

Technology Infrastructure

Butler Group Subscription Services

Thin Client TECHNOLOGY AUDIT

Wyse Alcatraz

Abstract *Wyse, the market leader in the thin-client market, is looking to turn legacy PCs into thin clients. No company in this business can ignore the fact that the PC market size vastly outnumbers proprietary thin clients, so a fraction of PCs converted to thin clients is a significant business opportunity.*

The new product Alcatraz, will assist IT departments in migrating legacy PCs into thin clients using a flexible lockdown approach. In place of image-based standardisation, Alcatraz uses groups, views, and profiles to provide total control of PCs in a mixed operating system and machine specification environment. A major added benefit that Alcatraz provides is in the management of a diverse PC environment beyond mere lockdown.

KEY FINDINGS

- | | |
|--|--|
| ✓ Versatile control of Windows PC migration from local to thin client. | ✓ Combines remote systems, applications, and asset management. |
| ✓ Robust server structure, built-in fail-over redundancy. | ✓ Fast real time operation, scalable to any size. |
| i Low cost, based on client seats. | ✗ Product name is insensitive to the end-users. |

Key: ✓ Product Strength ✗ Product Weakness i Point of Information

LOOK AHEAD

The potential for Alcatraz is tremendous, Butler Group expects this software to become highly popular in companies with large numbers of greying Windows 9x PCs. In the longer term, as these machines do phase out, the .NET friendly System Center offering from Microsoft will provide stiff competition for NT/2000/XP and upwards PCs.

► FUNCTIONALITY

In the early days of the computer industry the mainframe computer ruled throughout the corporate world. Where mainframes are desired today the proprietary mainframe monolith machine is often replaced by what is effectively a virtual mainframe: clusters of servers made up of commodity components and running consolidation server software. But the clients attached to the virtual mainframe are more often than not fat clients, PCs with all the usual peripherals, running many business applications locally, such as Microsoft Office.

The advantages of centralising the running of applications in commerce have never been improved upon with a better concept. If there is one issue more than any other that wins the argument in favour of server-centric computing then it is cost: cost of IT support, cost of client units, cost of down-time to business, and the cost of help desk support. Running thousands of PCs in a corporate environment is expensive.

For this reason more than any other the thin-client market has seen continuing growth, currently 2.5% of terminals are thin in the corporate world, and it will continue to grow. This market can be divided into three parts. The demand for the old-style dumb, 'green' terminals will always remain. At an airport check-in desk, the person behind the desk only needs one application to run, and there are many similar single-task client environments. The second part of the market is made up of the modern breed of proprietary and ROM-based Windows Terminals thin clients. This thin client is designed to be run efficiently with advanced server management techniques, and will run the whole gamut of office applications. To the user the fact that applications are all running on the server is transparent.

The third part of the thin-client market is made up of clients that are open standard, commodity PCs. This market has tremendous potential, given that 97.5% of clients in corporate offices are PCs. This realisation has motivated Wyse, the market leader of thin clients with 42% market share, to provide a way for customers to make use of PCs when migrating to a thin-client regime. However, the simplest solution, that of locking down PCs, does not address the need that customers have in practice when attempting a thin client roll-out.

In a typical corporate environment there will be PCs running a variety of Windows operation systems and a number will have unusual peripherals, such as specialised graphics cards, or will require special settings in the registry for certain applications running on those machines and no where else. With this type of every-day office environment, managing a thin-client roll-out requires an intensive IT support operation. The lockdown process, whereby a client's locally run environment and applications have features restricted or are removed, is a major management logistics headache.

The solution that Wyse came up with, in Alcatraz, provides IT administrators the means to manage legacy or 'brown field' PCs, running a variety of the Windows operating system. Alcatraz combines all the tools that a migration administrator would like, systems, applications, and asset management; performed remotely, without the need for IT support staff to walk round to each machine.

Rather than demand each PC to be re-built from scratch, with all the time, cost, and manpower expenses that ensue, Alcatraz can be downloaded from the Web, and in the first instance simply operates silently in the background, collecting information about the machine and sending this to the Alcatraz servers. When the administrator decides that some or all of the local applications are to run on the application servers, the local client profile can be altered remotely, and the fat PC turned into an effective thin client.

The strength of this product however, goes beyond the lockdown capability, in that the remote management of the PCs is a powerful time saving tool for hard pressed IT departments. This added benefit of Alcatraz takes it beyond the purely thin-client market, by providing management tools, including security, in one package that is applicable to the larger PC market.

Product Analysis

The encapsulation within Alcatraz of local technical knowledge for repeat application by lesser-experienced operators, when managing disparate and irregular applications, means that reliance on these skills within staff is transferred to the software. The problem of staff turnover and skills walking out the door is therefore lessened. PC housekeeping tasks can be scheduled, reducing time pressure on administrators.

Wyse expects the return on investment to be realised within weeks and months, with considerable savings in IT support, the lowering of skill requirements within IT support, and improved business activity with lower machine down-time due to rapid remote troubleshooting.

The key functionalities that Alcatraz offers are:

- Application Management.
- Remote system management and configuration.
- Lockdown capabilities.
- Desktop definition.
- Administrative action scheduling.
- Remote shadowing and control.
- Desktop Branding.
- Automated Logon.
- Wake on LAN.
- Client Kiosk mode.
- Windows Based Terminal mode for PC clients.
- Management of PCs by groups, views, and profiles.
- Desktop device or component level restrictions.
- Remote client configuration.

Alcatraz contains a similar capability to the open source Virtual Network Computing (VNC) product – a remote display system allowing views of the desktops from anywhere– however, its version is less memory hungry.

A particular value in Alcatraz is the flexibility it offers when managing a diverse range of machines. Rival products that rely on an image update approach cannot easily operate in mixed machine environments. Whilst companies may strive to maintain machine standards, there may be good reasons why the odd key machine exists, and there are always standardisation problems for companies caught up in mergers and acquisitions.

Product Operation

The product architecture is based on three layers, see Figure 1. The Enterprise Server is the highest-level server that holds security information and manages the servers. An agent travels continuously around the servers monitoring the machine status. This agent travels by Internet Protocol and has a small bandwidth, using encryption and compression. It travels round the servers every 20 seconds, taking snapshots of the servers as it does so. This ensures a re-build, if necessary, to point-in-time.

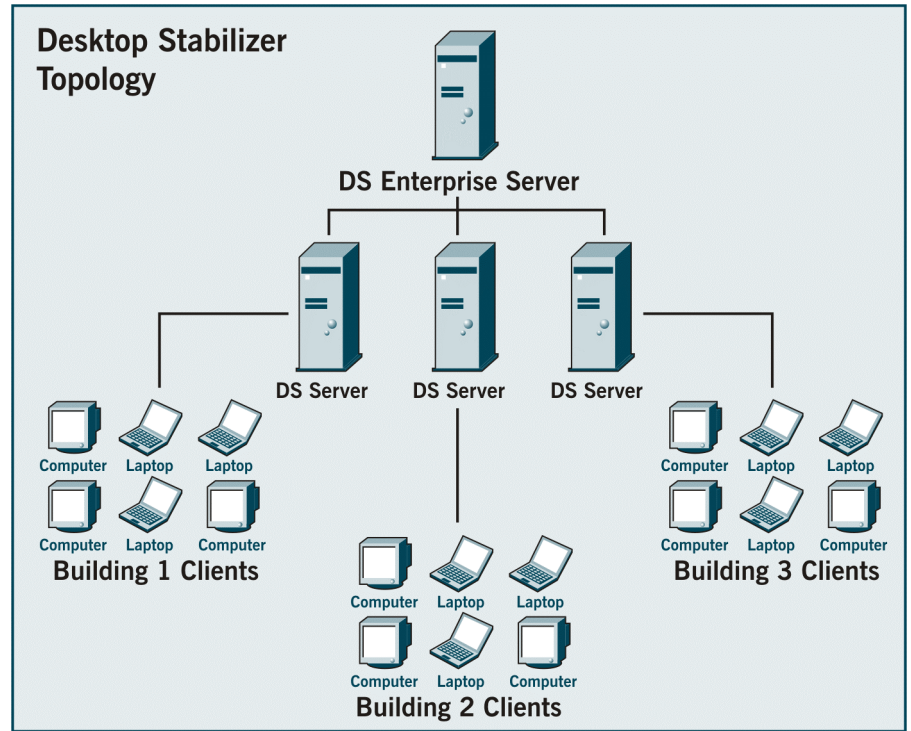


Figure 1: The Three Layer Architecture of Alcatraz

Should any server fail, another server takes over the task. Information relating to the failed machine is replicated in the local repositories of each server, so the missing server functionality can be rebuilt rapidly, the whole process being automated.

The failure rebuild extends to the Enterprise Server, as well as the lower level servers. A failure in the second tier will result in clients being allocated to the next available server. An administrator on a server that takes over a failed machine, and who lacks authorisation to view the affected clients, would not be aware that their server had taken on the dual role. An agent resides on the client to perform local functions, receiving instructions from the server.

In the event of a server failure outstanding instructions and schedules continue to be addressed. A re-commissioned server would be re-allocated to its clients automatically, minimising operator activity, the only input required is the server's name. A Microsoft Data Edition (MSDE) or Microsoft SQL Server database exists on each server, holding information stored by all the servers.

The control of a client PC is set in the machine's view or group profile. The profile is a menu of over 300 check box options that allow complete flexibility in how the client operates. For example, auto-boot with specified times, removal of task bar, removal of any local applications, setting of start up programs, disabling CD ROMs and floppy drives, setting schedules, setting screen backgrounds, removal of document histories and last machine users, and so forth. Applications can be added to the client using the profile.

Changes to the clients can be performed live whilst machines are in use. One especially useful feature for IT administrators is the facility to search across the whole client base for any particular file, application, or peripheral, helping in asset management. Searches can be performed across sub-sets of clients using IP addresses.

Product Emphasis Alcatraz is designed to be infinitely scalable, the addition of servers to spread client loading is determined by the level of use in each environment. For example, an environment of 10,000 users could be serviced by one or several servers dependent on the average level of activity that the system was required to manage. Scalability is achieved by simply adding servers.

Features in development and planned for modular release include:

- Core product enhancement for disk imaging and additional multi-user capabilities.
- Enhanced user interface.
- A complete desktop design and deployment Wizard.
- Reporting packs.

Also planned is the unlocking of underlying assets such as the Simple Network Management Protocol engine.

The effect of Alcatraz on a PC environment is to convert generalised assets into specific, focused, assets, such as Web browsers, sharing the characteristics and costs of thin clients. Wyse is focusing on providing tools for managing the server market, and Alcatraz fits within this emphasis. The greying Windows 9x PCs do not possess active directory, and Pentium 2 class chips do not use the latest management software, so such machines do not respond well to generic management. In this respect Alcatraz's flexibility is key to the product's appeal. Whilst much infrastructure software turns into shelf-ware due to lack of support skills or complexity, Alcatraz has been designed to be highly automated, and its operation leverages existing IT department skills.

► DEPLOYMENT

Alcatraz can be deployed with a minimum of resources; existing servers hosting other applications can easily accommodate the server elements of the product. Alcatraz has in fact been designed to operate on server hardware near the end of its lifecycle if necessary. Installation and configuration is mainly automated. The client machines specifically do not need a desktop visit, and client configuration is helped by using groups and views, allowing easy management of hundreds to many thousands of PCs in one stroke. Assigning clients to groups and profiles typically takes two hours per 1000 clients.

Client deployment can be browser based, or via logon script, and the product has been designed to be easy to use, with existing Windows skill sets utilised to the full by administrators of Alcatraz. According to Wyse deployment time is 5 minutes per server, 2 minutes per client, with installs managed in concurrent batches. Client installations can be silent, there is no operator intervention required. There is no penalty in scaling up client installations. The design of Alcatraz is modular, and upgrade features in the pipeline have been designed to be added independently.

Alcatraz has a full administration interface for connecting and operating the complete installation. Control runs within a security enabled layer to ensure administrative regions or boundaries can be respected confidentially. Web based training and accreditation courses are planned for the near future. Support is provided through the Wyse helpdesk, with a second and third level support providing additional backup for issue resolution.

There are no dependent external applications required to run Alcatraz, and server platforms include: Windows NT4/2000/XP/.NET configured as servers or workstations. The client system can be any of the following Windows systems: 95/98/ME/NT4/2000/XP/.NET. Within this client scope are included server, and terminal services.

The default repository used by Alcatraz is based on the MSDE, however, Microsoft SQL Server is supported as an alternative. Database connection is performed by ADO technology.

Bandwidth usage is not intensive for management operations, however Alcatraz could be used to move large files to clients, so there is in such commands a bandwidth issue. Communication between clients and the server is TCP/IP based.

► PRODUCT STRATEGY

There are certain fixtures in the thin-client market with which Alcatraz will compete. Customers using PCs to access Windows Terminal Servers will find Alcatraz an invaluable management tool. However, there is also a much wider IT market desiring greater control over PC environments that this product will benefit. Alcatraz applies across both horizontal and vertical markets, with the latter examples including Manufacturing, Health Care, and Education. Target firms are in the medium to large enterprise category, worldwide.

The key competitors to Alcatraz are Neoware Thin PC, NCD Thinpath PC, Altiris, and Microsoft Systems Management Server (SMS). These competitors all target the customer's existing PC environment, whereas at the very high end enterprise market exist infrastructure management products like BMC Patrol, CA Unicenter, and HP OpenView, applicable to customers willing to spend large amounts and sweep clean the whole client infrastructure. Where the pressure will start to build is in the Microsoft SMS offering, which is evolving into the new System Center. With more PC clients carrying the latest Pentium chips and running .NET friendly operating systems, System Center will provide the stiffest competition in the longer term.

New features in Alcatraz include opening the repository to third-party reporting tools and Wizards. Further features will target specific popular applications, for example, Citrix, SAP, and Oracle. The product has a 12-month major release cycle, with six monthly minor releases.

Wyse intends to charge a highly competitive £50/euro75/US\$79 per client, with no charge for the server software. The Priority Plus maintenance plan will add a further £10/euro15/US\$15 per client, which includes support and upgrades. Wyse will use a number of channels to promote and support the product, such as Value Added Resellers and distributors. However, they will also employ direct marketing to gain a market share quickly.

Wyse sees the greying Windows 9x PC market as an increasing burden on companies, and expects from this market a strong response for Alcatraz. There will also be a natural market amongst existing Wyse customers, for the majority of whom managing PCs is a problem, and this will not compete with Wyse's thin-client products.

Butler Group agrees with this view, and expects Alcatraz to succeed exceedingly well in the dual market of PC thin clients and general 'brown field' legacy PC management. Some reservation that Butler Group has is in the choice of name for the product. On the positive side the name has a high profile – for today's generation perhaps more associated with film entertainment, on the negative side the name is associated with a once used prison. It would certainly not be recommended that end-users learn of the name of the software that controls their machine, as lock down is perceived by some as an emasculation, and an association with prison would add to the injury.

The question of a Linux version is one that Wyse says depends on customer demand. However, bearing in mind that the target market is legacy PCs, and the fact that desktop Linux is only now emerging, then it makes little sense to produce a Linux version at this time. The only disadvantage here is that a customer wishing to deploy Linux in a mixed operating system environment, would value a tool like Alcatraz that applied uniformly across all systems.

► COMPANY PROFILE

Wyse was founded in 1981 and has grown to be a global business with US\$180 million annual revenues. Approximately 10% of the company's gross revenue is spent on research and development.

The company's headquarters are in San José, California, and it employs over 550 employees globally, with about 50 located in Europe. Production facilities for Winterm products are in Taiwan, and Wyse software engineering is carried out in the US and Taiwan.

Wyse started out with text terminals, and introduced the first Windows-based terminal in 1995. The company has led the thin-client market for the last 5 years. Wyse is currently taking strategic initiatives by extending its product range through server enhancement software, PC management solutions, mobile devices, and professional services.

Wyse sells its products mainly indirectly through distribution channels, which are supported by a direct sales force for larger customers. It has shipped about 2 million Winterm terminals. Wyse reports that its products have been well received in most industry sectors, and its key clients include:

The Royal Mail (UK), CarPhone Warehouse (UK), National Health Service (UK), Swinton Insurance (UK), ING (NL), Eidgenössische Zollverwaltung (Switzerland), ITS Reisen (Germany), Landeskrankenhilfe Lüneburg (Germany), Sernam (France), Flight Centre (Australia), FNAIM (France), NBC (US), and Fedex (US).

Microsoft Embedded Systems Division has named Wyse a Partner of the Year for the last three years. Wyse will likely be a close observer of the unfolding .NET strategy as it relates to thin-client computing.

► SUMMARY

The problem of managing a diverse PC environment is a headache for many organisations. Wyse has vast experience of clients migrating to thin clients, and nearly all perform the change-over slowly, with the most difficult machines to convert coming last. Alcatraz has been designed to support the migration operation, with lockdown providing the means to convert legacy Windows 9x PCs into thin clients.

However, the wide range of tools contained within the Alcatraz package gives the product the potential to capture a sector of the infrastructure management market relating to legacy machines. Nearly 60-70% of IT support staff time is spent on engineers walking round to each machine, whereas Alcatraz replaces this activity with remote management.

Butler Group believes that Wyse's Alcatraz deserves to succeed in a finely engineered product, that meets a market need, and at the same time opens up new opportunities for managing a diverse PC environment.

► CONTACT DETAILS

Wyse Technology Inc.

3471 North First Street
San Jose
California
95134-1801
US

Tel: +1 (408) 473 1200

Fax: +1 (408) 473 2080

E-mail: sales@wyse.com

www.wyse.com

Wyse Technology (UK) Ltd.

1 The Pavilions
Ruscombe Park
Twyford
RG10 9NN
UK

Tel: +44 (0)845 604 0038

Fax: +44 (0)118 934 0749

E-mail: info@wyse.co.uk

www.wyse.co.uk

Wyse Technology Benelux

Spuul 3
NL-5706
KM Helmond
The Netherlands

Tel: +31 (0) 492 520715

Fax: +31 (0) 492 520716

www.wyse.co.uk

Wyse Technology Australia P/L

Suite 1, 52 Queen Street
Beaconsfield
New South Wales 2015
Australia

Tel: +61 (2)9319 3388

Fax: +61 (2)9319 5766

www.wyse.com.au

Wyse Technology Gmbh

"Humboldt Park" Haus
7 Humboldtstr. 10
D-85609 Aschheim/Domach
Deutschland

Tel: +49 (0) 1805 997 311

Fax: +49 (0) 89 460099 99

E-mail: info@wyse.de

www.wyse.de

Wyse Technology

Immeuble Mecure
6 Parch club Arlane
78284 Guyancourt
Cedex, France

Tel: +33 (0) 810 20 4114

Fax: +33 (0) 1 34 52 09 30

E-mail: info@wyse.fr

www.wyse.fr

Important Notice:

This report contains data and information up-to-date and correct to the best of our knowledge at the time of preparation. The data and information comes from a variety of sources outside our direct control, therefore Butler Direct Limited cannot give any guarantees relating to the content of this report. Ultimate responsibility for all interpretations of, and use of, data, information and commentary in this report remains with you. Butler Direct Limited will not be liable for any interpretations or decisions made by you.

For more information on Butler Group's
Subscription Services, contact:

Europa House, 184 Ferensway, Hull, East Yorkshire, HU1 3UT, UK
Tel: +44 (0)1482 586149 Fax: +44 (0)1482 323577 www.butlergroup.com