## 1.1 Configuring the network interfaces

Roadshow needs special device drivers which transport the network data between your Amiga, the local network and the Internet. A network interface configuration file is needed to make use of each such network device driver.

You can find the network device drivers in the drawer `DEVS:Networks`, which can be found in the `DEVS` drawer of your system boot volume.

Entering the command `Dir DEVS:Networks` may show the following list of files, perhaps even more than this collection:

```
a2065.device          ariadne.device
ariadneliana.device   slip.device
liana.device          plip.device
ppp-serial.device     ppp-ethernet.device
```

**Caution:** Not all network device drivers may be stored in the `DEVS:Networks` drawer.

If you just installed Roadshow, all the stock network configuration files which Roadshow shipped with will be stored under `Storage/NetInterfaces` on your system boot volume.

What kind of network device driver is required depends upon how your local network looks like, and what kind of network you want to access. Most importantly, you need a network configuration file which makes use of a device driver which is already present in your system and install this configuration file in the `DEVS:NetInterfaces` drawer.

**Note:** The stock network configuration files are almost intended for WLAN or Ethernet network devices, which make use of automatic address, route and name server configuration through the DHCP service (Dynamic Host Configuration Protocol) of your local network. These configuration files should mostly "work out of the box".

Roadshow ships with the '`ManageNetInterfaces`' command which will determine which network device drivers are availabe on your system and then gives you the option to install the corresponding stock network configuration files. You can do this manually (see Section 1.1.1 [Configuring for a cable modem or gateway router (ADSL)], page 3, which shows how to find the right file and adapt it, if needed), of course, but '`ManageNetInterfaces`' could save you time and effort.

Enter the following command in the shell:

```
ManageNetInterfaces
```

The '`ManageNetInterfaces`' command will proceed to gather the names of all device drivers which are currently available on your Amiga. These drivers will likely include network device drivers, such as those used in the network interface configuration files stored in the `SYS:Storage/NetInterfaces` and `DEVS:NetInterfaces` drawers. '`ManageNetInterfaces`' will look into every single such network interface configuration file and check if there is a matching network device driver for it.

Once '`ManageNetInterfaces`' is ready, it will show you which of these network interface configuration files may be installed:

```
ManageNetInterfaces

Available changes:

  In directory "SYS:Storage/NetInterfaces"
    Network interface file = Ariadne
    Network device driver  = ariadne.device
    Change                 = move to DEVS:NetInterfaces
                             (Network device driver available)

Use ManageNetInterfaces COMMIT INSTALL to perform these changes.
```

If you want these changes to be made, enter the command as suggested:

```
ManageNetInterfaces commit install
```

'`ManageNetInterfaces`' will show which changes it is going to make and then move the configuration files as needed:

```
ManagenetInterfaces commit install

Planned changes:

  In directory "SYS:Storage/NetInterfaces"
    Network interface file = Ariadne
    Network device driver  = ariadne.device
    Change                 = move to DEVS:NetInterfaces
                             (Network device driver available)

Move SYS:Storage/NetInterfaces/Ariadne to DEVS:NetInterfaces
All network interfaces files have been moved successfully.
```

At this point you should be able to start Roadshow and use it, by entering the following in the shell:

```
AddNetInterface Ariadne
```

### 1.1.1 Configuring for a cable modem or gateway router (ADSL)

For the remainder of this example it is assumed that the `ariadne.device` driver will be used. The `ariadne.device` is a device driver for the "Ariadne" Ethernet card.

You need to adapt or create a configuration file for the "Ariadne" network device. A sample file is provided in the file `SYS:Storage/NetInterfaces/Ariadne`. Copy this file to the `DEVS:NetInterfaces` drawer, e.g. by entering the following command in the shell:

```
Copy SYS:Storage/NetInterfaces/Ariadne#? DEVS:NetInterfaces
```

Open the copy in a text editor, e.g. by entering the following command in the shell:

```
Ed DEVS:NetInterfaces/Ariadne
```

The contents of this file should look as follows:

```
# $VER: Ariadne 1.1 (2010-10-24)
# Configuration for the Village Tronic "Ariadne" Ethernet card.

# The device name is mandatory
device=ariadne.device

# If not provided, unit number 0 will be used. You may
# have to change this if there are multiple cards of the
# same type installed in your machine, or if your network
# hardware supports several independent connections
#unit=0

# You must either pick a fixed (static) IPv4 address and
# a corresponding subnet mask, or request DHCP (dynamic)
# network address configuration.
#address=192.168.0.1
#netmask=255.255.255.0
configure=dhcp

# You can enable diagnostic messages which can be helpful in
# tracking down configuration errors.
#debug=yes

# You can choose how much memory will be used when handling
# incoming and outgoing network traffic for this device.
# The default is to reserve 32 buffers of 1500 byte each, both
# inbound and outbound traffic. Larger values may provide
# better performance.
#iprequests=32
#writerequests=32

# For diagnostic and monitoring purposes it can be helpful to
# capture network traffic that flows through this interface.
# To enable this option, select one of filter=local,
# filter=ipandarp or filter=everything
#filter=local
#filter=ipandarp
#filter=everything

# The following options are specific to the Ariadne network
# hardware and work around limitations of the hardware
# design.
copymode=fast
requiresinitdelay=yes
```

The default configuration is set for automatic IP address, route and name server configuration through the DHCP protocol. If your networking card is working correctly, and is connected to a local network which has one or more routers present which respond to DHCP requests, then this basic setup should already provide you with working network access.

To give it a try, enter the following shell command:

```
AddNetInterface Ariadne
```

If everything goes well, the command should print something like the following text:

```
Interface "Ariadne" added.
Trying interface "Ariadne" configuration...
Interface "Ariadne" configured, address = 192.168.23.129, network mask = 255.255.255.0.
Added default route to 192.168.23.2.
Default domain name is "localdomain".
Added domain name server 192.168.23.2.
Interface "Ariadne" address 192.168.23.129 has been leased until 09/27/10 1:12 PM and will be re-
newed before it expires.
```

At this point you should be able to access the local network through Roadshow, and maybe even the Internet.

You can configure more network interfaces in exactly the same manner.

If things do not work out so well you might be seeing the `AddNetInterface` command print text like this:

```
Interface "Ariadne" added.
Trying interface "Ariadne" configuration...
Interface "Ariadne" configuration attempt timed out.
```

If this happens, then you will either need to pick a static IPv4 address for your Amiga, or the DHCP server in your local network is not responding/cannot respond to the requests your Amiga sent.

This example above describes the most basic network interface configuration that does not require any additional configuration work. You might be able to just copy an existing configuration file, edit the '`name`' and '`unit`' entries, and that should be it.

In some cases, however, you may have to configure each aspect the automatic DHCP configuration takes care of manually. This is described in the next following sections.

### 1.1.2 Configuring IP addresses, routing and name resolution

If you local network does not allow your network access to be automatically configured through a DHCP server, then you will have to configure the essential network settings manually. These settings consist of:

1. The IP address your Amiga will use
2. The IP address your Amiga will send data to which cannot be delivered to other computers in the local network (default route)
3. The IP addresses of servers which your Amiga will contact in order to associate IP addresses with names, and the other way round (name resolution)

Which choice of IP address you have for your Amiga, which default route should be used and which servers can be used for name resolution is either something you already know, or information which can be provided to you by somebody who knows more about the network your Amiga is to be connected to than you do.

In any case, this information goes into three different configuration files.

The IP address your Amiga will use goes into the network interface configuration file which was already described in this document. For this example it is assumed that the name of this configuration file is `DEVS:NetInterfaces/Ariadne`.

Open this configuration file in a text editor, e.g. enter the following in the shell:

```
Ed DEVS:NetInterfaces/Ariadne
```

The section that needs editing should look like this:

```
# You must either pick a fixed (static) IPv4 address and
# a corresponding subnet mask, or request DHCP (dynamic)
# network address configuration.
```

```
#address=192.168.0.1
#netmask=255.255.255.0
configure=dhcp
```

You will need to remove the '#' characters in front of the lines that contain the '`address`' and '`netmask`' information. You might also want to add a '#' character in front of the '`configure`' data.

To proceed, you need to know the IP address to assign to your Amiga and the corresponding subnet mask. In the example above, the IP address is '`192.168.0.1`' and the corresponding subnet mask is '`255.255.255.0`'. Note that you cannot just pick the address and subnet mask at will. You have to make sure that both are correct and that in particular the address is not currently being used by any other computer in your network.

Assuming that you picked the right address and subnet mask, and that they match the example configuration, your network interface configuration look something like this:

```
# You must either pick a fixed (static) IPv4 address and
# a corresponding subnet mask, or request DHCP (dynamic)
# network address configuration.
address=192.168.0.1
netmask=255.255.255.0
#configure=dhcp
```

Save your changes back to disk.

The next file to be edited sets up the default route, which is often referred to as the default gateway. This is where Roadshow will send all the data intended for computers that are not part of your local network.

Open the file `DEVS:Internet/routes` in a text editor, e.g. enter the following command in the shell:

```
Ed DEVS:Internet/routes
```

The file should look like this:

```
# Routes which should be established when the protocol stack
# initializes itself. Each line corresponds to a route which should
# be established, very much like the parameters passed to the
# AddNetRoute command. The template is:
#
#  DST=DESTINATION/K,HOSTDST=HOSTDESTINATION/K,NETDST=NETDESTINATION/K,
#  VIA=GATEWAY/K,DEFAULT=DEFAULTGATEWAY/K
#
# You must either specify the default route, or specify a route with a
# destination address. Note that no duplicates are allowed, i.e. there
# can be only a single default route and the same route may not be
# established twice.
#default localhost
```

To proceed, you need to know the IP address of the computer which acts as the gateway router in your network. This IP address must be compatible with the IP address and subnet mask assigned to your Amiga, it cannot be picked at random.

Assuming that the IP address of the gateway router in your network is '`192.168.0.15`' you would add the following line to the the `routes` file:

```
default 192.168.0.15
```

Save your changes back to disk.

The final file to be edited sets up the IP addresses of the servers which Roadshow will contact in order to match IP addresses to host names, and the other way round. This is required in order to find the IP address corresponding to the name of a web server such as '`www.amiga.org`'.

Open the file `DEVS:Internet/name_resolution` in a text editor, e.g. enter the following command in the shell:

```
Ed DEVS:Internet/name_resolution
```

The file should look like this:

```
# This file is used by the name resolution process which associates
# raw IP addresses with domain names and the other way round. You
# can configure the addresses of the domain name system servers to
# use and how the lookup process will translate host names you provide
# before they are looked up.

# You can specify the IP addresses of up to three domain name system
# servers which will be queried in the order you provide here. Each
# line must start with 'nameserver' and then must be followed by
# an IP address.
#nameserver 192.168.0.1
#nameserver 192.168.0.2
#nameserver 192.168.0.3

# If a host name is to be looked up which has no trailing domain
# name attached, a default domain name can be appended to it
# prior to lookup
#domain name.com

# You can configure the list of host names for lookup. The search list
# is normally determined from the local domain name; by default, it
# begins with the local domain name, then successive parent domains that
# have at least two components in their names will be searched. This may
# be changed by listing the desired domain search path following the 'search'
# keyword with spaces or tabs separating the names. Up to six domain
# names may be listed.
#search my.first.domain my.second.domain

# The 'sortlist' parameter allows addresses returned by the name
# resolution process to be sorted. A sortlist is specified by IP address
# netmask pairs. The netmask is optional and defaults to the natural
# netmask of the net. The IP address and optional network pairs are separated
# by slashes. Up to 10 pairs may be specified.
#sortlist 130.155.160.0/255.255.240.0 130.155.0.0

# The dynamic configuration process for network interfaces (DHCP) may
# provide a set of domain name system servers. These dynamically-configured
# servers will always be consulted first before the statically-configured
# servers are queried. These statically-configured servers are set up in
# this file through the 'nameserver' configuration entries.
#
# You may prefer to use the statically-configured servers over the
# dynamically-configured servers, e.g. because they may be slower or
# unreliable. If this is the case, use the 'prefer static' option
# below, instead of the 'prefer dynamic' (the default).
#prefer static
prefer dynamic
```

To proceed, you need to know the IP addresses of the name resolution servers, or at least one server. Assuming that the IP address of one such server is '`192.168.0.15`' you would add the following line to the the `name_resolution` file:

```
nameserver 192.168.0.15
```

If you want to use more than one server, add another line like the one above and replace the IP address.

Save your changes back to disk.

This series of edits prepared your for getting your Amiga connected to the local network and the Internet. As in the previous section which detailed how all this setup work could be done automatically through a DHCP server you can now try to enter the following command in the shell:

```
AddNetInterface Ariadne
```

Did it work?

### 1.1.3 Configuring for an ADSL modem

If you have a choice, use a gateway router to connect your Amiga to a broadband ADSL service. It is significantly more difficult to connect your Amiga directly to the same service, and less convenient, too.

But if you must, then you need to be prepared:

1. You need to use an Ethernet card to connect to the ADSL modem, which requires proper cabling, too. You have to know which device driver in the `DEVS:Networks` drawer is responsible for your Ethernet card.
2. You need to know the login and password issued to you by your Internet service provider.
3. You need to know which protocol your ADSL modem talks when it is connected to your Amiga. The only protocol which the drivers that are part of Roadshow understand is called PPPoE (PPP over Ethernet; "PPP" stands for "Point-to-point protocol").

If you have everything ready, you can begin to set up the network interface file for the Roadshow PPPoE driver. A sample file is provided which you should copy to the right place, e.g. by entering the following command in the shell:

```
Copy SYS:Storage/NetInterfaces/PPPoE#? DEVS:NetInterfaces
```

You do not need to modify this file. It should work correctly as it is.

However, you do need to edit the configuration file which enables your Amiga to connect to the ADSL modem and set up a connection. A sample file is provided which you should copy before your edit it, e.g. by entering the following command in the shell:

```
Copy S:PPP-Configurations/PPPoE-Example S:PPP-Configurations/PPPoE
```

Open the copy in a text editor, e.g. by enterint the following command in the shell:

```
Ed S:PPP-Configurations/PPPoE
```

The contents of this file should look as follows:

```
# Example configuration for the "PPPoE" network interface, using
# the "ariadne.device" Ethernet driver.

# The name of the network interface, as known to Roadshow, is
# mandatory.
interface=PPPoE

# The name of the Ethernet driver is mandatory. Note that this
# must be an actual Ethernet network driver. Nothing else will do
device=ariadne.device

# This switch is necessary if you use Ethernet network drivers
# such as "ariadne.device" or "a2065.device". Without "raw=on"
# specified in this file the PPPoE driver will unable to talk
# to the ADSL modem. It works around bugs in the respective
# Ethernet device drivers.
raw=on

# This is where you enter the login and password provided to
# you by your Internet service provider. Replace the
# placeholders <mylogin> and <mypassword> with the login and
# password, respectively.
login=<mylogin>
password=<mypassword>
```

You may need to modify the lines which select the Ethernet driver name (‘`device=ariadne.device`’) and you will have to provide the login and password (‘`login=<mylogin>`’ and ‘`password=<mypassword>`’), respectively.

Save your changes back to disk.

To make your Amiga talk to the ADSL modem and set up a network connection, you first need to activate the PPPoE network interface, e.g. by entering the following command in the shell:

```
AddNetInterface PPPoE
```

If this worked out correctly, you can proceed to try setting up the network connection by starting the `ppp_connector` program. Enter the following command in the shell:

```
ppp_connector S:PPP-Configurations/PPPoE
```

If the ppp_connector program manages to set up the connection, the connection will persist until you close it. To close the connection, press the keys *[Ctrl]+C*, or use the shell `Break` command to stop the `ppp_connector` command.

### 1.1.4 Configuring for a serial port modem or ISDN adapter

This is one step more challenging than configuring your Amiga to talk to an ADSL modem. It is also the most old-fashioned way to connect to the Internet that might still work today.

If you must connect to the Internet through a serial port modem or ISDN adapter, then you need to be prepared:

1. You need to use a serial port modem, with the proper cabling, as connected to a working telephone line. Alternatively, you need an ISDN card, or an ISDN adapter you can connect your Amiga to as if it were a serial port modem.
2. You need to know which Amiga serial device driver to use, and which speed it safely operates at. The few ISDN cards available for the Amiga had their own special device drivers: you will need to know which driver is needed.
3. You need to know which commands are required to initialize your modem or ISDN card before it can be used.
4. You need to know which telephone number to dial in order for your modem or ISDN adapter to connect to the Internet.
5. You need to know the login and password issued to you by your Internet service provider.
6. You need to know which protocol your dial-up Internet service talks when it is connected to your Amiga. The only protocol which the drivers that are part of Roadshow understand is called PPP (Point-to-point protocol over asynchronous serial lines).

If you have everything ready, you can begin to set up the network interface file for the Roadshow PPP driver. A sample file is provided which you should copy to the right place, e.g. by entering the following command in the shell:

```
Copy SYS:Storage/NetInterfaces/PPP#? DEVS:NetInterfaces
```

You should not need to modify this file. It ought work correctly as it is.

However, you do need to edit the configuration file which enables your Amiga to connect to the serial port modem or ISDN adapter and set up a connection. A sample file is provided which you should copy before your edit it, e.g. by entering the following command in the shell:

```
Copy S:PPP-Configurations/PPP-Example S:PPP-Configurations/PPP
```

Open the copy in a text editor, e.g. by enterint the following command in the shell:

```
Ed S:PPP-Configurations/PPP
```

The contents of this file should look as follows:

```
# Example configuration for the "PPP" network interface, using
# the "duart.device" serial port driver.

# The name of the network interface, as known to Roadshow, is
# mandatory.
interface=PPP

# The name of the serial port driver is mandatory.
device=duart.device

# The line speed to use when exchanging data with your serial
# port modem or ISDN adapter. This is given as the number of
# bits per second. This line is mandatory.
speed=115200

# This option enables hardware flow control operations when exchanging
# data with the serial port modem or ISDN adapter. This is a required
# option if the speed you selected is higher than 2400 bits per second.
rtscts=yes

# This option enables link testing: if the dial-up Internet service
```

```
# drops the connection, the PPP network interface will be shut down
# automatically.
checkcarrier=yes

# Your serial port modem or ISDN adapter may require an initialization
# command which will be sent before the Internet service is dialed.
# Always add the "\r" to the end of the command or it will not be
# properly sent to the modem!
#init=AT&FB8\r

# This is the actual command which is sent to your serial port modem
# or ISDN adapter, in order to connect to the dial-up Internet service.
# Always add the "\r" to the end of the command or it will not be
# properly sent to the modem!
dial=ATD0191011\r

# This is where you enter the login and password provided to
# you by your Internet service provider. Replace the
# placeholders <mylogin> and <mypassword> with the login and
# password, respectively.
login=<mylogin>
password=<mypassword>
```

You may need to modify the lines which select the serial port device driver name (‘`device=duart.device`’). You will most likely have to change the modem initialization command (‘`init=AT&FB8\r`’) and the dial command (‘`dial=ATD0191011\r`’).

You will have to provide the login and password (‘`login=<mylogin>`’ and ‘`password=<mypassword>`’), respectively.

Save your changes back to disk.

To make your Amiga talk to the serial port modem or ISDN adapter and set up a network connection, you first need to activate the PPP network interface, e.g. by entering the following command in the shell:

```
AddNetInterface PPP
```

If this worked out correctly, you can proceed to try setting up the network connection by starting the `ppp_dialer` program. Enter the following command in the shell:

```
ppp_dialer S:PPP-Configurations/PPP
```

If the ppp_dialer program manages to set up the connection, the connection will persist until you close it. To close the connection, press the keys *`[Ctrl]+C`*, or use the shell `Break` command to stop the `ppp_dialer` command.

Note that due to the complexity of this setup a lot of things can and probably will go wrong. I am afraid that if they do, you are mostly on your own here. Good luck!