

# Thin Client Computing Server Options -

*A white paper comparing service providers to purchased solutions*

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Several popular studies have shown thin client Total Cost of Ownership savings of 25% to 50% when compared to traditional networked Windows desktops. These studies all assume a reasonable network size. But for small networks those same conclusions do not hold true.

There are two distinct elements to the thin client solution; the client device and the server. The cost of the client device scales smoothly and in proportion to the size of the organization.

Thin client servers however create an initial step-function cost for equipment, software, and administration. Large installations easily amortize the server cost over a large number of clients. The step-function server cost proves to be an obstacle for smaller installations and can actually make thin client cost prohibitive.

The advent of thin client computing service providers like thinter.net provides an alternative to purchasing, deploying, and administering the thin client server. Instead the thin client server is owned and managed by the service provider, who achieves scale by sharing servers over multiple companies. The client connects to the server over the Internet, gaining the same functionality and benefits of an in house thin client server.

Service providers can price on a per-seat basis to create scaleable pricing for smaller installations, avoiding the start up costs of the server.



The above chart compares the cost of service provider solutions to purchased server solutions over a range of client sizes and assumes the service provider charges \$60 per client per month.

## Cost Analysis

The following table provides representative costs of deploying and maintaining a thin client server supporting 40 client devices.

Item	Year 1	Year 2	Year 3
Server	\$24,065	\$3000	\$3000
Metaframe with 15 CALS	\$4,995	\$1000	\$1000
Metaframe CALS added	\$5,000	\$0	\$0
NT TSE with 5 CALS	\$1,299	\$300	\$300
NT CALS added	\$1,050	\$0	\$0
TSE CALS added	\$3,815	\$0	\$0
UPS	\$1,000	\$0	\$0
Installation	\$1,000	\$0	\$0
Training	\$1,500	\$0	\$0
Administration	\$12,600	\$12,600	\$12,600
Total	\$56,324	\$16,900	\$16,900
Cumulative Total	\$56,324	\$73,224	\$90,124

Average per-client cost burden over server life - \$62.59 per month.

The analysis assumes a 3 year life for the server. The server is assumed to be a Dell 4300 equipped with dual 500 Mhz Pentium III processors, 2 G RAM, single channel RAID controller, 3\*18 G drives, 17" monitor, DAT autoloader tape backup, backup software, with redundant power and fans. Dell was selected because it represents a good value work-group server that can accommodate 40 users with some room for expansion. Its prices are readily available. 8% sales tax is assumed.

The software includes Windows NT 4.0, Terminal Server Edition and Metaframe 1.8. All software prices are projected street prices by the respective providers.

Administration assumes an unburdened Administrator salary of \$60,000 with a 20% burden added. The administrator is assumed to charge 7 hours per week to managing the server. In parts of the country where salaries are higher this should be adjusted.

Assuming the thin client service provider delivers the same capabilities as the above server and charges less than \$62.59, then the service provider delivers a measurable cost savings over deploying an in house thin client server.

## Simplifying Assumptions

This analysis overlooks some of the costs associated with deploying the in house server which increase real costs beyond those indicated here. These include real estate to house the server, time spent selecting, engineering, and acquiring the server, and utilities.

It is assumed that the Administrator has other useful work filling the remaining 33 hours of the workweek and that time is charged to those other activities.

The analysis does not factor the time value of money. In the purchased solution, about 50% of the server cost is incurred before the network is functional. The server provider solution spreads the payments evenly over the life of solution.

The analysis overlooks Internet connection costs for the service provider solution. Today it is a reasonable assumption that desktops have Internet connections in place.

The analysis assumes the service provider does not provide volume price discounts.

### **Other Factors to Consider**

Service providers can deploy rapidly, turning up a thin client solution in just a few days. Deploying a purchased server typically takes several months after the project begins.

Service providers deliver highly scaleable solutions. For companies that are growing fast or unpredictably, the service provider can deliver capacity on demand to scale up fast. Capacity planning for purchased servers is a delicate balance to avoid over provisioning or outgrowing the server rapidly.

Service providers can deliver higher system level availability. With multiple load-sharing servers, service providers can continue delivering service even in the event of hardware failure. Although duplicated servers can be provided in house, costs increase significantly above the levels shown in this evaluation.

Alternatively, purchased servers provide a greater level of in house control and may afford a greater level of customization than available from a service provider.

### **Conclusions**

Below 40 clients the service provider delivers a clear and compelling cost savings to purchasing and managing a server in house.

Above 40 clients, other factors need to be considered. The simplifying assumptions in this analysis and the impact to the real cost of the in house server should be assessed.

Additionally the other benefits of service providers may prove attractive. With ease of budgeting, rapid deployment and scaling, higher system level availability, and the prospect for volume price plans service providers can prove attractive for many larger installations.

thinter.net is a service provider specializing in the provision of computing and networking solutions using Internet technology. For more information, contact thinter.net at 408.295.2970 or visit our web site at <http://www.thinter.net>