Market Guide for Enterprise Desktops and Notebooks

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By Analyst(s): Stephen Kleynhans, Katja Ruud, Autumn Stanish

Initiatives: Digital Workplace Infrastructure and Operations

Emerging workstyles and an evolving market landscape reinforce the PC’s value as the key technology enabling work, communication and collaboration. Infrastructure and operations leaders responsible for PC procurement should use this research to help them make effective PC purchasing decisions.

Overview

Key Findings

- The enterprise PC vendor landscape is mostly stable, with little change among the top three vendors (Dell, HP Inc. and Lenovo). Microsoft and Apple continue to grow their influence within enterprises, while rising interest in new computing models creates opportunities for alternative vendors.

- Mainstream PC systems continue to commoditize; however, changing work environments are driving further interest in mobile, hybrid and two-in-one designs.

- The gap between the deployed cost of desktops and notebook systems continues to shrink. This drives the decision away from cost toward usage models and specific users’ needs, and further favors the notebook for most users.

- Global supply chain challenges related to semiconductors and other electronic components have disrupted PC deliveries and are likely to persist well into 2022. This creates the potential for price increases, coupled with extended unpredictable delivery times.

Recommendations

Infrastructure and operations (I&O) leaders focused on digital workplace infrastructure:
Embrace the benefits of broader device options and maturing service offerings by selecting one of the top three global enterprise PC manufacturers as the primary supplier for PCs.

Accommodate the shift to a hybrid work model that supports a variety of workstyles and settings by making notebook computers the default for most corporate workers.

Seek opportunities to streamline processes associated with PC procurement and ownership, by incorporating new procurement and deployment options, including PC as a service and automated provisioning.

**Strategic Planning Assumption**

By 2025, PC as a service will grow to 35% of PC procurement, which is an increase from less than 15% today.

**Market Definition**

The enterprise PC market is a subset of the overall PC market, targeted specifically at businesses, governments and other organizations buying PCs in large quantities to equip workers. It excludes consumers, small business buyers and other transactional buyers. Although many devices are used in enterprises, this research focuses on devices typically considered PCs: notebooks and desktop PCs.

**Market Description**

This Market Guide is written primarily for PC buyers in large enterprises with formal procurement and operations processes. Smaller organizations may find the information valuable as well, although some of the discussion may not apply to them.

Specifically, we discuss the following device types:

- **Notebook PCs** — Product screen size of 14 inches or larger, with a clamshell or convertible form factor and various configurations.

- **Desktop PCs** — Desk-based systems of various form factors (including towers, small form factors and all-in-ones) and configurations.
We do not address Google Chromebooks, mobile thin-client terminals, Windows-based slates or technical workstations in this Market Guide. However, the primary providers of these classes of products are typically similar, and many of the same criteria may apply when specifying and procuring those devices. (For a more granular definition of device types, see Market Definitions and Methodology: PCs, Ultramobiles and Mobile Phones.)

This research also does not include mobile phones, smartphones or wearables, although some of the same concerns about enterprise service and support apply to those product markets.

All organizations, whether they support a few hundred users in a single country or tens of thousands of users distributed globally, share fundamental requirements that pose challenges to PC suppliers. Price is an important consideration, but it is not usually the only purchase criterion. I&O leaders must consider other factors, such as the ability to provide appropriate services and support global deployments.

Not all PC vendors have enterprise-class abilities and offerings aligned to the needs of large organizations. Key enterprise requirements from PC vendors (see Note 1) and their enterprise-class PCs are shown in Table 1.

- **Ultramobile Premium (UMP)** — Display size typically between seven and 14 inches, with a weight of typically less than 1.6 kg. These products come in three form factors:
  - **Tablets** — A completely open, slate-style design with touchscreen, shipped without dock or keyboard
  - **Hybrid** — Convertible, detachable and fold-over designs
  - **Clamshell** — A traditional design with a display folding onto a hinge or a fixed keyboard
Table 1: The Value of Enterprise Vendors and Products

<table>
<thead>
<tr>
<th><strong>Enterprise-Class PC Vendors</strong></th>
<th><strong>Enterprise-Class PCs</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise account management</td>
<td>Professional-build quality</td>
</tr>
<tr>
<td>Global capabilities</td>
<td>Business-focused industrial design/ergonomics</td>
</tr>
<tr>
<td>Business procurement processes and services</td>
<td>Long-term availability of models</td>
</tr>
<tr>
<td>Product roadmaps</td>
<td>Longer warranties with uplifts and extensions</td>
</tr>
<tr>
<td>Enterprise sales channels</td>
<td>Consistent components and accessories</td>
</tr>
<tr>
<td>Contractual versus transactional pricing mechanisms</td>
<td>Hardware-assisted management and security</td>
</tr>
<tr>
<td>Globally consistent delivery of products and services</td>
<td>Balanced features providing enterprise value (e.g., docking stations and connectors)</td>
</tr>
<tr>
<td>Programs for currency fluctuations and local taxation issues</td>
<td></td>
</tr>
</tbody>
</table>

Source: Gartner (October 2021)

These factors are highly impactful on reducing total cost of ownership (TCO) and avoiding downtime. Other important buying criteria include platform stability, global account management, support, service capabilities, predictable delivery times and fast turnaround on warranty repairs. (For a detailed discussion of the characteristics of enterprise-class vendors, products, and services, see Note 2.)

**Market Direction**

The enterprise PC market is mature, with pricing, players and products relatively stable for most of the last decade. However, 2020 saw an uptick in PC sales as pandemic-driven work from home forced companies to quickly reexamine how they were outfitting users. The need to provide a rich, secure and manageable environment that enables users to remain productive with traditional business tools in a nontraditional work environment highlighted the benefits and flexibility of the PC. In the work-from-home world, the primary role of PCs moved from running corporate applications and browsing data to becoming a critical communication tool, as videoconferencing, messaging and email replaced in-person engagement among co-workers, customers and other partners.
Most remote workers conduct every aspect of work through a PC, and this expanded role has affected decisions on device form factor, product design, life cycle and even ownership. The significant challenges associated with remote workers have created a drive for greater automation and service providers equipped to offer both remote services and services in homes along with walk-in depots in large urban areas. This trend has accelerated throughout 2021 and is likely to continue into 2022.

**Laptops Replace Desktops**

Modern PCs are available in a diverse number of form factors. Beyond the classic mobile and deskbound office worker types, we now see models and product lines that appeal to ever-narrower categories of mobile workers, frontline workers, creative professionals and data analysis professionals, in both fixed and hybrid work models.

The pandemic has changed buying preferences. In the past, the price difference between notebooks and desktops made cost a primary selection criteria, forcing many organizations to choose desktops, because they were less expensive. Today, the upfront cost delta is much smaller (often less than 25%). Hence, the additional flexibility provided by the notebook outweighs the small cost advantage of the desktop. Specifically, to support work from home, organizations have shifted purchasing from low-cost mainstream desktops to midrange enterprise laptops. Users who had laptops before the pandemic typically are still outfitted with premium, thin and light models, while those moving away from desktops for the first time receive slightly bulkier transportable devices. These are suitable for the more-limited portability requirements of moving around the home, rather than across the country, and are well-positioned for future hybrid work needs.

Along with the move to laptops comes an increased focus on performance (particularly audio and graphics performance for videoconferencing), rather than battery life and portability. Modern notebooks, if appropriately configured, can handle critical, real-time collaborative activities, including videoconferencing, as well as the portability needed to move between the corporate office and the home office.
As the world begins to move past the pandemic, exactly what the new hybrid work model will look like remains unclear. However, companies are still selecting flexible, midrange corporate notebooks for previously office-bound employees. Anywhere computing is now standard, and organizations are unlikely to return to buying fixed desktops for the majority of workers. As travel begins to ramp up again, we expect to see increasing interest in 2-in-1 notebooks, as they provide the best overall blend of thin and light and usage options. The pandemic derailed some of the most experimental form factors, such as multiscreen and folding screen portable devices, but we expect to see these start to appear in late 2022, albeit at high price points.

User Experience Becomes a Key Metric for Success

Traditionally, end-user computing groups were measured on specific items like delivery times or device reliability. IT organizations are taking a more holistic approach that looks at the overall user experience. They are using tools, such as Digital Employee Experience (DEX) Management (see Hype Cycle for Digital Workplace Infrastructure and Operations, 2021), to better understand individual user needs and workstyles and ensure that the solutions delivered are flexible enough to meet users’ unique requirements.

I&O leaders must weigh the importance of PCs to support users’ workstyles and promote collaboration, mobility and individual productivity, even while moving to reduce spending. I&O leaders must conduct a holistic user requirement analysis. They need to examine mobility, collaboration and autonomy versus security and workstyle to design workspaces, create user personas and select the right types of devices for the right types of users (see Optimize End-User Services Through Segmentation of Work Settings).

Device Sustainability

Interest in device sustainability and green IT has grown during the past year, as organizations face stakeholder pressure to adhere to certain corporate environmental standards (see Leading Sustainability Ambition, Goals and Technology in the 2020s). In addition, regional laws such as the European Union’s (EU’s) Waste from Electrical and Electronic Equipment (WEEE) Directive have mandated compliance with government-sanctioned sustainability requirements. As a result, ecolabel certifications and SLAs for responsible disposal and recycling have become key criteria in modern PC RFPs (see Toolkit: RFP for PC Hardware Acquisition). PC manufacturers have made efforts to align their products and services with these demands.
Green IT was a major discussion topic about a decade ago, but advances in PC energy efficiency allowed the subject to fade from public interest. However, since the beginning of 2020, a variety of political and social factors — the most significant being the increased focus on climate change — reignited sustainability ambitions. Now, organizations strive toward environmental goals that include waste and carbon-emission reduction among other environmental, social and governance (ESG) initiatives.

I&O and sourcing leaders can make a positive environmental impact by focusing on the circular economy and reducing e-waste. Responsible use and disposal practices should be written into procurement deals to address takeback strategies and source PCs that meet specific ecolabel certification standards, such as:

- Energy Star Gold Standard certification
- EPEAT certification
- TCO certification
- ISO 14001 certification

**Market Analysis**

PC life cycles have been slowly extending since 2015, driven by increased reliability of hardware as systems moved to solid-state drives (SSDs) and greater levels of integration. Gartner has long recommended a granular and prescriptive approach to life cycles that adjusts for the needs of different types of users and their requirements. Determining the life cycle of PCs helps organizations budget for upcoming PC procurement activities, set user expectations and identify the range of support services required.

Companies have begun to accept that life cycles depend on the users and the device types. A desktop sitting in a climate-controlled office is unlikely to experience a hardware failure for five or six years. A notebook carried by a road warrior, however, will see significant wear and tear and often show signs of failure soon after it completes its third year of service. As a result, companies are evolving past a single blanket life cycle policy for all devices and users and toward a more granular set of policies, based on user needs, device form factors and corporate culture. The most typical policies usually have desktops at five years, deskbound laptops at four years, road warrior or actively mobile laptops at three years, and engineering or special cases at two years.
By 2023, evolving analytics tools will play an increasing role in informing decisions about hardware life cycles by improving failure prediction and highlighting user performance problems (see Recommended Life Spans to Guide PC, Mobile and Other Device Replacement Strategies).

Supply Chain Challenges Ripple Through the Market

The rise in PC sales has been coupled with a significant disruption of the global supply chain, resulting in extended and often unpredictable delivery times. This situation reaches well beyond PCs and affects every type of device containing a semiconductor. Moving through 2021, we have seen quoted delivery times on large PC purchases nudge past 90 and 120 days and approach 180 days for some devices (see Quick Answer: How to Purchase Enterprise PCs During a Global Chip Shortage). We expect this situation to remain fluid through the remainder of 2021 and the first half of 2022, with little, if any, improvement in delivery times before 3Q22.

Pandemic-related cost increases in everything from raw materials to components to logistics are beginning to impact enterprise deals, and we have seen PC prices move up by 10% to 15% for most corporate buyers in 2021. Predicted further shortages in DRAM and NAND memory could result in further, small price increases during the latter part of 2021 or in early 2022.

We expect many companies to start trimming back PC purchasing in late 2022. Organizations that have replaced a large portion of their worker systems in 2020 and 2021 will have limited demand for newer machines in the short term. As we look past pandemic purchasing, we expect many organizations to extend the life of their current PC fleet beyond the recommended norms. Because PCs are the largest capital component in many enterprises’ annual IT budgets, they are the first target for cost-reduction efforts during business downturns. If a postpandemic recession emerges, pressure will mount to reduce PC procurement costs, likely pushing many organizations to extend their PC life cycles by an additional year.
Enterprise Procurement Behavior

A growing number of organizations are exploring modern management of PCs using unified endpoint management (UEM) tools. In many cases, the COVID-19 pandemic drove these organizations to shift to tools that offer more-flexible deployment and ongoing management of devices, allowing for a greater diversity of PC offerings and platforms, with minimal impact on IT operating cost. A significant driver for this move is the need for zero-touch deployments and lightweight updating and maintenance required to support work-from-home environments and flexible workstyles (see Embrace Windows 10 Modern Management to Enable a Highly Distributed Digital Workplace).

To attain the best overall purchasing deal, many enterprises shifted much of the responsibility for PC procurement from the IT organization to a procurement group, a move enabled by the relative stability of PC configurations and user requirements. As a result, during the past decade, the enterprise PC market shifted from a conversation about technical specifications to a focus on procurement models and life cycle servicing options. The growing interest in PC (or device) as-a-service offerings from the major PC vendors reflects this shift.

However, with the sudden rise in remote work revitalizing interest in the PC for enterprise workers, we have seen a renewed discussion on hardware specifications and model selection. I&O leaders should revisit their PC specifications in light of changing needs. Many PC buying decisions were based on assumptions that may no longer be true in the shifting, cloud-centric mobile environment. In particular, one-size-fits-all approaches are no longer appropriate, and a greater level of prescriptiveness, with purchasing decisions tailored to specific users and their usage models, must be considered. Furthermore, simple specifications may not reflect the real utility of a device for an evolving user base.

I&O leaders must continually investigate new technologies and how they will align with next-generation user requirements, preferences and workplace scenarios. They must evaluate vendors based on their ability to match their unique requirements, rather than simply on their ability to provide commodity hardware.
Additional Requirements of Global Enterprises

Multinational enterprise PC buyers look for global suppliers that can provide consistent products and services across multiple regions with predictable terms and conditions. Most of the well-known PC vendors are available globally, but only the largest provide coordinated enterprise account management capabilities and/or explicit global and stable platform programs. Although smaller vendors can play effectively in the enterprise PC market, the lack of global capabilities for delivery and/or support makes them less well-suited to larger enterprises. However, a focus on specific vertical markets, geographies or features can make them a good niche choice.

Interest in PC as a Service Grows, but the Market is Fragmented

CIOs’ interest in moving to an as-a-service model — in which they pay per user, per month — is growing, as evidenced by the increase in Gartner client inquiries on the topic. PC as a service (PCaaS), by its most traditional definition, combines leasing and services to create a new PC procurement option, sometimes also referred to as “device as a service.” This should not be confused with desktop as a service (DaaS), which focuses on desktop and application virtualization. PCaaS offerings expand on PC leasing by wrapping life cycle services (such as configuration, imaging, deployment and extended warranty) into a single per-month/per-seat charge, and are sometimes treated as operating expenditures (opex). The various offerings are maturing, but specifics of features, terms and conditions, and pricing remain fluid, as providers experiment to make these programs viable and attractive. The major PC OEMs, large-enterprise resellers and managed workplace service providers offer various types of PCaaS options, and variations in features and target customers abound. We have seen interest shift from using PCaaS as a hardware procurement model to using it to procure day-to-day services and, with that, a growing interest in enterprise resellers as providers.

The PCaaS market is maturing, but is still fragmented and inconsistent. I&O leaders must have a clear understanding of roles, responsibilities and service-level expectations before entering into PCaaS arrangements. Although PCaaS offerings make up a relatively small portion of enterprise PC procurements (under 15%), we anticipate they will reach 35% of the enterprise market by 2025.
Enterprise-Class PCs Provide Value, Compared With Consumer Models

Enterprise PCs have evolved from unattractive workhorse devices designed for reliable operation to attractive, sleek systems that compare favorably with consumer counterparts. Users are more conscious of the image conveyed by the PC they are provided and are demanding more of a say in device selection. Although most companies still shy away from allowing bring your own PC (BYOPC) programs, they are expanding the options available to users. Choose your own device (CYOD) programs address user demands for nicer systems, while maintaining a predictable and consistent set of endpoint hardware. CYOD programs often offer users a choice of two or three models in each category, enabling users to select a device they find better suited to their personal taste and workstyles. We expect these programs to be narrowed in response to budget-tightening demands, with fewer choices for the IT organization to have to qualify and manage.

Although consumer-grade products may offer the same (or even superior) performance features as enterprise products for a lower price, the savings come with significant trade-offs. Some trade-offs (such as slightly higher failure rates on consumer PCs) can be mitigated by purchasing higher-end consumer devices; however, enterprise-class PCs, notebooks and ultraportables remain the best options for business and technology needs, and represent a better value. The advantages of enterprise-grade products are detailed in Table 2.
### Table 2: Features of Enterprise-Grade Versus Consumer-Grade PCs

<table>
<thead>
<tr>
<th>Enterprise PCs ‡</th>
<th>Consumer PCs ‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad selection of enterprise-class services</td>
<td>Limited or no life cycle services</td>
</tr>
<tr>
<td>Globally available models with localization for multiple languages and regions</td>
<td>No global product or service availability</td>
</tr>
<tr>
<td>Embedded, hardware-assisted management and security features</td>
<td>Limited/no hardware-assisted manageability or security features</td>
</tr>
<tr>
<td>Multigenerational parts availability</td>
<td>Short window of parts availability</td>
</tr>
<tr>
<td>Clear identification of generations</td>
<td>Component changes that do not change model number</td>
</tr>
<tr>
<td>Three-year warranty typical</td>
<td>One-year warranty or less</td>
</tr>
<tr>
<td>Formalized problem escalation processes and better technical certification programs</td>
<td>Problems handled through third parties or customer call centers with limited/no-problem escalation process</td>
</tr>
</tbody>
</table>

Source: Gartner (October 2021)

In addition to these advantages, enterprise-class product attributes include:

- Platform stability
- System image consistency
- System image and peripherals working across product families
- Eighteen-month product life cycles — for example, Intel's Stable IT Platform Program (SIPP) provides:
  - 12 months of mainstream availability, plus six months for transition to the next model
  - Peripherals spanning two or more product generations
Single-Vendor Strategies Continue to Dominate

Competition among the top three vendors (Lenovo, HP and Dell) continues to be fierce. Their combined worldwide business market share was 69% in 2020. The three players command more than 75% of mature business markets, with Apple and Microsoft splitting an additional 12% market share. Overall, the enterprise PC market was relatively flat in 2020, compared with the previous year, with growth stalled mostly due to COVID. However, there has been a significant upturn in 2021 as customers adjust to the hybrid work environment. Smaller vendors are finding it increasingly difficult to establish any presence in the broader market and typically focus on servicing a particular industry, region or application need. I&O leaders should consider only the top three suppliers for broad global enterprise PC procurement, unless they have special requirements (e.g., ruggedized, special form factors, regional support or unique application needs).

Most enterprise customers use a single-supplier strategy for PC purchasing. (Gartner recommends qualifying a second supplier as a backup.) When opting for a single supplier, select a vendor with a breadth of products supported by a strong channel network. A strong reseller channel has become more critical in recent years, although we still put a high value on direct capabilities as well. Large organizations sometimes prefer a dual-vendor strategy to meet specific requirements or geographical needs, reduce risks and maintain competitiveness. Large volumes enable these organizations to retain high levels of discounts, even when splitting the deal between two vendors. Current global supply issues have made qualifying an alternative PC vendor and supplier more attractive as a backup plan by increasing options. However, it increases complexity and seldom improves availability significantly, given the breadth of the current challenges.

Midsize enterprises (MSEs) typically source endpoints through value-added resellers (VARs). This is partly because their volumes are not high enough to warrant a direct relationship with a PC vendor, but also because VARs ensure higher levels of hardware customization and related services. VARs also provide local and responsive support service. We encourage MSEs with international operations to seek a direct relationship with a PC vendor, because few VARs have broad international reach.

Representative Vendors

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.
Market Introduction

A large number of PC vendors cover the consumer market, but far fewer make the investments necessary to target the enterprise PC market (see Table 3). Each vendor makes decisions about the types of industries it covers, the types of products it focuses on and the regions it covers. Each of the vendors has developed a reseller channel to provide indirect sales and support, but some also focus on direct interaction with customers, particularly larger enterprises, to customize prices, terms and conditions for purchasing deals.

Table 3: Worldwide Business PC Shipments (3Q20-2Q21)
(Enlarged table in Appendix)

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Worldwide 3Q19-2Q20</th>
<th>Worldwide 3Q20-2Q21</th>
<th>WW Share 3Q20-2Q21</th>
<th>North America Share 3Q20-2Q21</th>
<th>Western Europe Share 3Q20-2Q21</th>
<th>Latin America Share 3Q20-2Q21</th>
<th>Asia/Pacific/Japan Share 3Q20-2Q21</th>
<th>Rest of EMEA Share 3Q20-2Q21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer</td>
<td>5,462</td>
<td>5,869</td>
<td>3.4%</td>
<td>2.7%</td>
<td>2.7%</td>
<td>5.7%</td>
<td>3.9%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Apple</td>
<td>8,987</td>
<td>10,744</td>
<td>6.2%</td>
<td>14.0%</td>
<td>3.7%</td>
<td>2.7%</td>
<td>4.4%</td>
<td>1.8%</td>
</tr>
<tr>
<td>ASUS</td>
<td>5,708</td>
<td>7,036</td>
<td>4.1%</td>
<td>0.9%</td>
<td>4.1%</td>
<td>4.0%</td>
<td>3.9%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Dell</td>
<td>32,849</td>
<td>35,272</td>
<td>26.5%</td>
<td>31.2%</td>
<td>21.4%</td>
<td>20.6%</td>
<td>13.7%</td>
<td>17.8%</td>
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<tr>
<td>HP Inc.</td>
<td>38,907</td>
<td>35,995</td>
<td>20.9%</td>
<td>24.4%</td>
<td>27.8%</td>
<td>21.5%</td>
<td>14.1%</td>
<td>24.2%</td>
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<tr>
<td>Lenovo</td>
<td>40,728</td>
<td>47,387</td>
<td>27.5%</td>
<td>16.7%</td>
<td>31.4%</td>
<td>17.0%</td>
<td>35.9%</td>
<td>21.9%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>3,462</td>
<td>3,853</td>
<td>2.2%</td>
<td>5.3%</td>
<td>2.0%</td>
<td>0.8%</td>
<td>1.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Others</td>
<td>24,526</td>
<td>26,131</td>
<td>15.2%</td>
<td>4.9%</td>
<td>6.9%</td>
<td>27.7%</td>
<td>22.9%</td>
<td>18.7%</td>
</tr>
<tr>
<td>Business Total</td>
<td>160,629</td>
<td>172,286</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Gartner (October 2021)
Vendor Profiles

Acer

Headquarters: New Taipei City, Taiwan

Worldwide business PC market share mid-2021 (ranking): 3.4% (6)

Channel focus: Indirect sales capability

Strengths: Aggressive pricing, innovative designs and strong position in education

Challenges: Acer is typically associated with consumer products and has limited recognition for corporate products outside certain regions. It has a smaller channel footprint, compared with its major competitors.

Analysis: Acer's strategy revolves around compelling price points for mainstream hardware configurations, targeting mostly small or midsize businesses (SMBs), professionals and students. It is a channel-centric company, using distributors, dealers and retail partners for its sales to end users. Acer continues to see erosion in its market position overall, slipping from fifth to sixth place worldwide, but showing some modest improvement in emerging markets and the Asia/Pacific (APAC) region. Furthermore, although it does not have a strong presence in the enterprise, it has expanded its position in education. Specifically, it continues to do well with Chromebooks, with a focus on the K-12 education market.

Product lines include:

- Enterprise desktops, including the Veriton line
- Enterprise notebooks, including the TravelMate line
- Other products of note include the Aspire, Chromebook, Chromebox, ConceptD, Enduro, Spin, Swift and Switch

Apple

Headquarters: Cupertino, California, U.S.

Worldwide business PC market share mid-2021 (ranking): 6.2% (4)

Channel focus: Direct and indirect sales capabilities
Strength: Excels at product design and innovation

Challenge: Apple enterprise support capabilities, although improving, continue to lag behind other major players.

Analysis: Apple’s Mac product family continues to see some growth in enterprises, mostly in North America. This is driven primarily by programs that allow users to choose their own devices and are enabled by improvements in Apple’s enterprise support offerings. The Mac family gained a lot of attention with the move away from Intel to the ARM-based M1 processor. This Apple-developed silicon sets a new standard for providing strong performance along with long battery life. It is also expected to be at the heart of all Mac and iPad products going forward.

Macs are positioned as premium devices with a narrow product family, compared with its PC competitors. Apple continues to improve its enterprise support, but still lags behind the other PC providers. AppleCare for Enterprise, its business support solution, is delivered through internal resources augmented with select partnerships for logistics and break-fix in certain use cases. The hardware repair/break-fix service increasingly is delivered through Apple Authorized Service Providers. Coordinated global purchasing and support remains challenging. Despite these criticisms, Apple is at the center of many BYOD and CYOD PC programs and has done well with the device-enrollment features of Apple Business Manager.

Product lines include:

- Enterprise desktops, including the iMac and Mac mini lines
- Enterprise notebooks, including the MacBook Air and MacBook Pro lines
- Other products of note include the iPad, iPad Pro and Mac Pro

ASUS

Headquarters: Taipei City, Taiwan

Worldwide business PC market share mid-2021 (ranking): 4.1% (5)

Channel focus: Indirect sales capability
**Strengths:** Strong engineering and product design; strong position in education and consumer/SMB market

**Challenges:** ASUS is strongly associated with the consumer, gaming and system-builder markets, and has struggled to gain traction in business products outside the APAC region.

**Analysis:** ASUS has a strong reputation as a manufacturer of PC components, including motherboards and graphics cards. It has leveraged that engineering expertise into a range of business PCs targeted mostly at SMBs and education, with good reliability and serviceability. ASUS has invested heavily in Chromebooks for both the education and enterprise markets. It is a channel-centric company, using distributors, resellers and retail partners to reach the market. ASUS improved its business PC market position moving into fifth place worldwide and fourth place in Western Europe. Furthermore, ASUS is looking to expand from its SMB base toward larger enterprises by redesigning its business product portfolio and adding more enterprise-ready services and support.

**Product lines include:**
- Enterprise desktops, including the ExpertCenter and ExpertCenter AiO lines
- Enterprise notebooks, including the ExpertBook line
- Other products of note include the Chromebook

**Dell**

**Headquarters:** Round Rock, Texas, U.S.

**Worldwide business PC market share mid-2021 (ranking): 20.5% (3)**

**Channel focus:** Direct and indirect sales capabilities

**Strengths:** Strong global presence, broad PC portfolio and comprehensive end-to-end services that include global support and deployment (ProSupport and ProDeploy) offerings.

**Challenge:** Dell has a narrower global presence than its major competitors.
Analysis: Dell is a wholly owned subsidiary of Dell Technologies. It has a strong global presence and account management capabilities. It continues to be the most stable of the major players, with fewer complaints about component shortages and delivery problems. Through 2020, Dell’s pricing competitiveness has improved, but it still seldom wins deals based solely on price. Customers occasionally complain about Dell’s limited flexibility with processes, as well as its terms and conditions. Dell has the broadest set of IT offerings among the major PC vendors. It provides a complete set of consulting, deployment, support and training services, along with security and management software tools. It offers data center and cloud capabilities where PCs become an entry point. This breadth has not shown significant synergies, but this has not impaired Dell’s focus on the enterprise PC market, where it continues to excel.

Product lines include:

- Enterprise desktops, including the OptiPlex line
- Enterprise notebooks, including the Latitude line
- Other products, such as the Precision, Rugged, Wyse Thin Clients, XPS and Dell Chromebook lines

HP Inc.

Headquarters: Palo Alto, California, U.S.

Worldwide business PC market share mid-2021 (ranking): 20.9% (2)

Channel focus: Direct and indirect sales capabilities

Strengths: Strong global presence and broad PC portfolio

Challenges: Complaints about product delivery and account management have continued through the global supply chain shortage.

Analysis: HP Inc. has a strong global presence and generally strong account management capabilities.

HP business PC sales have seen an 8% decline in units during 2020, but it still holds the top market share outside China.
The vendor provides services and devices for businesses of all sizes through a blend of direct sales capabilities for large customers and a global reseller channel that services small, midmarket and a percentage of large-enterprise customers worldwide. HP’s PC industrial design is competitive, with increasing attention to high-end, higher-margin, mobile endpoint products. HP Inc.’s strong focus on endpoint security solutions and management tools has differentiated its offerings in the highly commoditized market. In recent years, the vendor has developed its device-as-a-service offerings for enterprise buyers and has a broad and complete offering in the space.

Before the industrywide supply chain issues driven by COVID-19, HP was showing signs that it had recovered from the supply chain issues that plagued it during 2019. However, during the past few quarters, customers noted that HP has been providing unclear guidance and delivery times.

**Product lines include:**

- Enterprise desktops, including the EliteDesk, EliteOne, Elite Slice and ProDesk lines
- Enterprise notebooks, including the EliteBook, Elite x2, EliteBook x360 and ProBook lines
- Other products of note include the ENVY, Z Workstations and Spectre Pro lines

**Lenovo**

**Headquarters:** Hong Kong, China, and Morrisville, North Carolina, U.S.

**Worldwide business PC market share mid-2021 (ranking):** 27.5% (1)

**Channel focus:** Direct and indirect sales capabilities

**Strengths:** Strong global presence and broad PC portfolio; strong reputation with ThinkPad and ThinkCentre product families

**Challenges:** There is a perception of higher prices and less-developed service offerings.

**Analysis:** Lenovo is a strong provider of enterprise-class PCs worldwide, employing direct and indirect sales capabilities.
Lenovo remains in the top position for worldwide business PC sales in 2020, although this is driven by a strong presence in Asia. In North America, it is in third place and sits at second place in Western Europe.

The vendor has a broad, well-rounded portfolio of enterprise products with a reputation for durability and consistent design. It also has shown a willingness to collaborate with both Intel and Microsoft to launch new initiatives to modernize the PC platform. Lenovo continues to grow its partner programs to acquire new customers in targeted segments. In some markets, Lenovo is 100% channel-based. It focuses its hardware business across multiple product lines and markets for economies of scale.

Lenovo has created a distinct business unit, Solutions and Services Group (SSG), to expand its service offerings and to leverage the global growth opportunities in services. The vendor has also built a solid base of PCaaS offerings with its partners and has generally performed well during the global supply chain shortage, providing good feedback to customers.

**Product lines include:**

- Enterprise desktops, including the ThinkCentre line
- Enterprise notebooks, including the ThinkPad line
- Other products of note include the IdeaPad, IdeaCentre, ThinkStation, ThinkBook and Yoga

**Microsoft**

**Headquarters:** Redmond, Washington, U.S.

**Worldwide business PC market share mid-2021 (ranking):** 2.2% (7)

**Channel focus:** Indirect — agreements to resell hardware through enterprise resellers and retailers

**Strength:** Innovative, well-built premium products

**Challenges:** Microsoft has a narrow product line and smaller geographic availability, compared with its competitors.
Analysis: Microsoft’s Surface product family is a trusted and well-established brand in both the enterprise and consumer markets. The family includes premium detachable, two-in-one hybrid devices; thin, light laptops; and an all-in-one desktop. Surface Pro attracts strong interest from enterprise buyers, particularly for executives and frequent travelers, and the Surface Laptop has generated increased interest as well.

Most organizations considering Surface must buy equipment from at least two vendors because the product family is still too narrow to meet all of an enterprise’s needs. Geographic availability and direct service capabilities have improved, but are still limited, compared with the other major PC makers. Partnerships with large-enterprise resellers and integrators somewhat mitigate those issues.

During the pandemic, Microsoft has mostly focused on refining its current products, rather than introducing innovative new designs. However, the recent launch of the Surface Laptop Studio signals this may be changing. The Surface brand continues to expand, with more peripherals including keyboards, mice, headsets, earbuds and non-PC devices, including Surface Hub 2 and the Surface Duo folding phone.

Product lines include:

- Surface Pro
- Surface Go
- Surface Laptop Studio
- Surface Studio
- Surface Laptop
- Surface Laptop Go
- Surface Hub

Market Recommendations

Although the era of the PC as the sole device for enterprise users has passed, PCs still form the backbone of most corporate end-user deployments. To maximize user productivity, minimize IT support staff costs and provide a stable, reliable and capable platform for business systems, I&O leaders must select the correct PC vendor, products and procurement model.
When selecting systems from enterprise-class suppliers, I&O leaders should take the following steps:

- Select vendors that can meet the organization's needs by identifying the attributes of a PC supplier that are most relevant to the organization. Place a value on various aspects of the buying process and weigh factors such as product quality, support, services, account management and fulfillment capabilities accordingly.

- Determine whether a single-vendor strategy is still appropriate for the organization by assessing the ability of individual vendors to meet all the corporate needs. Single-vendor procurement relationships are easier to manage, but they may not meet all needs on a global basis, particularly as the PC environment matures and the demand for varied form factors grows. This is particularly an issue with the trends toward more frequent supply-chain disruptions we are seeing. Determine the role that resellers may play in the buying process.

- Control costs by agreeing on a pricing methodology appropriate to the organization's buying patterns and, in multiyear agreements, establish a follow-on pricing method. If entering into an ongoing procurement relationship, establish a process with the PC vendor for ensuring that it applies agreed-on pricing consistently as products evolve and the relationship progresses. This could include establishing guaranteed discount percentages versus list pricing or locking in maximum annual product price increases linked to external factors, such as the consumer price index (CPI). Monitor pricing at least quarterly and review model configurations on a regular basis.

- Provide a stable, reliable platform by focusing procurement on enterprise-class devices. However, if selecting consumer-grade devices for specific needs, ensure that they meet basic standards for security and manageability, such as the Trusted Platform Module (TPM). Monitor PC form factor trends and experiment with new device types as part of a digital workplace initiative.

**Evidence**

1 Customer inquiries regarding PCaaS have grown more than 50% per year since 2017, and the topic comes up in slightly more than half of our PC procurement inquiries.
Note 1: Representative Vendor Selection

For this Market Guide, we have chosen representative vendors, based on their broad relevance to our enterprise customer base. Specifically, these providers have proven records for supplying PCs and related services targeted at the needs of larger enterprises. In addition, these vendors come up in our engagements with enterprise buyers throughout the year.

Note 2: Gartner’s Initial Market Coverage

This Market Guide provides Gartner’s initial coverage of the market and focuses on the market definition, rationale for the market and market dynamics.

Note 3: Characteristics of Enterprise Products, Vendors and Services

Enterprise PC products’ characteristics typically include:

- Professional build quality. Fit and finishes that accommodate a corporate life cycle and do not show excessive wear; typically reflected by longer warranties and better durability.

- Industrial design suited to business use (for example, ergonomics).

- Long-term availability of models — 15- to 18-month availability; formal stability programs.

- Longer warranties. Three years is typical, with uplifts and extensions available.

- Consistent components (for example, accessories).

- Hardware-enabled management, such as out-of-band management and remote firmware tools.

- Hardware-assisted security, such as virtualization extensions in processors and trusted platform modules.

- Balanced features that provide enterprise value, such as docking stations and connectors.

Enterprise PC vendor capabilities typically include:
Life cycle services typically include:

- Image creation
- Image preloading
- Asset tagging
- Deployment and setup
- Global coordination
- Decommissioning and disposal
- Warehousing

Technical and project services include:

- Technical support (suitable for enterprise needs)
- Automated update services for new basic input/output system (BIOS), drivers
- Professional services
- App testing
Self-maintainer programs typically include:

- Technician training
- Technician certification

**Document Revision History**

Market Guide for Enterprise Desktops and Notebooks - 21 September 2020
Market Guide for Enterprise Desktops and Notebooks - 24 June 2019
Market Guide for Enterprise Desktops and Notebooks, 2018 - 30 May 2018
Market Guide for Enterprise Desktops and Notebooks - 11 April 2017

**Recommended by the Authors**

Some documents may not be available as part of your current Gartner subscription.

Recommended Configurations for Notebooks and Desktop PCs, 2020
Quick Answer: How to Purchase Enterprise PCs During a Global Chip Shortage
Forecast: PCs, Worldwide, 2019-2025, 3Q21 Update
Toolkit: RFP for PC Hardware Acquisition
Market Share: PCs, Ultramobiles and Mobile Phones, All Countries, 2Q21 Update
9 Predictions for the Post-COVID Future of Work
## Table 1: The Value of Enterprise Vendors and Products

<table>
<thead>
<tr>
<th>Enterprise-Class PC Vendors</th>
<th>Enterprise-Class PCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise account management</td>
<td>Professional-build quality</td>
</tr>
<tr>
<td>Global capabilities</td>
<td>Business-focused industrial design/ergonomics</td>
</tr>
<tr>
<td>Business procurement processes and services</td>
<td>Long-term availability of models</td>
</tr>
<tr>
<td>Product roadmaps</td>
<td>Longer warranties with uplifts and extensions</td>
</tr>
<tr>
<td>Enterprise sales channels</td>
<td>Consistent components and accessories</td>
</tr>
<tr>
<td>Contractual versus transactional pricing mechanisms</td>
<td>Hardware-assisted management and security</td>
</tr>
<tr>
<td>Globally consistent delivery of products and services</td>
<td>Balanced features providing enterprise value (e.g., docking stations and connectors)</td>
</tr>
<tr>
<td>Programs for currency fluctuations and local taxation issues</td>
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</tr>
</tbody>
</table>

Source: Gartner (October 2021)
Table 2: Features of Enterprise-Grade Versus Consumer-Grade PCs

<table>
<thead>
<tr>
<th>Enterprise PCs</th>
<th>Consumer PCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad selection of enterprise-class services</td>
<td>Limited or no life cycle services</td>
</tr>
<tr>
<td>Globally available models with localization for multiple languages and regions</td>
<td>No global product or service availability</td>
</tr>
<tr>
<td>Embedded, hardware-assisted management and security features</td>
<td>Limited/no hardware-assisted manageability or security features</td>
</tr>
<tr>
<td>Multigenerational parts availability</td>
<td>Short window of parts availability</td>
</tr>
<tr>
<td>Clear identification of generations</td>
<td>Component changes that do not change model number</td>
</tr>
<tr>
<td>Three-year warranty typical</td>
<td>One-year warranty or less</td>
</tr>
<tr>
<td>Formalized problem escalation processes and better technical certification programs</td>
<td>Problems handled through third parties or customer call centers with limited/no-problem escalation process</td>
</tr>
</tbody>
</table>

Source: Gartner (October 2021)
<table>
<thead>
<tr>
<th>Vendor</th>
<th>Worldwide 3Q19-2Q20</th>
<th>Worldwide 3Q20-2Q21</th>
<th>WW Share 3Q20-2Q21</th>
<th>North America Share 3Q20-2Q21</th>
<th>Western Europe Share 3Q20-2Q21</th>
<th>Latin America Share 3Q20-2Q21</th>
<th>Asia/Pacific/Japan Share 3Q20-2Q21</th>
<th>Rest of EMEA Share 3Q20-2Q21</th>
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<tbody>
<tr>
<td>Acer</td>
<td>5,462</td>
<td>5,869</td>
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<td>2.7%</td>
<td>5.7%</td>
<td>3.9%</td>
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<tr>
<td>Apple</td>
<td>8,987</td>
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<td>14.0%</td>
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<td>ASUS</td>
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<td>4.1%</td>
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<td>Dell</td>
<td>32,849</td>
<td>35,272</td>
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<td>21.4%</td>
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<td>HP Inc.</td>
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<td>Lenovo</td>
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<td>Microsoft</td>
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<td>0.0%</td>
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<tr>
<td></td>
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<td>2020</td>
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<tr>
<td></td>
<td>24,526</td>
<td>26,131</td>
<td>15.2%</td>
<td>4.9%</td>
<td>6.9%</td>
<td>27.7%</td>
<td>22.9%</td>
<td>18.7%</td>
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<tr>
<td>Business</td>
<td>160,629</td>
<td>172,286</td>
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<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
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