Parallels®

How to Overcome the Challenge of Managing Mac Computers on a Campus Network

White Paper | Parallels® Device Management

College campuses house many of the great minds that are likely to help shape the future of society. To ensure an optimal learning experience, universities must offer students the very best IT infrastructure possible to support the teaching efforts of staff.

Universities have thousands of computers in their administrative offices, laboratories and lecture halls. They operate datacenters while also having to provide the infrastructure for thousands of student devices. This means that college IT teams need effective tools to manage everything.

The COVID-19 pandemic created a whole new set of challenges, both for staff members and students. Widespread remote learning increased the number of unmanaged devices across university networks while also removing IT's physical access to client machines.

The University IT Challenge

Higher education institutions face the same technology challenges as organizations in the business world do. Academic organizations place high demands on their IT infrastructures, and IT teams often must manage large projects across multiple departments or even colleges within the same university.

Customers (or in this case, students) expect state-of-the-art solutions, including modern hardware and seamless IT processes that don't obstruct productivity, creativity or research. University communication, learning materials and the infrastructure supporting both the administration and student body are all part of the IT team's responsibilities.

In education, IT governance is just as essential as in any other company. IT needs a strategy for effectively planning and implementing the university's IT infrastructure to meet the needs of present day as well as the future.

However, the role of a CIO doesn't even exist in many universities; instead, some institutions have a committee that performs CIO functions. One study found that only 60% of technology leaders in education carry the title of "CIO," and that 39% of CIOs in higher education are not part of the management team.

Top IT Challenges for Educational Institutions

University IT teams face considerable challenges exacerbated by conditions created during the COVID-19 pandemic. Top challenges include:

- The need to create infrastructure to enable remote education.
- The need to implement and manage software licensing models for remote learning and research.
- Maintaining security and compliance in a remote environment.
- The inability to manage staff and students' external devices.
- Significant budget and headcount restrictions compared with private companies.
- Differing device and technology requirements depending on faculty type, department, college, etc.
- Matrixed decision-making at the top of university leadership, making it difficult to implement university-wide solutions.

A university's IT equipment needs to support a broad range of working environments, which can include computer science or biology labs, observation stations for electrical engineers, media production studios and more.

These requirements alone make for a heterogeneous environment with a range of different computer hardware and software—all with equally high demands on reliability, security and up-to-date systems. Add to that thousands of students' own devices that all require reliable and secure access to university communication systems and learning tools.

What's more, IT budgets and staffing levels of educational institutions usually cannot compete with those of typical midsize private organizations. Research shows that fewer than half of higher education institutions had an IT business continuity plan in place during the start of the COVID-19 pandemic.

Decentralized structures on many campuses don't make things easier for IT teams, either. Different departments and faculty groups have varying requirements for their hardware and software stacks. All this makes educational institutions a challenging environment for IT teams striving to achieve the best results for faculty and students alike.

The State of IT in Education

In the higher education sector, computer hardware comes in many shapes and sizes, and device use may vary considerably by department. Colleges and universities operate fleets of computers within their administrations and labs—and then there are the many personal devices owned and operated by students. The latter are not managed by the campus IT department, of course, but still roam the campus network and need access to college portals.

MacBook laptops enjoy huge popularity among students: approximately 40% of university students use Mac computers, and 71% prefer to use them over PCs. This results in hundreds of thousands of Mac devices present on campus networks at any given time. With the global market share of Apple at 17%, the number of Mac computers used on campuses will likely only continue to grow.

IT departments must support their institution's general IT infrastructure (which may include a campus datacenter and learning platforms). They also must handle user support, which includes the operating system and application software, network access and the college's fleet of endpoint devices.

Ultimately, the IT team needs to keep all hardware and network infrastructure running across the college administration and campus facilities, and ensure the network can also be accessed remotely, when students and staff are off campus.

Where Microsoft Configuration Manager Fits in

In many educational institutions, Microsoft's Configuration Manager is the tool of choice for distributing software packages and managing endpoint devices. This solution enables IT teams to take stock of client systems and software used on the network. It also helps monitor software requirements, perform license purchases centrally and supply computer systems in administration and laboratory settings with the updates and licenses they always need.

Microsoft Configuration Manager can be a less-than-ideal solution for macOS systems on the network, however. Configuration Manager does support Mac administration up to a point, but this is not perfect for use on college campuses. The reason is that Mac clients must be enrolled in the management system by hand—which is a specific problem for bring-your-own-device (BYOD) Mac computers, coupled with the fact that buildings are scattered over the campus grounds.

Other drawbacks of Configuration Manager for managing Mac clients include:

- No automated enrollment.
- No comprehensive compliance settings.
- No software updates management.
- No OS deployment with task sequences.

Overcoming these challenges often requires workarounds to fit each device type so that IT teams can classify client systems in a targeted way.

Integrate Mac Computers into Microsoft Configuration Manager with Parallels Device Management

Parallels Device Management is an ideal complement to Microsoft Configuration Manager for educational institutions that already have Configuration Manager in place and are looking for a way to include Mac in their network management.

A simple plug-in, Parallels Device Management for Microsoft Configuration Manager, integrates with Microsoft's existing endpoint managing suite and complements it with important features for Mac clients—including Apple devices. Devices internal to the organization can be integrated completely. This includes OS, software and patch rollout as well as backup management, monitoring and reporting.

Managing Staff Devices

IT administrators also enjoy the benefit of setting up and managing all endpoint devices from one single console. Parallels Device Management gathers and manages computer and software inventory for the Mac and iOS side of the college IT equipment in the same way that Microsoft Configuration Manager performs this functionality for Windows systems.

With Parallels Device Management, all Mac computers and even iOS devices in labs and administration offices are fully integrated into the organization's device management system, which means that the IT department can save the effort of managing any Mac manually or using a separate, dedicated Mac administration tool. This also leads to reduced staff training time and associated expenses.

IT administrators can use Parallels Device Management to manage Mac computers, iPhones and iPads with Configuration Manager just like Windows systems. Key benefits include:

- One application and one console for setting up and rolling out all the organization's devices.
- Full inventory of all computer software and hardware at one place.
- Easy enrollment of new devices (e.g., using Apple Device Enrollment Program).
- The ability to discover new Mac devices and automatically include them in the device management ecosystem.
- Easily deploy software and patches, like Configuration Manager.
- Enforce policies using configuration profiles to define detailed safety and other system specifications.

Managing Student Devices

Microsoft Configuration Manager and Parallels Device Management can also form the basis for distributing software and licenses to students. In some use cases, it might be helpful to integrate privately owned computers into the device management system and distribute software to those computers via the client program. The IT team can define a special device group for this purpose that is exempt from all policies.

However, it's likely not feasible for most colleges or universities to offer software distribution to many private computers using management tools such as Configuration Manager. To enable this, Configuration Manager's client program—or that of Parallels Device Management—would need to be installed on the students' computers involved, which would significantly increase the workloads for IT admins.

With Parallels Device Management, IT can mass deploy mobile apps through Apple's Volume Purchasing Program (VPP). Additionally, IT can enable remote access to frequently needed applications through Parallels Remote Application Server (RAS), a virtual desktop infrastructure (VDI) solution that can complement traditional software deployment.

VDI solutions like Parallels RAS are ideal for providing software applications remotely to private computers. Parallels RAS is easy to deploy, manage and scale and can support any device or OS, making it ideal for complex hardware and software environments such as universities.

Case Studies: Parallels Device Management in Action

The Three Sites of West College Scotland

The IT team at West College Scotland has to manage some 5,000 PCs and 300 Mac computers. The college was formed from three independent institutions, so its facilities are distributed across three campuses. The college already had Microsoft Device Management as a device management system, serving to simplify the IT department's main tasks in this challenging environment. But Mac clients remained inconvenient to manage—until Chris Parcer and his IT coworkers discovered the potential of Parallels Device Management for Microsoft Configuration Manager. The solution enabled the IT team to slash the cost of managing Mac computers and place all the endpoint devices on one common system.

The 2,900 Mac Clients of Griffith University

This renowned Australian university had the issue of inconsistent computer hardware: an enormous PC network peppered with approximately 2,900 Mac clients. Some 2,000 of those were used by teaching staff, and the others were dispersed among students.

Microsoft Configuration Manager was already in place, so Parallels Device Management was able to integrate this sizeable fleet of Mac devices completely into the IT management system.

Haberdashers Aske's Federation

Some 2,500 Windows systems meet 200 Mac computers at the Haberdashers Aske's Federation. The Haberdashers Aske's Federation runs eight schools south of London, teaching a total of ~5,000 students. IT administrator, Ian North, sought a way to manage all the schools' endpoint systems and generate reports from them in a consistent and measurable way. That meant replacing the legacy computer hardware management system with a more adequate solution.

The first step was to implement Microsoft Configuration Manager as a management system. This already permitted the IT team to distribute OS updates, patches and applications and to define compliance rules. In the second step, the Mac computers scattered across the individual schools were then integrated into the management system. The solution used for this was Parallels Mac Management, which integrates seamlessly into Configuration Manager, enabling the IT team to consistently manage and inventory all endpoint devices across all sites.

Conclusion

Parallels Device Management is an ideal complement to Microsoft Configuration Manager for the purpose of bringing all Mac computers and Apple devices under full control of system management in an otherwise inconsistent IT environment. The product creates a unified management solution for all the endpoint devices used by an educational institution—and can dramatically reduce the effort IT teams need to put forth to handle Mac and other Apple devices on campus.

A unified IT management solution of this kind improves the transparency of IT inventory and software licensing requirements. IT teams can perform updates, OS rollouts and software distribution from one single system. This helps reduce training expenses and optimize otherwise disparate license purchases across the entire campus and all departments.

Learn more about how Parallels Device Management can help your higher education institution.