MANAGING
CHROMEBOOK
DEVICES IN **K-12**
ENVIRONMENTS

Faronics™

Executive
Summary

The use of Chromebooks in the classroom has become an integral part of any modern educational institution. Device cost is one of the main factors supporting this trend, especially in cash-strapped K-12 school districts. Some Chromebook models can start as low as $150 USD, in comparison to a new lower end Apple iPad which can cost more than double.

The goal of these technological investments is to improve a student's learning experience and to better prepare them for the future. Chromebooks come equipped with Google G Suite for Education which includes built-in apps like Docs for word processing, Slides for presentations, Sheets for spreadsheets, and other essential productivity apps at no extra cost. These apps allow students to develop practical computer skills they need to succeed.

Whether your school is trying to implement a one-to-one or a shared multi-user device program, with Chromebooks, every student can be provided with the technology they need to do and achieve more. In order to best utilize a Chromebook environment, school IT teams require a mobile device management (MDM) system, such as Deep Freeze Chromebook MDM by Faronics, to deploy and monitor an efficient Chromebook-based learning environment for students and faculty alike.

This white paper will explore the proper deployment, functionality, and benefits of Chromebook devices in a K-12 environment.

Educational Advantages
of Chromebooks

The amount of Chromebook devices in use at educational institutions has grown exponentially over the last several years. According to research company Futuresource Consulting, Chromebooks accounted for 58% of the 12.6 million mobile devices purchased by primary and secondary schools in the United States in 2016, in comparison to 2012 where Chromebooks accounted for less than 1% of the market. Besides the cost-effectiveness of these devices, they also provide several educational advantages to students.

Facilitates Collaboration

For a teacher, keeping a student engaged with a lesson plan can be challenging, especially when they are competing with a myriad of online distractions. A great way to maintain student attention is to open up lines of communication in the classroom. Chromebooks help facilitate discussion and collaboration opportunities between teachers and students. Apps like Gmail and Google Hangouts allow students to stay on top of assignment deadlines, ask the teacher questions, and makes it easy for them to collaborate on group projects.

Homework Management

Gone are the days of dogs eating a students homework. With everything living on the cloud, from calendars to book reports, students and teachers never have to worry about a lost or forgotten assignment. Any movements and changes to documents are tracked, and Chromebooks by design are not prone to computer viruses, making any malicious action most likely caused by users themselves.
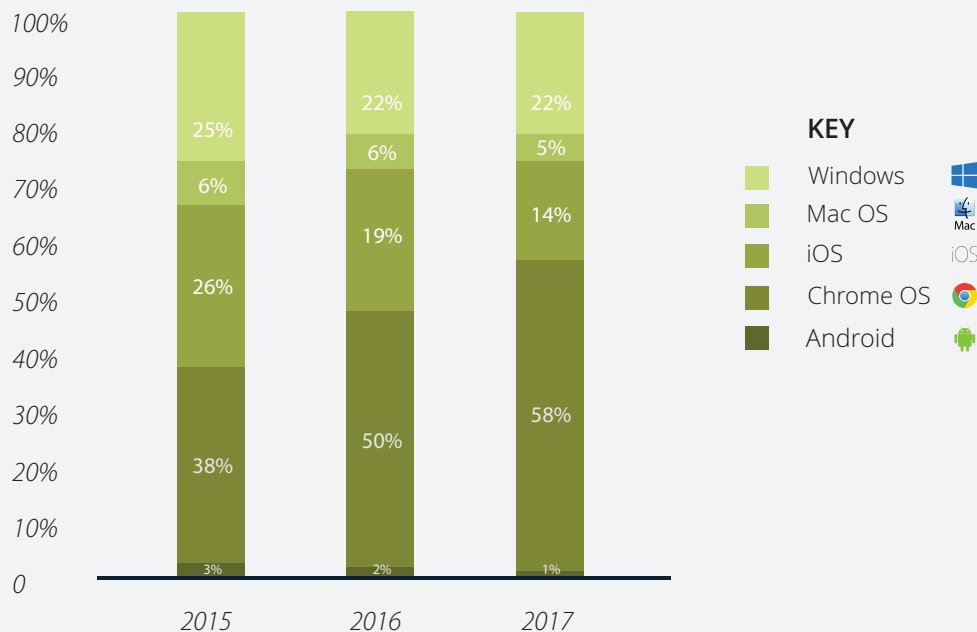
Preparing for the Future

Schools providing access to Chromebooks teaches basic computer skills to some students that may not have been able to afford otherwise. With a wide range of educational apps, these devices can help raise the interest of STEM career paths in computer engineering, system administration, software development and other technological fields.

K-12 Education Environments

With so many devices to choose from, it makes sense for IT administrators to first survey which gadgets others in the field are using.

The Mobile Device Landscape

According to a report by Futuresource Consulting, **Chrome OS had 58%** market share of K-12 schools in the United States. On the other hand, Apple's **iOS had 14%**, while laptops with **macOS had 5%**. **Android had** a **1%** share, maintained.

KEY

- Windows
- Mac OS
- iOS
- Chrome OS
- Android

	2015	2016	2017
Windows	25%	22%	22%
Mac OS	6%	6%	5%
iOS	26%	19%	14%
Chrome OS	38%	50%	58%
Android	3%	2%	1%

K-12 Mobile Computing Units - Annual Shipments - **United States**

Technological Challenges

Before handing out Chromebooks to students, it's important to determine the technological and logistical hurdles a school might have to overcome in order to successfully implement a school-distributed device program. For example, making sure every Chromebook is always available during class time is a matter of the utmost importance.

There's no point in providing Chromebooks to every student if every device is constantly nearing the end of their battery life. A comprehensive device monitoring system is essential in order to maintain 100% device availability during school hours.

Many schools are using Edtech initiatives for teachers to better collaborate with students, and to prepare them with the necessary computer skills they will need for the modern workplace. However, these devices are usually constrained to just the classroom or campus, limiting a student's potential and creativity. Keeping these Chromebooks mobile is important in order for students to complete homework assignments, but restrictions need to be put in place to protect both the device and the child from harmful material. A proper mobile device management (MDM) system can seamlessly transition between a school and home environment allowing for more user freedom.

What to look for in a
Chromebook MDM system

Chromebooks made up a massive market share of all computer shipments to K-12 classrooms in the United States. The need to manage these devices which are handed out to children is more important than ever. Here is what to look for in a proper Chromebook MDM solution.

Device Monitoring

Keeping track of a school's Chromebook inventory is important for the overall health and well-being of your devices. IT administrators should have an MDM system that provides a detailed list of all managed Chromebook devices on a school's network sorted by computer model, group, user, device location, OS version, remaining battery life, and other properties.

Advanced Content Filtering

Keeping young students from accessing explicit content online on school property must be addressed to prevent potential legal issues. An MDM should have the ability to create and implement user policies regarding safe search protocols, website and IP blocking, as well as YouTube video, category and channel restrictions.

Easy Management

When a Chromebook requires maintenance or needs to be given or transferred to a different student, IT teams should have the ability easily make these changes. An intuitive MDM system will give IT teams the power to remotely disable, re-enable or completely deprovision Chromebooks, as well as move devices across different organizational units in school.

User Flexibility

Students must have the option to bring home school-distributed Chromebooks in order to get the most out of them. IT admins will need the ability to set up separate home and school policies that automatically switch depending on factors such as time of day or IP address range.

How to set up a
Chromebook MDM system

The first thing an IT manager needs to do when evaluating a potential Chromebook mobile device management (MDM) system is to determine the needs of the school and the students who will be using these devices. Depending on the size of your school district and whether you are setting up a 1:1 or shared device program, this will determine the deployment and maintenance workflow for your MDM. Additional considerations need to be met if your school is planning to allow school-issued Chromebooks to be brought home or if students will be allowed to bring their own devices to school. School IT teams should take the following steps when setting up a Chromebook MDM system.

01

App Installation

Make sure every Chromebook is equipped with all the necessary Google G Suite productivity apps that students will need as well as any speciality apps requested by faculty.

02

Content Restriction

After discussions with teachers and students, create various policies regarding approved websites, search and video content filtering.

03

Set Up Policies

Determine on and off campus policies when students potentially bring Chromebooks home after school hours.

04

Schedule Maintenance

Establish scheduled maintenance periods and protocols to move, deprovision or add Chromebooks in the event of new students.

05

Testing and Troubleshooting

It is important to set aside time for testing to prevent any unforeseen issues from occurring during implementation.

The Benefits of
Deep Freeze Chromebook MDM

Chromebook MDM by Faronics, integrates seamlessly with Google G Suite to help you control your devices through the Deep Freeze Cloud centralized console. Chromebook MDM empowers IT administrators and faculty to better manage and protect students from harmful material online while also giving them the flexibility to do and achieve more with technology.

Give students the freedom to bring school-distributed Chromebooks home to do homework through the use of relaxed browsing policy restrictions. Chromebook MDM allows for a seamless transition between a school and home environment via effective policy management.

Chromebook MDM enables IT administrators to efficiently manage devices across multiple classrooms, offices or labs. IT admins can force safe search mode policies as well as enact browser and YouTube filter settings across multiple groups. Stay informed on the state of your Chromebooks through a customizable screen displaying computer model, user, group, location, battery life, storage and other properties.

Learn how Chromebook MDM can help simplify device management for your school and provide students with an enhanced learning environment powered by Chromebooks.

Contact Faronics today.

FARONICS

www.faronics.com

CANADA & INTERNATIONAL
1400 - 609 Granville Street
P.O. Box 10362, Pacific Centre
Vancouver,BC,V7Y 1G5
Phone: +1-604-637-3333
Fax: +1-604-637-8188
Email: sales@faronics.com

UNITED STATES
5506 Sunol Blvd, Suite 202
Pleasanton, CA, 94566 USA
Call Toll Free: 1-800-943-6422
Fax Toll Free: 1-800-943-6488
Email: sales@faronics.com

EUROPE
8 The Courtyard, Eastern Road,
Bracknell, Berkshire
RG12 2XB, England
Phone: +44 (0) 1344 206 414
Email: eurosales@faronics.com

SINGAPORE
20 Cecil Street, #104-01,
Equity Way, Singapore,
049705
Phone: +65 6520 3619
Fax: +65 6722 8634
Email: sales@faronics.com.sg