

(IT) IMAGING AND PROCUREMENT

Northern Lights School Division IT Department's project mission is to **design, document, and implement** a solution oriented and client focused Service Desk as a single point of contact that will provide **timely, meaningful, and transparent** information technology solutions to an engaged and productive community of learners,

We will accomplish this mission by creating a dynamic technological environment that allows the community of learner's equal access to interact and collaborate successfully. We believe that the use of technology as a part of the curriculum should focus on supporting higher-level learning, problem solving, and critical thinking skills.

1. Standardize hardware: By standardizing desktop hardware and software, we can ultimately advance toward a more flexible, agile, and optimized infrastructure. Ad hoc PC (and other hardware purchases—often driven by price, or by departmental end-user preferences—can prove much more costly to the division.
2. Standardize software image and management: It results in reduced costs. Image management accounts for 20-25 percent of operating system deployment costs, and can cost the division an average \$25-\$35 per PC annually.
3. Group-based image configuration: By enabling greater automation and increasing efficiency, a standardized software image helps reduce costs for deployment, image management, and ongoing patches and updates.

Procurement and Acquisition:

- The more fragmented a division's technology purchasing pattern, the wider the variety of equipment (software/hardware) in use. The wider the variety of equipment (software/hardware) in use, the higher the service and support costs becomes.
- When purchasing is done at a school-based level, the central technology group is often left to respond to individual school-based technology purchasing requests. Consequently, the purchasing process is repeated. This results in an inefficient use of managerial time and fails to take advantage of economies of scale.
- When technology purchases are funded from multiple budgets, the internal accounting functions required to track and reconcile technology expenditures and budgets can be time consuming and cumbersome.
- Limiting technology variables simplifies technology management. This can be difficult since technology is always in transition.

- When technology standards are applied, the depth of user and technical support personnel understanding is maximized. In highly standardized environments, peer support becomes the norm, and there is a heightened synergy of individuals' computer skills.
- There is the benefit from in-school personnel to assist with local trouble-shooting and technology support.
- All personnel should recognize that there is a balance between innovation and ease of management and support. Variations in standards come at a cost to the division. The costs, risks and benefits associated with increased variations in established standards should be factored into technology purchasing decisions.

Based on these observations, the following best practices – with respect to technology procurement and acquisition, are:

- Hardware and software acquisitions should be planned and managed on a division wide basis, and within the context of the provincial directions and standards (curriculum) and guidelines. The acquisition process should be sufficiently responsive to meet school needs (not wants).
- The central technology group should be involved in the acquisition process in order that effective standards are set, and kept up to date.
- School based or individual requests for software installation, and or the addition of hardware or peripherals must follow formal request procedures in order to ensure the following:
 - software is tested to ensure compatibility with the technical and learning environments
 - licensing is verified
 - software, peripherals and hardware fit with school division directions
 - technical staff are aware of new programs and equipment within the school division
 - curriculum staff are aware of new applications that may require support, resources and training

Selection of Software Resources

- 1.1 To maintain the integrity of the Division's computer network and to ensure compliance with all regulatory requirements, acquisition of software will occur only after Division level approval has been obtained.
- 1.2 Software that has not been approved will not be installed on any Division owned equipment.
- 1.3 Non-approved software that has been, or is currently, installed on Division equipment will not be maintained or be removed.
- 1.4 Teachers are required to submit a Software Review Application (**Form attached**) for any software they wish to have installed on Division computers. Software will be reviewed for curriculum and technical compliance by members of the NLSD Technology Steering Committee. This will be done with feedback collected from teacher experts from across the Division.
- 1.5 The Coordinator responsible for Technology and the Coordinators responsible for Curriculum and Resource-based Learning shall collaborate to make recommendations concerning the acquisition of instructional software for the Division. Teachers (in communication with their Administration) can apply to have software titles reviewed by the completing the Software Evaluation Application.

The purpose of the software review application is threefold:

1. To ensure that software providing the same functionality isn't already licensed by the school division.
2. To ensure that proposed software will run safely and correctly on the network.
3. To ensure that proposed software applications are curriculum compliant.

Note:

The school division will purchase approved software that would be widely used across the division. Approved software with more limited use will be the responsibility of the School Based Budget. Upgrades for software purchased by schools are the responsibility of schools. We will not support outdated software.

In the Northern Lights School Division, we hope to make every effort to ensure that all instructional resources are used in meaningful and constructive ways that align with curriculum and current best practices.

Resources have the potential to be used effectively or ineffectively. Decisions made about any resource must be based on how that resource can be used to achieve curriculum outcomes in a manner that aligns with the philosophy of the curriculum and Division Priorities – refer to CIAF) While on the surface, some web sites/flash games may appear to be educational, caution should be taken to ensure that the content aligns with curricular outcomes and the delivery follows the instructional philosophy of the curriculum.

Web sites can be white-listed if a strong case is made demonstrating alignment with both the philosophy and outcomes of the curriculum.

Example: National Library of Virtual Manipulatives –
(http://nlvm.usu.edu/en/nav/frames_asid_105_g_2_t_1.html?from=grade_g_2.html)

Alignment with curricular outcome

- 🍏 This Java applet could be used to achieve the grade 5 math outcome:
Demonstrate the understanding of fractions by using concrete and pictorial representations to create sets of equivalent fractions.

Alignment with curricular philosophy

- 🍏 This Java applet addresses equivalent fractions through the processes of problem solving, visualization, deductive reasoning and technology.

Non-example: Fun Brain

(<http://www.funbrain.com/brain/MathBrain/MathBrain.html>)

If you carefully examined most, if not all, the Funbrain games/activities, you would be challenged to determine a correlation to Saskatchewan Curriculum.

NOTE: Major software updates (installations) will occur once per year.

1. Summer Holidays (July and August)

NORTHERN LIGHTS SCHOOL DIVISION

Software Evaluation Application

Any teacher or school wanting software purchased or installed will be required to complete this application. Once completed, applications will be reviewed and approved or denied. **Please note that all fields must be completed, or the application will be returned to the person who submitted it.** Return this completed form to keithtkach@nlsd113.net

General Information:

Your name:

Software title:

Publisher:

Version:

Copyright year:

Is this a piece of software, web-based subscription, or a web site? (Mark with an X)

software (Creative Commons – download)

web based subscription

Web site Please provide the URL:

Number of licenses required:

MINIMUM SYSTEM REQUIREMENTS: Please specify:

Operating system version (Windows XP, or higher)

RAM Required:

Hard drive space require

System requirements: (ie. Java, Flash, ShockWave, Adobe)

Age or grade level:

Primary subject or content area: (Please mark one)

- Aboriginal Education
- Arts Education
- Career Guidance
- Core French
- English Language Arts
- Health Education
- International Languages
- Kindergarten
- Mathematics
- Physical Education
- Practical and Applied Arts

Other relevant subject or content areas: (Please mark each area that applies)

- Aboriginal Education
- Arts Education
- Career Guidance
- Core French
- English Language Arts
- Health Education
- International Languages
- Kindergarten
- Mathematics
- Physical Education
- Practical and Applied Arts

- Sciences
- Special Education
- Social Sciences
- Wellness

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Are you currently using this software in your classroom/school?

Do you have a copy of this software available for evaluation?

DESCRIPTION: Briefly describe the software: what is it about, how is it structured, etc.

Click here to enter text.

INSTRUCTIONAL CONTENT: Please check each item that applies

- Information is accurate, complete, and current
- Content demonstrates a Canadian perspective
- SI metrification is used (math/science)
- Content is free of stereotypes
- Content and context are consistent with the theme
- All information relates to the stated purpose and learning goals
- The software provides for various ability levels
- Content moves learners beyond the basics and encourages higher levels of thinking; students are engaged in applying what they learn
- Requires learners to be significantly engaged while learning
- Aligns with Division Goals – Reading/Writing Literacy / Math Literacy

INSTRUCTIONAL CHARACTERISTICS:

What are you teaching now that could be taught with this software?

Click here to enter text.

What new things that aren't being taught now could be taught with this software?

Click here to enter text.

Please briefly summarize the content of the material including your opinion of whether it ably supports Saskatchewan Learning Curriculum outcomes for the intended subject area: Curricular alignment, assessment, varied learning styles, supports Saskatchewan Learning core curriculum initiatives.

Click here to enter text.

List specific curriculum outcomes supported by this software.

Click here to enter text.

Explain how the software aligns with curriculum philosophy/principles.

Click here to enter text.

If this is a Special Ed request, is it for a single student or a group of students? If this is for a single student, please identify the disability that the software has been recommended for.

[Click here to enter text.](#)

Thank you.

Approved: Resource-Based Learning Coordinator: [Choose an item.](#)

Approved: Student Services Coordinator: [Choose an item.](#)

Approved: Superintendent IT Portfolio [Choose an item.](#)

Approved: Network Administrator: Keith Tkach [Choose an item.](#)

Comments:

[Click here to enter text.](#)

Comments:

[Click here to enter text.](#)

Comments:

[Click here to enter text.](#)

IT Equipment Purchasing Guidelines and Considerations

Guidelines for Equipment Purchasing

Technology Purchases in your building:

If your school intends to purchase hardware (including peripheral devices such as printers and scanners) or software for your students/staff to use, it is strongly recommended that you consult with us in the first instance.

We are able to offer guidance and recommendations that will contribute towards the making of an informed decision regarding installation, compatibility and support issues.

We have strong contacts with many IT product vendors, and can provide reliable information regarding new products and special offers – offers that are not always advertised by the vendors and may result in considerable savings.

Standards and uniformity in purchasing provide a healthier environment for

- 🍏 support and maintenance
- 🍏 professional development
- 🍏 parts and supplies

Printers:

Important considerations are:

1. **Monochrome versus color**
2. **Cost of toner replacement:** The largest cost of a laser jet printer often lies in the toner replacements. Toner cartridge prices vary widely and finding a printer with a lower cost for toner can save you money over time. (look for printers that will accommodate high-capacity toner cartridges)
3. **Printable paper size**
4. **Resolution:** Resolution refers to how many dots per inch (DPI) a printer can print. The higher the DPI rate, the higher the resolution. For lower resolution, text only printing, a printer with a 600 x 600 DPI rating is generally thought to be fine. Buying a laser printer with a resolution of 1200 x 1200 DPI is a perfectly acceptable resolution for most printing needs.
5. **Speed**
6. **Memory:** Buying a laser printer with at least 4 megabytes (MB) of memory and a page rate of 20 pages per minute (PPMs) should meet most printing needs.
7. **network capabilities:** check for network capabilities – please purchase one with an internal network card.

We have primarily been purchasing HP laserjet printers: for ease of management and support would prefer to keep with HP.

Feature Designations for HP LaserJet:

Letter Description

no

letter

This is the base model.

- d** Models with this designation include a duplexing unit for automatic two-sided printing.
- n** Models with this designation include an embedded HP Jetdirect print server for connecting to a 10/100Base-T network.
- t** Models with this designation include an additional paper tray.
- SI** Models with this designation include a stapler/stacker.

Example: (prices based on Central Direct – http://www.cendirect.com/main_en/t_home.php)

Primary Printer

HP LaserJet P2035N Printer - Monochrome - 30 ppm Mono - 1200 x 1200 dpi - USB - Fast Ethernet - PC, Mac **\$355.00**

HP Black Toner Cartridge - Laser - 2300 Page - Black CE505A 3255 \$90.00

HP LaserJet P3015N Laser Printer - Monochrome - Plain Paper Print - Desktop 42 ppm Mono - 1200 x 1200 dpi - 128 MB - 600 sheets (Input Capacity) - USB - Gigabit Ethernet - PC, Mac, SPARC **\$542.00**

HP Black Print Cartridge - Laser - 12500 Page - Black CE255X 132 \$229.00

The second printer is more expensive in terms of original purchase – it is a higher quality machine (faster

– greater capacity to begin with) – but factor in the cost of ownership - after 12500 pages printed, initial savings with economy model soon disappear.

P2035N \$355.00 + \$90.00 + \$90.00 + \$90.00 + 90.00 + \$90.00 + \$40.00 = \$845.00

P3015N \$542.00 + \$229.00 = \$771.00

Secondary Printers

Personal Printers

Printer Recommendations:

HP LaserJet -----N and D

If it is going to be used a lot (lab / library – multi-users) HP LaserJet 4014N or 4015N / 4015DN or 4015TN or higher

- if used in situations where the number of prints are going to be relatively low – limited use then consider a lower priced HP LaserJet (with network card).

Please check the price of replacement cartridges – pay particular attention to the page capacity/cartridge.

(Remember Gillette nearly gives away razors – but you really pay for the blades)

N - Networkable

Note: NLSD has sales agreements with:

CDW Canada: <http://www.cdw.ca/default.aspx> (no shipping charges - and price discounts)

TigerDirect

Sharp's AV

And others. Check to see if the product is available with these vendors – Without shipping charges and discounts – you may be able to realize significant savings (Please check with me).

Projectors:

Most recent purchases:

NEC NP-M260X:

Lumens 2600

Lamp Life: 5000 hours

Digital Keystone

Most recent price: \$750.00 (Sharp's AV)

NEC NP-U300X-WK1 (DLP XGA Short Throw Projector with wall mount kit)

Lumens 3000

Lamp Life: 2500 hours

DLP – no filters to clean

\$1250.00 (Sharp's AV –Saskatoon)

Samsung SP-F10M

Lumens 1000 High Bright

Lamp Life: 30000 hours (LED light source)

No filters to clean

Auto Keystone

\$1100.00 (CDW Canada)

How many Lumens is recommended for a Classroom Projector?

You should select a classroom projector that has 2200 to 3500 Lumens for best illumination.

This will ensure that large audiences can view the display with bright lights being displayed in the classroom. Also remember that the larger the screen you use, the more Lumens you should require from your projector.

Classroom Projectors and Long Lamp Life

When choosing a classroom projector you should inquire about how long the lamp will last.

Some will last as long as

5000 hours (LED much longer). It is also important to note the price of replacement bulbs.

Note: NLSD has sales agreements with:

- **CDW Canada:** <http://www.cdw.ca/default.aspx> (no shipping charges - and price discounts – (registered with NEC Star Student Program through CDW – provides extended warranties, discounts, and replacement lamps)
- **TigerDirect**
- **Sharp's AV** – preferred vendor pricing arrangement with NEC displays
- **And others:**
Check to see if the product is available with these vendors – Without shipping charges and discounts – you may be able to realize significant savings (Please check with me).

Web Camera:

Logitech 9000 Pro - \$80.00 - \$100.00

- We have a number on hand at the division office

Headsets: a variety – would suggest that you pay at least \$20.00 for set – less than that and the quality may be suspect.

- have purchased LogiTech, Microsoft, Sony

Other Equipment:

SMART Boards – must be ordered through either Sharp's AV or Evolution in Saskatoon. Sharp's – Brian Agren / Evolution
- prices are set through SMART – vendors have no control of price / delivery on most boards a minimum of \$130.00

Example:

SB680	1649.00
Shipping	130.00
Taxes	170.00
	1949.00

Then

Projector:	750.00
Cables:	80.00
Ceiling Mount:	80.00

If Track to hide cables needed: \$3.00 / ft.
Looking at a minimum of \$2850.00

Note: Recently have been ordering through Sharp's (no shipping charges)

Digital Cameras, Camcorders, Scanners, etc.

SOFTWARE:

- Before purchasing any software packages please consult Technology Dept.. Important to review in terms of compatibility and compliance. The NLSD has agreements in place that may reduce costs and improve access (Microsoft, Adobe).
- Software purchasing can be complex and it is important that software licences are properly interpreted to understand the permitted modes of use.
- All software licenses used within the NLSD must be registered with us to ensure legal compliance. Users wishing to obtain software for use on any NLSD asset should try to do this through us where possible.
- All software purchases must be registered with us by email and/or FAME together with a copy of the license agreement and purchase details. Similarly, all hardware assets purchased must be registered with us so that details (Service Codes/Warranties) are on record in Asset Management of FAME.

Any time you wish to order – I encourage you to contact me. I will provide a quote of the best price that I can find from the vendors that we have agreements with.

GL Ordering Codes for Software and Hardware

Computer supplies and services (Software) **1-2-12-130-301-XXX-332**

Purchase of Furn. & Equip (Hardware) **1-2-12-140-253-XXX-332**