



# CLOUD ECOSYSTEM

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# Connect Your Business to the Future with Cloud

Cloud isn't an option anymore. It is the way forward for all businesses. And SMBs today are seeing the need to get on board. **In the last 5 years, Cloud adoption rose from 20% to 70% for small companies (up to 100 employees) and 90% for midsize organizations (up to 999 employees)\*.**

Artificial Intelligence



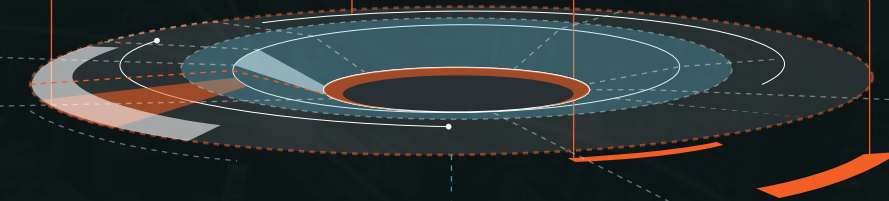
IoT



Big Data



Robotics



Cloud is the foundation for the adoption of any futuristic technologies.

**So, deploying the right Cloud solution sets the tone for your organization's future growth** and ability to quickly adapt to changing business environments.

\*Source: <https://www.onr.com/blog/top-trends-watch-2017/>



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# Key Challenges While Deploying Cloud

Identifying the right Cloud strategy for the organization

Ensuring data accessibility and security

Scalability vs. cost: striking the right balance

Not making the right Cloud choice could prove expensive and budgets could easily get stretched beyond capacity. Hence choose your solution provider who has a proven track record of providing reliable, durable and secure infrastructure solutions.





# Why Choose Lenovo for Your Cloud Solution

Lenovo provides businesses with the Cloud ecosystem that enables seamless work experience.

Cloud reference architecture for multiple platforms

Endpoint devices with built-in security and connectivity features

Services that simplify deployment processes



ThinkPad X1 Carbon  
Best Business Laptop  
by Laptop Mag and  
Techaeris



ThinkPad X1 Yoga  
Best Laptop  
by Slashgear



ThinkPad X1 Tablet  
Best of CES Excellence  
Awards by  
Notebooks.com

## See What Our Customers Have to Say About Us



*ThinkPad is such a portable and powerful tool, with its versatility and ability to upgrade components. You can build a robot without ever having to touch a tool.*

*-James Doherty, Spartan Robotics Team*



*The beauty of the Lenovo-Nutanix solution is that you can spin up resources as and when you need them. It's a real game-changer. For us, hyperconvergence is not just another buzzword. These solutions are a key component of our digital transformation strategy that will allow us to drive continuous improvements across our business.*

*-Adrian Paulse, IT Director, Alamos Gold*



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# 3 Aspects of a Good Cloud Ecosystem

## 1 The Right Cloud Solution

Procure and deploy from private, hybrid, and virtual (public) Cloud solution that suit your business.

## 2 Effective Endpoint Devices

Choose endpoint devices that can work in the Cloud ecosystem seamlessly with the right security and connectivity features.

## 3 Effective Device Management and Security

Ensure complete visibility and control of the devices for higher uptime and better security.



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# The Right Cloud Solution for Your Business

## Private Cloud

For organizations that demand strict security, latency, regulatory, and data privacy levels. If you need high-performance access to filesystems or want to host business critical data and applications, private Cloud should be your choice.



## Lenovo Solutions

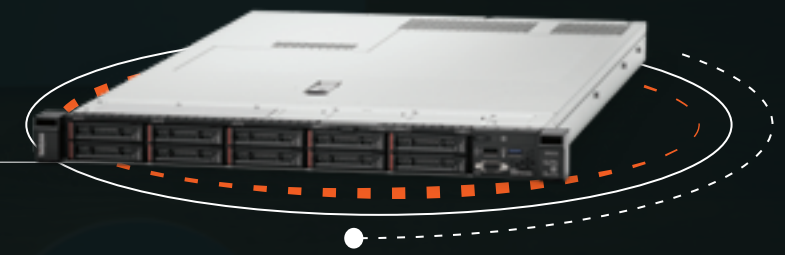
### Best-in-class Infrastructure Hardware to Build a Robust Cloud Platform

#### ThinkSystem SR Series

It's engineered to deliver high performance with 205W CPUs, low-latency NVMe drives, and high-power GPUs. With Lenovo's history of reliability, the highly flexible and configurable SR630 is the ideal platform for hyperconverged infrastructure (HCI) or software-defined storage (SDS). It provides a solid foundation for:

- Transforming physical resources into services, using validated designs for hybrid Cloud
- Performing analytics on streaming data, using validated designs for Big Data
- Increasing productivity of virtualized transactional systems, using validated designs for OLTP databases

ThinkSystem SR630



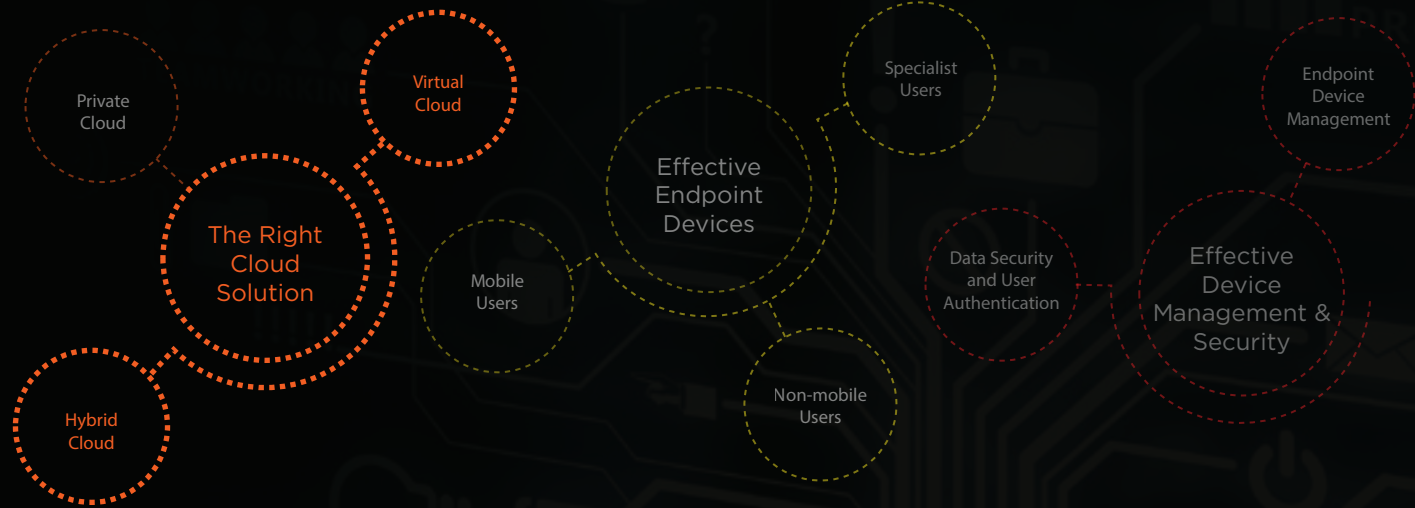
#### ThinkSystem ST Series

The Lenovo ThinkSystem ST550 is a scalable 4U tower server that features powerful **Intel® Xeon® Processor** scalable family CPUs. It provides the performance and reliability you expect from the data center, but optimized for office environments, with physical security and whisper-quiet operation. ST550 is ideal for email/file/print and web serving, IT infrastructure, virtualization, VDI, and private Cloud.



ThinkSystem ST550

[Click here](#) to explore Lenovo's Cloud Solutions



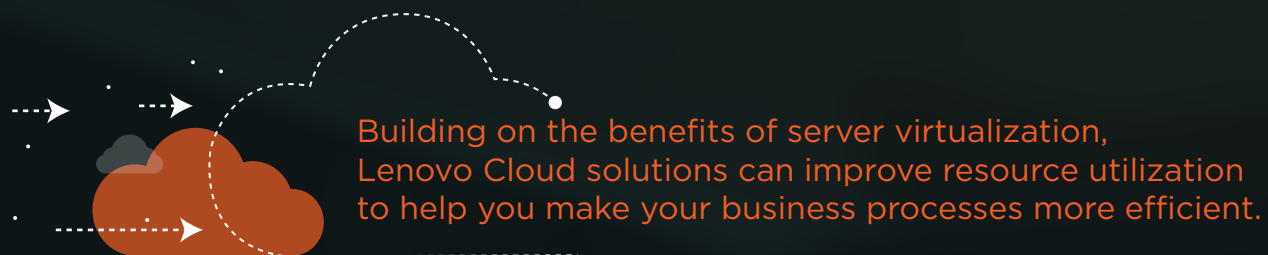
## Hybrid Cloud

Hybrid Cloud is ideal for organizations that demand greater operational flexibility and scalability. Using a hybrid Cloud enables organizations to scale computing without engaging in humongous capital expenditures.

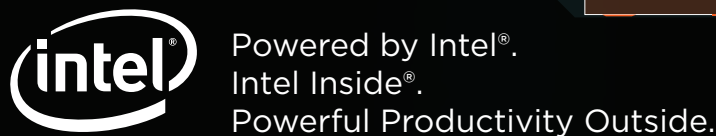


## Virtual (Public) Cloud

Public Cloud is well suited for data storage, archival, application hosting, on demand hosting for microsite and applications etc. One must remember that the customer has no control and limited visibility over where the service is hosted.



[Click here](#) to explore Lenovo's Cloud Solutions



## Lenovo Solutions

### Validated Reference Architectures for Multiple Ecosystems

Lenovo Cloud solutions can improve resource utilization to help you make your business processes more efficient. With validated reference architectures for most of the core platforms; Windows Azure, VMware, SUSE, RedHat, you may choose the Cloud solution which best suits your organization's requirements.



### Lenovo ThinkAgile Integrated Solutions

ThinkAgile Integrated Appliances are designed to help you scale as you grow. Built with our powerful and highly reliable Lenovo servers, #1 in reliability, these appliances include industry-leading capabilities from partners like Nutanix, VMware, Cloudian, DataCore, and Nexenta. These appliances ship fully tested and configured so that you can dramatically accelerate your time to market and reduce your infrastructure maintenance time and costs.

- **ThinkAgile SX for Microsoft Azure Stack**

With a hyperconverged hybrid Cloud solution engineered and integrated by Lenovo and Microsoft, businesses can easily focus on Cloud services without worrying about infrastructure. Lenovo ThinkAgile SX for Microsoft Azure Stack is a turnkey, rackscale solution optimized with a resilient, high-performing, and secure software-defined infrastructure.

It's the perfect platform to:

- Deliver Azure Cloud services from the security of your own data center
- Enable rapid development and iteration of applications with on-premises deployment tools to help transform your organization
- Unify application development across your entire hybrid Cloud environment
- Easily move applications and data across private and public Cloud

ThinkAgile SXMS Azure Stack







## Simple to Manage, Easy to Deploy: Lenovo Cloud Networking Operating System

The Lenovo Cloud Network Operating System provides a simple, open, and programmable network infrastructure designed to scale for your business needs. Its intelligent, Cloud-scale performance delivers a software-defined Ethernet solution that is simple to manage and easy to deploy using common management tools. It is based on open industry standards for better data center interoperability. And it enables support of automation and orchestration applications for tight integration into the data center ecosystem.

## Enabling Maximum Reliability and Availability with Lenovo XClarity™

Lenovo XClarity Administrator is a centralized resource management solution that is aimed at reducing complexity, speeding response, and enhancing the availability of Lenovo server systems and solutions. Lenovo XClarity includes features like firmware management, configuration management, OS provisioning, and hardware monitoring and management.



ThinkSystem SR530

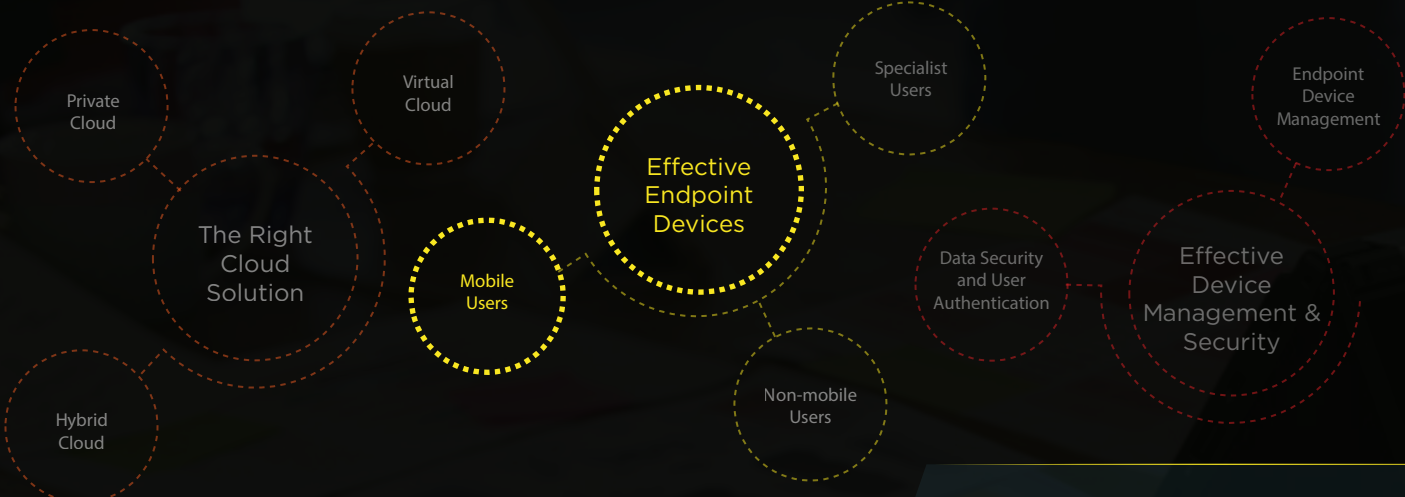
## Business Processes Made Easy: Lenovo Deployment Services

Simplify installation of new technologies, accelerate time to productivity, and free your IT staff to concentrate on business priorities. Lenovo experts unpack and configure systems, update firmware, and conduct final operation verification testing of hardware. With Deployment Services, businesses can move or scale IT resources intelligently and cost-effectively.

## Enable IT to Focus on Business Priorities: Lenovo Managed Services

With Lenovo Managed Services businesses can rely on experts for continuous system monitoring and problem resolution for both hardware and software. Businesses can also outsource capacity planning and performance management, and bank upon Lenovo to fully coordinate hardware and software resources, with end-to-end support. Managed Services includes Managed Installation, Services and Technical Account Managers, and Asset Recovery Services.

[Click here](#) to explore Lenovo's Cloud Solutions



# Effective Endpoint Devices

Devices are decisive for any organization and specially if they are planning to migrate to a Cloud-based ecosystem. Given that endpoint devices are a gateway into your organization's network, the security of these devices play a critical role in the overall security strategy. Also, today's workforce is not restricted to just their desk, mobility is at the core of most of the strategic IT investments. So, the chosen devices need to be light on weight but heavy on performance.

[Click here](#) to know more about Lenovo's Endpoint Devices

## Mobile Users

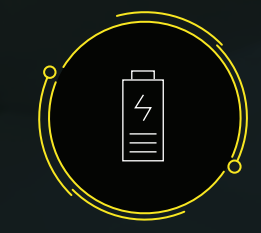
For those on-the-go, we have devices built just for you. Devices that are sleek, stylish and most importantly lightweight, without compromising on functionalities or performance. They also have advanced connectivity options and are durable enough to manage everyday bumps and knocks.



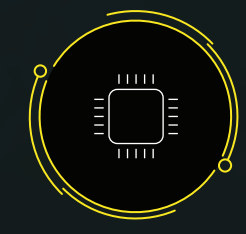
Key Factors to Consider:



Device Security



Battery Life

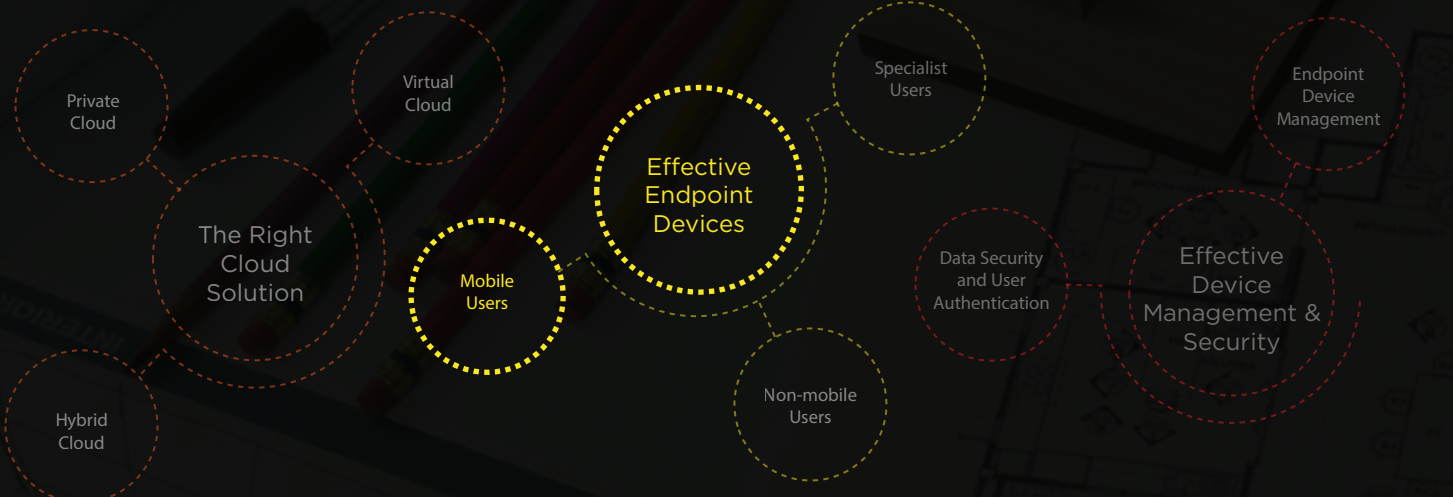


Hardware Performance



Flexible Form Factor





ThinkPad X1 Carbon



ThinkPad X1 Tablet



ThinkPad X1 Yoga

## Lenovo Solutions

### ThinkPad X1 Series

The ThinkPad X1 Series not only come with robust in-built security features that keep your data safe in the Cloud everywhere you go. They also come with a customizable multifactor authentication solution powered by **Intel® Authenticate**. Windows 10 Pro protects, detects, and responds to the most advanced malware and hacking threats, as well as secure your identity and business information.

#### Key Features of X1 Series:



**Uncompromised Security**  
Advanced facial recognition with Windows Hello and ThinkPad Glance\*  
\*Only on devices with IR camera



**Non-stop Performance**  
Go from 0% to 80% in 60 minutes with the RapidCharge Technology

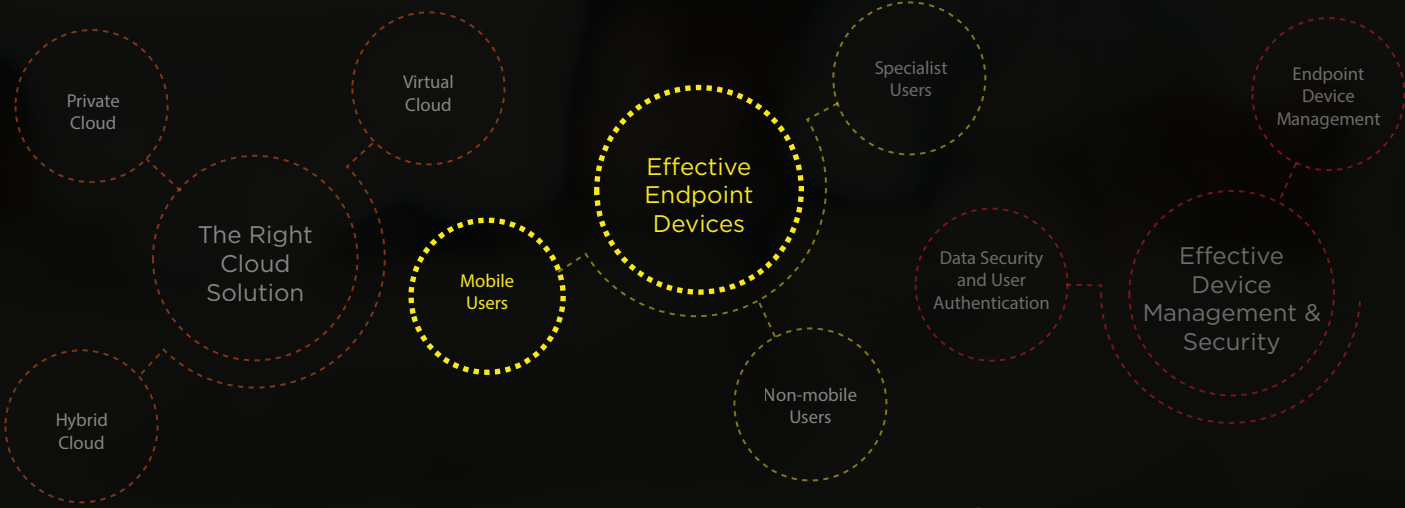


**Engineered for Maximum Uptime**  
With the Intelligent Sensing and Cooling Technology that deliver effective cooling level for user's comfort



**Uninterrupted Connectivity**  
Gold plated WiFi antennas on the palm rest area for strong signal strength and faster connectivity





Lenovo V730



Lenovo V330

## Lenovo V Series

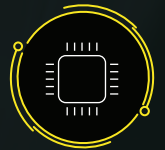
The Lenovo V Series laptops are optimized for security, reliability, and flexibility. These devices come with Cloud powered and data-driven Windows 10 Pro that help you stay up to date\* with the latest security and control from Microsoft – built-in.

\*for the supported lifetime of the device.

### Key Features of V Series:



**Easy Device Expandability**  
Connect to multiple monitors for easy multitasking with USB-C ports



**Optimum Performance**  
Powerful performance with **8th Generation Intel® Core™ vPro™ Processors**



**Improved Audio**  
Skype certified dual array mic and speakers allow crystal clear audio conferencing



**Enhanced Security**  
Keep data safe with optional TPM chip, touch fingerprint reader, and Windows 10 Pro with BitLocker

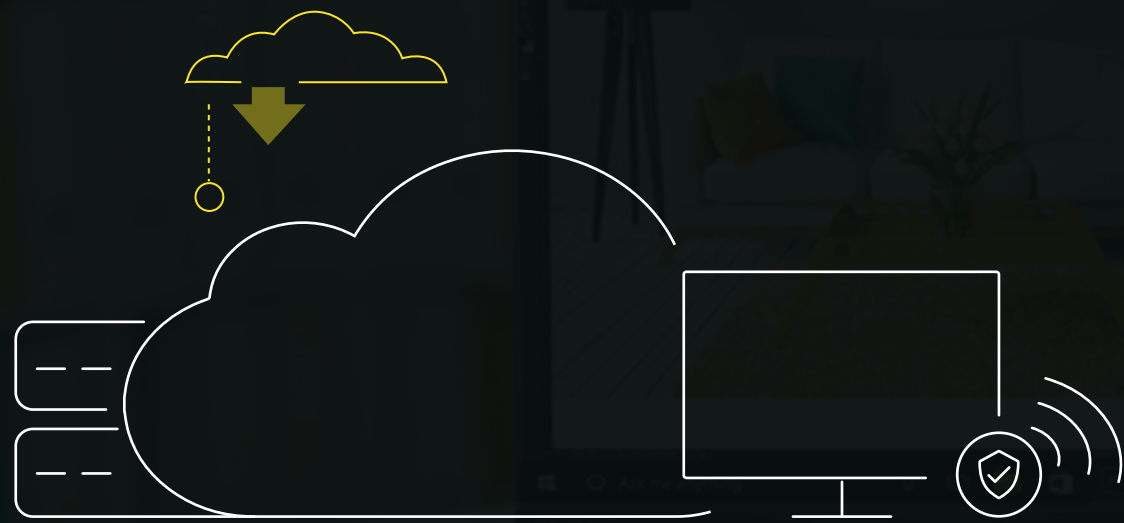
[Click here](#) to explore Lenovo's Endpoint Devices



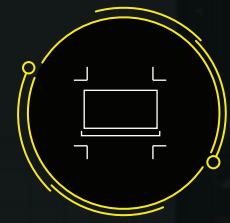


## Non-mobile Users

For the desk-bound, we have computing devices that are compact and are built with the latest processors, connectivity options, and security features. This is especially pertinent for systems with multiple users (employees who work in shifts) and those who need to work with heavy files and multitask all day.



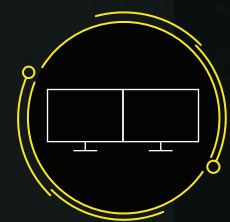
### Key Factors to Consider:



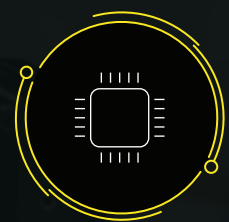
Smaller Device Footprint



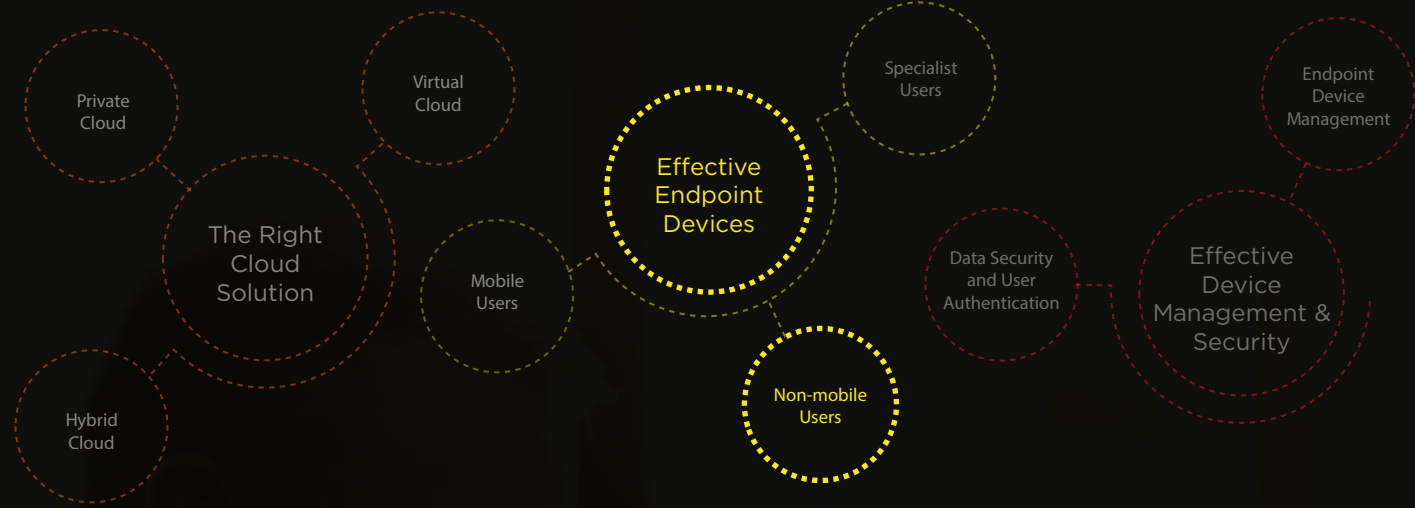
Smart Security



Multi-monitor Support



Higher Processing Capability



[Click here](#) to explore Lenovo's Endpoint Devices

## Lenovo Solutions

### ThinkCentre Series

ThinkCentre desktops with Windows 10 Pro dramatically improve your IT management experience and simplify deployment, helping reduce user interruptions and support costs. Powered by **8<sup>th</sup> Generation Intel® Core™ vPro™ Processors** and DDR4 memory, the ThinkCentre Small Form Factor desktops boost efficiency, productivity, and grow in line with your business. Likewise, the ThinkCentre Tiny packs a punch while being compact — giving you the same performance as a regular desktop.

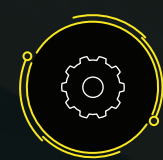
#### Key Features of ThinkCentre Series:



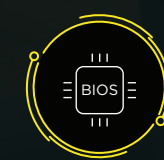
**Blazing-fast Performance**  
**Intel® Optane technology** ready for an additional performance boost



**Tiny-in-one Compatibility**  
 Create your own all-in-one PC



**Power to Transform**  
 Customizable desktop components such as CPU, memory, HDD, and graphics card (only for SFF)




**Better Security**  
 BIOS-based USB Smart Protection to allow data transfer through ports only for authorized personnel





[Click here](#) to explore Lenovo's Endpoint Devices

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## ThinkCentre Thin Client

Lower your IT footprint by deploying Thin Clients in a virtualized environment for jobs that deal with highly sensitive data and repetitive tasks. In addition to multi-display support, and high-speed USB ports, this versatile, computer boasts an intelligent tool to help simplify Thin Client management and deployment. Designed for a virtualization environment, it comes with built-in support for Citrix® Receiver, VMware® Horizon, and Microsoft® Remote FX.

### Key Features of ThinkCentre Thin Client:



**Compact and Versatile**  
Deployable anywhere



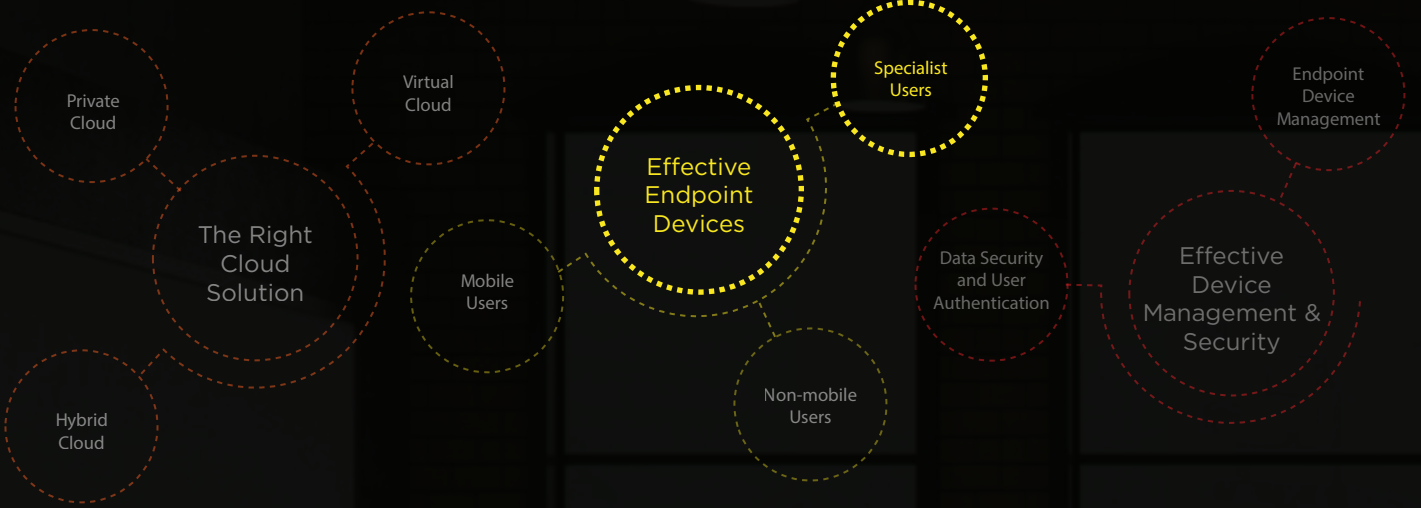
**Enhanced Data Security**  
Trusted Platform Module for data encryption



**ISV Certified**  
Certified to run industry-leading desktop and app virtualization software



**Remote Client Management**  
Lenovo Thin Client manager software enables to manage Thin Clients easily from one place

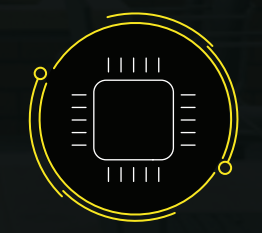


## Specialist Users

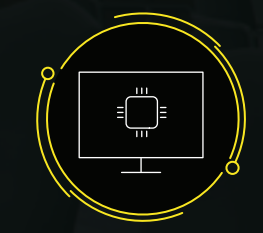
For those who need unique features and specifications, we match your expectations with advanced devices. These devices are superior in design, performance, and durability that help you work easily on even the most intensive tasks.



### Key Factors to Consider:



High Processing Capability



Better Hardware Performance



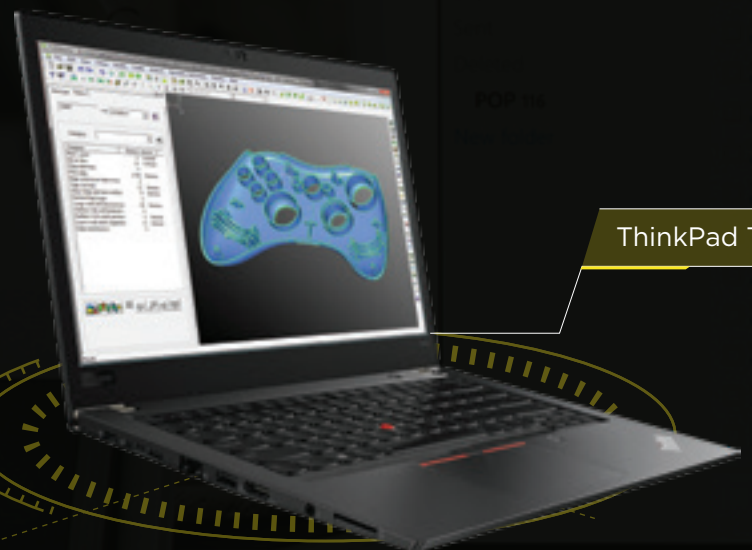
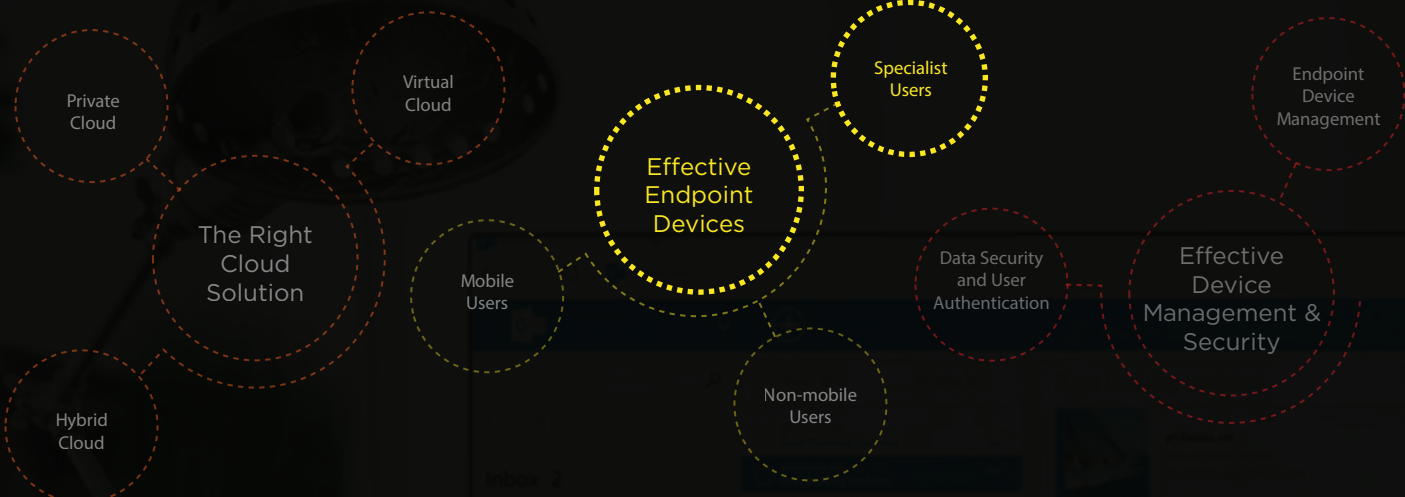
Intelligent Graphics



In-built Security

[Click here](#) to explore Lenovo's Endpoint Devices





ThinkPad T480s



ThinkPad T580



ThinkPad T480

[Click here](#) to explore Lenovo's Endpoint Devices

## Lenovo Solutions

### ThinkPad T Series

Designed for serious business, the ThinkPad T Series comes with **8<sup>th</sup> Generation Intel® core™ vPro™ Processors** and DDR4 memory for powerful performance. Windows Information Protection\* (WIP) helps prevent accidental data leaks by restricting user and app access to data based on policies you define. Your business data is protected no matter where it lives on your devices— without affecting your user experience.

\* WIP requires either Mobile Device Management (MDM) or System Center Configuration Manager to manage settings. These products sold separately. Active Directory makes management easier, but is not required.

#### Key Features of T Series:



**Quick Data Transfer**  
An array of convenient ports, including the lightning-quick **Intel® Thunderbolt™ 3**, enables 8x times faster data transfer



**Stay Connected, Always**  
Built-in global LTE-A keeps you connected wherever you need to be

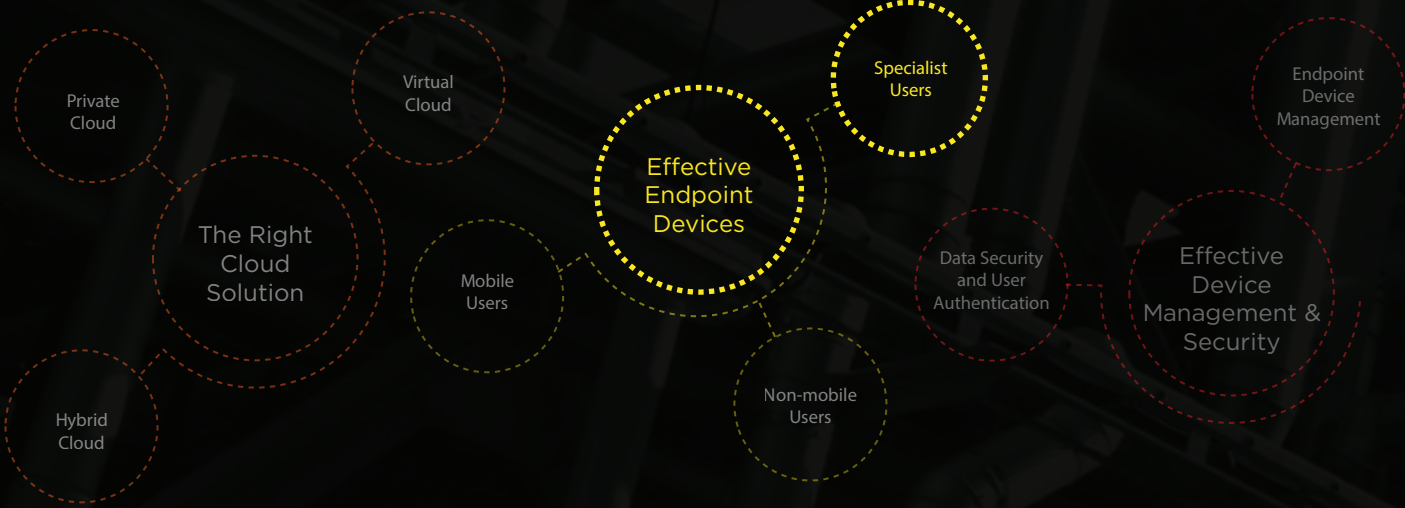


**Excellent Battery Life**  
Power Bridge Technology that lets users change batteries without shutting down the device



**ThinkShutter Camera for Privacy**  
A web-camera cover that exposes and covers the camera as needed





ThinkPad P52s



ThinkPad P51

[Click here](#) to explore Lenovo's Endpoint Devices

## ThinkPad P Series

The portability of ThinkPad combined with the power of a workstation brings the ThinkPad P Series mobile workstations. These mobile workstations redefine PC performance with powerful **Intel® Xeon™ Processors\***, ISV-certified applications and NVIDIA QUADRO graphics. With Windows 10 Pro for Workstations, you can power through advanced, compute-intensive workloads with server-grade data protection and performance.

\*only in P70 and P71

### Key Features of P Series:



**Speedy Data Transfer**  
Transfer files, images, and videos up to 8x times faster with **Intel® Thunderbolt™ technology**



**Enhanced Security**  
Enhanced security with Windows Defender that scans everything you download or run on your PC, real-time  
\*available in ThinkPad P52s



**Great Battery Life**  
Power Bridge technology that lets users swap batteries without shutting down the device



**Reduced Downtime**  
Ensure maximum uptime and reliability with dual cooling solution that employs owl wing inspired fans keep GPU and CPU cool





## Added Security for Think PCs

### Go-Trust: Additional Layer of Security

Multifactor authentication enabled Cloud apps. Your fingerprint and phone will be your digital key to open all your computers and Cloud accounts. Go-Trust Authenticator, will supersede all your current authentication from Computer login to Office 365, Google Work (G Suite) plus email signing and end-to-end data encryption. Also, have the option to privately access user information through Sparsa servers than public servers. This service is for the multifactor authentication of hardware drives.

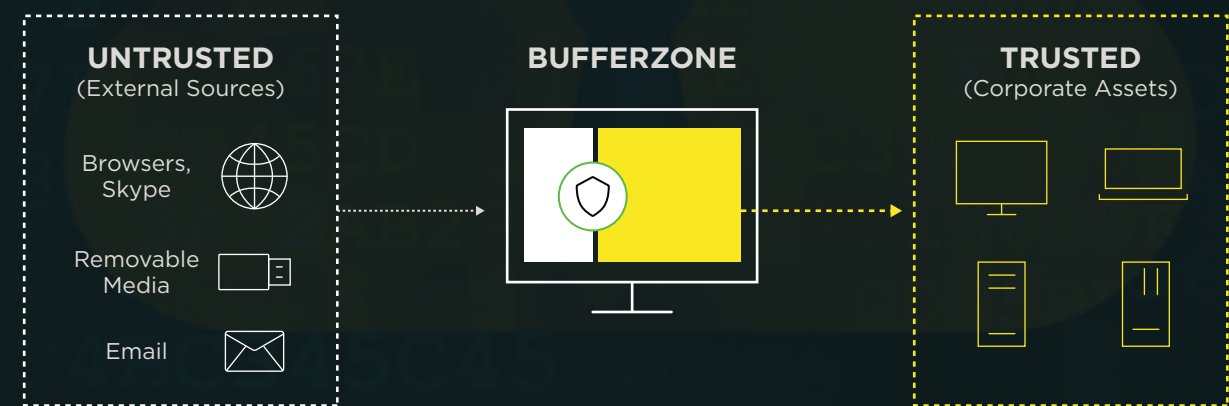
### Coronet: Effortlessly Secure Cloud Operations

True Cloud security must ensure users are authenticated, that the device used is not compromised, that the network used is safe, and that the user behavior is allowed. Coronet eliminates the need for multiple platforms needed to ensure this, with the first fully autonomous platform for Cloud security. It requires no installation and ensures that only trusted devices, networks and Cloud services can access your data.

[Click here](#) to explore Lenovo's Security Solutions

## BUFFERZONE®: Making Secure Devices a Norm

In the age of the Cloud, threats are moving targets that cannot possibly be detected with total accuracy. So BUFFERZONE takes a new approach, isolating browsers and applications that come into contact with the internet and other untrusted sources, in their own, virtual environment. Without restricting or inconveniencing employees, BUFFERZONE protects endpoints and trusted organizational resources from any kind of malware.



### BUFFERZONE's Advanced Endpoint Security solution features:

**Virtual Container:** a secure, isolated environment for accessing content from any potentially risky source

**Secure Bridge:** a configurable process for extracting data from the container to enable collaboration between people and systems.

**Endpoint Intelligence:** detailed reporting and integration with SIEM and Big Data analytics to identify targeted attacks



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## Services

### Premier Support: Effectiveness to Match ThinkPCs

Users in Cloud environment need to be equipped with service package that can provide direct tech-to-tech access. Premier Support is a service package designed for customers who want a single point of contact for hardware and software support, end-to-end case management. It's a direct line to advanced-level phone support and is designed to expedite problem resolution. This service improves efficiency of in-house IT for faster response while enabling resources to focus on mission-critical business activities.

### Accidental Damage Protection (ADP): Device Security in Cloud Computing

Access to Cloud is through the endpoint devices. Ensuring that the device is covered to address unexpected IT expenses associated with replacing damaged equipment is necessary. ADP offers convenient coverage in case of accidental damage for labor, parts, full system, and replacement in cases when repair is not possible.

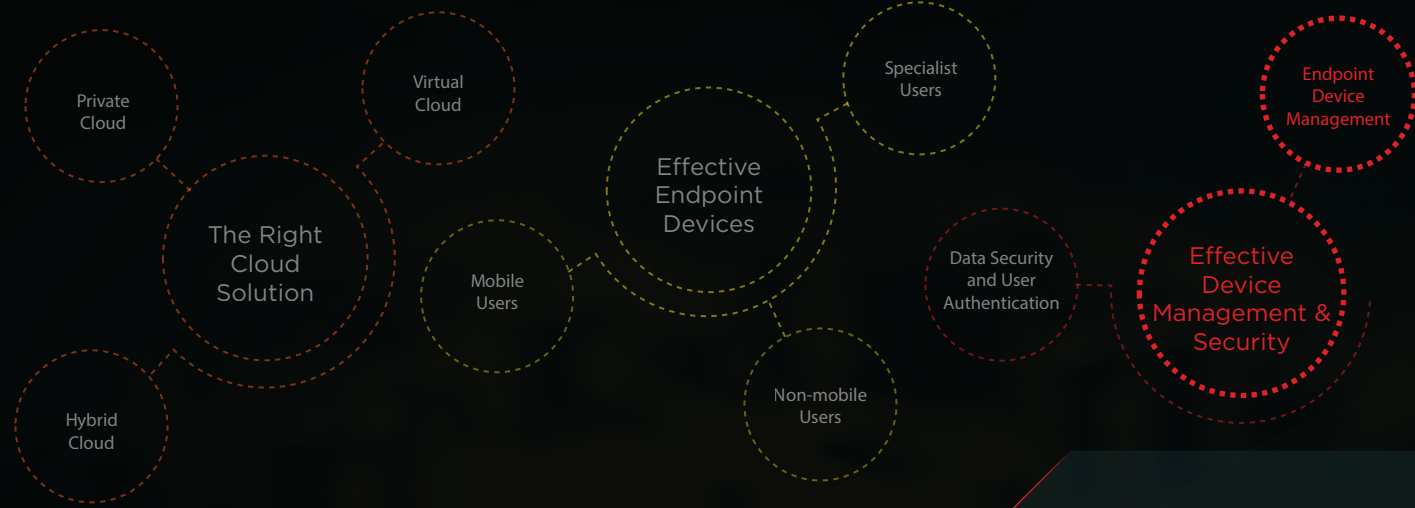


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# Effective Device Management and Security

## Endpoint Device Management

To ensure that the IT teams maintain control and supervision of all endpoint devices deployed in the organization, device management solutions are an integral component of any modern IT ecosystem. This ensures not only easy manageability of devices but also helps to deploy patches and apps and maintain device uptime.

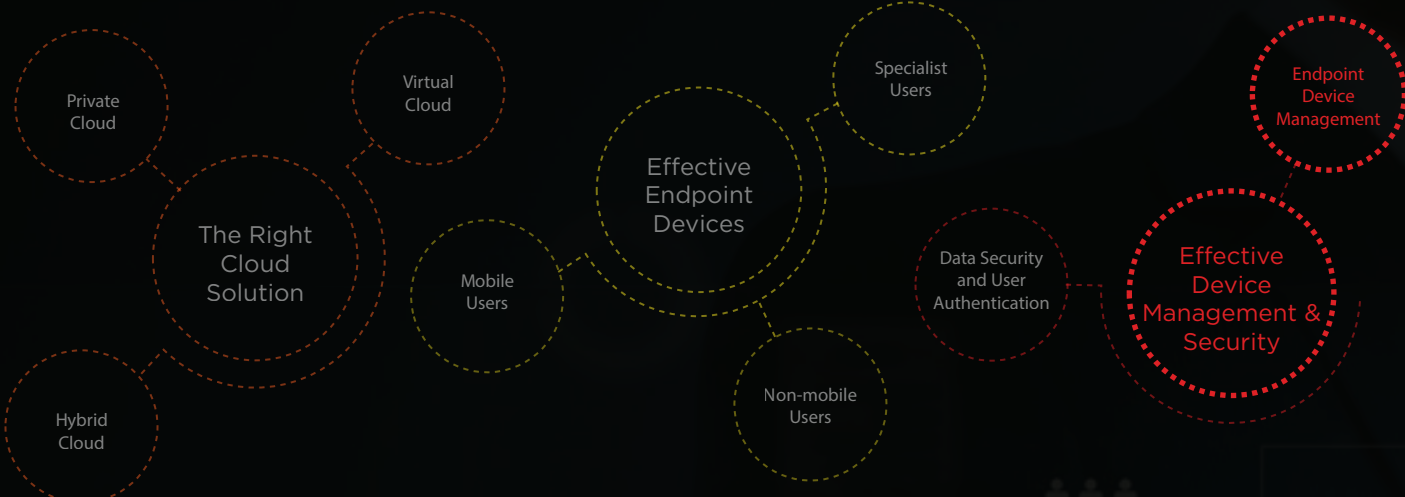
### Lenovo Solutions

#### Preloaded Tools

Lenovo Vantage unclutters the PC experience and makes it easier for businesses to get the most out of their Lenovo devices. It reduces the cost incurred in procuring resources for system updates and upgrades to prevent any cost due to human error or unwanted attacks. It is the only Lenovo-branded preloaded application on systems running Windows 10. With one easy-to-use interface, you can:

- Personalize your settings
- Improve your WiFi security
- Update drivers
- Run device diagnostics
- Identify the system serial number and product number
- Request support

[Click here](#) to explore Lenovo's Security Solutions



### Hardware Enabled Management

In the event of an attack, new **8<sup>th</sup> Generation Intel® Core™ vPro™ Processor**-based computers with **Intel® Active Management Technology (Intel® AMT)** help you stay prepared for recovery. By installing **Intel® Manageability Commander (Intel® MC)** into your Microsoft SCCM\* console (System Center Configuration Manager), you can use **Intel® AMT** to remotely take a compromised device off the network so a virus doesn't spread. Even if the operating system is down, or the device is without power, the PC can be reimaged and brought back to a good state without costly desktide visits.

### OS Enabled MDM

Windows 10 Pro provides a consistent set of configurations across device form factors through a common MDM layer. Manage Active Directory Domain-joined devices through MDM and migrate easily to a Cloud-based management service. Windows MDM shows users what policies, settings, and apps are managed by their organization and what their status is, so end users know when their devices are ready for productive use. This lowers help desk calls and allows administrators to easily troubleshoot issues. Users get fewer, shorter interruptions if they run into problems with mobile access to corporate resources. MDM can implement policies on devices even when users are not active. And, if a device is offline or asleep, Windows Notification Services will deliver policy updates when it is back online.

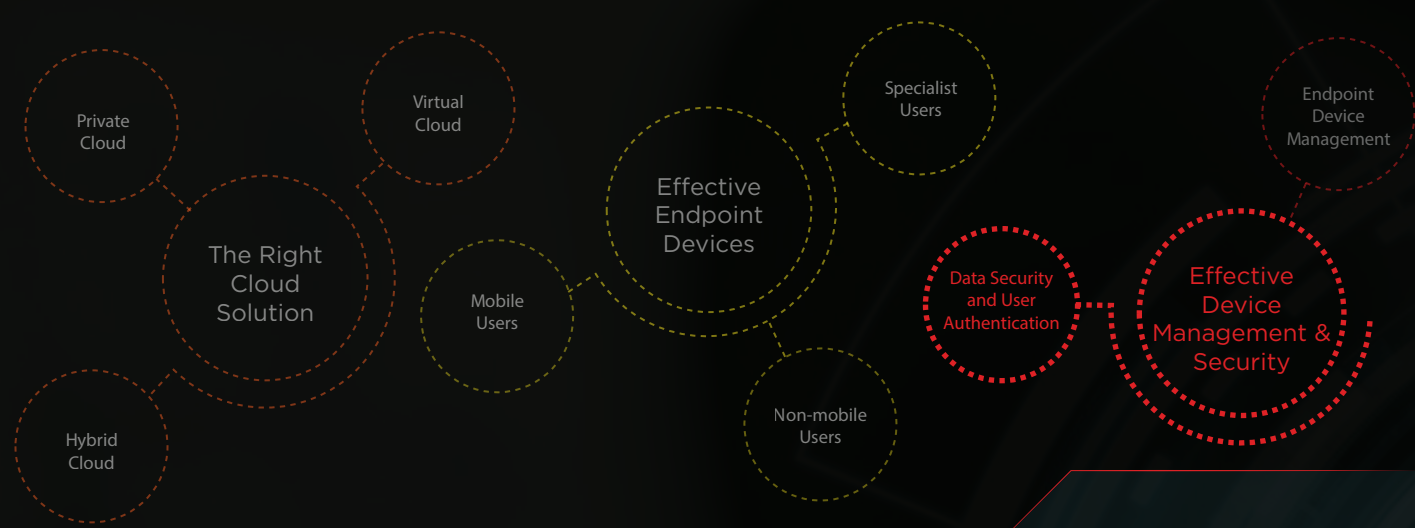
### Industry Leading EMM with MobileIron

The global strategic partnership of Lenovo and MobileIron EMM ensures secure provisioning and simplifies endpoint device management. It incorporates identity, context, and privacy enforcement to set the appropriate level of access to business data and services. MobileIron secures data-at-rest on the mobile device, in mobile apps, desktop and in Cloud storage. Additionally, the MobileIron EMM platform secures data-in-motion as it moves between the corporate network, devices, and various on-premise and Cloud storage repositories



[Click here](#) to explore Lenovo's Security Solutions





## Data Security and User Authentication

Data security is one of the top priorities for any organization. This is also mandated through multiple regulations like GDPR, EU data protection directive, etc. Given the high sophistication levels of data breaches the security solutions should follow an all-round approach ensuring device and data protection at multiple stages and situations.

## Lenovo Solutions

### Fast Identity Online (FIDO) for Cutting Edge User Authentication

Many ThinkPads are FIDO enabled. FIDO authentication pertains to online credentials when users sign into internal and external websites or make payments online. This global solution creates better security for online services, reduces costs for organizations, and is simpler and safer for users. It ensures hardened authentication and wraps access information into three layers of security.

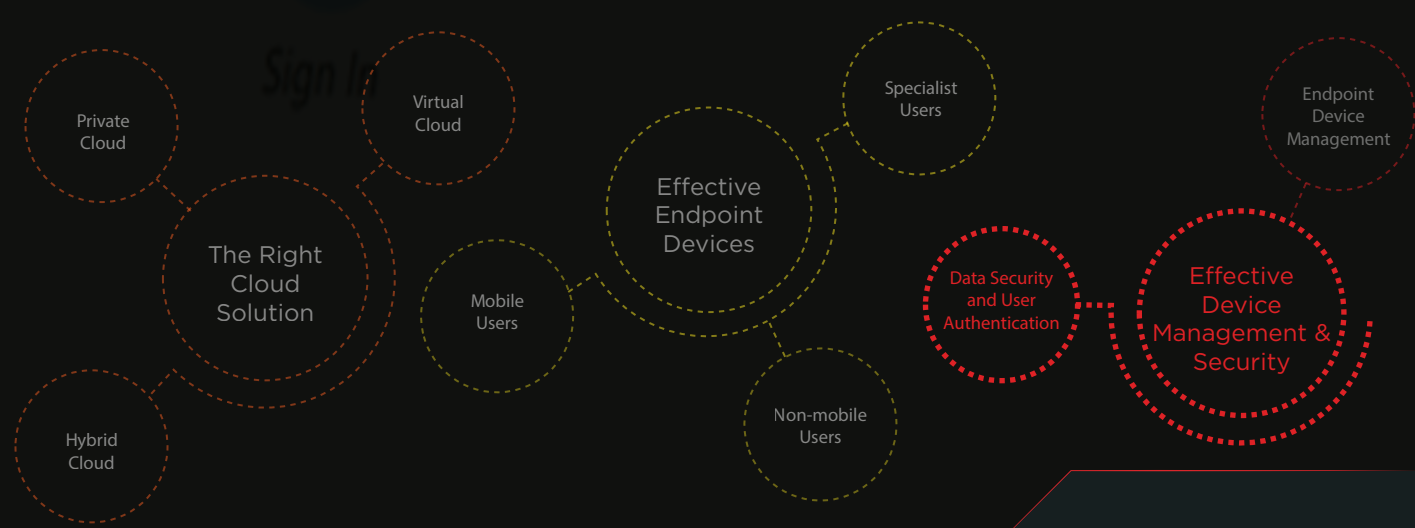
### Hardware Enhanced Multifactor Authentication

ThinkPad laptops are integrated with **Intel® Authenticate** solution that gives IT the flexibility to create and deploy customized hardened multifactor authentication policies to enforce user identity protection for access to the corporate domain, network, and VPN. **Intel® Authenticate** solution provides a simple self-service enrollment tool for end users to quickly get started, eliminating calls to IT.

[Click here](#) to explore Lenovo's Security Solutions



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### Lenovo Vantage for In-built WiFi Protection

Designed to monitor WiFi security in real-time, Lenovo Vantage can distinguish between legitimate networks and risky, possibly malicious networks. It can also detect threats or attacks that are present near the laptop and alert the IT to it, for further action.

### Online Data Backup (OLDB)

Lenovo's Online Data Backup is easy-to-use, automatic online backup and recovery software solution. With this tool, organizations and user groups can share a pool of storage without the administrator assigning storage to specific users.

- Requires no capital expenditures for hardware; low upfront investment with minimal maintenance overhead
- Relative to tape-based approaches, OLDB is more efficient, less intensive for the operator, and not as prone to human error

### Absolute with Persistence Technology

ThinkPads have the Persistence agent from Absolute embedded into the firmware. Persistence is the only technology that keeps you in complete command with a self-healing, two-way connection to any endpoint or application — even if they are off the network.

With Absolute Persistence:

- Guarantee the connection with every endpoint — on or off the network
- Remotely invoke adaptive security commands to limit damage and protect data. Reach any device, anywhere and execute custom scripts to remediate threats
- Scan for sensitive data on an endpoint that's no longer in your control
- Be notified if encryption, SCCM, or anti-virus, or any other security or IT management applications are removed or corrupt



## Key Takeaways:

- The success of a Cloud strategy is incumbent on the effectiveness of every part of the ecosystem, including the endpoint devices
- The way Cloud-based services are used differs by user type. The devices they use can add to or detract from the overall Cloud service experience
- Endpoint devices are the gateways to data stored in the Cloud. For this reason, they must be adequately secured from unauthorized access, unsafe networks, and data theft/corruption

## 5 reasons why Lenovo is a difference maker



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