Integrated Thin-Client Managed Service

Cut costs, complexity and carbon footprint

Enterprise IT today faces an unprecedented number of pressures – old and new. Traditional priorities, such as cost optimization and efficiency improvement remain high on the corporate agenda, and have been joined by demands for greater environmental responsibility, as well as a need to reduce exposure to volatile energy prices. At end-user level, the struggle continues – how can IT respond to the evolution of working practices, a desire for greater mobility, and incessant pressure to reduce downtime, while still being able to effectively manage and maintain the end-user environment and preserve the security of sensitive corporate data?

Capgemini's Integrated Thin-Client Managed Service represents a combination of industry-leading virtualized desktop technologies, backed by the proven experience and expertise of Capgemini's Workplace Services,

to deliver a solution that empowers enterprises in their quest to address the challenges of today. Capgemini clients can benefit from reductions in:

- **Costs** – Significant Total Cost of Ownership (TCO) savings through reduced energy bills, hardware costs, and support and management requirements.
- **Complexity** – Tasks such as ensuring IT security, managing the IT estate, and enabling flexible remote access are considerably simpler in a thin-client architecture.
- **Carbon Footprint** – Greener IT through reduced energy consumption, longer intervals between technology refreshes, and more environmentally friendly manufacture and disposal of thin-client devices.

"Enterprises benefit from industry-leading technology, combined with the proven expertise of a partner that works in collaboration with the client to ensure full benefits – including reduced Total Cost of Ownership, energy consumption and corporate carbon footprint – are reaped with minimum risk and disruption at end-user level."

Gavin Westwood, VP Capgemini Workplace Services

Reduced costs

A thin-client architecture – end-user thin-client devices and the servers required to support them – is significantly more cost effective than an architecture based on conventional desktop PCs and accompanying servers. Support costs and energy consumption are also significantly reduced, contributing to a lower long-term Total Cost of Ownership (TCO), as well as reduced cost per end-user seat.

Reduced complexity

When deployed by Capgemini, implementation of a thin-client architecture can help to alleviate much of the complexity experienced by IT departments today:

- **Security Simplified**
  With data and applications stored centrally, the task of ensuring IT security becomes considerably less complex. No applications or sensitive data are stored on thin-client devices, largely eliminating the threat typically implied by damage, loss, theft or rogue usage. Data protection and security is further enhanced, thanks to limits on soft data transfer between applications. A thin-client architecture also features fewer open ports at end-user level, enabling improved containment of virus threats.

  Virtual desktops can be encrypted and backed up in much the same way as sensitive corporate data files. Not only does this boost IT security capabilities and maintenance of regulatory compliance, it also facilitates quick and easy transfer of "desktops" between servers and data centers, ensuring business continuity.

- **Improved manageability**
  As applications reside at server side, installation, patching and maintenance tasks can be carried out centrally and applied globally from a single location, thereby eliminating the need

What is thin-client computing and how does it work?

Thin-client computing is an architecture that transfers processing from the desktop to data center-based servers. Capgemini works with leaders in the field of desktop virtualization hardware and software, including Citrix, Sun Microsystems and VMWare.

Desktop devices can be replaced – either gradually or swiftly – with low function, low-maintenance, "thin" hardware. Desktop thin-client devices have no local operating system to configure and enable access to applications on virtually any platform. Execution of operations and processing takes place in the data center thanks to specially configured thin-client hardware and software. Data and applications also reside on centrally managed infrastructure, eliminating much of the duplication that traditional IT architectures suffer from.

Through a defined set of processes that encompasses everything from assessment through to solution design and implementation, Capgemini works in collaboration with clients to allocate the most effective device according to role, while simultaneously considering the overarching needs of the enterprise.

to perform such tasks repeatedly at end-user level. This ability to manage and support the end-user IT estate centrally, combined with reduced device complexity – and so risk of failure – contributes to lower support requirements and reduced disruption to end users.

- **Enhanced mobility and flexibility**
  Capgemini's harnessing of the latest desktop virtualization technology frees users to access "their desktop" without having to physically access an individually designated

device. This increased mobility and access helps break down the often-restrictive bond between end user and individually allocated machine and enables users to be productive regardless of location and – within reason – device available. Centralized management of applications and data also facilitates an end-user experience that is simpler and free from clutter, thus driving increased productivity.

Reduced carbon footprint

In addition to helping clients address traditional IT challenges, Capgemini's Integrated Thin-Client Managed Service represents a solution that is sensitive to today's pressure on IT to limit enterprise exposure to volatile energy prices and to reduce corporate carbon footprint.

Thin-client devices consume considerably less energy than their traditional desktop counterparts and require just a minimal incremental demand on data center-based servers of around 4 watts per head. As such, enterprises are able to reap the double benefit of slashed energy bills and reduced carbon footprint. The potential to maximize these benefits is strengthened when combined with a back-end server estate hosted at an energy-efficient Capgemini data center.

The superior lifespan of thin-client devices, when compared to conventional PCs, delivers both financial and environmental benefits. Longer intervals between Capital Expenditure (CapEx)-intensive technology refreshes help boost the bottom line and business agility, while simultaneously reducing the adverse environmental impact implied by unnecessarily frequent technology refreshes.

As an additional environmental benefit, the manufacture of thin-client devices is considerably more resource efficient than that of conventional desktop PCs and, once they do eventually reach end of life, these devices are cleaner to process.

	PC	Thin client
Operation (watts)	80-150	6-50
Lifespan (years)	3-4	7-10+
Operation (KWh)	777,600	38,800
Annual CO$_2$ emissions (kgs)	462,000	23,000

Kilowatt Hours and CO$_2$ emission are based on USA data. The calculations are based on the following:

- Published power consumption data for all major PC and thin-client vendors;
- EPA CO$_2$ emission data, national average for USA;
- 8 hour working day, 243 days worked per annum;
- Operation and CO$_2$ emission data is based on the lowest watts for thin client (4W) and conventional PC (80W);
- Annual CO$_2$ emissions based on 5,000 seats.

Why go thin with Capgemini?

Capgemini is a leader in the workplace services market and currently supports over one million end users worldwide.

- **Flexible, controlled migration**
  With Capgemini, a thin-client rollout can take place swiftly or gradually and a sweeping overhaul of technology is not entirely necessary (although all benefits will not be realized). Whether through re-commissioning existing hardware as thin-client devices or allocating different devices according to role, Capgemini can help facilitate a transition that best fits the challenges and priorities of the client with minimum disruption to end users.

- **Easily scalable infrastructure**
  Thanks to Capgemini's wealth of expertise – not to mention proven track record of low-risk transition – enterprises are able leverage thin-client technology to benefit from enhanced scalability and agility. Tasks such as opening, closing or re-locating offices, adding or deleting entire blocks of users, or even data center-based server implementation, can be performed quickly and cost effectively.

- **Thin-client computing as part of a bigger picture**
  Capgemini's Workplace Services, including Integrated Thin-Client Managed Service, can be fully integrated with our other industry- leading offerings, such as Remote Infrastructure Management (RIM) Services and Data Center and Infrastructure Services, to ensure a low-risk, seamless and transparent transition and delivery, while ensuring high availability and productivity.

- **Continuing a rich tradition**
  Our Integrated Thin-Client Managed Service continues a rich tradition of delivering innovation to Capgemini clients. Capgemini helps enterprises to bridge the gap between the disparate needs of organizations and end users by offering a choice of pre-built, standardized services that can be customized according to end-user profile. Clients can benefit from mass deployment of custom desktops, laptops, thin clients and mobile devices enabling rapid transformation. The result is a flexible, more scalable and greener workplace environment.

Thin client at Capgemini

Capgemini has leveraged Sun Microsystems thin-client technology across several areas of our business, notably at our service centers in Inverness, Scotland; Krakow and Katowice, Poland; and Madrid, Spain. For more information, see the case study *Sun Shines on Capgemini Service Center.*

Desktop virtualization market trends

According to analyst firm Gartner Inc., "The worldwide hosted virtual desktop (HVD) market will accelerate through 2013 to reach 49 million units, up from more than 500,000 units in 2009, according to Gartner Inc. Worldwide HVD revenue will grow from about $1.3 billion to ... $65.7 billion in 2013, which will be equal to more than 40 percent of the worldwide professional PC market".[1] Client virtualization is an enabler to Improved Security. Forrester Research, Inc. says, "From a security and risk standpoint, client virtualization helps maintain regulatory compliance, secure customer and corporate data, and build a strong business continuity program – all items that take a top spot on today's IT security professional's priority list".[2]

How analysts view Capgemini

Capgemini was positioned as a leader for Global IT Infrastructure Outsourcing in Forrester's report, The Forrester Wave™: Global IT Infrastructure Outsourcing, Q1 2009.[3] About Capgemini, Forrester said, "The firm also had a solid, well-funded, forward-looking strategy for the infrastructure business, particularly in the future of cloud/utility-based services via budding partnerships". In its Market Overview for Green IT Services, Forrester also commended these cloud computing and SaaS offerings.[4]

Another step towards true desktop as a service

Capgemini prides itself on its tradition of collaboration and innovation. Thanks to our partnerships with industry-leading innovators, such as Amazon Web Services and Google, Capgemini clients are able to access technology innovations, such as cloud computing, as and when they become available and appropriate for enterprise adoption.

Backed by these strong technology partnerships, Capgemini's Integrated Thin-Client Managed Service represents a step towards delivering true desktop as a service. As Capgemini's Workplace Services offering evolves, clients will be able to benefit from the vision, partnerships, tools and expertise required to make the delivery of software and infrastructure via the cloud a reality.

Capgemini helps clients leverage new technologies not simply to lower costs and improve efficiency, but also to identify how and where new technologies can be deployed to help facilitate the pursuit of new business opportunities or efforts to reduce corporate carbon footprint.

About Capgemini and the Collaborative Business Experience™

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies. Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working, the Collaborative Business Experience™. The Group relies on its global delivery model called Rightshore®, which aims to get the right balance of the best talent from multiple locations, working as one team to create and deliver the optimum solution for clients. Present in more than 30 countries, Capgemini reported 2008 global revenues of EUR 8.7 billion and employs over 92,000 people worldwide.

Capgemini Outsourcing Services (OS) draws on the expertise of more than 25,000 employees to manage, innovate and improve the IT systems and business processes of its clients. Capgemini OS offers a full spectrum of services including Applications Outsourcing, Infrastructure Outsourcing, Business Process Outsourcing and Transformational Outsourcing.

More information is available at www.capgemini.com/services/outsourcing

For more information on how you can benefit from Capgemini's Integrated Thin-Client Managed Service, please contact:

Brian Doherty
Global Product Marketing
brian.doherty@capgemini.com

Gavin Westwood
VP, Workplace Services
gavin.westwood@capgemini.com

[1]Gartner Inc., "Emerging Technology Analysis: Hosted Virtual Desktops" , Annette Jump and Brian Gammage, February 2009

[2]Forrester Inc., "Client Virtualization Improves Security of The Corporate Desktop", Simon Yates, November 2008

[3]Forrester Inc.,"The Forrester Wave™: Global IT Infrastructure Outsourcing, Q1 2009", Paul Roehrig, April 2009.

[4]Forrester Inc., "Market Overview: Green IT Services, A Bright Outlook for IT Sustainability Consulting", Chris Mines, April 2009