![Arista IPC logo]

White Paper

Thin Client Computing

Cost-effective and eliminate
computational workload

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Introduction

For every industry the need to manage their process is changing drastically. Particularly for addressing user needs efficiently organizations are making way to adapt thin client technology. Even though thin clients are in the market for several years now, their use is evolving and gaining momentum continuously. Thin clients are designed with cost-effective hardware and play a key role in eliminating computational workload.

Summary

This white paper includes information on thin client management system and how to utilize it to gain maximum cost-reduction. Thin client is a boon to develop a centralized management system for applications and protect critical user information. This paper addresses key factors to determine before using thin clients for your business and how end users can make most of the virtual solutions.

What is a Thin Client?

In very simple terms, a thin client is a low powered computer without hard disk and performs all processing on server/backend. Thin client devices are compact and light weight build specifically to provide remote access to servers. Thin clients can be used with cloud or desktop virtualization environment, the need of using thin client may vary. Unlike the desktop set up, thin clients are used where desktop resources are centralized into data centers.

Thin Client White Paper
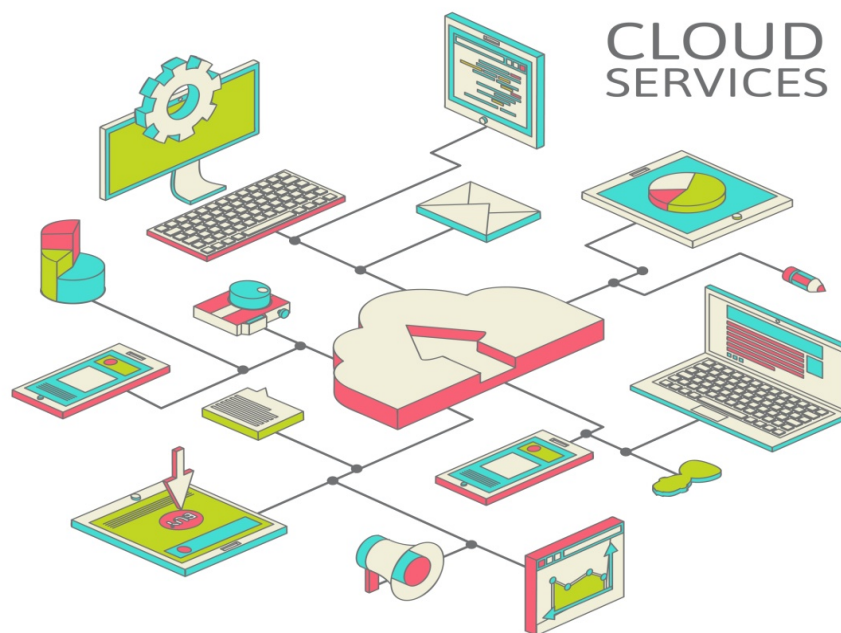
Major Key deliverables of thin clients are:

- Secure working environment.
- Low set-up and maintenance costs
- Fast deployment
- User-friendly interface

Even though choosing the visualization solutions seems an easy task, it does not work that way. To fully adapt to a thin client environment users must need to understand how they can make the most with a thin client set up.

Thin Client technology

In order to get a firm grasp on how thin client can benefit your business needs, it's important to know about how this technology works. Moreover, it's important to get a bigger picture how thin clients play a key role in making a particular business needs intuitive. Thin clients are developed to provide a secure and reliable work environment. Unlike desktop PC, thin clients have a fanless desktop terminal with no hard drive. Thin clients are widely being used as a desktop replacement and provide businesses a cost-effective way to develop virtual desktop.

One of the major benefits of a thin client is the centralized management. With remote accessibility it's easier to manage, store and use the data. IT administrators are able to conveniently access any device connected to the server and make changes in the nick of time. Moreover, thin clients are easiest to configure, manage and deploy.

Moving to Thin Clients

Incorporating thin client in any business process does not involve much technical efforts. Moreover, thin client installation is quite simple and does not interfere with existing work processes. With thin client environment users are able to work in a collaborative environment with remote sharing and centralized access to information.

Thin Client for every industry

Manufacturing: For improving processes and allowing resources to be more productive, thin client in a manufacturing environment is an ideal platform to deliver versatile benefits. Manufacturing operations at times get stuck due to IT setup; this often leads to downtime and waste of resources. Thin client technology is developed to resolve such conflicts and provide a mature approach for processes to be conducted efficiently.

Thin clients are a cost effective solution providing manufacturing users a safe and reliable environment. Thin clients implementation with ThinManager Ready hardware ensures that it complements the manufacturing work environment and allows them to organize their process more efficiently. Thin client reduces overall hardware issues with an improved response time.

Healthcare: Most challenging aspect of the healthcare industry is to keep patient information secure; data has to be encrypted before it's shared. Such critical priorities require solutions which are not only competent but able to provide security. Thin client is ideal for a clinical workflow. It delivers reliability for sensitive healthcare and patient information. Thin clients allow visualization that allows quick access to patient information anywhere in a much secure manner. Adhering to privacy requirements thin client allows built in fire-wall, smart-care authentication and data protection under HIPPA and other regulatory mandates.
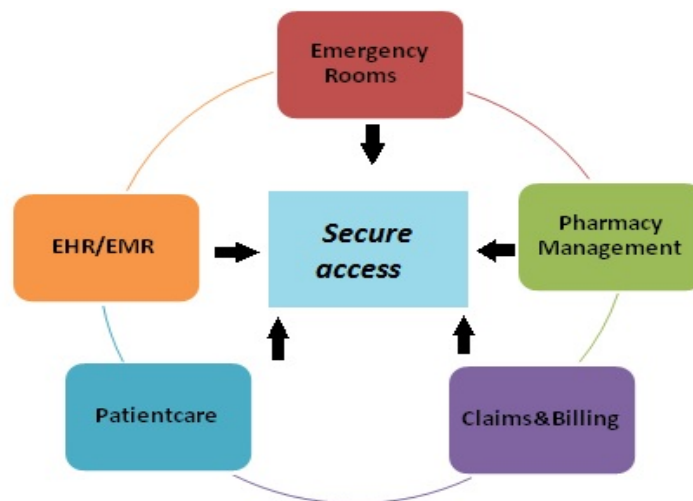

Figure 1 Thin Client for Healthcare

Education: Education industry is completely drawn towards use of internet to share and spread the knowledge base. Consider an example of school district network using thin client, it offers reliability and cost-savings. Thin clients are much smaller and compact than a typical desktop and with flexible functionalities. Not only this arrangement is beneficial for students, it can also be implemented in the administrative system for an improved and faster management. Moreover, lower performing machines are not able to handle new software upgrades. In long run, thin clients are a cheaper option because of their long product life cycle and less chances of getting damaged.

Apart from delivering efficient solution, thin clients are user-friendly and do not require any technical expertise for use .Users can simply plug and play for efficient functionality and less energy consumption. Moreover, thin clients deliver the feasibility of making learning process more accessible.

Thin clients allow the idea of a smart classroom flourish. For example making everything centralized allow access from multiple locations. This allows quick response and sharing of information easily. Thin clients can be replaced with legacy desktops in school labs, library etc.
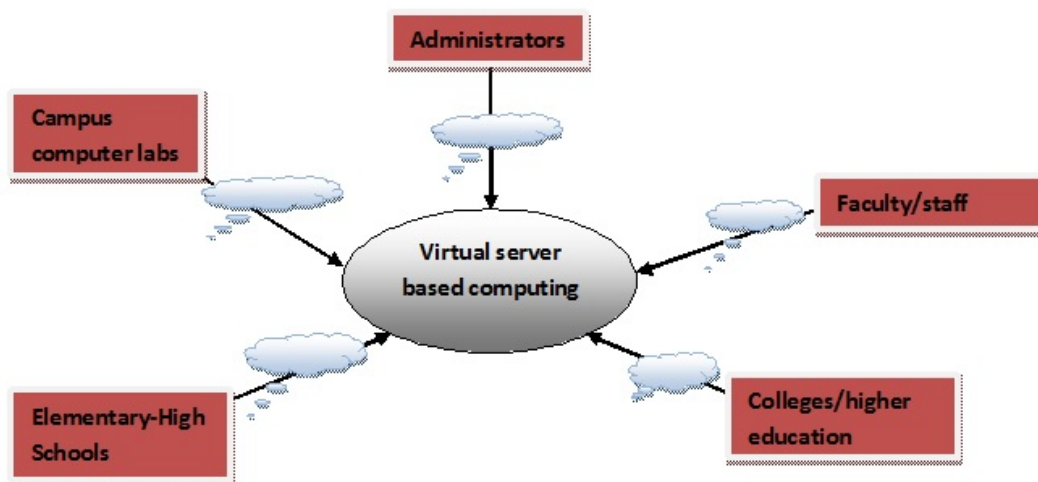

Figure 2 Visualized computing with thin client

Hospitality industry: A very big section of the service industry includes administration and front office solutions for a wide audience. Thin clients are an ideal solution for such aspects of a hospitality industry and deliver intuitive solutions to manage booking, reservations, digital account verification, prints and many more. This also helps in making resources more productive and faster in their daily work.

Government: For every federal agency, thin clients are a great option to make the entire process smarter and secure. This cost-effective platform meets with strict regulations and allows seamless sharing of sensitive information. Thin clients solution have extremely high life cycle and require minimal management.

Apart from the above industry discussion for thin clients there are several others areas where presence of thin clients allows maximum productivity. Thin clients demands are increasing for every industry, with desktop virtual computing solution businesses are able to minimize their overall costs and provide manageable solutions to end-users.

Risk free production in every platform

For several reasons end-users are not limited to use only one device for their work. Use of laptops, notepads, smartphones, Ipads, and tablets are also an integral part of a business. Thin clients technology can be easily in adapted in such versatile platforms with security and reliability in work. According to researches thin-client computing ensures data protection at all levels since application and information is stored on the server.

Before buying Thin Client Devices

With a wide range of options available in the market, it becomes overwhelming to select a thin client solution that best fit your work environment. There are branded as well non-branded thin clients devices available in the market, branded one comes with a high price tag while non-branded price depends upon the manufacturer and usually costs less. The only difference between expensive and non-expensive is amount of features and flexibility they deliver. Often with low cost thin clients you find limitations and sometimes such devices might not be a best choice for your needs.

In general before buying thin client devices few things to be considered are:

PXE boot: This allow flexible management of thin clients OS (operating system), each time OS boots up it retrieve latest version.

Memory: For optimal performance and functions to work with ease, device should be able to have a memory of at least 65MB.

Environment: Make sure the thin client meets need of your work place. Find and consult experienced sales representative to guide with options available as per specific industry requirements.

Operating system: It's important to consider the thin client device for Windows CE, XP, embedded, or Linux. While this option completely depends on end-user choice, it is important to understand other functionalities and how they can be best incorporated for specific business needs.

Software management: Thin client management software should provide most flexible and efficient options for end-users. Operating system should be able to deploy updates to the terminal server client software and upgrade to new features time to time. With appropriate technology driven management software thin clients can be managed with ease.

Thin Client advantage

Thin clients provide lot of flexibility and managing options for their users, few of the thin client's advantages are listed below.

Lower-operational cost-Thin clients eliminate the stress of setting up a full-fledged workstation. Since all the computing is done on servers, machines do not require much energy to operate. This contributes in overall cost reduction. Moreover, thin clients are very easy to integrate in almost every application or business processes and does not require additional training.

Centralized management- With thin client set-up only software-level protection is required, security is required on server level since entire data is stored on it. Additional heavy-duty security is not required for workstations and other devices. This significantly reduces the effort and time required in setting up workstations and working with every single machine in case of downtime.

High-performance –Thin clients can be integrated in almost every industry, areas like manufacturing, healthcare or finance which needs utmost accuracy can rely on thin client without any second thoughts. With several functionalities involving customization users have improved and high-end performance at all levels.

Limitations and challenges

While there are plenty of reasons of use and upgrade to thin clients, some limitations are also part of the setup. As discussed above thin clients perform majority of work on a server and the response is lower if compared to traditional thick client set up. Moreover, thin clients require strong and reliable network connection to perform therefore; any kind of network lag issues can affect the "clients". To ensure that there is absolutely no hindrance in the process while using thin clients it is essential to maintain a strong network connection and servers should be located as near as possible.

ARISTA - Thin Client solutions

Considering complex needs of manufacturing industry and automation, ARISTA thin client range is wide and offers technology driven great features. ARISTA offers industrial thin clients, office thin client,4K resolution thin client, multi-monitor thin client, panel mount thin client, waterproof proof thin ,large format thin client and class 1 Division 2 thin clients.

Each thin client is designed to ensure a seamless workflow with user-friendly functionalities. To know more about ARISTA thin client visit www.aristaipc.com, email sales@goarista.com or call us at 1.877.827.4782 Monday through Friday 8:00am to 5:00pm.

About Us:

ARISTA is a pioneer in the industry of product development, engineering, manufacturing and customer support. Originally formed in 1994, ARISTA has offices in China, India and Taiwan. With years of experience and expertise in Industrial Panel PCs, industrial monitors, Box PCs and Fanless embedded,

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computers, rack mount computers, ACP ThinManager Ready Thin Client, embedded CPU boards and video extender/switched. ARISTA has served customers with reliability, integrity and trust.

Disclaimer: The paper intends to give overview of thin clients and how to incorporate them into a business. The content is for information purposes only and contains best practices to choose a thin client. In any scenario this document should not be modified, copied or used before prior consent from ARISTA Corporation. The content in this document is subject changed or modified any time without any obligation to anyone.