**Murray Bridge High School Digital Education Revolution.**

**IT Discussion Paper**

**Background:** Prior to the DER implementation in 2010 Murray Bridge High School had 255 desktop computers and one Novell server, with 31 network switches, 14 laser printers, 2 Interactive Whiteboards and 2 IT Staff.

After the DER rollout Murray Bridge High School has 865 Desktop and laptop computers, 6 physical servers, 13 Virtual Servers, 66 wireless points, 58 network switches and 57 printers and 25 IWB’s across 3 sites, with 2.5 IT Staff.

**Funding:** DER Sustainment Funding received at May 31st 2013 - $201,750 based on FTE of 750 Year 9-12 enrolments.

This equates to $269 per student.

Murray Bridge High School has 690 DER Laptops/Desktops which are due to for replacement in the next 18 months. This includes 95 Staff devices used for Attendance Roll marking, 11 Trolleys of Laptops, 4 Language Labs, the ILC, TTC and 5 Computer Suites and classroom pods (D11, D3, E16, E20, E21, E22, E23, Tech Studies and Music).

The sustainment funding is not enough to replace the current DER devices or infrastructure.

**Recommendations and options:** The long term sustainable solution is a combination of 2 technologies BYOD (Bring Your Own Device) and VDI (Virtual Desktop Infrastructure).

1: **BYOD:** Students bring their own devices and are only given internet access. They must have a device capable and running Microsoft and adhere to a BYOD Policy.
   Advantages are they are familiar with their personal device.
   The school would require less computer suites as students will have their own devices in every class.
   Disadvantages are that they do not have access to network resources or printing. iPads and Android devices are not supported. Problems around student device equity.

2: **VDI:** Students can bring any device with any platform and run a client that provides a school image with Office and other software as we have now.
   Advantages are that the end users have the same OS and software, network resources and printing access.
   All current computers become redundant as hosts and will merely be a channel through which a virtual image is delivered. Computers will not need replacement for much longer time frames and replacements would be a small device attached to the monitor to deliver the image. This reduces significantly the cost to replace hardware.

**Any BYOD and VDI solution requires Parental financial input.**

Parents of students in Year 8, 9 and 10 would have an option to purchase either a laptop or netbook outright or by finance provided through our selected vendor. Devices will come with screen protector; carry bag and accidental damage insurance. For every 50 devices purchased the school will receive 1 device as a hot swap.

Year 11 and 12 students may also purchase the recommended device or bring their existing device.
For those who do not wish to purchase a device or bring their own, current DER laptops would be placed in the SSO and parents will be given an option to pay $100 per term for their child to use a laptop. The student would be issued the same laptop each morning and return it at the end of the day. These laptops would not be available to take home. Income from this source would cover the cost of replacement devices every 3 years.

The BYOD should be voluntary. Parents will not have to participate if they wish, however their child will not have access to technology in their learning.

**Cost:** BYOD and VDI require significant infrastructure costs and human resources to implement. At the moment we are looking at sites that have started using these technologies and also have set up a small test environment. Network upgrading to 10 Gbit, additional physical servers are required to provide image hosting, the SAN (Storage Area Network) requires additional hard disk array for storage. We urgently need 3 additional internet connections and a load balancer.

Until all technologies have been looked at, researched and tested, the system that best suits the current and future needs of Learning at Murray Bridge High School cannot be determined.

Ongoing costs include VDI licensing (approximately $15,000 per annum), provision of storage (lockers), human resources, training and development, server warranty costs and infrastructure replacement.

**Proposal:**
1. The DER funding to be used to replace the staff netbooks that are used for roll marking and attendance with a Windows 8 tablet.
2. Remaining funding to be allocated for a BYOD and VDI implementation.
3. Consultation begin with all stakeholders.
4. Poll for a school fee increase to cover ICT infrastructure replacement, licensing, internet and storage costs.
5. Concentrate BYOD implementation on Year 8, 9 and 10.
6. Mandate the device to eliminate the problem of student equity.