

TITLE:

New Era IT and GETTING READY FOR THE NETWORK UPGRADE – BECOMING ULTRAFAST “BROADBAND READY” to support high-speed computer networking.

PREPARED FOR:

**Board of Trustees
Principals
Bursars / Executive Officers**

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As many of you will be aware the government is intending to invest up to \$1.5B in providing ultrafast broadband to 75% of the population. This funding will be supplemented by additional investment in rural broadband initiatives.

The Ministry of Education has been allocated \$34m of this money in this year's budget to make schools ready for ultrafast broadband. The MoE is currently going out to tender as part of its recent Registration of Interest (RoI) for organisations who will be able to undertake this work in schools. This is stage 3 of the Schools Network Upgrade Programme (SNUP) that has been underway since 2006. There are two projects in the government's wider national broadband enablement programme.

1. SNUP3 will see the upgrading of the IT infrastructure in approximately 350-500 schools (depending on the mix of schools who take it up). This entails the provision of new structured cabling systems or the upgrading of existing cable network infrastructures to support high-speed computer networking. The upgrade includes the physical infrastructure (cables, trunking, switches and servers where appropriate) within schools and its connection to ultrafast broadband. The project will also include an audit and upgrade of the low voltage electrical systems in schools.

In the SNUP3 project NEIT understands the government will be paying 80% of all of the costs for state schools. The MoE is currently selecting national project manager(s) to oversee the project. The 20% school contribution can come from property funding or from any other source. Most of the 463 schools upgraded in SNUP 1 and 2 chose to fund their contribution from their 5YA money.

2. The second project is the roll out of ultrafast broadband capacity to schools, hospitals and the wider community. This part is being managed by the Ministry of Economic Development and announcements about this are expected in late August. Further information is available on their website (www.med.govt.nz).

The selection of schools for SNUP3, as noted in the RoI, will include both rural and urban schools and will have a range of criteria including the desire of the school's Board of Trustees to participate in the project.

There is likely to be substantial demand to participate in this project and those schools that have shown initiative and investment in getting ready could be better placed to take advantage of the project.

In addition, the MoE will identify 'clusters' of schools to be upgraded allowing more cost effective use of resources in visiting and auditing the schools in each cluster.

What will be involved in the Ministry funded network upgrade?

- *An initial audit of each school to determine the state of the data and electrical wiring compared with the Ministry standards.*
- *Production of a school network design for a new network or the upgrade of an existing network based on the Ministry standards and a phased school development plan.*

Once the design is approved there will be an online tendering process and then installation of the network and electrical systems as per the design. This process will be managed for the school by the national programme managers.



How can a school ensure the best possible network design for their needs?

NEIT's experience suggests that as a *minimum to inform your network design* you need a clear vision and understanding of how ICT, e-learning and e-administration are to be utilised throughout the school over the next 3-5 years to meet your current educational vision and priorities.

Impacts of the new network

Do you have an accurate picture of the current expenditure on ICT in your school?

The new network will change the use of ICT and therefore both the capital and operational costs of ICT in your school. For example there is likely to be an increased demand from teachers for more ICT's, such as interactive whiteboards and datashows as more learning spaces become (high speed) broadband enabled with faster network throughput. Balancing this out there could be a reduction in the technical and support costs associated with managing your current school network as there will be less maintenance required.

Do you know how to work out the likely impact on the school budget of the increased demands for equipment and services as a result of this new or increased broadband capability?

The upgrade is also a good opportunity to review your current strategies for funding and supporting ICT in your school.

Are your current ways of funding ICT / e-learning in your school appropriate and sustainable?

Have you considered the opportunities for optimisation - virtualisation and sharing core functionality with other schools or the possibility of a managed services approach for the provision of ICT?

The upgrade has the potential to increase the costs of energy in your school due to increased demands for ICT.

Do you have strategies in place to minimise these energy costs and reduce your schools ICT carbon footprint?

How well prepared are you?

The following questions can help you build a picture of how well prepared you and your school community are to ensure the design of the network meets your current and future needs *and* maximises the learning and administrative benefits of your new broadband capability.

- *Does your strategic plan and vision for learning in your school reflect both current priorities and the most likely challenges and demands over at least the next 3-5 years?*
- *Do you have a clearly articulated role for e-learning and e-administration within the plan?*
- *Do you have a road map/action plan for ICT investment and professional development that reflects the role e-learning will play in your strategic plan?*
- *Do your teaching, administrative and support staff have the capability and confidence to deliver this role for e-learning and e-administration?*

The network upgrade will provide opportunities for increases in staff productivity, changes in administrative practices and communication with parents.

- *Have you thought how your current administrative and business practices might change to take advantage of these developments?*
- *Do you have an accurate picture of the current performance of your school network and services?*

*The answers to these questions will provide you with a set of **key principles** and **priorities** for informing the design and development of your school network upgrade.*





How New Era IT can help?

NEIT suggest that **before** the Ministry funded audit and **upgrade process begins**, schools should be thinking very carefully about these questions to ensure the upgrade process in your school is the best it can be.

If you can't answer these questions with confidence then the NEIT Pathways™ facilitated one day workshops outlined on the following page will help provide you with these answers.



Strategic Planning

Confirming the long term vision for e-learning in your school’s strategic plan



Where have we come from and why? Where are we actually at? Are we on the right pathway?

<p>Purpose in terms of e-learning and e-administration:</p> <ul style="list-style-type: none"> • To clearly define where we are at. • To review and validate our vision and goals. • To identify what we wish to retain going into the future (values and principles) and what we need to change. 	<p>Outcomes:</p> <ul style="list-style-type: none"> • A clear understanding of the current e-learning context. • An identification of enduring values, principles and goals. • A validation of the vision. • Problems and gaps identified.
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Where might we go and why not? What are the pathways?

<p>Purpose in terms of e-learning and e-administration</p> <ul style="list-style-type: none"> • To think systematically about the future of broadband enabled e-learning/e-administration to inform today’s decision making. • To explore emerging paradigms and technologies that are likely to impact on learning and teaching. • To clarify and deepen understanding of major forces and trends which drive change in e-learning. • To identify the characteristics of your preferred future for broadband enabled e-learning in your school. 	<p>Outcomes:</p> <ul style="list-style-type: none"> • A clear understanding of foresight. • A map of trends and drivers that are likely to influence e-learning in your school. • A scenario of the preferred future of broadband enabled e-learning in your school.
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Where should we go and why? What pathway should we take?

<p>Purpose in terms of e-learning and e-administration:</p> <ul style="list-style-type: none"> • To redefine/validate/clarify our vision and goals. • To strategically decide where we should go and identify high level requirements (critical insights) for getting there. • To prioritise high level requirements by importance/impact and ease of implementation. • To develop a roadmap for the implementation of high level requirements. 	<p>Outcomes:</p> <ul style="list-style-type: none"> • Validated vision and goals. • A road map of prioritised high level requirements for strategic and action planning. • Key principles and priorities for informing the design and development of the school network upgrade.
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Integral to the process; the next stage would be to develop a comprehensive Action Plan for implementing the e-learning strategic goals. Requiring more time than this initial one day planning workshop, NEIT can also help you with this phase to facilitate the detailed planning and prioritising required to develop the Action Plan.



Funding and managing ICT expenditure



Where have we come from and why? Are we on the right pathway?

<p>Purpose:</p> <ul style="list-style-type: none"> To develop an accurate picture of the current levels of ICT expenditure in the school. 	<p>Outcomes:</p> <ul style="list-style-type: none"> Base line of current expenditure on ICT and the total cost of ownership (TCO) Problems and gaps identified.
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Where might we go and why not? What are the pathways?

<p>Purpose:</p> <ul style="list-style-type: none"> Use TCO to model the possible demand for equipment and services as a result of new broadband capability on the school budget. 	<p>Outcomes:</p> <ul style="list-style-type: none"> A clear understanding of the likely areas and potential increases in funding required for e-learning and administration in the future.
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Where should we go and why? What pathway should we take?

<p>Purpose:</p> <ul style="list-style-type: none"> An analysis and discussion on the current approaches to funding for ICT/ e-learning from the perspective of appropriateness and sustainability. An examination of ways of more effectively managed ICT costs through options such as virtualisation, sharing services and the use of managed services. To benchmark the high level requirements against NZ best practice. 	<p>Outcomes:</p> <ul style="list-style-type: none"> A range of option and approaches for funding ICT in the future. A road map of prioritised high level requirements for strategic and action planning.
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How and when are we going to get there? Who will lead the way? What will we need?

<p>Purpose:</p> <ul style="list-style-type: none"> To determine actions necessary to realise the strategic goals. To identify the resources required, who is responsible and who will be involved. To determine the timeframe for implementing and reviewing the actions. To describe the indicators that will demonstrate progress towards achieving the actions and/or goals. 	<p>Outcomes:</p> <ul style="list-style-type: none"> A comprehensive Action Plan for implementing any new approaches for funding e-learning and e-administration.
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Glossary

The Schools Network Upgrade Project – Stage 3 (SNUP3)

The latest stage of the school network upgrade project which is the provision of new structured cabling systems or the upgrading of existing cable network infrastructures to support high-speed computer networking.

e-learning

Learning and teaching that is facilitated by or supported through the smart use of information and communication technologies.

e-administration

Administration that is facilitated or supported through the smart use of information and communications technologies. e-Administration, or electronic administration, refers to any of a number of mechanisms which convert paper processes into electronic processes; with the goal being to improve productivity and performance. It can encompass both intra-office and inter-office communication.

Green Computing

A set of strategies within a school or institution designed to save on the costs of technology, energy consumption and disposal of e-waste while maximizing the return on education's investment in technology (CTSTE) <http://crste.org>

Optimization and Virtualisation

Optimization refers to the overall goal of doing more with less. (Virtualization is one means of achieving that goal.) Using a much smaller set of hardware components (via virtualization), optimization can be applied to PCs, servers, storage or networking traffic. Server virtualization is the most widely adopted of these technologies. It allows for the virtualization of multiple application servers onto a single physical server system – i.e. one physical server can operate as several servers.

Next Steps

Discuss and complete the '(Ultrafast) Broadband Readiness Indicator' table on the following page with your key staff. If you are interested in seeing how the **Pathways**© strategic planning processes can work for your organisation, or further discussion regarding this strategic briefing paper, please contact:

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(Ultrafast) Broadband Readiness Indicator

INDICATOR	YES	PARTLY	NO
1. My strategic plan and vision for learning in my school reflect both current priorities and the most likely challenges and demands over at least the next 3-5 years.			
2. I have a clearly articulated role for e-learning and e-administration within the plan.			
3. I have a road map/action plan for ICT investment and professional development that reflects the role e-learning will play in our strategic plan.			
4. My teaching, administrative and support staff have the capability and confidence to deliver this role for e-learning and e-administration.			
5. I have thought how my current administrative and business practices might change to take advantage of these developments.			
6. I have an accurate picture of the current performance of our school network and services.			
7. I have an accurate picture of the current expenditure on ICT in our school.			
8. I know how to work out the likely impact on the school budget of the increased demands for equipment and services as a result of this new broadband capability.			
9. My current ways of funding ICT/ e-learning in my school are appropriate and sustainable.			
10. I have considered the opportunities for optimisation - virtualisation and sharing core functionality with other schools or the possibility of a managed services approach for the provision of ICT.			
11. I have strategies in place to minimise these energy costs and reduce our schools ICT carbon footprint.			
TOTAL:			

