



NETWORKNEWS

The weekly newspaper for network professionals

Inside ASP: software for rent

By Gordon Laing - 25 October 2000

Have you ever asked yourself why you spend so much time and money installing and upgrading software, not to mention getting it working smoothly on your system? What about then discovering that the PC you thought was more than capable of handling the latest packages has just about ground to a halt, demanding some serious upgrading of its own?



Then there's the ongoing situation of keeping your system maintained, backed up and fully operational. It can be a total nightmare for a single user or someone managing a small business network of PCs. No wonder they fear the day they have to deploy a new application or, heavens above, a different operating system.

However, there is another way. Believe it or not, there's no need to own software at all - you can simply rent it when you need it. We don't mean borrowing a CDROM for a few days, installing it, then honestly removing it after an agreed period. We're talking about outsourcing the whole shebang to an application service provider (ASP).

The ASP buys the software, installs it on its servers, and ensures it's fully operational. The ASP worries about maintaining its system, upgrading hardware and software as required, hunting down nasty viruses and backing up essential data. The ASP answers your technical support questions and sorts out short-term licences.

In short, the ASP does all the hard work, letting you simply connect over the internet and run its programs on its servers as and when you need to, in return for a simple rental fee.



If a co-worker also wants to run the applications, they simply rent them too and start working straight away, without worrying about installations or hardware upgrades. Since the programs are entirely executing on the ASP's servers, your access device could be a modest PC, or even a simple information appliance. Total cost of ownership? Forget it - it's the ASP's problem. Just as if you were renting a house - the cost of maintenance is a headache for your landlord, not you.

Mainframe deja vu

Think you've heard it all before? The ASP concept certainly sounds similar to the old days of mainframes and dumb terminals. This idea went along the lines of having one single powerful machine that contained all your documents and applications. Programs and data were accessed using dumb terminals, which were little more than keyboards and screens connected to the powerful server across a local or wide area network.

The advantage was that there was only one machine to look after, making administration fairly straightforward.

On the downside, the green screens and command-line interfaces of the terminals could hardly be described as user friendly. Then there was the fact that such a system required dedicated IT staff to look after the server and maintain the network - fine for a big company, but not so good for small businesses or individuals.

People needed a personal computer, capable of executing applications by itself. Then in the late 1970s, Intel made a chip, IBM phoned Bill Gates about some operating system he might supply, and the rest, as they say, is history.

PCs are wonderful machines, offering powerful features that are relatively simple to use, but the fact remains they're easy to damage. You only have to consider the impact of emailed viruses to see how vulnerable both individuals and entire workforces are. Even users innocently installing software can cause all sorts of trouble.



Then there's the cost of buying a fully licensed copy of an application for every user who needs it, not to mention the time and cost of installing it and making hardware upgrades if required. It all seems a bit like overkill when you have to buy a full copy of PowerPoint and upgrade your PC to run it even if you may only make one presentation a year.

Cut down to size

There have been several attempts over the years to revive the client-server model of long ago. Failing to make a big impact was the Networked Computer (NC). The NC's greatest supporters were Sun Microsystems and Oracle, which quite rightly realised that we only tend to use small portions of an application at a time.

For example, this article was written in Microsoft Word, but mostly used just the basic word processing functions, leaving spell checking to the very end, and never once touching the sophisticated graphing and desktop publishing tools contained within the application.

In this instance, why bother having the entire application suite taking up unnecessary space on your local machine? Simply download the components you require from a centralised server across a local network and execute them on relatively modest terminals, also known as 'thin clients'.

It's a nice idea, but one that never really caught on. The client devices, which used Java interpreters to run the required components, were indeed 'thinner' (in other words, less sophisticated) than fully-fledged PCs, but with built-in memory and processors, they weren't thin enough to financially tempt companies to make the switch.

More successful is server-based computing that, like the original mainframe systems, entirely executes applications and stores user data on hefty servers (connected by a network or internet 'pipe'), leaving access to potentially simple client devices.



Citrix is the leader in server-based computing with its MetaFrame Independent Computing Architecture (ICA), and MultiWin products. Microsoft licenses MultiWin as part of Windows Terminal Server, allowing multiple users to execute the same applications from a single server, in separate protected sessions.

The user experience is very much like remote controlling another PC, where the server's own desktop is presented in a window on your monitor and controlled by local mouse and keyboard commands. Simply click on the Start Menu of this remote desktop and fire up the applications you require.

The clever bit is that the programs and data are hosted and executed by the server alone, leaving the local client almost twiddling its thumbs. The only data being transferred across the network between client and server is the keyboard and mouse commands along with display updates.

Citrix believes its 'ICA protocol' can carry such traffic over a relatively modest 20kbit/s network link, which makes it possible with a modem or even forthcoming mobile data services.

Rather than requiring the local processing power of PCs and NCs, Windows Terminal Server can deliver graphically rich and familiar environments to very simple Windows-based terminals (WBTs), running traditional or embedded operating systems. The WBT client contains only the minimum amount of software necessary to boot the device, establish a connection to the server and present the user interface.

The ASP difference

The two things NCs and WBTs required was a server with a suitable multi-user operating system and a network, both managed by the user. Sadly this excluded most individuals and small businesses simply looking for some help installing and maintaining applications.



An ASP uses the server-based computing model, but the difference is that the network is the internet itself, and the ASP looks after the server. So long as you can get on the internet, you can use an ASP, eliminating the need to build or maintain your own network infrastructure. But since everyone and their dog are already on the internet, why is it we've only just started hearing about ASPs?

The answer lies with your connection to the internet. If you're remotely executing applications over the internet, you'll want a quick connection that's always on, which eliminates anyone who uses modems with dialup accounts. ASPs have, in fact, been in business for several years, but dedicated to companies that can afford the high cost of a leased line permanent internet connection. Consequently their services reflected the needs of such customers.

Many such businesses desire high-end applications and services, such as enterprise resource planning (ERP), ecommerce, data analysis, training, asset management, payroll and sales force automation. Others want powerful collaborative tools and properly maintained exchange servers, but haven't the time, money or experience to do it themselves.

This is where ASPs are currently cleaning up, renting previously unaffordable or difficult to maintain enterprise-level solutions to medium-sized businesses, as and when they need them. They're also popular with the largest businesses that have realised that outsourcing various applications and services is often cheaper and easier to manage than buying them outright and using a dedicated MIS department to deploy and maintain them.

It's certainly a neat model when a company wants to quickly expand or trial new software before making huge deployment investments - scalability no longer becomes an issue.

Financially the application hosting model works well for both the user and the provider, as each has a steady flow of predictable spending and revenue as opposed to waiting the typical year or two before heavily investing in or delivering a brand new piece of software. The software developers also particularly like the ASP model as the controlled renting of applications effectively eliminates local piracy.



ASPs and small businesses

It's easy to see how compelling the ASP model is for medium to large companies, but what about smaller businesses or individuals? As discussed above, running remote applications over an internet connection really requires a fast permanent link, which until recently has been beyond the reach of most SMEs.

Step forward ADSL (asymmetric digital subscriber line) - now being offered by a range of big ISPs, from BT to Demon. BT is currently sorting out its technical issues with ADSL, and finally delivering always-on connections to the internet at 512kbit/s download speed for £40 per month - at least to those UK users who live near the few exchanges that have been converted to support ADSL.

The UK's cable giants are also gradually beginning to roll out broadband cable modem services beyond trial areas, offering similar levels of performance to ADSL at comparable or even lower prices. By the end of this year, affordable broadband (the term for high-speed always-on connections) will be available to SMEs, and ASPs are already gearing up to target this new market.

The ASPs, of course, only license, execute and maintain services - they still need co-operation and support from the software developers. Microsoft has already put a lot of effort into its application hosting strategies, documented at its website.

The new Microsoft ASP Licensing Program allows ASPs to license the company's products on a monthly subscription basis, providing services for a monthly fee to their end customers. Microsoft also operates an ASP certification programme, making it easier for end users to select quality providers.



Microsoft's rentable products are delivered using Windows Terminal Server, which presents a complete remote Windows 2000 desktop in a window on the client's device. Simply click the icons or buttons you require as if they were on your own PC. The ASP will normally also provide some private, secure remote storage space for your documents, the advantage being that you don't need to worry about making sure you've got your files with you when you leave for a trip or work in a different office.

Microsoft products became available on a subscription basis, from 1 August in North and South America, and 1 September in Europe and Asia. At the time of writing, the North and South America services had just been launched, but actual pricing details were scarce for the large number of ASP partners (including BT) listed on Microsoft's website.

It's also thought that the lower price of IT products and communication services in the US may result in cheaper ASP deals than we'll have in the UK. Sadly, despite the internet being the network that delivers the services, it's unlikely that Microsoft's various international licences will allow a US ASP to rent its services to a UK user.

The Microsoft products likely to be of most interest to SMEs on a rentable basis are Office 2000 and Exchange Server. Microsoft claims that Office 2000 was developed to perform at the optimum level in a hosted environment, and apart from modified splash opening screens and non-animated assistants, it's essentially the same suite you get on a standard desktop installation.

After much trawling we found some prices on ASP Personable.com's website, which was renting Office 2000 Standard in the US for \$19.95 (£12.50) per month to individuals or \$14.95 per month to corporate users.

Office 2000 Premium weighed in at \$36.95 per month for individuals or \$26.95 for corporates; individual Office components were also available for \$9.95 or \$6.95 a month for individuals and corporates respectively.

In the UK, BT said prices will start at £4 per month for its Office 2000 ASP service.



Exchange 2000 Server is also an ideal service to be outsourced. An ASP can offer a well-maintained secure service with shared address books or schedules, public calendars and larger mailboxes than you'd like to manage yourself; workflow and collaborative tools can also be well-implemented in this environment. Users access the services using Outlook 2000 from a PC, or Outlook Web Access from any device that can access the internet - great for mobile workers.

Lotus, too, has recently announced ready-to-rent collaborative applications and a hosting platform for ASPs. Lotus QuickPlace handles team collaboration and allows users to share documents and discussions, while Domino Web Mail offers easy access to Lotus corporate email and scheduling information.

Inside ASP Software: Part 2

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It's not all about just renting office-based applications. Consider ASP services for websites. Perhaps you're using a hit counter on your website. Chances are that you've not written it yourself, but have borrowed the code from a third party. Take Netscape's Hitometer for example, a remotely hosted application that looks like it's running from your own website, but is in fact entirely resident and executing on Netscape's servers.

Search engines on most websites are also normally operated by ASPs.



Other remotely-hosted web utilities include those from @manage, which can remotely monitor every aspect of your URLs and deliver regular performance results - great to see if your web hosting services are up to scratch. Then there's ecommerce services that provide your website with shopping facilities up front, but sort out all the secure credit card transactions remotely without you having to acquire merchant status.



You don't have to use the apps offered by the ASP. Perhaps there's a particular specialised application you need to use, but don't wish to deploy personally. Many ASPs offer dedicated hosting of applications of your own choice.

Then there's alternative hosted services that aren't really traditional applications as we know them. How about using an ASP to outsource actual security, such as the often resource-intensive task of maintaining a sophisticated firewall? eSoft Global is a European ASP that offers such security services along with traditional application hosting.

NetStore, another European ASP, offers hosting of Exchange 2000 Server, but also an innovative internet backup service. Offsite backing up of data has always been a sensible way of protecting information even if your own offices go up in smoke. But rather than physically posting disks, or making dedicated connections to the secure offsite location, NetStore allows you to back up to its secure servers over the internet.

The beauty of internet backup is that you can perform the small incremental updates whenever you're online in a matter of seconds. If the worst happens and you lose your data, simply download and reinstall NetStore's 1.1Mb client and access your information once again - it can even post your data on a CD for £49.99 including overnight delivery.

The big issues

You've heard about the theory behind ASPs, but what about the issues in practice? The biggest fear for all users of ASPs will understandably be that either the ASP's own servers or the link across the internet fails or even just reduces in speed, rendering them helpless or at least less useful. This is where quality of service (QoS) comes in.

The reason most ASPs don't list prices on their websites is that they're negotiable depending on the all-important service level agreement (SLA). This is a contract between the ASP and the client, listing guaranteed and understood levels of performance, availability and support - the QoS in other words - for an agreed price.



Clearly the ASPs want to ensure their own network connections are reliable, and many will do so by also being their own ISPs. Conversely many ISPs (particularly those offering broadband connections) will offer application hosting as a value-added service. Whoever is providing your apps and by whatever means, it's essential to agree on an SLA that provides what you require.

Then there's the ownership of data and apps. If one ASP is hosting your customised applications and documents but falls out of favour, just how easy will it be to switch to another provider? Again, the SLA should cover contract periods, renewals and changing providers.

Reduce the hassle

It's certainly an exciting time, where in the near future we could be accessing graphically rich powerful 32bit applications on all manner of cheap and simple information appliances. We may never have to worry about the pain of upgrading software or hardware to just get at that new killer feature. Mobile workers and owners of multiple devices will easily be able to access their information anywhere.

ASPs are certainly going to be huge and all the analysts agree: IDC believes hosting is set to grow significantly over the next few years, Forrester Research projects the market for leased applications will reach \$6.4bn annually by 2001, and DataQuest reckons it will hit \$22bn by 2003.

As soon as broadband always-on (ADSL) connections make their way into homes and small businesses, a new market of users will be able to enjoy hosted services. Head over to the application service section of eSoft and download the Citrix ICA client for your device to try out a fully functional Windows 2000 desktop loaded up with Office 2000 and other apps. It's surprisingly usable over a modem, but once on ADSL, it's only fractionally behind the performance of a quick PC.



The local processing power of the PC will, of course, still be necessary for highly demanding applications such as desktop publishing, graphics and video editing, but its days could well be numbered for those who mostly use general office applications and email services. Soon end users won't know whether their applications are running locally or remotely, and more importantly, they won't care. Get ready for a hassle-free future.

Bet you're already using an ASP!

Finally, here's something to ponder: believe it or not, we can almost guarantee that you're using an ASP without knowing it. Ever withdrawn money from a cash point? Essentially the machine is a thin client accessing a centralised server containing your banking details and the applications required to run the services.

Airline ticketing and check-ins work the same way. These are likely to be connected on a private network, but the server-based computing theory remains.

Have you ever used Hotmail? This is a web-based email service where the application along with all your messages are stored and executed on a remote server accessed over the internet by any client device with a browser. This makes Hotmail the most widespread ASP in the world today.

But soon there will be many tens of thousand more contenders for you to choose from.