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Using AUN with the TCP/IP Protocol Suite (Release 2).

This document describes two ways in which software from the AUN Level 4 Fileserver product and software from Acorn's full standard TCP/IP software product, can be used together.

This will usually only be relevant to you if you want to mix RISC OS/Level 4 Fileserver and UNIX (or RISC-iX) computers on the same network.

Applicable Hardware :	All RISC OS based machines	Related Application Notes:	None

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Introduction

This document describes two ways in which software from the AUN Level 4 Fileserver product and software from Acorn's full standard TCP/IP software product, can be used together. This will usually only be relevant to you if you want to mix RISC OS/Level 4 Fileserver and UNIX (or RISC-iX) computers on the same network.

The first way enables industry standard NFS protocol to run on top of an AUN network, such as may be found in a school. This enables NFS file servers (e.g. RISC-iX computers) to be connected to the AUN network as well as Level 4 Fileserver stations, if that is required.

The second way, to use the two software products together, enables Econet protocols such as NetFS and NetPrint to run on top of a non-AUN TCP/IP network, such as may be found on a University campus. This enables Level 4 Fileserver stations to be connected to the TCP/IP network as well as NFS (and other) fileservers.

In either of the above environments you may access NFS file servers at the same time as Level 4 file servers via different desktop windows on the same RISC OS station. Following desktop conventions, you may then transfer files between the different types of file server by dragging file icons between their windows.

Connecting Level 4 Fileservers to a standard TCP/IP network

The AUN Managers Guide outlines the technical basis of an AUN network. In essence, the range of TCP/IP addresses used "under the surface" in an AUN network are pre-determined according to AUN rules and cannot be altered by the user or network manager.

Although AUN understands only a very small subset of all possible TCP/IP addresses, in most cases this limitation presents no real problem as TCP/IP is used by AUN as suitable hidden technology; in practice the user and network manager will only be interested in Econet-like user and management interfaces. However the addresses used in a University campus TCP/IP network will almost certainly not fall within the narrow range expected by AUN. In this environment TCP/IP needs to be fully visible and accessible.

The AUN software product provides a special mechanism, not used in an AUN-configured network, to solve this problem when used in conjunction with TCP/IP Protocol Suite. The software components you will need are:

!Internet	from TCP/IP Protocol Suite
!BootNet	from AUN/Level 4 Fileserver
!Server etc	from AUN/Level 4 Fileserver

1. Follow the configuration procedure for !Internet, to set up names and addresses correct for your TCP/IP network. This procedure is described in the Installation Guide included with the TCP/IP Protocol Suite product.

2. Open up the !BootNet application.

In this case you may ignore !BootNet.!Configure; the equivalent configuration information will already have been provided in !Internet.

Open up the directory !BootNet.Files and drag the file

```
AddMaps
```

into your text editor.

This file sets up the explicit mappings between the specific four-byte TCP/IP addresses used on your TCP/IP network and two-byte Econet-style addresses needed to address Level 4 Fileserver software.

Example:

```
addmap 89.0.2.0 130
```

will cause TCP/IP addresses 89.0.2.X to be seen by Econet applications in the net.station format 130.X.

That is, addmap causes the top three bytes of a TCP/IP address to be handled as a "pseudo-net number", and the bottom byte to be handled as a "pseudo-station number".

3. Run !Internet **followed by** !BootNet. This is usually done by adding two commands to your main system !Boot, so that the Internet and BootNet software starts up automatically when the computer is switched, e.g

```
*run $.net.!Internet
*run $.net.!BootNet
```

This run sequence **must** be followed.

4. If a station is to function as a Level 4 Fileserver on the TCP/IP network then you should configure it to run the Level 4 software **after** the Internet and BootNet software have been initialised. You should see the Level 4 Fileserver Network Manager's Guide for instructions about how to set up Level 4 Fileserver software.

It is not possible to use an AUN Client Boot ROM successfully on a standard TCP/IP network since the software in the ROM uses AUN-specific addressing conventions. If you are connecting a network interface card equipped with an AUN Boot ROM to a standard TCP/IP network then you must ensure that its configured state is 'BootNet Off'. This is the default state for the ROM, but to make sure you may type:

```
*Configure BootNet Off
```

You must NOT run the AUN !GateWay application on a standard TCP/IP network, under any circumstances.

Connecting NFS (UNIX) file servers to an AUN network

Although it only uses a restricted range of TCP/IP addresses, an AUN network is a conformant TCP/IP network underneath the Econet-like veneer. This means that other types of computer which support TCP/IP, such as UNIX and RISC-iX computers, may connect into an AUN network provided that their own IP addresses are configured in line with the underlying AUN-format IP addresses. The AUN Managers Guide describes the format of IP addresses in AUN.

The software components you will need to run on a RISC OS client station to access an NFS file server on an AUN network are:

!BootNet from AUN / Level 4 Fileserver (or AUN Client Boot ROM)
!NFSFiler from TCP/IP Protocol Suite

You should start up your AUN client station software before running !NFSFiler. Full information about using NFSFiler to access files on remote NFS file servers is given in the User Guide included in the TCP/IP Protocol Suite product.