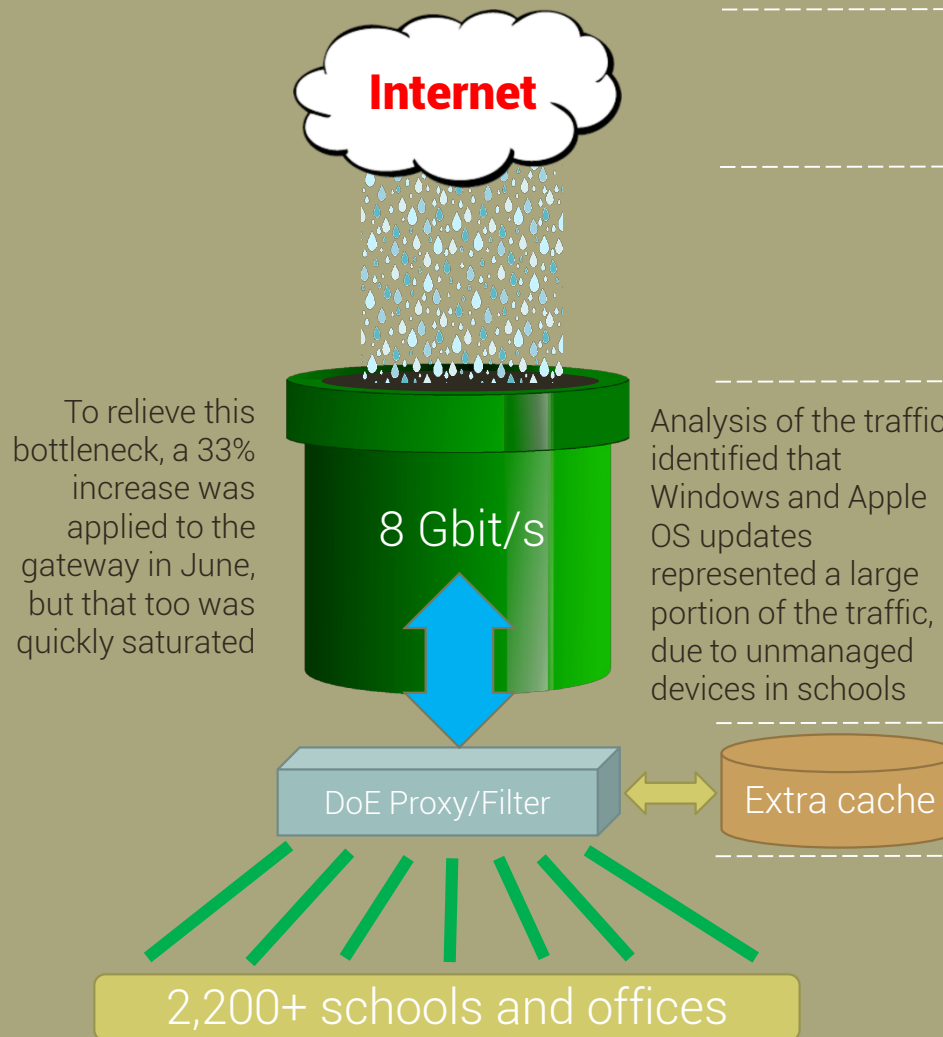
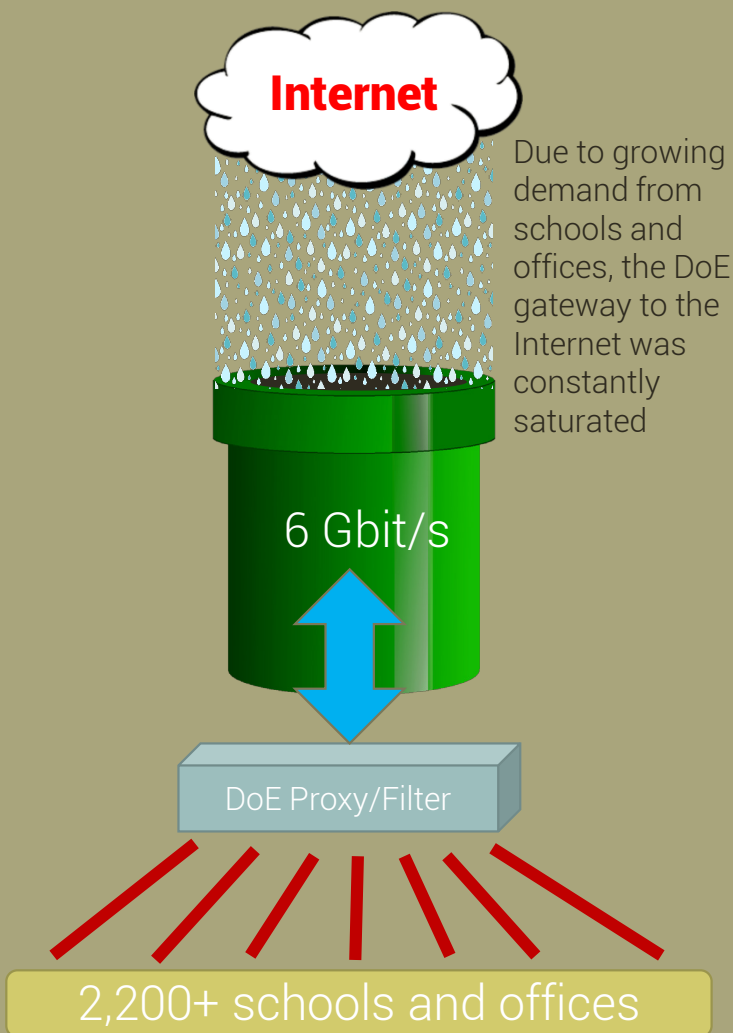


# Centralised management of DoE bottlenecks

Before June 2015

Today



## MANAGING BOTTLENECKS

The Internet is a virtually unlimited supply of content that is also a repository for school-produced work

Access is totally demand-related. The more demand, the less capacity to fill that demand. Reducing the background-demand for less-important content such as updates frees up capacity

- Increase DoE bandwidth
- Install better caching capacity
- Blocking Windows and Apple OS updates during school hours
- Ongoing monitoring of traffic

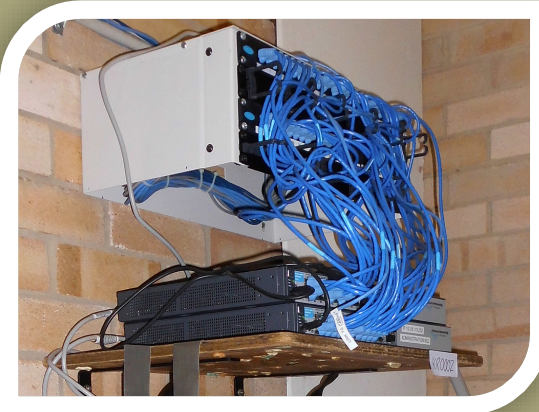
Caching commonly used content frees up capacity on the Internet gateway

Blocking access to unmanaged device updates during school hours frees up school gateways for more useful content

**= BETTER PERFORMANCE**

# Local management of school bottlenecks

## 1. LAN Remediation



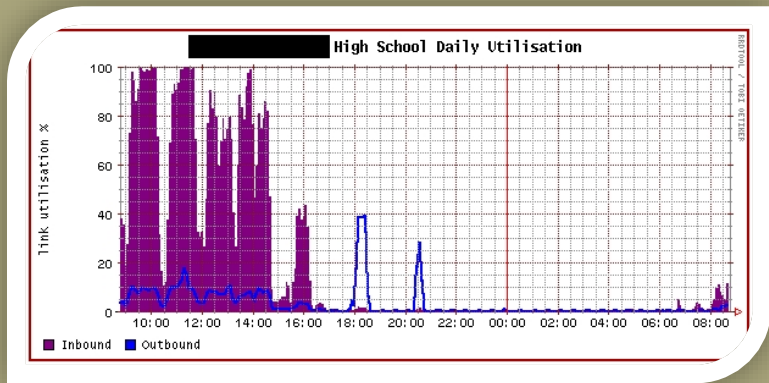
Ensuring backbone cabling between all Ethernet switches is running at Gigabit speed



All lit indicator lights on your Aruba WAPs should be green. Orange indicates a bottleneck:  
- **ENET**: LAN link only 100MBit/s  
- **11B/G/N**: WAP not in N mode

## 2. Appropriate WiFi

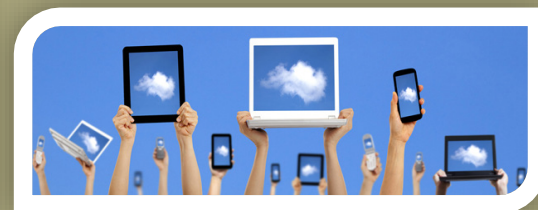
Too many mobile devices and too few WiFi Access Points creates bottlenecks. Ideally, there should be 30 or less mobile devices per WAP with few or no barriers between the devices and the WAP



Monitoring PNI to identify if slowness is due to link saturation, and if yes, what traffic is causing it



School-owned iPads and other mobile devices need to be effectively managed to ensure they aren't individually directly connected to the Internet to download their OS and app updates.



The impact on the school's network of BYODs should also be monitored and managed

## 3. Principals Network Information

## MANAGING BOTTLENECKS

1. The eT4L LAN Remediation project provided all schools with reliable switches and backbone cabling with gigabit/sec performance. But schools often want to add switches. Contact your local ICT support team for advice.
2. Has the school planned its WiFi deployment? How many WAPs are in the school? Where are they located? How many devices are likely to connect to each? Is every WAP performing optimally? Are you checking your WAPs?
3. Principals Network Information (PNI) is a great tool in the Principal's DoE Portal for monitoring the Internet gateway and the appropriateness of the traffic going through it. Take the time to investigate your school's usage.
4. With school-owned iPads, is the school using Apple Configurator or another MDM tool to manage OS and app updates centrally? With BYOD iPads, is the school recommending settings be applied to turn off automatic updates?

**= BETTER PERFORMANCE**

## 4. Managing Mobile Devices