

# Chromebook Technical Considerations

How devices and local storage are managed will impact the user experience with media-rich applications. Media-rich applications need to locally cache for optimal performance, and some management strategies for Chromebooks impact this.

There are two primary considerations regarding a Chromebook:

1. Overutilization of the Chromebook hard drive due to a large amount of users' cached data.
2. Deletion of local assets when logging off or between uses requires re-downloads of media content, which leads to network congestion and perceived low performance.

The use of a Chromebook by many students logging in to the same computer (i.e., computers on wheels) causes multiple instances of cached data for each user. In turn, hard drives are filled to capacity.

When drives are cleared between uses (i.e., deletion of user data upon logout), this causes network congestion and perceived low performance. The frequent deletion of this data creates the need to reload data during the next log-in. The data would otherwise normally be cached and would not need to be re-downloaded at each login.

The practice of 1:1 mapping, in which every student has their own Chromebook, leads to the best performance because data is not deleted between logins.

Below are technical considerations to be aware of when using media-rich applications.

<b>Technical Items to Consider</b>	
<b>Public Session Kiosk Mode</b>	<b>Managed Chromebooks</b>
<ul style="list-style-type: none"> <li>● Specifies the amount of time between client policies and refreshes every 30-1440 minutes</li> <li>● Forces installation of certain applications, limiting the user from installing any applications outside of those pre-installed</li> <li>● Pins apps on startup of session</li> <li>● Allows URL blacklisting and whitelisting</li> <li>● Deletes all local stored data upon log-off*</li> <li>● Requires the user to input the Istation domain each time (Single sign-on solves this issue.)*</li> </ul>	<ul style="list-style-type: none"> <li>● Can be forced to re-enroll into domain (Managed Chromebook group) upon wipe</li> <li>● Allows the option to not to show usernames and photos on log-in screen when too many students are on the same device</li> <li>● Allows the deletion of all local user info, settings, and state after each log-off               <ul style="list-style-type: none"> <li>○ User will be required to input the domain if this option is activated. Single sign-in solves this issue.</li> </ul> </li> <li>● Scatters auto updates randomly over 1 to 14 days</li> <li>● Consumes Network Throttling Bandwidth at device level</li> <li>● Re-downloads program after every new session if "erase all local data" is on               <ul style="list-style-type: none"> <li>○ If "erase all local data" is off, the hard-drive will fill up faster in a non-1:1 environment. Istation's complete application will take up approximately 2.76 GB.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>● The same rules regarding deletion of user data apply for users of unmanaged devices and home users.</li> <li>● If you do not have a 1:1 environment, it is possible for users to use a shared device log-in. This will allow users to access their applications quickly and efficiently and will save hard drive space, as only one instance of the application's cached data will need to be created.</li> </ul>	

\*Denotes an impact within this environment