Thin Clients as Attractive Solutions for Cost-Effective, Secure Endpoint Management

Situation Overview

Managing IT endpoint infrastructure at an enterprise scale continues to be a challenge across most industries. A myriad of considerations — from security to cost, levels of support, and software compatibility — can complicate decision-making processes for IT managers and business leads. Thin clients have remained an inexpensive and comparatively flexible hardware solution that many enterprises have turned to. While the perception of the thin client market may be of a static hardware segment, some firms are innovating to keep pushing the thin client market forward.

This IDC Topline provides an overview of the thin client market in Europe and the U.S., including key technology advantages of implementing thin client solutions. It also provides a profile of IGEL, a leading global vendor in the thin client market, and some of the hardware and software innovations that set it apart from competitors.

The healthcare, retail, education, and financial services sectors have been the traditional primary markets for thin client technologies driven by security and regulatory requirements. These industries often operate thousands of end-user devices, and having the ability to closely control permitted actions on the devices as well as patching and OS management is of high importance. New challenges such as the General Data Protection Regulation (GDPR), mobile workforces, and increasing security threats will play a large part in the future growth of the thin client market. At a worldwide level, thin client revenues increased 1% between 2016 and 2017, while hardware shipments remained stable. U.S. thin client market revenue reached $422 million in 2017, while Western Europe reached $424 million, or 28% of global thin client sales.

Though revenues have declined in recent years, there are a number of reasons for the stronger performance in 2017. One of the key trends shaping thin client deployment is increasing security concerns. According to IDC's *European Multicloud Survey 2018*, data security is the number 1 datacenter priority in Europe — for 40% of organizations, improving security and compliance measures will be a top infrastructure goal over the next year. Security is a particular concern in Europe due to the GDPR, which comes into effect on May 25, 2018. Thin clients mitigate enterprise risk due to data being accessed exclusively from central storage, either on-premise or in the cloud, rather than stored on the endpoint itself.

The thin client market has also been driven by an ongoing push to the cloud. Businesses are increasingly finding that moving at least part of their infrastructure and workloads to the cloud yields significant cost and efficiency benefits. For

example, desktop-as-a-service (DaaS) and client virtualization have become commonplace in an effort to reduce management complexity and shift IT spend from capex to opex. Thin clients and the conversion of "fat" clients (PCs and laptops) to thin clients are one solution for organizations, providing an opportunity for thin client vendors to specifically market to cost-sensitive organizations due to the relatively low cost of repurposing old hardware and/or purchasing new thin client hardware solutions. Ongoing Windows 10 migration across enterprises worldwide is also playing a part. Many thin client vendors have introduced support for Windows 10 IoT — a full Windows experience built for smart devices — due to the presence of existing Office and Azure applications in enterprise environments.

Thin Client Technology

The deployment of thin client solutions can be attractive to organizations for a number of reasons. Hardware cost savings can be significant through lower device costs compared to PC alternatives, as well as the option to repurpose older hardware. Cost savings also come in the form of energy efficiency through lower heat generation. At the same time, IT operations can realize benefits through the central management of all endpoint thin client devices, including patching and resource allocation between devices.

IGEL — An Innovative Global Thin Client Player

IGEL is a global provider of thin client solutions and services, with a technology portfolio divided into hardware and software offerings. IGEL offers a software platform (IGEL OS) that runs on its own hardware from entry level to high performance (four monitors with two 4K resolution displays) and can be used to repurpose any 64-bit x86 device including PCs, laptops, and Macs. IGEL also offers a universal management suite (UMS), a drag-and-drop endpoint management package that allows IT to standardize the management of the IGEL OS and Windows devices, including applications such as Skype for Business.

IGEL's newest offering is its UD Pocket, a USB 3.0–based appliance that allows users to convert any 64-bit x86 device (including PC and Mac) into a thin client device. The device offers the flexibility to boot the x86 device into IGEL's Linux-based OS or native OS. With the same security and UMS capabilities as standard thin client offerings, IGEL is aiming the UD Pocket device at mobile workforces that need to change workspace environments on the go, and as an insurance policy to enable workers to work from anywhere with a secure endpoint, facilitating disaster recovery (DR).

While thin client hardware has generally seen little evolution in recent years, it is in software where the most innovations are taking place and where IGEL has focused on differentiating itself from its competitors. IGEL OS is the bedrock for its thin client offering. The current sixth-generation OS gives users modular control over which functionalities are in use, thereby saving compute resources and providing automatic updates for Microsoft, Citrix, and VMware clients. IGEL OS also includes SysTrack monitoring and analytics, giving IT administrators full visibility into the end device's performance to provide proactive solutions to performance issues.

At a worldwide level, IGEL is the fourth-largest thin client vendor in terms of revenues, with $128 million in 2017. At a regional level, the company has made noticeable gains in both the U.S. and Europe, including its home region of Germany. With the introduction of new U.S. management in 2016 and a push toward establishing five customer support hubs across the U.S., IGEL has seen its market position rise from seventh in 2015 to third in 2017. This is solely in terms of hardware sales and does not account for over 55,000 software licenses also sold in the U.S. over the same period. In Western Europe IGEL has maintained its position as the third-largest thin client vendor, behind only Dell and HP Inc. In 2017 IGEL shipped over 205,000 units in Western Europe, totalling $101 million, an increase of 8% over the previous year at the same time that overall Western European revenues declined by 8%. IGEL's longstanding position as the leading thin client vendor in Germany has continued, with a 4% increase in revenues to $62 million in 2017.

Comparing the performance of IGEL and its larger competitors reveals diverging trends, with the larger vendors on a down trend for several years. IGEL's sole focus on thin client solutions is a factor, but it is important not to downplay its traditionally wide device support and software innovations in recent years. In 2017 IGEL shipped over 100,000 software-only licenses, with 55% of IGEL's U.S. revenues coming from software. IGEL's focus on securing devices also inspires customer confidence, as demonstrated through its rapid Spectre and Meltdown patching for IGEL devices running on x86 processors.

Opportunities and Challenges

Implementing thin client solutions can provide organizations with important cost, flexibility, and security advantages. Thin client vendors have an opportunity to capitalize on the desire to move to hybrid and multicloud environments through a comparatively low-cost, secure hardware solution. Firms such as IGEL that have this hardware tightly wound with innovative, platform-agnostic software solutions are in a very strong position when it comes to serving organizations' needs. Despite their market shares, the lack of focus on thin client portfolios by major vendors such as Dell and HP Inc. leaves room for thin client vendors such as IGEL to grab market share through new service releases.

With that said, there are challenges facing the broader thin client market. The segment, although experiencing an encouraging 2017, is coming off several years of declining shipments and revenues worldwide. This can partially be attributed to a lack of innovation on the hardware side — thin client devices have remained more or less unchanged in functionality for most of the major vendors. In addition, there have been emerging devices that offer similar functionality at low price points.

These alternative form factors, such as the Google Chromebook and Raspberry Pi, are theoretically competitors to thin client solutions, but there are a number of reasons why they have not taken off in the enterprise despite several years on the market. These devices tend to have less established management controls compared with developed thin client solutions and offer less support for peripheral devices, which can be a deal breaker in many industries. There are still few

enterprise use cases for devices such as Chromebooks, to which the limited extent of application support or flexibility around software suites (in particular, Google's services with Chromebooks) are primary causes.

Essential Guidance

Thin clients remain an effective solution for organizations looking to provide a rapidly scalable, cost-efficient hardware solution with unified management. Thin clients have the added benefit of greater security due to sensitive data not being stored on the devices themselves. IDC believes organizations considering thin client solutions should take the following factors into account:

- Consider existing workloads — if hardware is not under pressure from high-performance compute tasks, then thin clients with lower-compute specifications may be a viable solution.

- Evaluate OS and device compatibility required in the organization to determine if flexible thin client options are the best fit, especially during Windows 10 migration, which can require more resources than Windows 7.

- Potentially repurpose older hardware to a thin client OS to defer investment in endpoints, while at the same time ensuring manageability and security.

- Organizations with a high frequency of hardware infrastructure rollouts are advised to consider thin client options to optimize deployment times in a cost-efficient manner.

- Examine to what extent existing PC workstations are fulfilling security needs and, if necessary, how this will be impacted by GDPR.

Note: All numbers cited in this document are from IDC's Quarterly Enterprise Client Device Tracker, 4Q17.

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