

Acorn Access

David Spencer looks at a new concept in networking for Acorn machines.

Right from the early days of Acorn networking, with Eonnet and the Level 2 fileserver on the BBC model B, a client-server strategy has always been used. With this system a number of users computers (the

There is however, a fundamentally different networking strategy known as peer-to-peer networking. The difference here is that there are no special servers on the network. Instead, any computer connected to the network can have (in theory) access to the resources (hard drive and printer etc.) of any other computer on the same network. So, for example, if two computers were connected together, but only one had a hard drive, the users of both would still be able to access data on that drive - one directly and one across the network. The beauty of this approach is that you no longer need to tie up precious hardware as servers.

ENTER ACCESS

Acorn Access is a new product from Acorn that provides a peer-to-peer system for all RISC OS 3 computers. It allows a number of computers to be linked via Thinwire Ethernet cabling. In theory up to thirty computers may be connected, but a more realistic limit would be a maximum of ten.



Access in action

clients) communicate over the network with specialised server machines. Typically there will be a fileserver computer which contains a large hard disc and stores all the users files; printer servers for supporting printing across a network; and perhaps other specialist servers such as one to download data via a modem. The current Acorn Universal Networking (AUN) strategy uses a client-server setup with the Level 4 fileserver software, and with Ethernet providing the physical network cabling system.

Access is designed as a plug-and-go package, which means that any user can install an Access network without expert help or knowledge simply by buying one pack for each computer. To this end, Access is packaged in a glossy colour box with a list of key selling points on the back - a far departure from Acorn's normal plain brown cardboard used for peripherals.

Inside the pack is a Thinwire Ethernet card, two 2m cables, a network T-piece, a network terminator, a joiner to join the two cables, a utilities disc and the documentation described later. Access in fact comes in three flavours depending on the computer it is intended for - A5000 (and other Arcs), A3000/A3010 and A3020/A4000. Risc PC owners can use the A5000 version as is, but it is likely that a version of Access with a card for the Risc PC network slot will also appear.

Setting up Access is very simple. You must install the Ethernet card in the computer, and then connect up the network using the cables and hardware supplied. The cabling components supplied have been carefully chosen to allow either a trailing lead network to be set up, or connection to an existing cabled network to be made, in both cases without needing any additional items. Indeed, by the time you've set up a few stations you are quite likely to have bits of cable and the like left over.

For a more permanent installation an Acorn network dealer could install the cabling in trunking, with wall boxes for connection to the network. However, the basic topology of the network remains the same.

Having installed the hardware you need to update the copies of !System, !Scrap and !Printers held on any hard disc with new versions that are supplied on the utilities disc.

USING ACCESS

When you turn on a computer fitted with Access you will see two changes - firstly a new icon called Discs has been added to the icon bar, and secondly a new menu entry entitled Share has been added to all ADFS drives.

To share a hard disc with other users, all you need to do is to open the sub-menu from the Share entry for that drive's menu and click on either Share unprotected or Share protected. The difference between the two is that in the unprotected mode remote users have full access to the drive, whereas in protected mode they are only given the public access rights for each file. In this case, if no public rights are set, then the file is invisible to the remote user. For example, access rights of WR/r would give the user of the machine in which the hard drive was fitted full access to the file, but any remote users could only read it. Access rights of WR/ would hide the file totally from remote users.

To access a shared disc you just click on the Discs icon and a window showing all the available discs is opened. Any discs that are protected are shown with a padlock on them.

Double-clicking on a disc in this window will replace the Discs icon with one representing the chosen drive, which can then be accessed just as if it was fitted to the computer directly. Any number of shared discs can be mounted at once, and a menu option allows you to remember the first two and remount them automatically on power up. The whole process is dynamic, with the Discs window being updated as shared discs become available or are made unavailable. If a mounted disc becomes unavailable then its icon is greyed out until such time as it is back on line. All the time, the user of the computer that actually contains the shared drive is unaware of the fact that it is being accessed remotely.

For filing systems other than ADFS, there is normally no Share menu to share discs. In this case you can share them by issuing a command from the command line, which could of course be included in a boot file. Using this method you can in fact share only a particular part of the directory tree, rather than a whole disc, giving it any name you want.

SHARED PRINTING

Printing across Access is as easy as sharing discs. At the computer with the printer attached, the user has to load the new printer driver and select Shared from the printer control window. The remote user then also loads the printer driver and any shared printers will appear automatically in the printer control window. These can then be configured and made active just as for any other printer type. Again, the owner of the printer is unaware that a remote computer is using the printer through his machine.

PERFORMANCE

The performance of Access is very good, exceeding that provided by AUN. Between two ARM 3 based machines the raw data rate is between 300K and 400K per second. However, this is not the whole story, because Access is also several times quicker than AUN when opening directories and caching sprite files. Overall, accessing a shared disc over the network is comparable speed-wise to an ST506

or a first-generation IDE hard disc.

DOCUMENTATION

In keeping with the plug-and-go approach, the Access documentation differs from that normally found with peripherals. Instead, there are two A4 full colour glossy cards. The first of these covers the fitting of the interface to the

computer, whilst the second deals with connecting the network and using shared discs and printers. Both cards make use

PRODUCT INFO

Product versions) Ltd.	Acorn Access (three Supplier Acorn Computers Acorn House, Vision Park, Histon, Cambridge CB4 4AE.
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of a large number of pictures.

To supplement the cards there is an 8-page hints and tips guide in a more traditional format. This covers details such as sharing

drives from filing systems that don't provide a Share menu entry, updating !System etc., booting from a shared disc and using Access in conjunction with an AUN network. Also covered are incompatibilities with certain older applications.

OTHER ACCESSES

As well as producing Acorn Access, Acorn will licence the Access software to third party network card producers on a royalty basis. This means that other companies active in the net-working field can sell their own Access products based around their own cards. In order to claim an Access compatible product, all the other components must be included, such as the cables. The end user can thus be assured that they are buying a product that can simply be plugged into an existing Acorn Access network without any compatibility issues rearing their ugly heads.

CONCLUSION

The introduction of Access provides for the first time an affordable option from



Obviously with a product such as this, support is almost essential - not because of problems with the software, but because of the unusual nature of its subject matter. Such support is well provided; as well as a postal help-line, there is also a free newsletter, The Observess Chronicle that is published every few months.

Throughout the well-written manual supplied with the program, various references are made to future modifications to be made to the program, varying from alternative inference engines to improved interfaces for certain functions. In this way, Observess is certainly a work in progress. The program appears to be developing rapidly in response to comments and requests from registered users. I for one would far rather buy a program that is being kept up to date than one which is slowly stagnating - especially if it is like this one where upgrades are normally free!

Observess comes supplied with 13 example knowledge bases covering a wide range of topics. Some of them, such as TimesTable and Decode (to calculate times tables and decode encrypted text respectively) are blatantly contrived, but do serve as nice simple examples. More involved examples supplied are Coinage (to identify British coinage according to its size and shape), TrafLights (to know what to do at traffic lights even if some of the lights are broken) and RomanNum (to convert Roman Numerals into decimal).

Others like AcornCmptr (a guide to choosing an Acorn Computer according to your requirements), and Retire (an expert on women's retirement ages) serve as more realistic examples, and show how complex rules can be encoded relatively simply. A facility to print out complete knowledge bases would be a welcome addition - it would make understanding examples, and debugging your own efforts



Acom for linking just a handful of computers together. Couple this with the plug-and-go approach that Acom has adopted, and Access becomes a very attractive product. Some people will quibble about the price of £145 + VAT, especially when you see PC network cards sold for as little as £39. However, Ethernet on Acom machines is still in its infancy and volumes are hundreds of times lower than

in the PC world. Hopefully the next year or two will see a reduction in the price of A c o r n Access, and it is likely that third party A c c e s s products will be lower priced



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anyway.

Certainly, I would recommend any user with two or more Arcs to consider whether Access would be a wise investment. After all, if you do the calculations, installing Access may be cheaper than buying a second hard disc or printer. Similarly, bigger sites that are considering a full-blown AUN system would be advised to look at Access as an alternative.