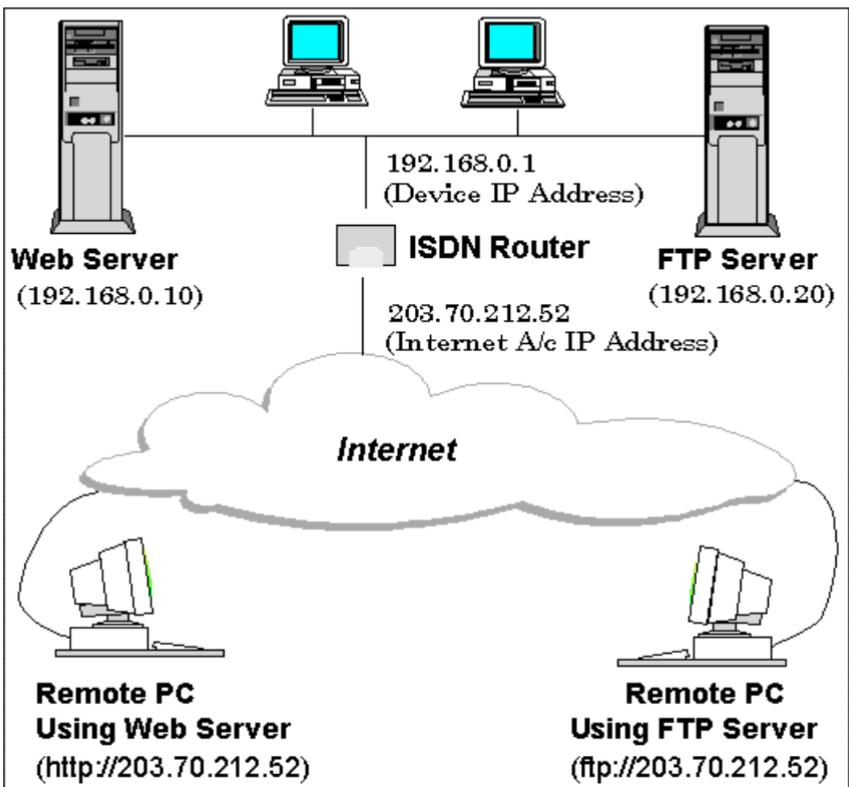
The *Virtual Servers* feature allows Internet users to access Servers on your LAN, via the Level One ISDN Router.

Normally, Internet users would not be able to access a server on your LAN because:

- Your Server does not have a valid external IP Address.
- Attempts to connect to devices on your LAN are blocked by the firewall in this device.

The "Virtual Server" feature solves these problems and allows Internet users to connect to your servers. However, your LAN must have an existing connection to the Internet. Internet users cannot open a connection.

Virtual Server operation is illustrated below.



*Figure 3: Virtual Server Operation*

## IP Address seen by Internet Users

Note that, in this illustration, both Internet users are connecting to the same IP Address, but using different protocols.

**To Internet users, all virtual Servers on your LAN have the same IP Address.**

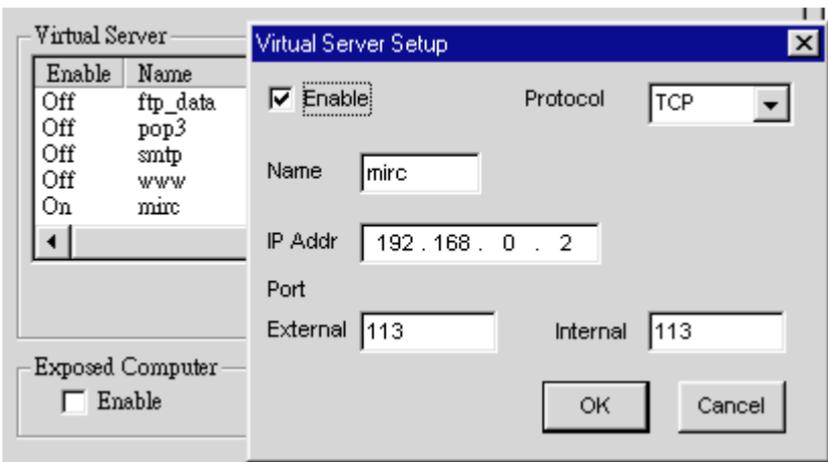
This IP Address is the *IP Address from ISP* on the *Quick Setup* screen. This address should be static (fixed), rather than dynamic, to make it easier for Internet users to connect to your Servers.

## Using Virtual Servers

1. Enable the Server type or types you wish to use.  
This can be done by double-clicking within the "Enable" column, to toggle the value On or Off.  
If creating or editing an entry, an *Enable* checkbox is available.
2. Enter the IP Address of each server on your LAN.
3. Click *OK* when finished.
4. Advise Internet users of the IP Address to use. (The IP Address allocated by the ISP, not the address on your LAN.) Note that because all Servers have the same IP Address, the appropriate client software (e.g. Browser, FTP client, Mail Client) must be used so that Internet users will be connected to the correct server.
5. Ensure that the connection to the Internet is established. Internet users cannot open a connection.

## Defining Virtual Servers

If the type of Server you wish to use is not listed, you can define it by clicking the *Add* button. You will see a screen like the example below.



*Figure 4: Virtual Server Setup*

<b>Enable</b>	Use this to Enable or Disable support for this Server, as required.
<b>Protocol</b>	Select the protocol (TCP or UDP) used by the Server.
<b>Name</b>	Names can not contain spaces or punctuation, and are case insensitive (case is ignored).
<b>IP Address</b>	The IP Address of the PC on your LAN which is running the Server software.
<b>Internal Port Number</b>	Enter the port number used by the Server to connect to clients.
<b>External Port Number</b>	The port number used by clients when connecting to the Server. This is normally the same as the <i>Internal Port Number</i> . If it is different, this device will perform a "mapping" or "translation" function, allowing you to configure the server to use one port address, while clients use a different port address

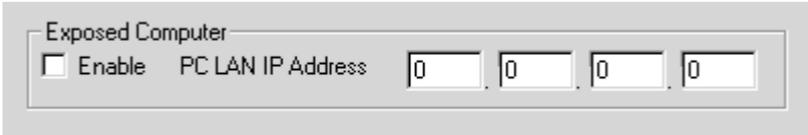
# Exposed Computer

This feature, if enabled, allows one (1) computer on your LAN to be exposed to all users on the Internet, allowing unrestricted 2-way communication between the "Exposed Computer" and other Internet users or Servers.

This allows connection to special-purpose servers which require proprietary client software, or 2-way user connections such as Video-conferencing, which requires both users to run special software.

- Internet users will see the PC as having the *IP Address allocated by ISP* shown on the *Quick Setup* screen of this device. (This is the same IP Address used by the Virtual Servers.)
- Any Internet user who knows this address can connect to the *Exposed Computer*. (What happens after connection depends on what software both computers are using).
- **To allow unrestricted access, the Firewall in this device is disabled, creating a security risk.**
- **You should use this feature only if the "Special Applications" feature is insufficient to allow an application to function correctly.**
- **This feature should be enabled only when required.**

## Operation



*Figure 5: Exposed Computer*

- Enter the IP Address of the PC on your LAN which you wish to be the *Exposed Computer*.
- Enable this feature as and when required.