VIRGINIA POLYTECHNIC INSTITUTE & STATE UNIVERSITY
(VIRGINIA TECH)
STANDARD CONTRACT AMENDMENT

Contract Number: UCP-TS-C02-10
Amendment #4

The above referenced contract is amended this 24th of May, 2016 by D2L Ltd., hereinafter called the “Contractor” and Virginia Polytechnic Institute and State University, hereinafter called “Virginia Tech”.

The parties hereby agree to renew the above referenced contract for the second of five optional one-year renewal periods: June 14, 2016 – June 13, 2017.

All other terms and conditions remain in full force and effect.

The parties agree to execute this Contract Amendment by electronic means, via facsimile/scanned signatures.

By: [Contractor Authorized Signature]  
By: [Virginia Tech Authorized Signature]

IN WITNESS WHEREOF, the parties have caused this Contract Amendment to be duly executed intending to be bound thereby.

Contractor: D2L Ltd.
Authorized Signature: [Brandon Nussey]
Printed Name: Brandon Nussey
Title: CFO

Virginia Tech
Authorized Signature: [Jerri L. Kemp]
Printed Name: Jerri L. Kemp
Title: Assistant Director of Information Technology Acquisitions

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VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution
**ORDER FORM**

Order # 01310349

**D2L Ltd.**

500 York Road  
Towson, MD 21204  
Phone: 1-519-772-0325

**TO** Virginia Polytechnic Institute and State University ("Client")  
210 Burruss Hall  
800 Drillfield DR.  
Blacksburg, VA, United States 24061-0202

**RE: Virginia Polytechnic Institute - Renewal**

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Effective Date</td>
<td>June 14, 2016</td>
</tr>
<tr>
<td>Order End Date</td>
<td>June 13, 2017</td>
</tr>
<tr>
<td>User Model</td>
<td></td>
</tr>
<tr>
<td>Currency</td>
<td>$ USD</td>
</tr>
</tbody>
</table>

**SPECIAL TERMS AND CONDITIONS**

Contract Number: UCP-TS-CO2-10

The parties hereby agree to renew the above referenced contract for the second of five optional one-year renewal periods: June 14, 2016 - June 13, 2017.

This Order Form between D2L and Client is governed by the terms of the applicable signed agreement between the Parties ("Governing Agreement"), and may be accepted as a binding agreement under the Governing Agreement provided that (a) it is signed and returned, or (b) a valid Purchase Order ("PO") referencing D2L's Order # above is provided. Unless otherwise indicated on this Order Form, all other terms of the Governing Agreement remain in full force and effect. No modifications to this Order Form or supplemental terms provided on a PO or similar document will have any binding effect.

This Order Form is valid up to and inclusive of the Order Expiration Date. D2L reserves the right to accept or reject any PO or signed Order Form after the Expiration Date.

To accept this Order Form, sign here: [Signature]

Print Name: [Signature]  
Date: [Signature]

THE INDIVIDUAL SIGNING IS AUTHORIZED TO BIND CLIENT.
COMMONWEALTH OF VIRGINIA
STANDARD CONTRACT AMENDMENT

Contract Number: UCP-TS-C02-10
Amendment #3

The above referenced contract is amended this 9th day of April, 2015 by D2L Ltd., hereinafter called the “Contractor” and the Commonwealth of Virginia, Virginia Polytechnic Institute and State University, hereinafter called “Virginia Tech”.

The parties hereby agree to renew the above referenced contract for the first of five optional one-year renewal periods: June 14, 2015 – June 13, 2016.

All other terms and conditions remain in full force and effect.

The parties agree to execute this Contract Amendment by electronic means, via facsimile/scanned signatures.

By: ____________________________  By: ____________________________
Contractor Authorized Signature  Virginia Tech Authorized Signature

IN WITNESS WHEREOF, the parties have caused this Contract Amendment to be duly executed intending to be bound thereby.

Authorized D2L Representative: ____________________________  Authorized Virginia Tech Representative: ____________________________

Authorized Signature  Authorized Signature
Brandon Nussey  Patricia K. Branscme
Printed Name  Printed Name
Title  Title

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COMMONWEALTH OF VIRGINIA
STANDARD CONTRACT AMENDMENT

Contract Number: UCP-TS-C02-10
Contract Amendment Number: 2
Effective Date: February 27, 2012
Contractor: Desire2Learn Incorporated

Description of Amendment: Add pricing for optional Premium Plus End-User Support to original Contract, Attachment C—Revised Pricing for Cooperative Use

Reason for Amendment: Incorporate pricing for optional contract service

Contract Amendment Document: The Contract Amendment shall consist of this Contract Amendment #2 document with Attachment 1—Addition to Contract Attachment C—Revised Pricing for Cooperative Use, and Contract UCP-TS-C02-10, all of which documents are incorporated herein.

All other terms and conditions remain in full force and effect.

The parties agree to execute this agreement by electronic means, via facsimile/scanned signatures.

By: [Contractor Authorized Signature]
By: [Virginia Tech Authorized Signature]

In WITNESS WHEREOF, the parties have caused this Contract Modification to be duly executed intending to be bound thereby.

Contractor:

By: [Contractor Authorized Signature]
Name: Bill Trick
Title: Director, Financial Services

Virginia Tech:

By: [Virginia Tech Authorized Signature]
Name: John D. Kralman
Title: Director of IT Business & Financial Affairs

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
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Pricing table for optional Premium Plus End-User Support. Pricing is at the 10,000 FTE level.

<table>
<thead>
<tr>
<th>Package</th>
<th>One-Time Setup Fee</th>
<th>Annual Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Volume: up to 40 incidents per month</td>
<td>$5,000</td>
<td>$19,500</td>
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<tr>
<td>Medium Volume: up to 75 incidents per month</td>
<td>$10,000</td>
<td>$37,500</td>
</tr>
<tr>
<td>High Volume: up to 200 incidents per month</td>
<td>$10,000</td>
<td>$72,000</td>
</tr>
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</table>
COMMONWEALTH OF VIRGINIA
STANDARD CONTRACT AMENDMENT

Contract Number: UCP-TS-C02-10
Contract Amendment Number: 1
Effective Date: June 9, 2011
Contractor: Desire2Learn Incorporated

Description of Amendment: Add new optional modules to original Contract, Attachment C – Revised Pricing for Cooperative Use
Reason for Amendment: Incorporate continuously evolving technology

Contract Amendment Document: The Contract Amendment shall consist of this Contract Amendment #1 document with Attachment 1 – Addition to Contract Attachment C – Revised Pricing for Cooperative Use, and Contract UCP-TS-C02-10, all of which documents are incorporated herein.

All other terms and conditions remain in full force and effect.

The parties agree to execute this agreement by electronic means, via facsimile/scanned signatures.

By: [Signature]  By: [Signature]
Contractor Authorized Signature  Virginia Tech Authorized Signature

In WITNESS WHEREOF, the parties have caused this Contract Modification to be duly executed intending to be bound thereby.

Contractor:  Virginia Tech:

By: [Signature]  By: [Signature]
Name: Bill Trick  Name: John D. Kralman
Title: Dir. Financial Svcs  Title: Director of IT Business & Financial Affairs

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### Optional Product Fees

<table>
<thead>
<tr>
<th>Components</th>
<th>Description</th>
<th>10000 FTE</th>
<th>15000 FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>eCommerce</td>
<td>One-time project cost for setup &amp; configuration</td>
<td>$15,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>eCommerce</td>
<td>Annual support and maintenance</td>
<td>$3,500</td>
<td>$3,500</td>
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</table>

<table>
<thead>
<tr>
<th>Optional Components</th>
<th>Description</th>
<th>10000 FTE</th>
<th>15000 FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>eCommerce</td>
<td>Custom Reports, priced per report</td>
<td>$1,500</td>
<td>$1,500</td>
</tr>
</tbody>
</table>

No additional agreements are needed for use of the above e-Commerce Components.
COMMONWEALTH OF VIRGINIA
STANDARD CONTRACT

Contract Number: UCP-TS-C02-10

This contract entered into this 14th day of June, 2010 by Desire2Learn Incorporated., hereinafter called the "Contractor" and Commonwealth of Virginia, Virginia Polytechnic Institute and State University, hereinafter called "Virginia Tech".

WITNESSETH that the Contractor and Virginia Tech, in consideration of the mutual covenants, promises, and agreements herein contained, agrees as follows:

SCOPE OF CONTRACT: The Contractor shall provide the Desire2Learn Enterprise Learning Management Suite to Virginia Tech as set forth in the Contract Documents.


COMPENSATION AND METHOD OF PAYMENT: The Contractor shall be paid by Virginia Tech in accordance with the contract documents.

CONTRACT DOCUMENT: The contract documents shall consist of:
Attachment A – Request for Proposal (RFP) Number 648253 dated September 3, 2008 plus all Addenda, including Questions & Answers 1, 2, and 3, and Selection Criteria
Attachment B – Proposal Submitted by the Contractor for RFP 648253 dated October 3, 2008
Attachment C – Revised Pricing for Cooperative Use
Attachment D – Revised Master Agreement for Cooperative Use - Virginia

all of which contract documents are incorporated herein.

The parties agree to execute this Contract by electronic means, via facsimile/scanned signatures.

By: 
Contractor Authorized Signature

By: 
Virginia Tech Authorized Signature

In WITNESS WHEREOF, the parties have caused this Contract to be duly executed intending to be bound thereby.

Contractor:

By: Bill Trick
Name: Bill Trick
Title: Director, Financial Services

Virginia Tech:

By: John D. Krallman
Name: John D. Krallman
Title: Director of IT Acquisitions
# Table of Contents for Contract Attachments

**RFP 648253**  Contract UCP-TS-C02-10

<table>
<thead>
<tr>
<th>Section</th>
<th>Page Number</th>
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<tbody>
<tr>
<td>Contract</td>
<td>1</td>
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<tr>
<td>Attachment A – Request for Proposal (RFP) Number 648253 dated September 3, 2008 plus all Addenda, including Pre-Proposal Conference Registration, Questions &amp; Answers 1, 2, and 3, and Selection Criteria</td>
<td>3</td>
</tr>
<tr>
<td>Attachment B – Proposal submitted by the Contractor for RFP 648253 dated October 3, 2008</td>
<td>24</td>
</tr>
<tr>
<td>Attachment C – Revised Pricing for Cooperative Use</td>
<td>154</td>
</tr>
<tr>
<td>Attachment D – Revised Master Agreement for Cooperative Use - Virginia</td>
<td>156</td>
</tr>
</tbody>
</table>
Attachment A

Request for Proposal Number 648253 dated September 3, 2008
plus all Addenda, including Pre-Proposal Conference Registration,
Questions & Answers 1, 2, and 3, and Selection Criteria

Request for Proposal # 648253
Contract # UCP-TS-C02-10
Request for Proposal #648253

For

Learning Management Systems

September 3, 2008
QUESTIONS: All inquiries for information regarding this solicitation should be directed to: Nancy Sterling, Senior Contracts Officer, Phone: (540) 231-9517, e-mail: nancy.sterling@vt.edu.

DUE DATE: Sealed Proposals will be received until October 3, 2008 at 3:00 PM. Failure to submit proposals to the correct location by the designated date and hour will result in disqualification.

ADDRESS: Proposals should be mailed or hand delivered to: Virginia Polytechnic Institute and State University (Virginia Tech), Information Technology Acquisitions Office (0214), 1700 Pratt Drive, Blacksburg, Virginia 24061. Reference the Opening Date and Hour, and RFP Number in the lower left corner of the return envelope or package.

In compliance with this Request for Proposal and to all the conditions imposed therein and hereby incorporated by reference, the undersigned offers and agrees to furnish the goods and services in accordance with the attached signed proposal and as mutually agreed upon by subsequent negotiation.

TYPE OF BUSINESS: (Please check all applicable classifications). If your classification is certified by the Virginia Department of Minority Business Enterprise, provide your certification number: _______________. For certification assistance, please visit: http://www.dmbe.state.va.us/swamcert.html.

___ Large.

___ Small. An independently owned and operated business which, together with affiliates, has 250 or fewer employees or average annual gross receipts of $10 million or less averaged over the previous three years. Department of Minority Business Enterprise (DMBE) certified women-owned and minority-owned business shall also be considered small business when they have received DMBE small business certification.

___ Women-Owned. A business concern that is at least 51% owned by one or more women who are U. S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law, and both the management and daily business operations are controlled by one or more women who are U. S. citizens or legal resident aliens.

___ Minority-Owned. A business concern that is at least 51% owned by one or more minority individuals (see Section 2.2-1401, Code of Virginia) or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

COMPANY INFORMATION/SIGNATURE: In compliance with this Request for Proposal and to all the conditions imposed therein and hereby incorporated by reference, the undersigned offers and agrees to furnish the goods and services in accordance with the attached signed proposal and as mutually agreed upon by subsequent negotiation.

<table>
<thead>
<tr>
<th>FULL LEGAL NAME (PRINT)</th>
<th>FEDERAL TAXPAYER NUMBER</th>
<th>CONTRACTOR’S REGISTRATION</th>
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</thead>
<tbody>
<tr>
<td>(Company name as it appears with your Federal Taxpayer Number)</td>
<td>(ID#)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUSINESS NAME/DBA NAME/TA NAME</th>
<th>FEDERAL TAXPAYER NUMBER</th>
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</thead>
<tbody>
<tr>
<td>(If different than the Full Legal Name)</td>
<td>(If different than ID# above)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BILLING NAME</th>
<th>FEDERAL TAXPAYER NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Company name as it appears on your invoice)</td>
<td>(If different than ID# above)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PURCHASE ORDER ADDRESS</th>
<th>PAYMENT ADDRESS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CONTACT NAME/TITLE (PRINT)</th>
<th>SIGNATURE (IN INK)</th>
<th>DATE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>E-MAIL ADDRESS</th>
<th>TELEPHONE NUMBER</th>
<th>TOLL FREE TELEPHONE NUMBER</th>
<th>FAX NUMBER TO RECEIVE E-PROCUREMENT ORDERS</th>
</tr>
</thead>
</table>
I. PURPOSE:

The purpose of this Request for Proposal (RFP) is to solicit sealed proposals to establish a contract or contracts through competitive negotiations for learning management systems (LMS) and associated services for higher education, specifically any public or private college or university in the Commonwealth of Virginia accredited by the Southern Association of Colleges and Schools (SACS), K-12 educational schools or school districts in the Commonwealth of Virginia; and other institutions and agencies in the Commonwealth of Virginia. Virginia Tech invites vendors of both proprietary systems and open source systems to respond to this solicitation.

II. CONTRACT PERIOD:

The term of this contract or contracts will be for five years, or as negotiated. There will be an option for five, one-year renewals, or as negotiated.

III. BACKGROUND:

There are currently 39 public institutions of higher education in the Commonwealth of Virginia serving approximately 370,000 students. In addition, there are 33 private non-profit colleges and universities serving approximately 79,000 students. Most of these institutions are using learning management systems to deliver course content to students. This software provides a mechanism for faculty to place courses online for students in both the residential setting and for students at distance. Since the establishment of a learning management system on a university campus requires a substantial investment in training and course content development, it is very expensive to transition to a different system once courses are put online.

A. Therefore, it is important that any contract or contracts resulting from this solicitation provide options for universities to continue to use their current LMS as well as other LMS deemed suitable through the RFP evaluation process.

B. The contract or contracts will cover all the teaching, research and service roles of an institutions’ faculty, staff, students, and outreach affiliates, regardless of location, including credit and non-credit students, persons enrolled in continuing education activities, and outreach or extension programs.

C. Content developed by faculty and staff using the LMS can be published or otherwise distributed externally without additional payments to the LMS vendor. For example, a course produced under a grant can be marketed by the institution, or assigned to others, without a royalty to the LMS vendor.

D. In no case will the LMS vendor have any claim on the intellectual property developed by an institution or its employees.

IV. CONTRACT PARTICIPATION:

It is the intent of this solicitation and resulting contract(s) to allow for cooperative procurement. Accordingly, any public body, public or private health or educational institutions, or Virginia Tech’s affiliated corporations may access any resulting contract(s) if authorized by the contractor.

Participation in this cooperative procurement is strictly voluntary. If authorized by the Contractor, the resultant contract(s) may be extended to the entities indicated above to purchase at contract prices in accordance with contract terms. The Contractor shall notify Virginia Tech in writing of any such entities accessing the contract. The Contractor will provide semi-annual usage reports for all entities accessing the Contract. Participating entities shall place their own orders directly with the Contractor and shall fully and independently administer their use of the contract to include contractual disputes, invoicing and payments without direct administration from Virginia Tech. Virginia Tech shall not be held liable for any costs or damages incurred by any other participating entity as a result of any authorization by the Contractor to extend the contract. It is understood and agreed that Virginia Tech is not responsible for the acts or omissions of any entity, and will not be considered in default of the contract no matter the circumstances.

Use of this contract does not preclude any participating entity from using other contracts or competitive processes as the need may be.

The resulting contracts will be optional use contracts. The Users of the contract(s) named in the Statement of Needs are in no way required to make purchases from the Contractor(s) and may in their sole discretion purchase the identical and/or similar goods/services from other sources. Any estimates/quantities contained herein do not represent a purchase commitment by the Users of the contract(s).
V. EVA BUSINESS-TO-GOVERNMENT ELECTRONIC PROCUREMENT SYSTEM:

The eVA Internet electronic procurement solution streamlines and automates government purchasing activities within the Commonwealth of Virginia. Virginia Tech, and other state agencies and institutions, have been directed by the Governor to maximize the use of this system in the procurement of goods and services. *We are, therefore, requesting that your firm register as a trading partner within the eVA system.*

There are registration fees and transaction fees involved with the use of eVA. These fees must be considered in the provision of quotes, bids and price proposals offered to Virginia Tech. Failure to register within the eVA system may result in the quote, bid or proposal from your firm being rejected and the award made to another vendor who is registered in the eVA system.

Registration in the eVA system is accomplished on-line. Your firm must provide the necessary information. Please visit the eVA website portal at [www.eva.state.va.us](http://www.eva.state.va.us) and complete the Ariba Commerce Services Network registration. *This process needs to be completed before Virginia Tech can issue your firm a Purchase Order or contract.* If your company conducts business from multiple geographic locations, please register these locations in your initial registration.

For registration and technical assistance, reference the eVA website at: [eVACustomerCare@dgs.virginia.gov](mailto:eVACustomerCare@dgs.virginia.gov), or call 866-289-7367 or 804-371-2525.

VI. STATEMENT OF NEEDS:

Learning Management Systems are needed that will allow any state college or university, state agency, independent, non-profit college or university, or K-12 school system in the Commonwealth to purchase a license. These LMS provide the software platform for providing online course content to students in an efficient and cost effective manner.

A. The goal is to negotiate a multi-year contract.
B. Institutions should have the ability to renew initially in increments to reach a July 1 contract date, and be able to renew in twelve month or greater increments thereafter.
C. The contractor must provide documentation of all work performed for any work agreement.
D. If a problem is discovered where the software does not perform according to the documentation or representation of the contractor’s staff, the contractor shall fix the problem, at its own expense, including any required work-around solutions that may be necessary to ensure a successful implementation.
E. Acceptance testing will be based on a plan developed jointly by the institution and the contractor and will be performed by the institution for a minimum period of thirty (30) days.
F. Testing will commence upon completion of installation.
G. The contractor shall participate in the acceptance test, in accordance with the jointly developed plan, until the acceptance of the software is complete to the institution’s satisfaction.
H. A standard purchase under this contract should include one (1) license that encompasses production use, development and testing purposes and student teacher training. The test, development, and student teacher training instances will not be used for production purposes.

VII. PROPOSAL PREPARATION AND SUBMISSION:

A. General Requirements:

1. RFP Response: In order to be considered for selection, Offerors must submit a complete response to this RFP. The proposal shall be submitted in both print and electronic media as follows: *One (1) printed original, seven (7) printed copies, and one (1) electronic media copy in a generally used format(s) on CD or DVD media, with delivery to:*
   
   Virginia Polytechnic Institute and State University
   Attn: Nancy Sterling, Sr. IT Contract Officer
   Information Technology Acquisitions (0214)
   1700 Pratt Dr.
   Blacksburg, VA 24061

   Reference the Opening Date and Hour, and RFP Number in the lower left hand corner of the return envelope or package.

   No other distribution of the proposals shall be made by the Offeror.
2. Proposal Preparation:
   
a. Proposals shall be signed by an authorized representative of the Offeror. All information requested should be submitted. Failure to submit all information requested may result in Virginia Tech requiring prompt submission of missing information and/or giving a lowered evaluation of the proposal. Virginia Tech may reject proposals, which are substantially incomplete or lack key information, at its discretion. Mandatory requirements are those required by law or regulation or are such that they cannot be waived and are not subject to negotiation.

b. Proposals should be prepared simply and economically providing a straightforward, concise description of capabilities to satisfy the requirements of the RFP. Emphasis should be on completeness and clarity of content.

c. Proposals should be organized in the order in which the requirements are presented in the RFP. All pages of the proposal should be numbered. Each paragraph in the proposal should reference the paragraph number of the corresponding section of the RFP. It is also helpful to cite the paragraph number, sub-letter, and repeat the text of the requirement as it appears in the RFP. If a response covers more than one page, the paragraph number and sub-letter should be repeated at the top of the next page. The proposal should contain a table of contents that cross references the RFP requirements. Information which the offeror desires to present that does not fall within any of the requirements, such as any license agreement, of the RFP should be inserted at an appropriate place or be attached at the end of the proposal and designated as additional material. Proposals that are not organized in this manner risk elimination from consideration if the evaluators are unable to find where the RFP requirements are specifically addressed.

d. Each copy of the proposal should be bound in a single volume where practical. All documentation submitted with the proposal should be bound in that single volume.

e. Ownership of all data, material and documentation originated and prepared for Virginia Tech pursuant to the RFP shall belong exclusively to Virginia Tech and be subject to public inspection in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by an Offeror shall not be subject to public disclosure under the Virginia Freedom of Information Act. However, to prevent disclosure the Offeror must invoke the protections of Section 2.2-4342F of the Code of Virginia, in writing, either before or at the time the data or other materials is submitted. The written request must specifically identify the data or other materials to be protected and state the reasons why protection is necessary. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. The classification of an entire proposal document, line item prices and/or total proposal prices as proprietary or trade secrets is not acceptable and may result in rejection of the proposal.

3. Oral Presentation: Offerors who submit a proposal in response to this RFP may be required to give an oral presentation of their proposal to Virginia Tech. This will provide an opportunity for the Offeror to clarify or elaborate on the proposal but will in no way change the original proposal. Virginia Tech will schedule the time and location of these presentations. Oral presentations are an option of Virginia Tech and may not be conducted. Therefore, proposals should be complete.

B. Specific Requirements: Proposals should be as thorough and detailed as possible so that Virginia Tech may properly evaluate your capabilities to provide the required goods and services. Offerors are required to submit the following information/items as a complete proposal:

1. The return of the General Information Form and addenda, if any, signed and filled out as required.

2. The return of the completed Virginia Tech Security Questionnaire for Technology-based Procurements

3. Small, Women-owned and Minority-owned Business (SWAM) Utilization: If your business can not be classified as Small, Women-owned, or Minority-owned, describe your plan for utilizing SWAM businesses if awarded a contract. Describe your ability to provide statistical reporting on actual SWAM subcontracting when requested. If your firm or any business that you plan to subcontract with can be classified as SWAM, but has not been certified by the Virginia Department of Minority Business Enterprise
it is expected that the certification process will be initiated no later than the time of the award, and the final DMBE certification decision and certification number provided.

4. **Vendor Background and Customers:**
   a. Provide your company’s ownership, history, number of years in business, size, an indication of its financial health, and strategic partners.
   b. Identify the parent corporation and any subsidiaries.
   c. Describe your major products and services, including the different product versions that may be appropriate for institutions with different enrollments and varying levels of integration with administrative systems.
   d. What distinguishes your company and its products and services from your competitors?
   e. Provide a current list of your key customers, and all customers that comprise more than 5% of the company’s revenue.
   f. Describe the details of the LMS implementation of one of your major clients.
   g. Describe the largest institutional (as opposed to vendor-in-house) implementation of your LMS including the number of active classes and students supported by this implementation and the system architecture (if known). Provide the client name, address and the name and phone number of the individual Virginia Tech has your permission to contact.
   h. Provide three (3) additional recent references, either educational or governmental, for whom you have provided the type of goods and services described herein. Include the date(s) the goods and services were furnished, the client name, address and the name and phone number of the individual Virginia Tech has your permission to contact.
   i. Provide references of customers having similar statewide contracts.
   j. Describe procedures, such as source code escrow, to protect an institution’s use of the software if the vendor enters bankruptcy proceedings or otherwise cannot support buyers.

5. **System Background:**
   a. Describe your system architecture and how it’s designed for scalability.
   b. Describe the underlying languages used for system development.
   c. What backend databases are supported?
   d. Which are recommended?
   e. Describe the documentation available for the schema.
   f. What operating systems are supported?
   g. Describe your recommended hardware and software configuration(s) scaling support for loads ranging from student enrollments of 1000 to 200,000 and up.
   h. For each major function, describe your system’s simultaneous user load capability.
   i. Describe the ability to customize vs. configure your LMS.
   j. Define what acceptable performance is, how it is measured, and how the system software and hardware can be scaled to maintain acceptable performance.
   k. Provide a detailed description of how load is balanced.
   l. Estimate how many local man-hours are required for 1) installation, 2) upgrades, and 3) regular maintenance.

6. **System Development and Security:**
   a. Describe your beta testing methodology, how it has evolved, and its future direction.
   b. Describe your quality assurance procedures.
   c. Describe your system’s application security measures, its audit trail capability, and how it can perform data authentication.
   d. Complete the Virginia Tech Security Questionnaire for Technology-based Procurements (Attachment B)
7. **System Integration:**
   a. Describe the system integration capabilities of your system with third-party systems, including but not limited to authentication systems, administrative systems, student-information systems, portals, content repositories, and institutional assessment tools.
   b. Describe how the LMS can provide authentication and/or portal services by itself and also with third-party systems.
   c. Describe the capability, unique features, and constraints involved to turn off built-in LMS tools and replace them with third-party tools, e.g., assessment engine.
   d. Identify the third-party systems that have been integrated with your LMS.
   e. Give details of data import and export capabilities.
   f. Describe the process needed to achieve the integration and how it is accomplished (batch, real-time, etc.).
   g. What formal system integration relationships exist with PeopleSoft, SCT, and Datatel.
   h. Describe a major customer’s experiences with integration with PeopleSoft, SCT-Banner, or Datatel systems, third-party authentication, and external tools like assessment engines.
   i. Describe each standard LMS system report available.
   j. Describe how custom LMS system reports can be generated, including the process (and any restrictions) on how back-end databases can be queried for specific customer-defined dynamic reporting needs.
   k. Describe the documentation provided for the back-end databases, including schemas used.
   l. Describe means by which custom components, tools or plug-ins can be developed.
   m. Describe means by which data stored in the application may be accessed from other systems – e.g. direct database access, web services, etc.
   n. Describe mechanism for faculty to retrieve their course content from the LMS in a meaningful end-user format.

8. **Course Content:**
   a. Describe how your system supports building of course content.
   b. What and where is information maintained, and how is it structured?
   c. Describe how your system handles course registration and prerequisites.
   d. Describe your content management capabilities.
   e. Describe how your system handles assignment submissions, including but not limited to how assignments are created, how students submit assignments how assignments are stored, and how assignments are returned to students.
   f. What authoring tools unique to your system are available?
   g. Discuss compatibility with courseware interoperability standards.
   h. Describe what assurances exist that course content can always migrate forward to newer version of product, either directly or through vendor provided tools.
   i. Describe conversion tools or processes for converting existing course content from Blackboard and WebCT systems into vendor’s system.
   j. Compared to competitive products, describe how your system is more compatible with Section 508 of the Federal Rehabilitation Act, SCORM, IMS, AICC and similar standards. In that regard, what unique features does your system provide?

9. **Assessment:**
   a. Describe your systems’ capability for creating, administering and tracking tests, evaluations and surveys.
   b. How are questions assembled into tests, exams, quizzes and surveys?
   c. What formats can be exported and imported?
   d. Describe the multiple assessment types available.
   e. How are feedback and scores provided to students?
   f. How are responses stored?
   g. What standard reports are generated?

10. **Implementation and Training:**
    a. Describe your company’s implementation methodology.
    b. What implementation resources are available?
    c. Describe your approach to project management.
    d. How are change requests managed?
    e. Describe professional services available.
    f. What technical and functional training is provided with your product or service?
g. How much and what type of training is recommended for a system administrator and for faculty to use your product?

h. Describe the documentation provided, including on-line resources.

11. System Releases/Upgrades:
   a. What is your current release?
   b. About how many releases are there each year and what is the timing?
   c. How long are new releases supported?
   d. How are bug fixes released?
   e. How are customers notified?
   f. How do customers access upgrades?
   g. Describe the process for transitioning course content to newer versions.
   h. Describe how customers can make recommendations for product changes.
   i. Describe the past processes for upgrading your software from one version to another, converting course content from one version to another, and the effort anticipated to be borne by your customers in these conversions.

12. Support:
   a. Provide details on your company’s support plan(s).
   b. Describe your company’s approach to responsiveness to problems: initial maximum response time, and the procedure for escalating the problem to reach a solution.

13. Professional Services:
   a. Describe and give examples of the professional services available from the company.
   b. Describe what measures are taken to develop price estimates, and what steps are taken to insure actual work does not exceed estimates.

14. Hosting (ASP):
   a. Describe your hosting capabilities.
   b. Include details on security, redundancy, uptime %, backup, and recovery.
   c. Describe and provide samples of service level agreements (SLA) you offer.
   d. Provide the ASP average uptime per month.
   e. Describe the extent of scheduled maintenance windows that could disrupt service.
   f. How much notice is given for unscheduled maintenance?

15. Price:
   a. Provide all pricing that will apply to your offer over the period of the contract.

16. Warranty:
   a. Describe the terms and conditions of any warranty on the software and professional services available.
   b. Describe how such warranty is implemented to provide problem resolution services.

VIII. SELECTION CRITERIA AND AWARD:

A. Selection Criteria: Proposals will be evaluated by Virginia Tech using the following:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Maximum Point Value</th>
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<tbody>
<tr>
<td>Cost of License</td>
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<tr>
<td>Scope &amp; Breadth</td>
<td></td>
</tr>
<tr>
<td>SWAM Utilization</td>
<td></td>
</tr>
</tbody>
</table>

Total 100 %
B. **Award**: Selection shall be made of two or more offerors deemed to be fully qualified and best suited among those submitting proposals on the basis of the evaluation factors included in the Request for Proposal, including price, if so stated in the Request for Proposal. Negotiations shall be conducted with the offerors so selected. Price shall be considered, but need not be the sole determining factor. After negotiations have been conducted with each offeror so selected, Virginia Tech shall select the offeror(s) who, in its opinion, have made the best proposal(s), and shall award the contract(s) to that offeror or offerors. Virginia Tech may cancel this Request for Proposal or reject proposals at any time prior to an award. Should Virginia Tech determine in writing and in its sole discretion that only one offeror is fully qualified, or that one offeror is clearly more highly qualified than the others under consideration, a contract may be negotiated and awarded to that offeror. The award document will be a contract incorporating by reference all the requirements, terms and conditions of this solicitation and the Contractor's proposal as negotiated. See Attachment C for sample contract form.

Virginia Tech reserves the right to award more than one contract as a result of this solicitation.

IX. **OPTIONAL PRE-PROPOSAL CONFERENCE**:

An optional pre-proposal conference will be held on Tuesday, September 16, 2008 at 1:30 p.m. in Room #115, Research Building #14, Corporate Research Center, 1770 Forecast Drive, Blacksburg, VA. The purpose of this conference is to allow potential Offerors an opportunity to present questions and obtain clarification relative to any facet of this solicitation.

While attendance at this conference will not be a prerequisite to submitting a proposal, offerors who intend to submit a proposal are encouraged to attend.

Bring a copy of this solicitation with you. Any changes resulting from this conference will be issued in a written addendum to this solicitation.

All questions and answers from this conference will be posted on the department website: [http://www.ita.vt.edu/LMS-RFP](http://www.ita.vt.edu/LMS-RFP). Additional questions may be emailed to nancy.sterling@vt.edu. These questions and subsequent answers will also be posted on the department website. **Question will be accepted through September 23, 2008.**

X. **CONTRACT ADMINISTRATION**:

A. John D. Krallman, Director of Information Technology Acquisitions, at Virginia Tech or his designee, shall be identified as the Contract Administrator and shall use all powers under the contract to enforce its faithful performance.

B. The Contract Administrator, or his designee, shall determine the amount, quantity, acceptability, fitness of all aspects of the services and shall decide all other questions in connection with the services. The Contract Administrator, or his designee, shall not have authority to approve changes in the services which alter the concept or which call for an extension of time for this contract. Any modifications made must be authorized by the Virginia Tech ITA Office through a written amendment to the contract.

XI. **ATTACHMENTS**:

Attachment A- Terms and Conditions
Attachment B- Virginia Tech Security Questionnaire for Technology-based Procurements
Attachment C - Standard Contract Form
ATTACHMENT A

TERMS AND CONDITIONS

RFP General Terms and Conditions

Special Terms and Conditions

1. **AUDIT**: The Contractor hereby agrees to retain all books, records, and other documents relative to this contract for five (5) years after final payment, or until audited by the Commonwealth of Virginia, whichever is sooner. Virginia Tech, its authorized agents, and/or the State auditors shall have full access and the right to examine any of said materials during said period.

2. **AVAILABILITY OF FUNDS**: It is understood and agreed between the parties herein that Virginia Tech shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement.

3. **CANCELLATION OF CONTRACT**: Virginia Tech reserves the right to cancel and terminate any resulting contract, in part or in whole, without penalty, upon 60 days written notice to the Contractor. In the event the initial contract period is for more than 12 months, the resulting contract may be terminated by either party, without penalty, after the initial 12 months of the contract period upon 60 days written notice to the other party. Any contract cancellation notice shall not relieve the Contractor of the obligation to deliver and/or perform on all outstanding orders issued prior to the effective date of cancellation.

4. **CONTRACT DOCUMENTS**: The contract entered into by the parties shall consist of the Request for Proposal including all modifications thereof, the proposal submitted by the Contractor, the written results of negotiations, the Commonwealth Standard Contract Form, all of which shall be referred to collectively as the Contract Documents. A separate contract will be executed by each agency, institution or public body wishing to use any contract resulting from this solicitation.

5. **INDEPENDENT CONTRACTOR**: The contractor shall not be an employee of Virginia Tech, but shall be an independent contractor. Nothing in this agreement shall be construed as authority for the contractor to make commitments which shall bind Virginia Tech, or to otherwise act on behalf of Virginia Tech, except as Virginia Tech may expressly authorize in writing.

6. **INSURANCE**: By signing and submitting a proposal under this solicitation, the Offeror certifies that if awarded the contract, it will have the following insurance coverages at the time the work commences. Additionally, it will maintain these during the entire term of the contract and that all insurance coverages will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission. During the period of the contract, Virginia Tech reserves the right to require the Contractor to furnish certificates of insurance for the coverage required.

   **INSURANCE COVERAGES AND LIMITS REQUIRED**:
   A. Worker's Compensation - Statutory requirements and benefits.
   B. Employers Liability - $100,000.00
   C. General Liability - $500,000.00 combined single limit. Virginia Tech and the Commonwealth of Virginia shall be named as an additional insured with respect to goods/services being procured. This coverage is to include Premises/Operations Liability, Products and Completed Operations Coverage, Independent Contractor's Liability, Owner's and Contractor's Protective Liability and Personal Injury Liability.
   D. Automobile Liability - $500,000.00
   E. Professional Liability to include errors and omissions- $500,000.00/occurrence.

   The contractor agrees to be responsible for, indemnify, defend and hold harmless Virginia Tech, its officers, agents and employees from the payment of all sums of money by reason of any claim against them arising out of any and all occurrences resulting in bodily or mental injury or property damage that may happen to occur in connection with and during the performance of the contract, including but not limited to claims under the Worker's Compensation Act. The contractor agrees that it will, at all times, after the completion of the work, be responsible for, indemnify, defend and hold harmless Virginia Tech, its officers, agents and employees from all liabilities resulting from bodily or mental injury or property damage directly or indirectly arising out of the performance or nonperformance of the contract.

7. **MINORITY BUSINESS, WOMEN-OWNED BUSINESSES SUBCONTRACTING AND REPORTING**: Where it is practicable for any portion of the awarded contract to be subcontracted to other suppliers, the contractor is encouraged to offer such business to minority and/or women-owned businesses. Names of firms may be available from the buyer and/or from the Division of Purchases and Supply. When such business has been subcontracted to these firms and upon
completion of the contract, the contractor agrees to furnish the purchasing office the following information: name of firm, phone number, total dollar amount subcontracted and type of product/service provided.

8. **NOTICES:** Any notices to be given by either party to the other pursuant to any contract resulting from this solicitation shall be in writing, hand delivered or mailed to the address of the respective party at the following address:

   If to Contractor:
   
   Address Shown On RFP Cover Page
   Attention: Name of Person Signing RFP

   If to Virginia Tech:
   
   Virginia Polytechnic Institute and State University
   Attn: Nancy Sterling, Sr. IT Contract Officer
   Information Technology Acquisitions (0214)
   1700 Pratt Dr.
   Blacksburg, VA 24061

9. **PROPOSAL ACCEPTANCE PERIOD:** Any proposal received in response to this solicitation shall be valid for 120 days. At the end of the 120 days the proposal may be withdrawn at the written request of the Offeror. If the proposal is not withdrawn at that time it remains in effect until an award is made or the solicitation is cancelled.

10. **PRIME CONTRACTOR RESPONSIBILITIES:** The Contractor shall be responsible for completely supervising and directing the work under this contract and all subcontractors that he may utilize, using his best skill and attention. Subcontractors who perform work under this contract shall be responsible to the prime Contractor. The Contractor agrees that he is as fully responsible for the acts and omissions of his subcontractors and of persons employed by them as he is for the acts and omissions of his own employees.

11. **PROPOSAL PRICES:** Proposal shall be in the form of a firm unit price for each item or service during the contract period.

12. **QUANTITIES:** Quantities set forth in this solicitation are estimates only, and the Contractor shall supply at proposal prices actual quantities as ordered, regardless of whether such total quantities are more or less than those shown.

13. **RENEWAL OF CONTRACT:** This contract may be renewed by Virginia Tech upon written agreement of both parties for up to five successive one year periods only under the terms and conditions of the original contract except as stated in **A** and **B** below. Price increases may be negotiated only at the time of renewal. Written notice of Virginia Tech’s intention to renew shall be given (approximately 90 days) prior to the expiration date of each contract period.

   **A.** If Virginia Tech elects to exercise the option to renew the contract for an additional one-year period, the contract price(s) for the additional year shall not exceed the contract prices of the original contract increased/decreased by no more than the percentage increase/decrease of the other services category of the CPI-W section of the Consumer Price Index of the United States Bureau of Labor Statistics for the latest twelve months for which statistics are available.

   **B.** If during any subsequent renewal period Virginia Tech elects to exercise the option to renew the contract, the contract price(s) for the subsequent renewal period shall not exceed the contract price(s) of the previous renewal period increased/decreased by more than the percentage increase/decrease of the other services category of the CPI-W section for the Consumer Price Index of the United States Bureau of Labor Statistics for the latest twelve months for which statistics are available.

14. **COMMUNICATIONS:** Communications regarding this Request for Proposals (RFP) shall be formal from the date of issue for this RFP, until either a Contractor has been selected or the Information Technology Acquisitions Office rejects all proposals. Formal communications will be directed to the Information Technology Acquisitions Office. Informal communications, including but not limited to request for information, comments or speculations regarding this RFP to any University employee other than an Information Technology Acquisitions Office representative may result in the offending Offeror’s proposal being rejected.

15. **CERTIFICATION TESTING AND ACCEPTANCE:** The system specified in the contract shall be considered ready for production testing upon receipt of documentation from the Contractor that a successful system audit or diagnostic test was performed at the site demonstrating that the system meets the minimum design/performance capabilities stipulated by the contract. The system shall be deemed ready for production certification testing on the day following receipt of this documentation. Virginia Tech shall provide written confirmation of its acceptance following successful completion of the production certification test. System (software and/or hardware) payment will be authorized after the successful completion and certification test(s).

16. **SEVERAL LIABILITY:** Virginia Tech will be severally liable to the extent of its purchases made against any contract resulting from this solicitation. Colleges and Universities Cooperative Group (CUCPG) will be severally liable to the extent of its purchases made against any contract resulting from this solicitation. Applicable departments, institutions, agencies, Public Bodies of the Commonwealth of Virginia and private colleges or universities in the Commonwealth of Virginia will be severally liable to the extent of their purchases made against any contract(s) resulting from this solicitation.
ATTACHMENT B
Virginia Tech Security Questionnaire
For Technology-based Procurements

If purchased, Virginia Tech reserves the right to conduct an IT security assessment on the product(s), system(s) and/or service(s) once delivered to validate the answers to the questions below. If evaluation copies or instances are available for testing, they should be provided to the IT Security Office when requested.

In the space following each question, please provide a Yes, No or a “no answer” (N/A), and add any appropriate comments. If the answer is No or N/A, please provide comments indicating how this question/concern is addressed elsewhere or why it is not applicable.

1. Does your product(s), system(s) and or service(s) protect against the SANS Top 20 security vulnerabilities http://www.sans.org/top20?

2. Does your product(s), system(s) and or service(s) protect against the OWASP http://www.owasp.org/index.php/OWASP_Top_Ten_Project?

3. What specific encryption algorithms are employed for your product(s), system(s) and/or service(s)?

4. Is all sensitive data (i.e. Social Security Numbers, Credit Card Numbers, Health Information, etc) encrypted in transit and at rest? If not, please explain? (NOTE: Please see the Sensitive Information page at http://www.security.vt.edu/sensitiveinfo.html for specifics).

5. Is login information such as user name and password encrypted during transmission from the client to the server? NOTE: Base-64 encoding is not acceptable.

6. Are operating systems (e.g. Windows or Linux), programming and scripting languages (e.g. Java or PHP), web servers (e.g. Apache or IIS), database servers (e.g. Oracle or MySQL), application servers, etc. always promptly patched and current with security updates? If not, please explain.

7. Is all access, including administrative accounts, controlled and logged (i.e. firewalls, file system permissions, ACLs, database table permissions, packet logs, etc.)? If not, please explain.

8. Does your product(s), system(s) and/or service(s) prevent the use of shared credentials or accounts including administrative accounts?
9. Describe how your product(s), system(s) and/or service(s) authenticates and authorizes users?

10. Does your product(s) and/or system(s) facilitate compliance with Federal and State laws, such as FERPA, HIPPA and PCI?

11. Does your company alert customers to vulnerabilities and security issues in a timely fashion? If so, please describe your process.

For hosted services, in addition to questions above

1. Are intrusion detection technologies and firewalls utilized on the hosted system(s)?

2. Describe how your facility is physically secured?

3. Does your network or facility undergo vulnerability scanning and penetration testing?

4. Do your employees hold Information Technology Security certifications and/or secure coding certifications? If so, please describe them.
ATTACHMENT C

Standard Contract form for reference only
Offerors do not need to fill in this form

COMMONWEALTH OF VIRGINIA
STANDARD CONTRACT

Contract Number:________________________

This contract entered into this ____ day of ____________ 20___, by ______________________, hereinafter called the "Contractor" and Commonwealth of Virginia, Virginia Polytechnic Institute and State University called "Virginia Tech".

WITNESSETH that the Contractor and Virginia Tech, in consideration of the mutual covenants, promises and agreements herein contained, agrees as follows:

SCOPE OF CONTRACT: The Contractor shall provide the _____________ to Virginia Tech as set forth in the Contract Documents.

PERIOD OF CONTRACT: From _________________________ through ________________________.

COMPENSATION AND METHOD OF PAYMENT: The Contractor shall be paid by Virginia Tech in accordance with the contract documents.

CONTRACT DOCUMENT: The contract documents shall consist of this signed contract, Request For Proposal Number ___________ dated __________, together with all written modifications thereof and the proposal submitted by the Contractor dated __________ and the Contractor's letter dated __________, all of which contract documents are incorporated herein.

In WITNESS WHEREOF, the parties have caused this Contract to be duly executed intending to be bound thereby.

Contractor: Virginia Tech

By: ________________________________ By: ________________________________

Title: ______________________________ Title: ______________________________
VA Tech RFP 648252 – Learning Management System – Update -1

Re: Optional Pre-Proposal Conference (RFP Section IX, page 9

Date: September 23, 2008
Time: 1:30 pm
Location: RB14, Room 115, 1770 Forecast Dr, Blacksburg, VA 24060

Point of Contact: Nancy Sterling, nancy.sterling@vt.edu, 540-231-9517

NEW - We will offer a choice of in-person or pre-arranged teleconference attendance for the optional pre-proposal conference. All teleconference attendance requires advance arrangements, deadline September 19, 2008, 3:00 pm Eastern time. See Attendance section below.

The format of the conference is to summarize background and procedural information, ask if there are follow-up questions to the Questions & Answers documents already posted to our department website (www.ita.vt.edu), receive any new questions, and close. Note that we do not plan to provide answers to questions immediately. For accuracy we plan to respond in writing in a document entitled Questions & Answers-Conference that will be posted the next day to our department website, www.ita.vt.edu under Computer Purchasing and then under the RFP. Please contact Nancy Sterling if any questions arise.

Attendance:

a) In-person attendance – To attend in person, no pre-arrangement is necessary. However an email to Nancy Sterling with your company name and the number of people planning to attend does help with our planning. Information similar to the teleconference information will be taken at the meeting.

b) Teleconference attendance – To attend by teleconference, pre-arrangement is necessary. The deadline for receipt of teleconference requests is Friday, September 19, 2008 at 3:00 pm Eastern time. The process requires contractors to complete the attached Attendance Roster, including authorized signature confirming the requirements, and email to Nancy Sterling (nancy.sterling@vt.edu). Virginia Tech will provide teleconference access information by Monday, September 22, 2008. Callers will pay their normal long distance fees, if applicable. Note that the maximum number of phone connections per company is two. For sound quality and least background noise, please call from a quiet room, use a hard-wired land line, and mute speakerphones when not addressing the conference.
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY  
Attendance Roster for Pre-Proposal Conference - Teleconference  
**RFP Number 648252 - - Learning Management System (LMS)**  
TELECONFERENCE registration deadline is September 19, 2008, 3:00 pm Eastern - - complete and email this form to nancy.sterling@vt.edu  
Date: September 23, 2008 - - Time: 1:30 pm - - Location: RB14, Room 115, 1770 Forecast Dr, Blacksburg, VA 24060  

**PLEASE PRINT or TYPE**

<table>
<thead>
<tr>
<th>INDIVIDUAL NAME</th>
<th>COMPANY NAME</th>
<th>MAILING ADDRESS</th>
<th>PHONE NUMBER</th>
<th>FAX NUMBER</th>
<th>E-MAIL</th>
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The authorized signature below confirms the following:  
1) the above information is accurate - only those individuals named above will attend the teleconference - any changes will be emailed by Sep 22, 2008, 3:00 pm  
2) the company will honor the **limit of two phone connections** for their entire company  
3) the company will minimize background noise during teleconference participation – suggestions: call from quiet room, use hard-wired land line, mute speakerphones  
4) the company will not share the phone number and access code (provided later) with anyone beyond those named above  

Authorized Signature for Company Named Above:  

Printed/Typed Name and Title:  

[Table continues with blank rows for input]
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<tr>
<th>QUESTION</th>
<th>ANSWER</th>
</tr>
</thead>
</table>
| 1) What is Virginia Tech using for the current LMS and how many FTE you have or anticipate being on your new LMS? | A) Incumbents: Blackboard and Angel Learning.  
B) Approximate FTE: from IPEDS Fall of 2007  
Students 27,572, Faculty 3,115, Staff 4,061 |
| 2) What is the decision process after RFP submissions and when will Virginia Tech be making a decision? Also, when will the new LMS be implemented? | A) Proposal Deadline: Oct 3, 2008, 3:00pm Eastern  
B) Next steps: Proposal review and evaluation, internal meetings, potential for onsite demonstrations and/or clarifications, negotiations, contract development, legal review, contract signing and contract award.  
C) Estimated Contract Award: Feb 2009  
D) Implementation: for Virginia Tech no later than May 2009; however, each agency controls their own implementation date if they choose to use the contract. |
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<thead>
<tr>
<th>QUESTION</th>
<th>ANSWER</th>
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<tbody>
<tr>
<td>1) Is Virginia Tech working with the Department of Education?</td>
<td>No, we have not worked with the Department of Education. We contacted other VASCUPP (VA Assoc of State Colleges and Univ Purchasing Professionals) schools before we issued this RFP.</td>
</tr>
<tr>
<td>2) Do you want only web based solutions?</td>
<td>Ideally offerors will propose their full breadth of services and offerings. Potential contract users have a wide range of needs.</td>
</tr>
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<td>3) See Page 4, Section 6, Statement of Needs. … include one license… Is that one license for up to four instances?</td>
<td>Yes, include pricing for single licenses with up to four instances. Not all schools may use multiple instances, but offer options for up to four.</td>
</tr>
<tr>
<td>4) What learning management systems are schools using now?</td>
<td>Virginia Tech currently uses Blackboard and Sakai (open source). Some schools use our contract with Angel Learning. Not sure of all the options currently in use at other schools.</td>
</tr>
<tr>
<td>5) Please clarify FTE.</td>
<td>Those FTE in Q&amp;A-1 are for Virginia Tech only. Proposals should allow for a wide range of users, including small schools up through a few larger than Virginia Tech.</td>
</tr>
<tr>
<td>6) Are there regional support centers that may purchase for K-12?</td>
<td>We are not aware of regional support centers.</td>
</tr>
<tr>
<td>7) Are you interested in only custom content that each state agency provides, or do you want vendor provided content?</td>
<td>Most of Virginia Tech material will be custom content we develop. However, other users may want populated curriculum if you offer that. Propose broadly, and we can negotiate from there.</td>
</tr>
<tr>
<td>8) What systems will the proposed solutions integrate with?</td>
<td>Virginia Tech runs SCT Banner, but other agencies run other systems, such as PeopleSoft and many others.</td>
</tr>
<tr>
<td>9) What authorization does Virginia Tech use?</td>
<td>Virginia Tech uses an internally developed system based on EduSystem. We use rich authorization capabilities, including CAS (central authorization system), and we are a member of the InCommon defined identity assurance program.</td>
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<tr>
<td>QUESTION</td>
<td>ANSWER</td>
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<tr>
<td>1) What are the guidelines for proposal format?</td>
<td>1) Refer to the RFP. In particular consider Section VI-Statement of Needs and Section VII-Proposal Preparation and Submission. Under Section VII, the format ideally should follow sub-section B-Specific Requirements. Proposal evaluation will be based on Section VIII-Selection Criteria and Award.</td>
</tr>
<tr>
<td>2) Can you provide a copy of the current incumbent contracts preceding Request for Proposal #648253.</td>
<td>2) State contracts are public information except sections marked or negotiated as confidential. You may access the incumbent contracts related to RFP 648253 at the URL below. Note that the final pricing and negotiations for the Blackboard contract are confidential and therefore those attachments are not included. <a href="https://www.ita.vt.edu/contracts/BLACKBOARD-ANGEL.zip">https://www.ita.vt.edu/contracts/BLACKBOARD-ANGEL.zip</a>.</td>
</tr>
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RFP 648253 - Learning Management Systems

I. SELECTION CRITERIA AND AWARD:

A. Selection Criteria: Proposals will be evaluated by Virginia Tech using the following:

<table>
<thead>
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<th>Criteria</th>
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<td>20%</td>
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<tr>
<td>Functional Features and Support Services</td>
<td>35%</td>
</tr>
<tr>
<td>Company Background &amp; Financial Stability</td>
<td>10%</td>
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<tr>
<td>System Integration</td>
<td>10%</td>
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<td>Scope &amp; Breadth</td>
<td>15%</td>
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<tr>
<td>SWAM Utilization</td>
<td>10%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100 %</strong></td>
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Attachment B
Proposal Submitted by the Contractor dated October 3, 2008

Request for Proposal # 648253
Contract # UCP-TS-C02-10
Request for Proposal

Virginia Tech University
October 3, 2003
October 3, 2008

Virginia Polytechnic Institute and State University (Virginia Tech)
Attention: Information Technology Acquisitions Office
Nancy Sterling, Senior Contracts Officer
1700 Pratt Drive, Blacksburg, Virginia 24061

Re: Request for Proposal #648253

Dear Ms. Sterling:

It was a pleasure to meet you at the Bidder’s Conference and I thank you for the opportunity to formally respond in writing to your interest in Desire2Learn and our industry leading eLearning solution for Virginia Tech University. Desire2Learn has several clients in the state of Virginia and we look forward to providing Virginia Tech the same level of excellence with our technology and services as we do for the Virginia Department of Education.

Desire2Learn has over five (5) million reasons why we are fast becoming the global leader in providing eLearning solutions to help clients achieve their mission. We are confident we will be able to demonstrate why Desire2Learn is the best partner and eLearning provider for Virginia Tech.

Our Enterprise Learning Management Suite of solutions is recognized as a world leader with the most complete and adaptable suite of enterprise software products and services to power your learning infrastructure. Our clients’ successes and experiences include some of the world’s largest implementations of a state-wide e-Learning platform.

Desire2Learn’s client-centric philosophy and approach to software design and collaboration, as well as customization, flexibility and ease-of-use, separate the Desire2Learn Learning Environment from others in the marketplace.

Desire2Learn’s e Learning Suite represents an integrated set of products built on a common platform. The Learning platform represents the foundation of the eLearning Suite including the infrastructure for all products and services. As the individual products share a common infrastructure, they integrate seamlessly to provide maximum value to clients. The products and services include:

- Enterprise Learning Environment 8.3
- Learning Object Repository 3.9 (Optional)
- LiveRoom 4.0 (Optional)
- Registration and eCommerce (Optional)
- Implementation Services
- Support Services
- Content Services
- Training Services
• Hosting Services

The Desire2Learn platform is the result of nine years of intense R&D and close work with institutional and academic clients, including the University of Wisconsin System, Tennessee Board of Regents, Minnesota State Colleges and Universities, Florida Distance Learning Consortium, State of South Carolina, Maryland State Department of Education, and hundreds of additional schools, colleges and universities. The result is an exceptional platform with an easy-to-use and learner-centric interface and a minimal learning curve, allowing you to get started quickly and grow with ease toward your objectives.

Desire2Learn believes an eLearning platform should not dictate your approach to teaching and learning. It should be tailored to your needs, desired look and feel, philosophy, vision, brand, and pedagogical approach. Desire2Learn can be configured to accurately mirror your organization’s physical or organizational structure, if desired, and will allow for consistency and standardization in all areas of the implementation (e.g., reporting, portal and course branding, tracking requirements, administrative functions, data management, etc.). This consistency can be maintained while still allowing for a high-level of autonomy among various learning organizations, departments, and schools.

Desire2Learn is experienced in providing learning platforms to a wide range of concurrent users for clients with dozens to hundreds of thousands of learners. We are currently serving over five million students and learners. We have the ability to host your online learning for internal and third-party content. Desire2Learn provides hosting for 40% of our customers. You will always have full control over all aspects of course administration, regardless of your hosting choice, and Desire2Learn will assist you and support you should you decide to self-host your implementation.

Desire2Learn can also help you migrate your existing content from other systems or locations, train staff, and integrate with your existing enterprise systems. Desire2Learn has extensive experience in accepting recurring data feeds from diverse Enterprise Systems; we understand that an Enterprise Learning Environment should not function in isolation from your other critical systems.

We have developed an integrated, standards-based Learning Object Repository (LOR) system that enables you to import/create learning resources, tag and store for easy search and retrieval into the learning environment. The repository can also provide useful reports to maximize user achievement and dramatically reduce the time and cost required for creating quality content.

Desire2Learn’s solution will provide Virginia Tech with a robust, scalable and consistent platform across the organization, with the ability to have sub-domains at multiple organizational units, to support online learning, professional development, training, registration, enrollment, and tracking of course participation and content mastery. Desire2Learn’s company’s client-centric philosophy and approach to software design and collaboration, as well as customization, flexibility and ease-of-use, separate us from others in the marketplace.

Warmest Regards,

Steven Rutherford
RFP 9999999
GENERAL INFORMATION FORM

QUESTIONS: All inquiries for information regarding this solicitation should be directed to: Nancy Sterling, Senior Contracts Officer, Phone: (540) 231-9517, e-mail: nancy.sterling@vt.edu.

DUE DATE: Sealed Proposals will be received until October 3, 2008 at 3:00 PM. Failure to submit proposals to the correct location by the designated date and hour will result in disqualification.

ADDRESS: Proposals should be mailed or hand delivered to: Virginia Polytechnic Institute and State University (Virginia Tech), Information Technology Acquisitions Office (0214), 1700 Pratt Drive, Blacksburg, Virginia 24061. Reference the Opening Date and Hour, and RFP Number in the lower left corner of the return envelope or package.

In compliance with this Request for Proposal and to all the conditions imposed therein and hereby incorporated by reference, the undersigned offers and agrees to furnish the goods and services in accordance with the attached signed proposal and as mutually agreed upon by subsequent negotiation.

TYPE OF BUSINESS: (Please check all applicable classifications). If your classification is certified by the Virginia Department of Minority Business Enterprise, provide your certification number: ______________. For certification assistance, please visit: http://www.dmbc.state.va.us/swampeert.html.

- Large.
- Small. An independently owned and operated business which, together with affiliates, has 250 or fewer employees or average annual gross receipts of $10 million or less averaged over the previous three years. Department of Minority Business Enterprise (DMBE) certified women-owned and minority-owned business shall also be considered small business when they have received DMBE small business certification.
- Women-Owned. A business concern that is at least 51% owned by one or more women who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law, and both the management and daily business operations are controlled by one or more women who are U.S. citizens or legal resident aliens.
- Minority-Owned. A business concern that is at least 51% owned by one or more minority individuals (see Section 2.2-1401, Code of Virginia) or in the case of a corporation, partnership, or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

COMPANY INFORMATION/SIGNATURE: In compliance with this Request for Proposal and to all the conditions imposed therein and hereby incorporated by reference, the undersigned offers and agrees to furnish the goods and services in accordance with the attached signed proposal and as mutually agreed upon by subsequent negotiation.

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<td>Bill Trick</td>
<td></td>
<td>October 2, 2008</td>
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<tr>
<td>Manager of Financial Services</td>
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<th>FAX NUMBER TO RECEIVE E-PROCUREMENT ORDERS</th>
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<tr>
<td><a href="mailto:Bill.Trick@desire2learn.com">Bill.Trick@desire2learn.com</a></td>
<td>519-722-0325 x 250</td>
<td>1-888-722-0325 x 250</td>
<td></td>
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Contents

Executive Summary ....................................................................................................................... 5
4. Vendor Background and Customers ....................................................................................... 8
5. System Background ............................................................................................................... 19
7. System Integration ................................................................................................................. 32
8. Course Content ..................................................................................................................... 43
9. Assessment ............................................................................................................................ 56
10. Implementation and Training ............................................................................................. 65
11. System Releases/Upgrades ............................................................................................... 78
12. Support ................................................................................................................................... 80
13. Professional Services ........................................................................................................... 83
14. Hosting (ASP) .................................................................................................................. 87
15. Price ........................................................................................................................................ 94
16. Warranty ............................................................................................................................. 99
Attachment “B” ......................................................................................................................... 100
Desire2Learn Platform –Hosting Specifications ...........................................................................
Executive Summary

The Desire2Learn Learning Environment is recognized as a world leader with the most complete and adaptable suite of enterprise software products and services to power your learning infrastructure. Our clients’ successes and experiences include some of the world’s largest implementations of a state-wide e-Learning platform.

Desire2Learn approaches this opportunity with Virginia Tech University in the truest sense of partnership. Desire2Learn and Virginia Tech University will benefit tremendously in sharing current and future ideals, innovations, and services that will assist both in continuing to push the envelope to provide that absolute best practices, solutions, and support for our clients. Desire2Learn is fast being recognized as the global leader in eLearning solutions and we look forward to providing Virginia Tech University with the highest level of technology coupled with the highest level of client support in the industry.

It is our understanding from your Bidder’s Conference meeting and follow up informational calls that your high level business requirements include:

- Ability to easily migrate and convert critical course information
- Flexibility, Adaptability, Scalability, and Reliability
- Customizable to meet truly global requirements
- Easy, safe and secure access with easy to use interface and instructions
- Total Cost of Ownership
- State Wide Master Agreement

Additional important high level business requirements identified included a fully integrated solution for all stakeholders that exceed industry standards as well as the ability to create value for your end users.

Addressing Virginia Tech High Level Business Requirements:

Content and Course Migration

Desire2Learn has industry leading expertise when it comes to content and course migration and have successfully migrated thousands of courses for dozens of Technical College clients. In addition, an identified concern was how easily Virginia Tech University could migrate courses from WebCT/Blackboard to Desire2Learn. Desire2Learn provides the most flexible import/export conversion tool in the industry.

Integration

Based on our conversation, there may be several instances where integration with other third party service providers will be necessary to maximize the full functionality of the Virginia Tech solution. Currently, Virginia Tech is utilizing and Central Authentication System for its Student Information System. Desire2Learn has the
highest level of industry experience when pertaining to integration with SIS, SSO, and other industry software solutions and D2L will work with Virginia Tech’s IT team to integrate any homegrown solution.

Total Cost of Ownership

The Desire2Learn solution provides the most reliable, flexible, scalable tools in the industry supported by the highest level of client support. Since Desire2Learn provides the most robust solution right off the shelf, typically there is less customization necessary to realize a full solution. Consequently, Virginia Tech University will realize a reduced Total Cost of Ownership once implementation commences. Desire2Learn continues to provide the greatest ROI and the lowest Total cost of Ownership in the industry. Furthermore, if this RFP is used as a Master Agreement for a state wide negotiation tool, D2L clients have experienced tremendous cost reduction with negotiated terms of agreement for Implementation, Licenses, Client Support, Content, and additional services. The cost reduction is even more pronounced if schools purchase as buying group or Consortium. Desire2Learn can provide more information and direction as needed.

State wide Master Agreement

The Desire2Learn Learning Platform is the result of nine years of intense R&D and close work with institutional and academic clients. Desire2Learn is the leading provider for Learning Management Systems for state wide implementation. D2L has extensive experience with providing the highest level of technology backed by the highest level of client support for state wide solutions. Among our current clients there are several state wide implementations that speak to D2L’s ability to successfully manage and implement on a state wide scope. Some of those clients include University of Wisconsin System, Minnesota State Colleges and Universities, state of South Carolina, Tennessee Board of Regents, Maryland State Department of Education, and the Virginia Department of Education to name a few. The result is an exceptional platform with an easy-to-use and learner-centric interface and a minimal learning curve, allowing you to get started quickly and grow with ease toward your objectives.

We believe an eLearning platform should not dictate your approach to teaching and learning. It should be tailored to your needs, desired look and feel, philosophy, vision, brand, and pedagogical approach. Desire2Learn can be configured to accurately mirror your organization’s physical or organizational structure, if desired, and will allow for consistency and standardization in all areas of the implementation (e.g., reporting, portal and course branding, tracking requirements, administrative functions, data management, etc.). This consistency can be maintained while still allowing for a high-level of autonomy among various learning organizations, departments, and schools. In fact, multiple administrators from various learning communities can have complete control in the management of their systems, while the ability to control the level of access for each administrator or manager is available to the top-level system administrator via an easy, graphical interface.

Desire2Learn is uniquely positioned to provide your organization with great flexibility and ease-of-use through the combination of powerful management (e.g., user, content, data, and organizational management) and communication tools (e.g., instant messaging, email, blog, calendars, events, news, discussions, conferencing, chat/whiteboard, and more). Our tools and intuitive design will assist you in improving the quality and enjoyment of each learner’s experience. The ease of enrollment, scheduling options, learning experiences, and access to learning history will enable your learners to better concentrate on meeting their individual and unique learning objectives.

Desire2Learn’s solution will provide Virginia Tech with the most robust, scalable and consistent platform in the industry. Desire2Learn’s client-centric philosophy and approach to software design and collaboration, as well as customization, flexibility and ease-of-use, separate us from others in the marketplace.
In the name transparency and clarity we believe it is important to inform you that Desire2Learn has been involved in a patent litigation suit. In short, a couple of years ago our competitor, Blackboard Inc., sued us for infringement. We have made every effort to keep all clients and prospects - as well as the broader educational community - informed about the lawsuit. Although we lost at trial and the Court entered an injunction against our selling prior versions of the Learning Environment, we have what we believe to be excellent appeal prospects. Further - and importantly - after trial, the Court refused Blackboard’s attempt to hold our newest version of the Learning Environment (LE) v8.3 as infringing. In addition, the U.S. Patent & Trademark Office, who issued the original patent, has now rejected the patent in a non-final action. We are confident that the Patent & Trademark Office will uphold its rejection in its final action.

This litigation has received widespread attention in the educational community. Virtually every independent reviewer believes that the patent was improperly issued and is invalid, and that the lawsuit was unwise. We invite any questions you may have on the litigation. All substantive details can be found on our patent blog, www.Desire2Learn.com/patentinfol.
4. Vendor Background and Customers

4a. Provide your company's ownership, history, number of years in business, size, an indication of its financial health, and strategic partners.

Desire2learn is a privately owned company. Desire2learn has been a leading provider of Learning Management Systems since 1999. Currently, Desire2Learn has 160 employees with locations in Canada, United States, England, and Australia. Desire2learn is a financially healthy company as we have experienced continued double digit growth for nine years.

Desire2learn has an extensive partnership network that includes Microsoft, IBM, Sungard, Elluminate, and others. Please visit our complete list of partners at http://www.desire2learn.com/partners/directory/

Desire2Learn was ranked amongst the fastest growing technology companies in Canada in the 2008 Deloitte Technology Fast 50. This is the 3rd consecutive year we have been recognized. Additional details can be found at http://desire2learn.com/news/newsdetails_92.asp.

4b. Identify the parent corporation and any subsidiaries.

Desire2Learn Incorporated is the parent company at its headquarters located in Kitchener, Ontario Canada. D2L Ltd. is a subsidiary of Desire2learn Inc. and its location is Baltimore, Maryland.

4c. Describe your major products and services including the different product versions that may be appropriate for institutions with different enrollments and varying levels of integration with administrative systems.

Desire2Learn Learning Suite

The Desire2Learn eLearning Suite represents an integrated set of products built on a common platform. The Learning Platform represents the foundation of the eLearning Suite including the infrastructure for all products and services. As the individual products share a common infrastructure, they integrate seamlessly to provide maximum value to clients.
Desire2Learn’s unique standards based architecture and integrated suite of products was developed to address the teaching and learning requirements of the academic industry. Desire2Learn works closely with partner institutions and listens to the market to understand the needs and challenges. Desire2Learn’s customer centric approach enables the Desire2Learn Learning Platform to provide unique solutions that remove barriers to the teaching and learning process across your campus.

**Overview of Learning Environment**

The Desire2Learn Learning Environment contains the industry’s most comprehensive teaching and learning tools, communication tools, and administrative functions, all in a single product. The Learning Environment leads the industry in scalability, ease of use and advanced functionality. The Learning Environment offers flexible functionality enabling your organization to realize your unique approach to eLearning. With an extensive range of customization options, the Learning Environment offers unparalleled functionality. This powerful yet flexible system is easy to use from novice to power users and offers extensive customization, user-defined learning paths, advanced course migration options, and powerful import tools.

The Learning Environment empowers users to create unique learning paths based on learning styles, interests and comprehension. Broad support for special access settings enables timelines to be adapted for users with special needs. Since assessment can be independent of the path a user takes in their courses, the Learning Environment facilitates both instructional and educational freedom.

The Desire2Learn Learning Environment includes the following tools and functionality as standard.

- **Flexible Organizational Structure and User Permissions:** Desire2Learn Learning Environment offers a flexible organizational and user permission-based architecture to mimic your physical autonomy. You can also set advanced access and security permissions for user groups at any level of your organization. Desire2Learn system can support multiple departments, organizations or other organizational divisions on an individual server setup. Custom user groups such as Tier II/II Support and their permissions can be easily configured and managed.

- **Customizable Design, Branding, and Pedagogy:** Desire2Learn clients have the flexibility to customize or create a brand image, navigation bars, interface and accessibility preferences, and unlimited organizational units and roles with granular permissions.

- **Easy and Convenient Course Management:** Desire2Learn provides the tools clients need to create effective multimedia enhanced content, quizzes, and other features for their courses through integrating multimedia with other course tools, linking course resources, and managing content from their desktops.
• Community Interaction and Collaboration: Enhance interaction and foster a collaborative online training community by enriching the learning environment and improving learner results. Permissions enable the administrator to control the level of security according to a role’s unique needs.

• Discussions, Grades, Statistics, and Feedback: Effective online training, teaching and learning requires immediate feedback. The Learning Environment produces vital, detailed, and statistical information for all of its learning tools automatically. Instructors can use the resulting data to adjust their training practices instantly.

• Feature-Rich Desire2Learn Quizzing and Assessment: Robust quizzing leverages the organizational structure by making quizzes and surveys available to multiple organizational units. Questions of various styles and difficulty levels can be created, stored, and organized into a consolidated question library. Instructors can share and randomize their questions, edit quizzes, preview and grade students’ attempts.

• Competencies Engine: Learner competencies allow organizations to standardize assessment and learning objectives across courses and formalize programs or certifications in an online training environment. The Competencies tool offers both basic and advanced views of competency libraries, wizards to permit simple development of new competencies, and the ability to easily share competencies within an organizational structure.

• Rubrics: Creating scoring rubrics provides a powerful tool for setting subjective and quantitative assessment criteria for learners as well as structuring feedback. Rubrics can be created with any number of evaluation levels and can be evaluated both automatically and manually.

• Reporting and Data Warehouse: System usage reporting provides a valuable method of measuring institutional effectiveness, by generating reports in multiple render types, flexible report definitions and improved logging. A data warehouse stores the information that is logged and is documented in the data dictionary.

• Built-in Survey System: A full-featured survey system supports all typical question types, emailing custom survey invitations, restricting the number of survey responses, providing optional anonymous surveys, full reporting and statistics, integration with course content, and export to external systems.

• Conditional Releases and Learning Paths: Instructors can set unique learning paths and establish the access requirements for specific content, discussions, assessments, drop box assignments, news postings, checklists, surveys, and other learning tools.

• Dropbox: Individual learners and groups can submit assignments to various drop boxes within a course/class. Assignments can also be downloaded with appropriate naming conventions as a zip file for offline review, and instructors can email learners that have not submitted their assignments.

• Course Import & Export Components: SCORM and IMS compliant packages can be imported in bulk through a wizard-like interface. This provides a faster, more efficient process for course and information transfer.

• Blogging: Desire2Learn's Blog options and permissions allow entries to be private or public, as well as providing published as RSS feeds. As a participant, you have the
option to view user profiles when reading a user’s Blog, compile and print Blog entries, and attach comments.

- Fully featured Email: A fully featured email system is completely integrated with the Learning Environment. The Desire2Learn email system is a full internal / external email system. This can also be integrated with other email systems using IMAP and other technologies. Flexible permissions allow email options to be set based on each role. Messages can be filtered by course offering.

- Accessibility: The company is dedicated to making the Learning Environment accessible to all users and ensures that the software adheres to industry standards and successfully completes functional accessibility assessments. The Desire2Learn accessibility program is well-integrated within the engineering lifecycle, ensuring that the system evolves with accessibility standards. International standards form an important basis for interoperability with current and future assistive technologies. The Desire2Learn team designs and tests web applications against the World Wide Web Consortium’s (W3C) Web Content Accessibility Guidelines (WCAG) version 2 level AA. The company is working towards compliance with W3C’s Authoring Tool Accessibility Guidelines (ATAG). The Desire2Learn Platform follows accessibility standards development in order to be able to offer the latest advantages to our end-users.

**Overview of ePortfolio**

The Desire2Learn ePortfolio bridges the gap between the formal and well-structure training that typically occurs in the Learning Environment and the informal yet equally valuable experiences that are gained through social networking.

Desire2Learn ePortfolio is seamlessly linked to other tools within the Learning Environment. For instance, the results from quiz, competencies, scores and learning objectives can be easily tracked, linked and stored in the ePortfolio.

Listed below are the major areas of the Desire2Learn ePortfolio and key benefits of each area:

- **ePortfolio Dashboard**: A hub for all Portfolio activities by providing information on:
  - Feedback and assessments left by others
  - Invitation to comment on and assess the work of others
  - Recent modifications to Portfolio items
  - Notifications for offline updates
  - Storage space remaining

- **Artifacts**: Collect and organize examples and evidence of learning:
  - Any file type can be uploaded and stored, including multimedia
  - Collect "certified" artifacts from the Learning Environment
  - Group artifacts into Collections
  - Tag items with keywords for quick retrieval and organization
• Create standard forms to collect structured information
  
  • **Reflections**: Encourage self assessment and metacognition by writing about:
  
  • Items in the Portfolio, including Artifacts, Presentations and Collections and how they demonstrate skills, abilities and knowledge
  
  • What connections exist between formal and informal learning experiences
  
  • Personal goals and what is required to achieve them
  
  • Feedback and suggestions received from reviewers
  
  • **Presentations**: Showcase training and achievement through:
  
  • Visually appealing presentations that highlight key accomplishments
  
  • Flexibility to choose what information is displayed, and in what context
  
  • Maintaining organization branding while providing freedom from personal expression
  
  • Personalized look and feel through various customizable themes
  
  • Creating multiple presentations for different audiences

**Overview of Learning Repository**

The Desire2Learn Learning Repository is seamlessly integrated with the Learning Environment to enable you to import/create learning resources, tag and store for easy search and retrieval into your courses. The Learning Repository can also provide useful reports to maximize student achievement and reduce the time and cost required for creating content.

The Learning Repository offers the following features:

  • **Flexible Options to Create/Share/Search/Browse Learning Objects**

    • Create individual repositories for departments, courses, classes and more
    
    • Define access permissions to each repository, based on actions (publishing, viewing content, retrieving) and authorized roles (students, instructors)
    
    • Browse for learning objects based on taxonomy and learning outcomes
    
    • Search for learning objects and assets based on their metadata or the metadata of their sub-objects
    
    • Select one or many repositories in which to search for learning objects and assets
    
    • Restrict repository searches to return only assets, images, etc.
    
    • Toggle whether a learning object or asset is private or is viewable publicly
    
    • Access to external repositories through Federated search
    
    • Metadata can be harvested from Learning Repository
    
    • Metadata can be harvested by Learning Repository from external repositories
    
    • Associate taxon paths to external, harvested objects
Standards Based Repository

- Upload IMS content or SCORM packages
- Export Learning Objects in IMS package
- Supports IEEE LOM and other metadata application profiles such as Dublin Core, CanCore, GEM, and custom metadata profiles.

Seamless Integration to the Learning Environment

- Insert a link (dynamic or locked link) to a learning object or asset in a repository directly into a course topic
- Insert assets (e.g. images) from a repository directly into a course topic using HTML editor
- Asset, course topic, modules or even entire content in the Learning Environment can be published

Workflow and Reporting

- View the history of a particular learning object or asset in a repository, including how often searches returned the item and what search strings triggered the hit
- Define the workflow process and utilize Version Controlling for the Learning Objects
- Rate Learning Objects and collect feedback

4d. What distinguishes your company and its products and services from your competitors?

There are several distinguishing differentiators between Desire2Learn and other Learning Management System providers. First, Desire2Learn is a client centric company with a sole purpose of achieving 100% customer satisfaction. Furthermore, Desire2Learn is fast becoming the leading global provider for Learning Management systems by providing the most robust, flexible, customizable, solution in the industry.

Company

- Share the values of educators

  We share the value of our most important constituents-our fellow educators. We do not believe we should dictate the learning methodologies or learning workflow; however, we, at Desire2Learn, believe we should provide our educators with the most powerful tools and technology to assist educators in developing and facilitating their educational vision.

- Listen to our clients

  At Desire2Learn, our most valued contributors to our research and development, technology advances, and improving our client focused processes are our clients. We actually listen to our clients and much of our future releases are driven by our clients. We host an annual User’s Conference where clients are able to learn and share strategies, content, and individual and institutional expertise. In addition, we maintain a user community where clients can continue Desire2Learn and industry education.

- Focused on client success
Client success is our success. Our fundamental purpose for existence is to ensure our clients success and we do so by continuing the push the envelope concerning technology, professional services, and client support.

- **R&D and Service come first**

  Our mission at Desire2Learn is to provide the best Learning Management System solutions in the industry. By continuing to invest into R&D and Service, we afford our clients the ability to rest easy knowing that Desire2Learn solutions will be the most reliable, flexible, customizable, and easy to use solutions in the marketplace.

- **Here to stay**

  Desire2Learn is fast becoming the leading global provider of Learning Management Solutions. We have nine years of growth in the industry and we are focused on continuing to provide our current and future clients with a suite of Enterprise tools that include our Learning Environment, ePortfolio, Learning Object Repository, and our LiveRoom tools.

### What Clients Say

- **Love working with us**

  Our clients love working with us and they are an integral partners with us to improve technology and services.

- **Higher retention**

  Desire2Learn experiences a higher rate of retention than any other Learning Management Service provider. We do so by providing the highest level of technology backed by the highest level of client support.

- **Less support required for Students, Faculty and Administration**

  Since our tools are so easy to use, our clients have found that user adoption has been dramatically increased when using Desire2Learn.

- **Lower total cost and higher value**

  Our clients experience the highest Return on Investment and Desire2Learn continues to offer the lowest Total Cost of Ownership in the industry. Our solutions are so robust and feature rich compared to our competitors, often times there is considerably less customization necessary during implementation; consequently, the total cost of our solutions are typically lower than other service providers.

### Technology

Desire2Learn offers the absolute best technology in the industry and our clients continue to benefit from our pushing the envelope concerning R&D. Our tools our the most robust, flexible, customizable, and reliable solutions off the shelf. The value to our clients is that our clients experience the most feature rich products in the industry. Our solutions include the following:

- **Fast**

- **Scalable**

- **Easy-to-use**
• Secure
• Integration
• Configurable (system variables, roles and organization structure)
• Data Warehouse
• Edit at finger tips
• Easy to learn
• Two click approach
• Accessibility
• Best hosting in the business

Dynamic and Pedagogically Rich tools
• Attendance Register
• Intelligent Agents and conditional release
• HTML Editor with Quicklinks
• Competencies and Rubrics
• Dropbox download and feedback tools
• Group and Section Management
• Language Packs / Editor
• User Progress and Classlist
• Web 2 Discussions

4e. Provide a current list of your key customers, and all customers that comprise more than 5% of the company’s revenue

Desire2learn is serving more than 500 institutions worldwide. Our clients range from Research institutions, Community College, Technical Schools, K-12 Departments of Education, Educational Consortiums, to Corporations, Government Agencies, and Associations Some of our clients include the following:

• The Ohio State University
• University of Wisconsin
• University of Arizona
State Wide Implementations

- Wisconsin
- Tennessee Board of Regents
- South Carolina
- Montana
- Minnesota
- Newfoundland (K-20)
- Florida Distance Learning Consortium

For a more comprehensive list of our clients please visit http://www.desire2learn.com/clients/

As Desire2Learn is a privately owned corporation, and in consideration of confidentiality of contracts with our clients, we are unable to provide you with a list of clients that comprise more than 5% of the company's revenue in this RFP response. We would however be happy to discuss this with you in detail at an appropriate time in your process and under Non-disclosure.

4f. Describe the details of the LMS implementation of one of your major clients

Desire2Learn is an industry leader when it comes to statewide implementations as we have several major clients that use our technology throughout the state with installations for both 2 year and 4 year colleges and universities. One of Desire2Learn's major clients and significant implementation is the Minnesota State Colleges and Universities. This state wide implementation is one of the largest of its kind pertaining to Learning Management System solutions. This particular client has over 32 colleges and universities which includes 370,000 students and more than 700,000 enrollments per year.

**Minnesota State Colleges and Universities**

32 Colleges and Universities

A State-Wide self-hosted implementation across 32 Colleges and Universities. The project includes the implementation of Desire2Learn's Learning Environment (LE), Desire2Learn's Learning Object Repository (LOR), LDAP integration and SIS integration. Initial implementation was in 2004.

The Minnesota State Colleges and Universities online initiative “Minnesota Online” offers more than 4,700 course sections and 150 programs. During the 2005-06, over 42,000 students took online courses from the 32 Minnesota State Colleges and Universities, an increase of over 11,000 from the previous year.
Read what our Minnesota State Colleges and Universities client says about Desire2Learn…

“02 September 2008

Desire2Learn Holds Up Under Severe Load

It has been a busy summer on the IT front. Now that classes are underway I expect to begin blogging again more consistently.

My team at Minnesota State Colleges and Universities spent considerable time this summer upgrading our Desire2Learn (our Learning Management System) environment to v8.3 and then preparing for the full onslaught of fall startup. The upgrade to v8.3 went smoothly earlier in the summer. This is the first year in which all 32 MnSCU institutions started term on the same date (8/25/2008).

Since we support one of the largest cLearning environments in the country, if not the world, the prospects of a common start date and a new version of the D2L software became a great source of anxiety for me and my team. We shored up all the levees and then checked and rechecked everything that we could think of. We also put in new management and communication protocols, modeled on NIMS, for handling emergency incidents and crises. The Desire2Learn team, including CEO John Baker, did everything possible to ensure success. Fall startup of our D2L has gone very smoothly thus far and we have broken all kinds of records for scalability and performance. First day of classes our login count was 222,053 users. Our page hits on the first day was nearly 30 million, 36% more than our previous record. System load included computationally intensive functions and not just static page views.

All in all the system has held up remarkably well under severe load and we are very happy, indeed. Best of all our customers, particularly Faculty, are very happy that Fall startup went so smoothly.

Lessons Learned: Treat Fall Startup as a separate Project. Plan, Plan, Plan. It pays off.”

Alfred Essa
Associate Vice Chancellor / Deputy CIO at Minnesota State Colleges and Universities

4g. Describe the largest institutional (as opposed to vendor-in-house) implementation of your LMS including the number of active classes and students supported by this implementation and the system architecture (if known). Provide the client name, address and the name and phone number of the individual Virginia Tech has your permission to contact.

Largest Single Institution: The Ohio State University is currently the largest single installation in the United States for any LMS provider. The installation encompasses 15,000 courses and over 70,000 active users.

University Contact:
JoAnne Dehoney
614-247-6819
480D Baker Systems
1971 Neil Avenue
Columbus Ohio
43210 USA

Largest State-wide System: See details provided in response to 4f.
4h. Provide three (3) additional recent references, either educational or governmental, for whom you have provided the type of goods and services described herein. Include the date(s) the goods and services were furnished, the client name, address and the name and phone number of the individual Virginia Tech has your permission to contact.

The University of Iowa
Jack Pinette
319-335-6177
2800 University Capitol Centre
Iowa City IA
52242 USA
Date furnished: January 1, 2005

University of Arizona
Bruce Cameron
520-621-5177
337, 1077 N. Highlan Ave.,
Tucson AZ
85721-0073 USA
Date Furnished: July 1, 2007

University of Wisconsin System
Kathy Pletcher
920-465-2383
2420 Nicolet Drive
Green Bay, WI
54311 USA
Date Furnished: April 1, 2003

4i. Provide references of customers having similar state-wide contracts.

Minnesota State Colleges and Universities
Contact Name: Alfred Essa
Contact Title: Associate Vice Chancellor/Deputy CIO Minnesota State Colleges and Universities
Contact Phone: 651.201.1467
612.201.1467
Address: 30 7th E, Suite 350
St. Paul, MN
Date furnished: October 1, 2003
4j. Describe procedures, such as source code escrow, to protect an institution’s use of the software if the vendor enters bankruptcy proceedings or otherwise cannot support buyers.

To ensure continued service to our clients in the event of business failure Desire2Learn Incorporated is willing to deposit source code with our existing escrow provider. Escrow is available upon payment of the applicable fee. Further details are available upon request.

Desire2Learn Incorporated can provide conversion rights to clients in the event of business failure through the deposit of source code with our existing escrow provider.

5. System Background

5a. Describe your system architecture and how it is designed for scalability.

The Desire2Learn platform operates on three-tier web architecture consisting of the web, application, and database tiers.

Each level contains certain abstraction and encapsulation of Desire2Learn components for scalability and flexibility factors. This architecture gives the flexibility of hosting multiple Desire2Learn organizations (on one instance) while having the capability of sharing certain resources, including hardware costs, and software licensing.

Desire2Learn’s architecture leads the industry in robustness, scalability and reliability. Several of our clients have implementation with over 300,000 users working with a small fraction of the required hardware of our competitors and providing greater opportunity for collaboration across different programs and offerings.

The Desire2Learn platform runs as the application tier, utilizing the database where all dynamic user data is stored and the file server where content, documents, personal locker files, drop box assignments, and discussion attachments are stored. Desire2Learn utilizes the separate file server to maintain database performance and to enable the unmatched scalability of our platform. This architecture also enables superior failover and redundancy management. A deliberate decision was made to avoid the unreliability and data-loss problems of a flat-file architecture that most campus edition LMS products run by designing an enterprise system using relational database architecture from day one.

The database tier can be clustered in order to provide redundancy. User-state is stored in the database enabling the web server layer to be stateless, allowing for full load balancing. This architecture ensures that if a load balanced application server goes down there will be no effect for the user.

An optional file server can be used to store all non-content files on the system such as personal locker files, discussion attachments, or drop box assignments. The use of an external file server is fully supported by the Desire2Learn platform, and is determined by the capacity requirements of the System.
In order to confirm our architecture design and demonstrate scalability, we have done strenuous load testing in a Microsoft certification facility to determine the maximum user levels. Currently, we anticipate scalability to at least one million users on a single instance and sharing one license and all hardware and maintenance/administration costs. The maximum limitations to users are ultimately determined by the upwards and outwards scalability of the platform which is estimated to be in the tens of millions of users. There are no known limitation(s) on scalability that exist.

5b. Describe the underlying languages used for system development

With our migration to .NET architecture, Desire2Learn is poised to take full advantage of its modular architecture and innovate very quickly once the research and client input directs the innovation. Desire2Learn Learning Environment (LE) Version 8.1 was our first release that used Desire2Learn’s new .NET based 8-series framework. While many existing tools like Quizzing, Reporting and Course Import/Export have been re-worked to use this new architecture, some of the platform still uses the 7.x ASP-based architecture. As we update tools for future releases, we will progressively migrate all our code to the new 8-series framework and this will be a major focus for the short-term. The Learning Environment 8.3 release is the third release that is built on top of our new .NET based 8x framework and we are continuing to migrate as many tools to the new 8x framework as possible.

5c. What backend databases are supported?

The Desire2Learn Database Server currently runs on Microsoft SQL Server 2005.
Database Software Options

- Microsoft SQL Server 2005 Standard (32/64 bit)
- Microsoft SQL Server 2005 Enterprise (32/64 bit)

5d. Which are recommended?
Desire2Learn recommends SQL Server 2005 Enterprise due to the support for clustering.

5e. Describe the documentation available for the schema
The schema for the core learning platform is not published, as direct manipulation of data in this database is not encouraged. However, the schema for the Reporting Data Warehouse is published as full table and column descriptions. This schema is structured to ensure that it is reasonable to obtain the required information about the system and produce any customized enterprise reports.

5f. What operating systems are supported?

Application Server Operating System Options
Windows Server 2003 Standard (32 bit)
Windows Server 2003 Enterprise (32 bit)
Windows Server 2003 R2 Standard (32 bit)
Windows Server 2003 R2 Enterprise (32 bit)

Database Server Operating System Options
Windows Server 2003 Enterprise (32/64 bit)
Windows Server 2003 Datacenter (32/64 bit)
Windows Server 2003 R2 Enterprise (32/64 bit)
Windows Server 2003 R2 Datacenter (32/64 bit)

File Server Operating System Options
Windows Server 2003 Enterprise (32/64 bit)
Windows Server 2003 R2 Enterprise (32/64 bit)
5g. Describe your recommended hardware and software configuration(s) scaling support for loads ranging from student enrollments of 1000 to 200,000 and up

Hardware recommendations are typically provided for a range of Full Time Equivalent Users.

Please see the attached recommendation documents for hosting Desire2Learn Installations of:

- < 5,000 Full Time Equivalent Users
- < 20,000 Full Time Equivalent Users
- < 50,000 Full Time Equivalent Users

5h. For each major function, describe your system’s simultaneous user load capability.

Desire2Learn has also done strenuous load testing in a Microsoft certification facility to determine the maximum user levels. Based on these test results, the company anticipates scalability to at least one million users on a single instance, sharing one license, hardware, maintenance, and administration costs. The maximum limitations to users are ultimately determined by the upwards and outwards scalability of the platform which is estimated to be in the tens of millions of users. Currently, there is no known limitation on scalability.

Simultaneous user load testing has primarily been focused on the Quizzing system, which is the most processor and data intensive operation. We have approximated tens of thousands of simultaneous users taking quizzes which is well beyond any known client requirements.

5i. Describe the ability to customize vs. configure your LMS.

The Desire2Learn Learning Environment offers unparalleled ability to tailor the branding, content, look and feel of the portal, homepage and learning environment. You can construct your organization’s solution right down to the page layout for an individual course offering. Virtually every aspect of the Learning Environment is fully customizable. The system can be uniquely branded to your specifications to support the standardized look and feel.

Unlike many competitors, the Desire2Learn team believes an eLearning platform should not dictate your approach to teaching and learning. It should be tailored to your needs, desired look and feel, philosophy, vision, brand, and pedagogical approach. Desire2Learn's solution allows unlimited interface customization. This gives you complete control over the administration, branding, and functionality within the platform for a particular organization, department or course.

It is the strength of the underlying platform architecture, middleware, and role-based security structures that allows clients ultimate flexibility and control over their own system. The Desire2Learn solution is completely flexible and modular. As such, the creation and integration of new customized toolsets and other add-on features is very straightforward.

The system can be tailored to suit local and diverse needs to a great degree, and the following are a few examples:

- Complete control over branding for the institution
• Ability to configure different organizational structures, roles, and security trust to match perfectly the varied organizations within the different diverse clients.

• Easy to integrate within existing portals and web sites

• Ability to have a portal homepage for the department and allow users to set it as their default page after login.

• Ability to integrate with any number of security or SIS systems for the different institutions or learning organizations

• Ability to configure any number of Repositories and control the appropriate permissions/trusts on a repository

• Control over the language in the system, including optional French language packs and the ability to add other language support by the client or through Desire2Learn’s Documentation Services.

• Ability to change the Metadata application profiles to reflect custom tags or different controlled vocabularies

As referenced, virtually every aspect of the Desire2Learn Learning Environment can be tailored or customized, including:

• System Variables – There are over 300 system variables in the product for system configuration such as time zone, language settings, tool appearance, and more.

• Organizational Units and Structures– Custom organizations structures can be creates to reflect the unique setup of your institution in the offline world including, programs, departments, associations, guest sites, courses, and more can be created. From an administration aspect, the Desire2Learn Learning Environment can be configured to appear as if each department or program is running a completely separate LMS!

• Roles – You can create any number of roles that meets your needs.

• Languages - Virtually every piece of text in the Desire2Learn Learning Environment can be changed using the Languages tool.

• Tool Layouts – The look, feel, and behavior of course tools can be customized by instructors, learners, or both.

• Help Files – Help files for tools in the Desire2Learn Learning Environment can be fully customized.

• Colors – Full color palettes allow you to choose your own colors for organizations or courses.

• Navigation Bar Layout – The size, name, position, and color of links can be controlled on the Navigation Bars. Custom artwork can be used for the navigation bars.

• Home Page Layout – The position and size of tools can be controlled on the organization and course home pages. New tools can be added and removed.

• Presentation and Navigation Settings– Virtually every aspect of the content management interface can be customized using the LMS Settings tool.
• User Centric Customization- Users can change their own font sizes, colors, and tool layouts.

• Interface Development – You can build your own complete custom interface using the Desire2Learn Widgets tool.

• Desire2Learn Custom Development – If you have a customization need that cannot be accomplished with the tools that Desire2Learn has given you, we will build this customization and manage it as a system variable.

5j. Define what acceptable performance is, how it is measured, and how the system software and hardware can be scaled to maintain acceptable performance

Acceptable performance is typically measured by our clients in response time for page loads. The time to load the page is affected by client hardware, network bandwidth, and by data access times on the server.

System server hardware can be easily scaled to maintain acceptable performance as the number of users and concurrency ratings increase. Depending on the server role, they are scaled in different ways.

• Application Servers - scaled by adding additional servers of similar hardware ratings into the load balancing, which enabled for more simultaneous requests to be handled by the web farm.

• Database Servers - scaled by increasing the amount of RAM and by adding additional processors.

• File Servers – scaling is typically not required, although increasing processors may be advantageous as the system grows.

5k. Provide a detailed description of how load is balanced

Typically a hardware or software load balancing appliance is utilized to distribute load across the application servers. Since application state is maintained in the database, the web connections are stateless, and can thus be distributed across multiple servers, even when coming from the same user. Web traffic load can be distributed across multiple application servers using any desired algorithm, however one of the most common load balancing approaches is round robin based, which implies that each connection is sequentially presented to the next application server, causing the load to be close to equally distributed.
51. Estimate how many local man-hours are required for installation, upgrades, and regular maintenance.

As Desire2Learn provides all Desire2Learn installation and patching, local man-hours are not required for those tasks. We require the servers to have the operating system and networks configured and take over from there.

Infrastructure man hours for maintaining the servers is heavily dependent on the number of servers and the staff experience with managing the Microsoft Operating System and SQL Server Database Systems. The majority of maintenance is around configuring and testing automated backups and deployment of Operating System patches.

Application Specific Maintenance, which is performed regardless of whether the system is self hosted or Desire2Learn hosted is purely configuration based, and should not have significant ongoing resource requirements.
6. System Development and Security

6a. Describe your beta testing methodology, how it has evolved, and its future direction.

In the past, Desire2Learn has utilized Beta testing to enable some of its clients an opportunity to evaluate and provide feedback on new versions. Traditional beta testing gathers end user input far too late in the development cycle to enable significant change, so significant efforts have been made to gather user input and feedback as early in the development cycle as possible. Currently, Desire2Learn does not use a traditional beta testing methodology since the earlier in the cycle the features are tweaked, the lower the cost of development and maintenance.

New products and features are the result of client feedback and focus groups, which result in an initial design and in many cases screen shots and mock-ups that are then presented to clients. The Desire2Learn Community is then utilized to give existing clients the opportunity to provide feedback on the features, functions, and usability of these mock-ups, enabling Desire2Learn to adjust the designs before they are even implemented.

As this methodology has been very affective, Desire2Learn will continue to practice the early client review practice to ensure delivered products and tools are meeting client needs.

6b. Describe your quality assurance procedures.

QA Test planning includes examining selections from the Functional Specifications and a review of problem areas from previous releases. Testing both the functional specs and previous trouble spots helps to minimize the number of defects found in the product at its release. In addition, the inclusion of functional, integration, migration, accessibility, and performance testing provides a good look into the platform from all possible angles. The process is as follows:

- Review the Functional Specifications along with any Requirements Documentation
- Conduct critical design reviews
- Prepare test plans and approvals
- Prepare test cases and submit for prioritization
- Get signoff’s on test plan and test cases
- Initiate testing
- Conduct functional testing
- Conduct performance testing
- Conduct UI testing
- Track and report all bugs found

Desire2Learn performs three levels of tests for all products: Pass1, Pass2, and Regression.
Desire2Learn maintains several internal processes within its development teams to ensure that full support for industry standards are maintained. Desire2Learn has very thorough quality assurance processes for all new versions of our software and each version is tested by our Quality Assurance (QA) department under various loads and test scripts on multiple browser versions before being released. A team member is assigned to each project and is responsible for issue tracking, quality assurance, and assisting with the development of the project. After passing QA, new features are rolled out to beta clients for further review and refinement. Only after passing all the beta tests and quality assurance tests is the new product set up for release with our clients.
The QA team follows rigorous guidelines to determine standards compliance prior to release of a new version of a tool by engaging certified testers. Our clients can then choose to install the new version on a test environment before rolling out the features to a production setting. Our Quality Assurance, Test, and Development Environments can be set up parallel to your production environments using very simplified hardware. They can be used for testing and upgrading as proof-of-concept environments before being released to the production environment.

Desire2Learn is committed to providing a complete Enterprise Learning Solution and a manageable Quality Assurance process, including individual Quality Assurance procedures in the following areas:

- Implementation planning and procedures
- Training with multiple tracks and customization
- Issue tracking for all areas of the project
- Testing, maintenance and upgrades
- Feature enhancements/new tools
- Business process analysis

The methodology for the proposed service will follow our standard, verifiable, and documented Quality Assurance procedures internal to each Department or Team that contributes to the planning, implementation, installation, configuration, support, training, and maintenance of the system.

Desire2Learn has grown significantly in the last three years and has worked to further enhance and professionalize the QA process. We now offer one major release a year and several (usually two) minor releases. This is a scalable model that provides for superior quality control and balances the quick release of new or improved functionality with improved quality assurance.

6c. Describe your system’s application security measures, its audit trail capability, and how it can perform data authentication.

Security Measures

Security within the Desire2Learn Application Suite is managed through authenticated user accounts. Without a user account, and the appropriate credentials to authenticate that account, one cannot access the system. Individual users can be given permissions to the system based on their role.

Your organization is able to distribute administrative control, including database access and control, to your institutions, departments, or organizations, providing them with complete autonomy over their eLearning environments in addition to the benefit of system-wide collaboration. This flexibility allows you to define different types of configurations for different organizations and programs and, optionally, to provide autonomy and control to different groups within the larger organization, all in a single database instance. This allows for the central and secure storage and universal access of data based on security and access privileges.

Users and Roles

The Desire2Learn eLearning Suite offers unlimited numbers of roles within the platform, and provides easy-to-use security management features that allow you to determine what a role can and cannot do within the system.
User classes and specific roles are created using the Desire2Learn **New Role** tool. This web-based tool puts the control of managing user classes into the organization's hands. Below is an example of this tool.

The Desire2Learn platform has numerous powerful user management tools that can make managing users less complicated for your organization. Users can be managed as a group using the **Bulk Manage Users** tool at the organizational level, individually using the **Add Participant** tool at the department level, or through integration with external administration systems.

The **Manage Users** tool allows you to create new users while the **Bulk Manage Users** tool allows you to create and manage multiple users. Your permissions include:

- Importing users from other organizations
- Creating and managing user collections
- Retrieving user and organization statistical information
• Enrolling and un-enrolling users
• Sending users their login information via email
• Impersonating users
• Unlocking user accounts
• Tracking user progress

Search for existing users or user collections via the following search options:
• Last login date
• Role
• Include active and inactive users in search
• User ID
• Name
• User name
• View enrollment logs
• Activate and inactivate users

Passwords

Users may be given the required permission to change their passwords directly from their homepages by clicking on the password link in the Welcome widget (see below). This window appears on all users’ homepages.

Should any user forget his or her password, any individual with appropriate security designation can either reset the password or have it emailed out to the user’s non-Desire2Learn-based email address, which can be set using the link located in the Welcome widget.

The users also have the ability to change their email address using the My Email link in the Welcome widget.
Additionally, your organization has the option to integrate your Learning Environment with LDAP, Active Directory, or other authentication methods to avoid storing password information in the database all together.

**Audit Trail Capability**

Desire2Learn understands the importance of protecting the personal information of the public, especially regarding sensitive materials including educational progress, electronic deliverables and personally identifiable information. We have implemented a wide variety of informational technology security measures and organizational processes to ensure the security of data while enabling our clients to effectively report and grant access to specific information when required by authorized personnel.

In relation to Secure Sign-On and Student Information, the Desire2Learn Learning Platform offers many important security features. Desire2Learn takes security very seriously, and has implemented many security measures, including anti-hacking and anti-cheating security measures:

- Full logging of start time, finish time, and IP address of every participant.
- Time stamps are based on the server’s time, not the client’s.
- Passwords, 40- or 128-bit encryption and SSL enabled.

The Desire2Learn system is capable of maintaining system logs both from within the application and the Web Server platform. Logs, depending on the data being tracked, are available to administrators, instructors and students.

Virtually any event performed through the interface is recorded by the application in the database. Detailed event logs are maintained for:

- Enrollment
- Grades
- Security Permissions
- Changes to configuration variables
- Quiz activity
- Content visitation
- Logins, whether successful or not

In addition to application level logging, the web server can maintain additional auditing and logging via operating system level logging, and IIS logging. All actions on the website can also be tracked using IIS logging, which can provide you insight into virtually every aspect of the system, including tracking down security issues.

**Data Authentication**

Database information is validated through a business logic layer in the Desire2Learn platform including passing security checks for authentication and checks on logic rules. Data integrity is also protected with transactional approaches to entry. Many key tools also contain full logging of who made the change, what the change affected, and a server side date and time stamp.
6d. Complete the Virginia Tech Security Questionnaire for Technology-based Procurements (Attachment B)

See Attached population of the Security Questionnaire.

7. System Integration

7a. Describe the system integration capabilities of your system with third-party systems, including but not limited to authentication systems, administrative systems, student-information systems, portals, content repositories, and institutional assessment tools.

Authentication Systems

Authentication system integrations usually fall into two main categories: LDAP and Single Sign-On. Both of these are performed through a standardized configuration process, and enable most integrations of this nature to be performed quickly and without extensive overhead. For those authentication integrations that do not fall into these categories, custom authentication can easily be defined and implemented.

Student Information and Administration Systems

The Desire2Learn Learning Platform has a number of built in components and middleware that allow for fast integration with external enterprise systems. Student Information Systems and User Information Systems are diverse and vary in use from institution to institution. To meet these diverse needs, Desire2Learn developed an intermediary product called Holding Tank. Desire2Learn Holding Tank is used to Import Courses, Users and Enrollments from Student Information Systems either through snap-shot batch integration and/or Real-Time integration. The Holding Tank is highly configurable and powerful integration tool. Holding Tank can import data, update data previously imported, add/remove enrollments and has a Course Mappings Interface to allow administrators to be able to link course listings in your SIS in various combinations to Course Offerings within the Desire2Learn Learning Environment. Desire2Learn can integrate with SCT Banner, Peoplesoft, Datatel and other Student Information System, including home-grown systems.

Data Transformation for SIS and other enterprise applications use automatic routines that extract, transform, and load data from heterogeneous sources. This method is how Desire2Learn generally accepts information from an SIS and how Desire2Learn packages data from the database to be sent to an SIS.

The integration using Desire2Learn can be accomplished through the use of IMS Enterprise, XML, Open SQL/ODBC, APIs, web services, text files, or other methods and we have successfully integrated a wide
variety of Student Information Systems (e.g., . The Desire2Learn middleware allows you to run jobs, merge datasets, and handle rules for integration with the learning environment, and provides out-of-the-box tools and forms to handle the majority of the integration requirements without having to involve third party vendors. This all adds up to tremendous savings in time and reduced cost for completing the integration.

Overview of Batch Process

Overview of Real-Time Process

**Portals**

Integration with Portals is typically achieved through the use of Single Sign-On and Web Services. Single Sign-On enables users to move between the portal and Desire2Learn without the requirements for further authentication. Web Services enables the portal to display information from the Learning Environment, and interact with it in various ways.

**Content Repositories**

Desire2Learn can be integrated with Content repositories in several ways. The most common methods of integrating with Content Repositories involve Single Sign-On, and import/export.

Desire2Learn can work with existing Single Sign-On implementations within the Content Repository, or can assist in implementing either a standards based implementation, or Desire2Learn proprietary implementation.
Due to the focus on open standards and common technologies Desire2Learn has several options, including WebDAV, SCORM and IMS CP importing and exporting content.

**Institutional Assessment Tools**

Desire2Learn can be integrated with Institutional Assessment tools in an import/export fashion for quizzes and questions, but also with regard to the Gradebook.

The IMS QTI specification and IMS CP can be utilized to import or export quizzes and individual quests to and from the Desire2Learn Learning Environment. These can also be imported via a CSV based text file. Desire2Learn partners, such as Respondus, have created interfaces to the Desire2Learn platform for their Quiz generation application and lockdown browser.

Desire2Learn Web Services is the optimal way to automate an integration between the Desire2Learn Gradebook and external assessment systems. These interfaces allow for the creating of Gradebook columns and evaluating of specific individuals.

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**7b. Describe how the LMS can provide authentication and/or portal services by itself and also with third-party systems.**

User authentication and role authorization are two important parts of the security and permissions/role based architecture of Desire2Learn. All users have to be authenticated against a database or directory before they can log into the system.

In addition to having its own internal authentication module, Desire2Learn has two main methods of integrating the authentication of systems. The Desire2Learn API uses variable management within the product to accommodate external authentication directories such as LDAP, Kerberos, Active Directory, and custom systems. It can also implement Single Sign-on from diverse systems like portals, libraries, and other content systems. Administrators can set up fail-through authentication against a secondary source like the system's own database in the event that the primary source (for example, the LDAP server) fails.

An unlimited number of authentication sources can be used with one Desire2Learn instance, provided that only one authentication source is associated with a particular user, a capability that is unique to Desire2Learn. Separate authentication sources can be used for different organization units as well. User accounts are typically created through either the internal user management system or an external SIS. When user accounts are created, they are associated with an authentication server address.

To configure and use external authentication and/or Single Sign-on, Desire2Learn creates an Authentication Project for each through our Professional Services group. The project allows Desire2Learn to coordinate the setup and implementation of each type of project with clients. Desire2Learn Implementation Consultants work with the clients to gather requirements and offer unique authentication solutions based on client needs.
7c. Describe the capability, unique features, and constraints involved to turn off built-in LMS tools and replace them with third-party tools, e.g., assessment engine.

The Desire2Learn Learning Environment offers institutions the opportunity to turn off any tool within the system through the Roles and Security administration interface. These tools can be turned off at a course, department or full organization level.

Third party tools can be used to replace existing tools like email, chat, discussions, quizzing, etc, however due to the in depth level of interaction between tools in the Learning Environment this is likely to be counterproductive in most cases. Should an in depth integration of this nature be required, Desire2Learn would be happy to work further to evaluate the options.

7d. Identify the third-party systems that have been integrated with your LMS.

Some of the most notable third party systems that have been integrated with the Learning Environment through our partner program include Respondus Lockdown Browser, Respondus Quiz Generator Tools, and the SCT Banner Student Information System.

Many other third party systems have been integrated with the Learning Environment in various capacities by our clients. Some examples include iTunes University, Luminis Portal, and Sharepoint. An exhaustive list is impossible to produce, as often we are not directly involved in the integrations.

7e. Give details of data import and export capabilities.

Desire2Learn realizes that course migration is one of the biggest concerns an institution has when selecting a new eLearning Platform. Desire2Learn provides full training, support, and tools to make migration as simple and reliable as possible, offering both one-click single course and network batch conversion tools.

Because course migrations are a key component of any implementation, Desire2Learn is committed to the reusability of content, as shown through the Desire2Learn exclusive Learning Object Repository product and its convenient course conversion tools.

One-click import tools are available for importing from the following systems:

- Blackboard
- WebCT
- Angel
- Prometheus
- Ucompass Educator
- Respondus
- SCORM-based courses
- Any content or course package using the IMS Content Packaging standards
Desire2Learn is pleased to work with your institution to determine the best approach for migrating your existing content into our system. Desire2Learn has extensive experience in converting course content into our LMS platform.

Desire2Learn staff will test a few courses from each CMS for you in order to make sure that the correct import tools are being used with the proper CMS versions. Additionally, Desire2Learn will train your staff to use the one-click course import/conversion and batch conversion options. This process has been tremendously successful, as shown by the example of our client, UWS, where over 17,000 courses were successfully converted from Blackboard and WebCT. Many faculty members of Desire2Learn’s clients’ organizations have taken advantage of the migration process to update and improve their courses using the additional features that Desire2Learn provides.

IMS course packaging is fully supported for course content import and export in the Desire2Learn platform. There is slight variation in the way that every vendor implements and extends the IMS standard, and Desire2Learn has built tools specifically to import WebCT and BlackBoard courses. Desire2Learn also imports SCORM Shareable Content Objects (SCO) packages based on SCORM 2004.

In addition to Course Package import/export, the following standards are used for importing and exporting data to and from the Desire2Learn platform:

- IMS Content Packaging – Course import and export
- IMS QTI - Quizzing
- IMS Enterprise – SIS integration
- XML 1.0

The following lists some of the key course export and import components of Desire2Learn:

- Course Export support: IMS CP packages can be exported from any course in the Learning Environment. Tools that can be exported at a granular level include:
  - Checklists
  - Course Files
  - Content
  - Discussion Forums and Topics
  - Dropbox folders
  - FAQs
  - Glossary
  - Grade Categories and Items
  - Homepages
  - Navbars
  - Links
  - News
  - Quizzes
• Questions
• Self Assessments
• Surveys
• LiveRooms
  • The ability to choose individual items to copy, import, and export. For example, clients can choose to copy a single quiz rather than to copy all quizzes from a course.
  • The wizard-like interface for the export, import, and copy options simplifies the steps required to move materials in and out of the Learning Environment.
  • The Copy Course Components option allows for a path to be defined where copied material is placed, and reduces the likelihood of materials being overwritten due to user error.
  • Supports imports from Respondus 2.0 ZIP packages
  • Supports imports from WebCT CMU 2.0 and Blackboard 6/7 packages

Content can be imported from many third-party content tools, including offline tools such as FrontPage and Dreamweaver, and stored directly in the Desire2Learn content database by uploading the files through the file management interface. Courses exported from these products can be created in the Desire2Learn Learning Platform with just two mouse clicks.

Desire2Learn also provides all partners with a complete exit strategy for course exporting which is clearly defined in all established business arrangements.

“We had several goals with this RFP process: to find a product that is easy for faculty to learn and easy to use, to find a product that is efficient in converting courses from other CMS platforms, to find a product that is standards based so that future conversions will be seamless, and to find a product that we can stick with for at least five years. The Desire2Learn product meets all of these criteria.”

Kathy Pletcher
Associate Provost for Information Services at UW-Green Bay
LMS/CMS Task Force Chair

7f. Describe the process needed to achieve the integration and how it is accomplished (batch, real-time, etc.).

We are assuming this question is in reference to Student Information Integrations.

Student Information System Integrations are performed through a project with the Implementation Services group in Professional Services. The project begins with a gathering of the project requirements, analysis and design of the implementation, and follows through with the actual implementation and testing.

SIS Integrations can take the form of either a batch or real-time process, dependant fully upon business needs and third party software capabilities.
7g. What formal system integration relationships exist with PeopleSoft, SCT, and Datatel.

Desire2Learn has partnership arrangements in place with both Oracle/PeopleSoft and SCT. Through these relationships an out of the box SIS integration with SCT Banner using Luminis Integration Tools has been produced, and a similar integration is being designed for PeopleSoft.

These vendor specific integrations are alternatives to the Holding Tank middleware component, that is not vendor specific, and could also be used with these two vendors.

Desire2Learn is always looking for opportunities to further partner with these vendors, and develop relationships with additional vendors for similar mutual benefit.

7h. Describe a major customer’s experiences with integration with PeopleSoft, SCT-Banner, or Datatel systems, third-party authentication, and external tools like assessment engines.

Desire2Learn completed a major SIS integration project and LDAP integration project with a statewide implementation that included 22 separate SIS integration and 21 separate LDAP integrations. Each integration was an individual project that had a project plan and project team assigned. The individual projects were separated into 3 groups to allow the client and Desire2Learn to manage the implementation process more efficiently and to have the individual project teams share ideas and best practices as the projects were completed. The client and each campus provided a project team to work directly with Desire2Learn to ensure that the integrations were configured to the individual campuses requirements. This was viewed as very successful from the clients perspective as it allowed key stakeholders in each the campus the opportunity to learn and understand the configuration of each integration creating greater understanding of how the integrations operate to ensure smooth operation when the systems went live.

7i. Describe each standard LMS system report available.

The Desire2Learn Learning Platform retains all activities by all users within its database for ease of access and for reporting purposes. This includes all contributions to discussions, chats, all quizzes, surveys, grades and much more. This wealth of information is available to administrators through our Reporting Tool, which, like all tools in the platform are based on user permissions. With a form-based interface, custom reports can be generated to access the data at any level of granularity or reports can be selected from a large number of standard reports.

The Reporting Tool allows you to choose from dozens of standard reports or to create custom reports through its form-based user interface.

The Desire2Learn Learning Environment currently has one of the most sophisticated reporting engines in the industry. There are currently approximately 70+ out-of-the-box reports, and the functionality is also going to be further enhanced with a library of 200+ new reports based upon client feedback.

Reporting continues to be enhanced in Desire2Learn’s Learning Environment. A separate data warehouse has been developed to store the information the Learning Environment is logging and improve performance as a result. All data in the data warehouse are documented in the data dictionary. This data enables third party tools to build reports and facilitates data mining.
Flexible report definitions permit a large number of reports to be created from a base set or datasets while multiple render types enable a variety of report formats to be created. Report data can be saved to a CSV file allowing for offline analysis and correlation with external third party tools. It can also be filtered by organization unit, organization unit type, user, role, date range, or tools to create customized reports.

The default reports (in graphical and table format) include:

User Access Reports, such as:
- Number of users who have (have not) successfully logged in
- Total number of active sessions over time
- Number of active sessions by role over time (all departments/campus)
- Comparison reports, such as active sessions over time by department, campus, or other organizational unit
- Total number of users online over time
- Comparison of users online by department over time

Enrollment Reports, such as:
- Number of course enrolments for each department/campus/etc
- Number of course enrolments for each role in the system
- Number of course enrolments over time

Communication Tool Reports, such as:
- Number of discussion posts for each department/campus/etc
- Number of discussion posts for each term/semester
- Number of discussion posts over time

Assignment Management Reports, such as:
- Number of submitted files for each department/campus/etc

Space Usage Reports, such as:
- Space usage reports for Dropbox files
- Space usage reports for locker size by departments/campus/etc

Content and Course Reports, such as:
- Number of content objects by department/campus/etc
- Number of content objects by term/semester
- Number of courses offering enrolments by department/campus/etc over time
- Number of content feedback objects by department/campus/etc
- Number of content feedback objects by term/semester
- Number of surveys by department/campus/etc
- Number of surveys by term/semester

7j. Describe how custom LMS system reports can be generated, including the process (and any restrictions) on how back-end databases can be queried for specific customer-defined dynamic reporting needs.

With a form-based interface, custom reports can be generated to access the data at any level of granularity or reports can be selected from a large number of standard reports.

All the data that is used in the reporting datasets is available through the reporting data warehouse. There are several significant advantages of maintaining a separate reporting database, including but not limited to: a schema that is more suited for queries, a published data dictionary for the schema, and no chance of affecting application performance for others. Self hosted clients have the opportunity to directly access the reporting database with whichever third party interface they like, and with the help of the data dictionary can create any report imaginable.

7k. Describe the documentation provided for the back-end databases, including schemas used.

The schema for the core Learning platform is not published, as direct manipulation of data in this database is not encouraged. However, the schema for the Reporting Data Warehouse is published as full table and column descriptions. This schema is structured to ensure that it is reasonable to obtain the required information about the system and produce any customized enterprise reports.

7l. Describe means by which custom components, tools or plug-ins can be developed.

Custom components can be implemented in several ways in the Desire2Learn environment. A custom component can be as simple as a Custom Widget (similar to a web part), or can be an external application that leverages or changes data within the Learning Environment with Web Services.

Within custom widgets it is possible to implement a wide variety of customizations that range from simple text pages to providing information from other systems. In order to be more effective and user specific, widgets can utilize system replace strings that consist of properties related to the current authenticated user, the current course, and current Organization.

Desire2Learn Web Services can be utilized by applications written in any development language. The current Web Services provide interfaces to the Learning Environment for Course, User, Enrollment and Gradebook information. All pieces of information can be created, edited and deleted.

Desire2Learn is dedicated to continuing to build out Web Services, and in time additional API’s, which will enable our Partners and Clients the ability to interact with the Learning Environment from external applications.
7m. Describe means by which data stored in the application may be accessed from other systems – e.g. direct database access, web services, etc.

Data stored within the application is typically accessed by other systems through either Web Services or the Data Warehouse.

**Web Services**

Desire2Learn Web Services is a set of web services within the Desire2Learn Enterprise eLearning Suite.

It enables programmatic access to users, courses, enrollments and grades. Use Desire2Learn Web Services to add new applications, extend the functionality of the Desire2Learn Learning Environment, and provide a means to simplify integration with existing systems and applications.
Desire2Learn Web Services is built using .NET technology, with a web-based SOAP interface. As such, you can write applications for it in any language, including Java, Perl, and Ruby. This results in a faster integration and more efficient use of resources since you can build applications using familiar technology. Leveraging technology standards also means that you can utilize existing documentation and processes.

Data Warehouse

The Data Warehouse is provided with a Data Dictionary that allows system integrators to create SQL Queries that utilize a wealth of information about the Learning Environment. External applications can then use this information to create reports or to evaluate system conditions.

7n. Describe the mechanism for faculty to retrieve their course content from the LMS in a meaningful end-user format.

Faculty can utilize several methods to retrieve their course content from the LMS in a meaningful end user format.

- Compile for Download provides the ability for faculty or end users who are given the permission to download, in a granular fashion, content from their course. The download consists of a zip file containing the content files and a generated index file to browse through the content.
• Compile for Print provides similar functionality to compile for download, but produces an html page suitable for printing.

• Course Export can be used to produce an IMS CP compliant package of not only content, but all course components for import into another course, or potentially another LMS with the appropriate support.

• Manage Files gives the ability for faculty to download all of their content files individually or as a compressed zip file.

• WebDAV is an interface that gives users with the appropriate permissions the ability access their content area through their desktop, which is often a convenient way to move files quickly between the system and the user’s desktop.

8. Course Content

8a. Describe how your system supports building of course content.

The powerful WYSIWYG (What You See Is What You Get)/HTML editor, that is available throughout the platform allows users to enter and edit rich content for course materials, quiz questions, discussion postings, comments and feedback, news, (and all other areas where input into the system is allowed/required) without knowledge of HTML. The editor includes extensive word processing functions, multimedia (including flash) and images, audio and video, equations, tables, symbols and QuickLinks. The QuickLink innovation of Desire2Learn allows course designers to use any course component anywhere in the course. For example, you may choose to link a particular review content topic in the feedback of an answer of a particular quiz question. This innovation organically threads and integrates the whole course.

The Desire2Learn QuickLink tool allows users to quickly link to other items in the system without any knowledge of HTML. For example, QuickLink could be used to link content to content, content to discussions, or discussions to content.

![QuickLink Tool](image)

The editor also includes an equation editor for the creation of complex mathematical equations. Those wishing to use HTML can use the HTML editor for more advanced functionality.
The ease-of-use of this editor allows anyone to quickly and easily update course content or news, enhance discussion messages, quizzes, assignment feedback and so much more. From the simplest copy-and-paste, to the most advanced HTML programming, this editor allows a user of any skill level to easily manage the information in the learning system.

Spell check is included with the WYSIWYG editor that is utilized at every point of data input in the system.

The system is designed to support your approach to teaching and provides robust tools to assist you in content design, creation and delivery. The content management system consists of the following tools/features:

- Manage Files – Designed for users to easily upload, organize and develop content. File types are easily identified with a visual icon for users.
- Manage Content – Enables users to create modules and topics, and edit and arrange content within the content tool for course participants. This tool contains multiple useful editing features to assist course designers with developing content.
- Content Display Settings – Can easily modify the layout of content by adjusting enumeration and format display strings.
- Advanced Editing Capabilities:
• HTML/WYSIWYG Editor – Built in HTML Editor and WYSIWYG editor enables users to modify content directly online. Changes display immediately in content.
• Editing – Can release and hide topics, QuickLink to various other tools directly from content, and time release modules and topics. There is a designer comments area to keep track of changes.
• WebDav/DreamWeaver – Enables course designers to edit material offline and have changes reflected online. Files and folders can be dragged into the Course files folders.

Content Creation

The Learning Environment provides tools to save time and increase efficiencies by offering one-click edit functionality of topics and content management tools which are easy-to-use and are always available, including:

• Import and Conversion - The system supports easy content import from other competitor products, IMS-Content Packaging, and is certified for SCORM 2004 and SCORM 1.2 RTE 3. The import process can be very granular – for example, an instructor can select one quiz to import (or even one question), a module, or the Dropbox files instead of the entire contents of a package.
• Copying Components – The system supports granular copying of content from previous offerings. This allows you to create a new course offering based upon content from another course within seconds.
• Exporting Courses – The standards-based approaches to our platform doesn't just stop at course import; it also includes the granular exporting of content, quizzes, and all key tools and content. This assists you in sharing content to and from other organizations.
• Upload Content - Upload and/or manage existing content directly from your desktop using drag-and-drop functionality or use the file upload utility with optional zip/unzip functionality.
• Manage Content - The system enables you to create a proper web-folder structure allowing you to organize your content, images and multimedia in appropriate folders and/or sub-folders.
• Create Topics/Modules - Create topics or modules easily using the content management tools. Create topics using the HTML editor, existing content, or Desire2Learn QuickLinks to link to quizzes, discussions tools, or Learning Objects.
• Compose a Syllabus - Design a syllabus by simply uploading an existing file (HTML, Word, PDF, etc.) or creating a new syllabus using the HTML editor. The HTML editor enables you to quickly copy and paste content from other files.
• Create Links - The system enables instructors without HTML/URL knowledge to create links (with a few clicks), using the QuickLinks tool, to any resource within the system (e.g. a particular quiz, specific topic, self-assessment, Dropbox folder, survey, etc.).
• Create Course Templates - Design course templates containing either layout or content at any level above the specific section level. Instructors can create announcements, calendar entries, discussions, links, syllabus, course descriptions and other course content using templates created by a WYSIWYG content editor, or upload and choose content from the system-wide content library.

Replace the 2003 screenshot w/ this

A typical course uses a single template with course offerings added for each semester a course is taught

8b. What and where is information maintained, and how is it structured?

Virtually all information within the system is maintained within the Learning Environment database, with the exception of all file-based data. File-based data, such as course content, locker files, dropbox assignments, and attachments for news and discussions are all stored on a file server.

8c. Describe how your system handles course registration and pre-requisites.

Curriculum management is supported through several Desire2Learn tools. Learner paths, such as the release of activities based on prerequisites/prior work is achieved using the Conditional Release tool. The Desire2Learn Competencies tool, which works with rubrics, is tightly integrated with the Learning Environment to support curriculum management. The Desire2Learn system includes the ability to restrict self-enrollment to users who are enrolled in specific courses (pre-requisite enrollments). Groups of learners may be put into programs to follow a specific curriculum. Course prerequisites can be set through the Desire2Learn self-registration module or through integration with your Enterprise system.
8d. Describe your content management capabilities.

The Desire2Learn system is designed to support your approach to teaching and provides robust tools to assist you in content design, creation and delivery. Desire2Learn’s content management system consists of the following tools/features:

- **Manage Files** – Designed for users to easily upload, organize and develop content. File types are easily identified with a visual icon for users.
- **Manage Content** – Enables users to create modules and topics, and edit and arrange content within the content tool for course participants. This tool contains multiple useful editing features to assist course designers with developing content.
- **Content Display Settings** – Can easily modify the lay-out of content by adjusting enumeration and format display strings.

**Advanced Editing Capabilities:**

- **HTML/WYSIWYG Editor** – Built in HTML Editor and “what you see is what you get” editor enables users to modify content directly online. Changes are reflected immediately in content.
- **Editing** – Can release and hide topics, QuickLink to various other tools directly from content, and time release modules and topics. There is a designer comments area to keep track of changes.
- **WebDav/DreamWeaver** – Enables course designers to edit material offline and have changes reflected online.

Additionally Desire 2Learn offers enhanced content management capabilities through the utilization of our optional Learning Object Repository (LOR). The Learning Object Repositories make learning resources more accessible to educators and learners through the creation and availability of shared information resources.
Desire2Learn is proud to be the first company to offer a fully integrated standards-based learning object repository, allowing our clients to store, tag, search, and reuse learning objects. The LOR allows content created in the Learning Platform or other tools to be shared across the hall, across campus or around the world.

The Desire2Learn Learning Object Repository technology incorporates industry standards, such as SCORM/IMS, Dublin Core, and others. It allows you to import new learning objects into a searchable repository where instructors can quickly incorporate the appropriate content into course topics within the Desire2Learn Learning Platform.

The Desire2Learn Learning Repository is an online library of learning objects and associated files. An LO is a combination of topics, modules, master course content and assets that have been tagged with specific metadata to make them accessible to multiple users.

The system provides a Learning Object Repository where course content files can be stored and accessed by other instructors. The repository can be system-wide or for individual organizational units. Instructors can designate their files to be private or publicly accessible. Instructors can create links to content files in the central content repository so that changes made to the linked content are automatically displayed in their courses. Instructors can describe course content using metadata. The repository supports IEEE LOM, Dublin Core, CANCORE, and custom metadata application profiles. Workflows can be defined to facilitate the publishing, tagging and retrieval of Learning Objects.

The Desire2Learn Learning Object Repository (LOR) is designed to provide tools for storing, tracking and sharing content. Access is based upon user and role permissions and all activities are fully tracked to be reported upon. The use of the linking feature enables a learning object (course, module, file, etc.) to be stored in one place and used in multiple courses anywhere. When the author updates the object, changes replicate automatically to all courses in which it is being used. This is an extremely powerful feature. The LOR saves your institution countless hours of rework, developing the same course multiple times, as well as data storage and management resources.

Instructors can store their work in our Learning Object Repository and perform an online transfer by using our online content creation wizard and the WYSIWIG editor.

The power of the LOR is the ability to have complete control over access to documents by determining who is able to search for, view, link to or copy learning objects in the LOR. Using the linking feature allows an author to make instant, automatic updates to content wherever it is being used. Complete control of Intellectual Property as well as versioning provides a powerful, secure tool for information sharing across the hall, across campus and around the world.

**8e. Describe how your system handles assignment submissions, including but not limited to how assignments are created, how students submit assignments how assignments are stored, and how assignments are returned to students.**

**Dropbox Tool**

Separate dropbox folders can be set up for each course assignment. Reviewers can provide feedback (for example, leave comments, attach audio feedback, attach edited assignments with redlined feedback, etc) and a grade that automatically appears in the user’s Gradebook. Assignments can also be downloaded as zip files for offline review. Additionally, reviewers are able to determine those who have not submitted their assignments.
and email them to remind them. When a file is opened or downloaded by a reviewer, it is automatically marked as read.

8f. What authoring tools unique to your system are available?

Desire2Learn is proud to offer a powerful WYSIWYG editor throughout the platform that allows users to enter rich content for course materials, quiz questions, discussion postings, comments and feedback, news and any other input as required based on the specific role. The editor includes extensive word processing functions (including spell checking in all tools), multimedia, including flash, images, audio and video, simulations, equations, tables, symbols and Desire2Learn Quicklinks.

![HTML Editor in Design View](image)

The ease-of-use of this editor allows anyone to quickly and easily update course content or news, enhance discussion messages, quizzes, assignment feedback and so much more. From the simplest copy-and-paste, to the most advanced HTML programming, this editor allows a user of any skill level to easily manage the information in the learning system.

8g. Discuss compatibility with courseware interoperability standards.

Desire2Learn uses IMS-Content Packaging, IMS-QTI, IMS-Enterprise, and other specifications that support interoperability. Desire2Learn is the only academic LMS certified for both SCORM 1.2 RTE 3 and SCORM 2004 which allows for greater content interoperability. Desire2Learn is also the showcase environment for the academic ADL-Co-Lab.
8h. Describe what assurances exist that course content can always migrate forward to newer version of product, either directly or through vendor provided tools.

Desire2Learn has never required course content to undergo any kind of migration when moving forward to a newer version of the product, and this is not anticipated to change. This means that as a system is migrated, access to existing course content will continue as it did before the upgrade, without any form of special manipulation.

8i. Describe conversion tools or processes for converting existing course content from Blackboard and WebCT systems into vendor’s system.

At Desire2Learn, we realize that course migration is one of the biggest concerns of an institution that is selecting a new eLearning Platform. Desire2Learn provides full training, support and tools to make this process as simple and reliable as possible. We offer both one-click single course and network batch conversion tools. All procedures and training materials you require will be provided. We have extensive experience in converting courses.

Because course migrations are a key component of any implementation, Desire2Learn is committed to reusability of content as shown through the industry’s only Learning Object Repository product and our course conversion tools.

Existing one-click import tools are built and available for importing from the following systems:

- Blackboard
- WebCT
- Angel
- Prometheus
- Ucompass Educator
- Respondus
- SCORM-based courses
- Any content/course package using the IMS Content Packaging standards.

Desire2Learn would be pleased to work with your institution to determine the best approach for the migration of existing content into our system. We have extensive experience in converting course content into our LMS platform.

Desire2Learn staff will test a few courses from each CMS for you, to make sure that the correct import tool is being used with a given CMS version, and then we train your staff to be able to use our one-click course import/conversion or perform a batch conversion. This process has been tremendously successful, as our clients will attest. At UWS, over 17,000 courses were converted from Blackboard and WebCT. Many of the faculty have taken advantage of the migration process to update and improve their courses using the additional features that Desire2Learn provides.

IMS course packaging is fully supported for course import and export for content and quizzing in the Desire2Learn platform. There is slight variation in the way that every vendor implements and extends the IMS
standard, and Desire2Learn has built tools specifically to import WebCT and BlackBoard courses. Desire2Learn also imports SCORM Shareable Content Objects (SCO) packages based on SCORM 2004.

8j. Compared to competitive products, describe how your system is more compatible with Section 508 of the Federal Rehabilitation Act, SCORM, IMS, AICC and similar standards. In that regard, what unique features does your system provide?

508 Compliance

From its inception, the Desire2Learn platform was developed to be accessible to all. The platform is compliant with Section 508 of the United States Rehabilitation Act of 1973, as amended and signed into law on August 7, 1998. Desire2Learn follows leading accessibility standards from groups such as the W3C, ISO, IMS and others. Desire2Learn actively tests against priority one and two criteria of the Web Content Accessibility Guidelines (WCAG 2.0) developed by the W3C and the Voluntary Product Accessibility Template (VPAT) for Section 508. Desire2Learn tests using Jaws, Dragon, Bobby, Firebug, and other assistive technologies and accessibility verification tools.

In order to ensure our clients are providing maximize accessibility to their learners Desire2Learn constantly endeavors to stay current with needs and provide effective solutions. To this end Desire2Learn treats accessibility as an important role in the requirements, development and quality assurance of version 8.3 of the Learning Environment.

With our most recent updated tools particular attention was paid to the accessibility of the following tools: Chat, Classlist, Homepages, User Progress and Schedule. The markup of these tools was updated to include more page headers, more descriptive alt text and more table markup. In addition, the style and layout of these pages is more consistent with other Learning Environment tools.

With the development of the new HTML editor Accessibility requirements once again played an important part in the selection of the new HTML editor. Features include:

- The Keyboard accessible
- Contains jump keys to major areas: Tool buttons, editor and path.
- Screen reader friendly
- Preserves accessible markup
- Allows for data table markup
- The “path” feature provides graphical representation of elements being authored
Within our in HTML Chat new features to aid assistive technology users.

- Chat order option. The chat order can be from “old to new” or “new to old.”
- Manual refresh option. This option gives assistive technology users more control and awareness of changes occurring in a chat session.
- Show only new messages option.
In addition, numerous accessibility features were developed as part of this release. These issues include the following:
- The “select all” icons in Manage Content have more specific alt text.
- The “question text” field in Quizzes has more descriptive labels
- Asterisks use abbreviations to expand the word “required”.
- The calendar control includes abbreviations and more table markup.

As a result Desire2Learn is compliant with the following accessibility provisions:

- All functions provided in Desire2Learn are fed back to the user in textual format.
- The Desire2Learn application does not conflict with any system settings, as it is run through a web browser.
- No bitmap images are used in the Desire2Learn application.
- No animations are displayed as part of the Desire2Learn application. Content developers are able to provide non-animated presentations as an alternative to any animations they create.
- HEX color settings may be used when customizing the display colors of the application.
- No blinking or flashing content is used in the Desire2Learn application.
- All data tables identify row and column headers. In our 8x series adherence to this element is enforced through the framework.
- Table elements (TH and TD tags) are appropriately modified to associate data cells and header cells when data tables have several levels of row or column headers. In our 8x series adherence to this requirement is enforced through the framework.
• All frames are properly titled to allow for frame navigation and identification. In our 8x series adherence to this requirement is enforced through the framework.

• Scripting languages are not used to create interface elements.

• All applets and other applications used by the Desire2Learn application comply with §1194.21(a) through (l).

• When time limits exist for submissions, alternative time limits can be set and the time limits are interpretable by assistive technologies.

• All non-text elements provide a text equivalent in the form of an ALT or LABEL property. In our 8x series adherence to this requirement is enforced through the framework.

• All information communicated through color is also communicated through another method, such as size, text, or style.

• Desire2Learn applications are readable without an associated style sheet.

• Desire2Learn uses client-side image maps only.

• Tab order and focus are set on all forms to allow for easy keyboard navigation. Labels are matched to input Ids to allow assistive technologies to describe the meaning of any field elements that require input.

• Jump links are provided to bypass main navigation areas.

Additional accessibility innovations within the Desire2Learn Platform include:

• **Personal preferences**: Empowers users to tailor font typefaces, point sizes, language, page layouts, etc.;

• **Delivery**: Enables delivery of different content to users based on any number of criteria, including accessibility and learning style preferences;

• **Quizzing**: Allows for different time limits and grace periods;

• **Authoring tools**: Asks the user to fill in alternative text for images;

• **Language level**: Ability to create different language packs based on level of difficulty or language;

• **Screen readers**: Designed to supports screen readers, while providing the best possible look-and-feel for other users.

Content created with the application allows for text equivalents for any graphical elements to be specified. Desire2Learn’s built-in content generation tools adhere to the tagging requirements for 508 compliance. We also try to assist authors in ensuring they are generating web accessible content. Desire2Learn also offers consulting and guidelines in course and content development to ensure that 508 and other general accessibility guidelines are adhered to.

• As referenced, all non-text elements provide a text equivalent in the form of an ALT or LABEL property. In our 8x series, adherence to this requirement is enforced through the framework.
The <ALT> tags in the system are consistent and descriptive. We are currently undergoing an inventory of the system for usability features to ensure complete and excellent accessibility and usability.

We work with clients through our Desire2Learn Accessibility Interest Group to seek feedback on our designs, foster new ideas, and set priorities and initiatives going forward.

Desire2Learn is dedicated to making the Learning Environment accessible to all. In early 2006, we had an independent audit of our system by Web-Savvy. Desire2Learn has taken a systematic approach to accessible design.

- Mark-up decisions are centralized: The next-generation Desire2Learn architecture has centralized decisions about page mark-up. A great deal of the mark-up used by assistive technology users is consistently and automatically included in Desire2Learn tools. The migration to this architecture is well underway.

- Design guidelines are in place: Design guidelines help ensure consistency between the various tools in the system. This in turn, helps with functional accessibility.

- Accessibility barriers are proactively identified: Desire2Learn does internal quality assurance testing with enabling technologies, specifically JAWS and Dragon Naturally Speaking, to proactively identify and address issues. We test against the proposed WCAG 2.0 standards.

- The entire user experience is considered: Desire2Learn recognizes that accessibility is not limited to our products. Our documentation and training teams provide resources and support for clients.

- Relentless improvement: Desire2Learn follows standards development and consults with external accessibility experts in order to continually improve the platform.

Other Standards

Desire2Learn bridges the gap between systems with our commitment to ensuring open standards with programs such as IMS, LDAP, SCORM, WebDAV, and others, in order to streamline your learning tools inside the Desire2Learn system and reduce overhead. This also allows you to share and reuse content easily with other institutions, facilitating future growth and system adaptation between your organization and others. Desire2Learn is committed to the promotion and use of standards for all of its products.

Desire2Learn uses IMS-Content Packaging, IMS-QTI, IMS-Enterprise, and other specifications that support interoperability. Desire2Learn is the only academic LMS certified for both SCORM 1.2 RTE 3 and SCORM 2004 which allows for greater content interoperability.

Desire2Learn is also the showcase environment for the academic ADL-Co-Lab.
9. Assessment

9a. Describe your systems’ capability for creating, administering and tracking tests, evaluations and surveys.

Desire2Learn provides a versatile quizzing tool allowing for the quick creation of surveys, self-assessments and evalulative assessments using a large number of question types.

Instructors can easily create, edit, and grade quizzes (that are not automatically marked) with no prior knowledge of HTML or other web programming technologies. Quiz results are viewed in an organized and concise format. Questions can be created in or copied to question libraries that allow for full reuse of questions or quizzes within a course, or across all courses within an organization.

Fair tests can be created that pull a certain number of questions of particular difficulty levels from different random question pools. The Desire2Learn testing and assessment tools are fully compliant with IMS. The following question types (question formats) are currently available:

- Multiple Choice
- Multi-Select
- True or False
- Likert
- Matching
- Fill-in-the-Blanks
- Short Answer
- Long Answer
- Ordering
- Image and description text
- Significant Figures
- Multi-short answer
- Calculated – including randomly generated numbers
- Other custom question types

Additionally Desire2Learn provides comprehensive methods for providing assessments and learner/instructor feedback. These are not limited to but include, surveys, a robust competencies and rubrics tool set (including outcome assessments) and canned and ad-hoc reporting functionality.
Tool for managing surveys

Manage competencies, tie them to learning objectives and activities using the Competency Wizard, edit the tool's settings, create new competencies, and copy or delete existing competencies.

Search for competencies based on name, description, and visibility. Narrow your search to only include competencies, activities, or learning objectives.

Enter a competency by selecting its name from the table. Once inside, you are able to edit and establish the competency's type.

Get status updates, and preview and view competency structures, results, and statistics.
Competencies Tool

Datasets

Click on the name of a dataset to create a new report.

<table>
<thead>
<tr>
<th>Dataset Name</th>
<th>Render Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sessions</td>
<td></td>
</tr>
<tr>
<td>All user session information.</td>
<td></td>
</tr>
<tr>
<td>Users</td>
<td></td>
</tr>
<tr>
<td>Information about users in the learning environment.</td>
<td></td>
</tr>
<tr>
<td>Auditors</td>
<td></td>
</tr>
<tr>
<td>Information about auditors and the users they are able to audit.</td>
<td></td>
</tr>
<tr>
<td>Roles</td>
<td></td>
</tr>
<tr>
<td>Information about roles in the learning environment.</td>
<td></td>
</tr>
<tr>
<td>Tools</td>
<td></td>
</tr>
<tr>
<td>List of tools in the learning environment.</td>
<td></td>
</tr>
<tr>
<td>Org Unit Types</td>
<td></td>
</tr>
<tr>
<td>List of all Org Unit Types.</td>
<td></td>
</tr>
<tr>
<td>Org Units</td>
<td></td>
</tr>
<tr>
<td>List of all Org Units in the learning environment, along with some ancestor information.</td>
<td></td>
</tr>
<tr>
<td>Login Attempts</td>
<td></td>
</tr>
<tr>
<td>Information about every login attempt made.</td>
<td></td>
</tr>
<tr>
<td>Enrollments</td>
<td></td>
</tr>
<tr>
<td>Enrollment information for every user in the learning environment.</td>
<td></td>
</tr>
<tr>
<td>Enrollment Log</td>
<td></td>
</tr>
<tr>
<td>Log of all enrollments and unenrollments performed in the learning environment.</td>
<td></td>
</tr>
<tr>
<td>Final Grades</td>
<td></td>
</tr>
<tr>
<td>List of all final grades in the learning environment.</td>
<td></td>
</tr>
</tbody>
</table>

Reporting Datasets Tool

9b. How are questions assembled into tests, exams, quizzes and surveys?

Desire2Learn offers the Question Library that integrates with the Assessment tool which provides the ability to share questions into multiple offerings of a course or shared between instructors. The Question Library provides an optimal method to maximize the functionality and reusability of quizzes, test, and assessment questions. Instructors have the ability to randomly select any number of items from an item bank (Question Library) for a particular section or sub-section of an assessment. These items can be set to common difficulty levels and shared in the Question Library.

The Question Library can be organized into sections or subject areas for questions to be pulled randomly for test sections. Questions of various styles and difficulty levels can be created, stored, and organized into the consolidated Question Library.
Manage Quizzes Tool

Tool for Managing Surveys
9c. What formats can be exported and imported?

Desire2Learn uses IMS QTI Quizzing standards for importing/exporting quiz and question data to/from the D2L platform. Several file formats for batch mode importing of test questions are available for use, including standard text (Sample text files are available as instructions in the import interface) or spreadsheet files, such as .CSV files, as well as industry standard question formats, such as IMS-QTI. This allows Desire2Learn users to import questions from whatever question/test generator they are familiar with, such as Respondus or Question Mark.

Additionally, scheduled for future release within the next release is enhanced capabilities and more robust integration with Respondus.

9d. Describe the multiple assessment types available.

Testing Capabilities

Desire2Learn provides a versatile quizzing tool allowing for the quick creation of surveys, self-assessments and evaluative assessments (quizzes) using a large number of question types. The full-featured survey system supports all typical question types, emailing custom survey invitations, restricting the number of survey responses, providing optional anonymous surveys, full reporting and statistics, integration with course content, and export to external systems. In addition, surveys can be offered across all course sections, departments and campus.
Surveys operate on a very similar architecture to quizzes and self assessments (see response below under Assessment for detailed description of these), meaning that an instructor does not have to learn how to use surveys if s/he is already familiar with assessments. Instructors can set up surveys on any subject, indicating whether or not the participants’ identities are held anonymous.

Although there are no grades assigned to participants via surveys, there are still detailed statistics available. Similar in nature to the assessment statistics, they give the instructor information regarding individual responses (if not anonymous) and class responses graphically on one screen. The instructor has the option of allowing any type of user (administrator, instructor, participant, custom user type, etc.) to view the survey results. Survey results can be released at any time in the future, or “rolling” results can be viewable immediately.

Instructors can easily create, edit, and grade quizzes (that are not automatically marked) with no prior knowledge of HTML or other web programming technologies. Quiz results are viewed in an organized and concise format. Questions can be created in or copied to question libraries that allow for full reuse of questions or quizzes within a course, or across all courses within an organization.

Fair tests can be created that pull a certain number of questions of particular difficulty levels from different random question pools.

The Desire2Learn testing and assessment tools are fully compliant with IMS QTI.

The following question types (question formats) are currently available:

- Multiple Choice
- Multi-Select
- True or False
- Matching
- Fill-in-the-Blanks
- Short Answer
- Long Answer
- Ordering
- Image and description text
- Significant Figures
- Multi-short answer
- Other custom question types

**Competencies Tool**

Desire2Learn Competencies tool (a.k.a Learning Outcomes) provides standardized assessment across courses and allows your organization to formalize program or degree requirements for certification or accreditation. The Learning Environment facilitates easy tracking of user progress by leveraging the organizational structure to share competencies across multiple courses. You can assess organization, program or course-wide competencies and learning objectives through quizzes, Dropbox assignments (individual or group), discussions, grades, and surveys, or you can manually enter the results of any type of assessment appropriate
to your institution. The competencies tool offers the power and flexibility to model competencies of any degree of complexity with an intuitive easy to use setup wizard.

### User View of Competencies Tool

#### Rubrics

Rubrics enable your organization to define transparent assessment criteria and create structured feedback. The Learning Environment supports qualitative and quantitative rubrics with unlimited achievement levels, empowering you to create assessment mechanisms to any degree of precision. You can use rubrics to manually or automatically evaluate academic performance on activities linked to competencies and learning objectives conducted through a variety of course tools including quizzes, Dropbox assignments, and discussions.

We also have an extensive metadata profile implementation that allows you to map ‘taxon paths’ to your Competencies/Learning Objective definitions so that both your content and assessment can be tied together. This is definitely a major area of strength for us.

#### 9e. How are feedback and scores provided to students?

The Desire2Learn Gradebook is a spreadsheet-like tool used for recording the grades of Dropbox assignments, online quizzes, and paper-based submissions. The Gradebook allows users leading courses to calculate and modify grades, view statistics, and import, export, add, and edit user scores at any time throughout the course. Custom comment codes can be inserted in the grade book, while report cards can be automatically generated for an entire class or organization in just one click.

Users taking courses are given a read-only view of the Gradebook which they can consult for their results in every course they take.

Below is a screenshot of the Gradebook as seen from a grader’s perspective:
Desire2Learn Gradebook as seen from a grader’s perspective

The Desire2Learn Gradebook allows users leading courses to easily:

- Calculate weighted grades and percentages of any grades, including auto-graded assessment scores, imported scores, and manually-entered scores.
- Calculate Final Grades by clicking the calculator icon.
- Recalculate, modify, or override grades and scores at any time. Unmarked assessments and assignments can be included as grades of zero or ignored.

Desire2Learn provides users leading courses with the ability to easily import and export grades to either .csv or text files. Alternatively, delimited-text can be manually inserted into the Gradebook by cutting and pasting in any additional formats. Finally, delimiters are changeable and scores can be printed from the Gradebook for hands-on access.

The Gradebook is set up with a user-defined number of columns, where each column represents a separately graded item, ranging from assessments to imported grades to manually-entered scores. You have the power to add additional columns as desired. Once created, a column can be linked with items in the Quizzes section, or alternatively, imported. At any point in time, the grader can override scores or fill in blank scores.

Feedback

Feedback is an essential component for online learning. There are multiple mechanisms for leaving feedback that can be found throughout the Desire2Learn system. The following section deals with leaving feedback for assessments and quizzes.

Instant Feedback

Users instructing courses can activate the “Instant Feedback” option, a feature that displays a customized message as soon as a participant has selected any answer during an assessment or survey, even before it has been submitted.

Comments and illustrations regarding any item in the assessment can be made visible to participants.

The grader has the option of allowing participants to see a personalized report after their assessment has been graded. This report can include customized feedback on the responses to each question as well as feedback on their overall performance. Feedback can also be used to direct the user to specific content modules or other course tools within the Desire2Learn platform for review, allowing for problem-based learning and the
development of user specific learning pathways. Depending on the grader’s desired approach, users might be directed to repeat modules based on their assessment scores.

Feedback at Question Level

Feedback is also included within the Gradebook tool itself. The screenshot below shows comments made to a user within their Gradebook.

9f. How are responses stored?

Responses are stored efficiently in the SQL Server database, in a format that allows for optimal performance when reading and writing this information to the system.

9g. What standard reports are generated?

Standard reports within the Quizzing tool include:
• Question Statistics
  o Average score on questions by points and percentage
  o Score Distribution
• Question Details
  o Answer distribution by user
  o Total number of responses
  o Difficulty
  o Text Responses
• User Statistics
  o Class Average
  o Score Distribution
  o Grade
• Attempt Details
  o User Information
  o Attempt Duration
• User Attempts
  o Number of Attempts

These reports can be released immediately or at any date following the Quiz attempt, and can be released independently, with different restrictions, to different roles.

10. Implementation and Training

10a. Describe your company’s implementation methodology.

Desire2Learn has an impeccable record of delivering projects in a timely way. Desire2Learn has extensive experience with very large or staged implementations for multiple stakeholders using a shared Desire2Learn platform. We are confident that this prior experience will minimize internal Desire2Learn challenges that could affect timing of your system implementation.

Desire2Learn has tremendous experience in implementing state-wide eLearning solutions, and we look forward to partnering with the Virginia Tech to ensure that the project is researched, planned, executed, and sustained in a way that will achieve the standardization that will subsequently allow the system to grow and scale with ease.
A full project plan is developed within the first one to two weeks of the project’s initiation after a full review with input from applicable stakeholders is done. Key considerations include requirements gathering, establishing applicable roles and steering committee at the client level, identifying key project members at Desire2Learn, research requirements to determine proper allocation of resources, preparation of agendas for meetings, reporting requirements, timelines, Change Order procedures, etc.

### Implementation Plan Components:

#### Conception
Deliverables and major milestones of this phase include:
- Execution of Letter of Intent (LOI)
- Discovery Workshop and High Level Requirements Gathering
- Roles and Responsibilities
- Risks and Mitigations Planning
- Draft Statement of Work (SOW)

In the conception phase the following activities would take place:
- Account Manager (AM, your strategic planning partner) and Project Manager (PM, your project delivery partner) work to understand the business needs
- Evaluate your needs against existing Desire2Learn solutions
- Outcome of this phase is agreement on a solution that meets your needs

#### Initiation
Deliverables and major milestones of this phase include:
- Requirements Definition Document
- Discuss integration and customization needs at a business level
- Detailed Project planning (WBS – Work Breakdown Structure)
- Base systems installation
- Administrator Training (Train-the-Trainer)
- Instructor training

In the initiation phase the following activities would take place:
- PM engages Subject Matter Experts (SME’s) to transform requirements into a technical solution
- PM works with you to position your project for success (communication plan, project plan, resource plan – both external and internal)
• Outcome of this phase is a detailed plan that simply requires execution

Construction
Deliverables and major milestones of this phase include:
• Advanced Org Structure / Roles & Security
• Integrations & Customizations
• Content Migration
• Pre-delivery testing

In the construction phase the following activities would take place:
• PM manages Desire2Learn Delivery team who develops / configures the solution
• PM (and Desire2Learn Delivery team) provide consulting support to guide your delivery team and provides support for external (i.e. your) deliverables
• Outcome of this phase is a fully tested production-ready solution

Transition
Deliverables and major milestones of this phase include:
• Training
• Transition to ongoing support
• Acceptance testing
• Project closure

In the transition phase the following activities would take place:
• Document and hand-off to support
• Outcome of this phase is happiness attributed to the high quality solution that has been deployed

In order to refine specific scenario project plans, a configuration workshop will be held upon contract signing. This initial implementation workshop will cover the following items:
• General Organization Information
• Key Stakeholders
• Key Project Dates
• Organizational Structure
• Platform Roles
• Course Management Tools
• System E-Mail
• Site Security
• Site Branding
• Training
• Support
• Integrations

Roles and Responsibilities
The following is a brief summary of project resource required for both Desire2Learn and Virginia Tech.

Desire2Learn
• Account Manager
• Project Manager
• Delivery Services Implementation Consultant
• Training Manager
• Support Desk Manager

Virginia Tech
• Project Manager
• Subject Matter Experts as needed (TBD based on project requirements)
Desire2Learn will work closely with you to implement conversion and strategies for successful deployment of the new system. Desire2Learn will pick a team of key project managers and align them with the appropriate staff at your institutions. Requirements gathering, establishing key benchmarks, and setting timelines would be done through a very close, collaborative approach with your institution. Meetings would be accomplished through extended on-site visits and telephone conferences or electronic meetings.

We recommend identifying members of the client team to be responsible for policy, procedure and business process decisions, training needs, support contacts, feature requests, integrations and course conversions. Multiple areas can be handled by one person, but we recommend a Project Lead as counterpart to our Account Manager, a central committee and, when needed, subcommittees for the various aspects of the project.

10b. What implementation resources are available?

The deliverable is a fully installed system for the client and includes all project management, consultancy, installation, branding and configuration fees. In essence, it’s a white-glove service to deliver the system to their specific requirements. Implementation resources typically include but are not limited to the following:

- Dedicated Account Manager
- Project Manager
- Delivery Services Consultants
- Content Services
- System Engineers

Additionally Desire2Learn provides a complete set of support documents and resources.

The first document introduced to the client is the Client Workbook to facilitate the implementation and go live. The purpose of this document is to gather initial requirements for the planning, implementation and configuration of the Desire2Learn (D2L) Learning Environment Virginia Tech.

Desire2Learn staff will use this document as a starting point for your site setup and configuration. Should you identify requirements which are outside the scope of this workbook, your Account Manager will work with you to determine further project details, costs and timelines as required.

Desire2Learn provides an on-line user community. The Desire2Learn Community (http://community.desire2learn.com) is a tremendous resource for training, support, and information on best practices. Clients can share their knowledge with each other using our discussion boards and build partnerships for collaboration, content sharing, and pedagogy. The Desire2Learn Community site was created to support all Desire2Learn users by providing information, training, discussion forums, and much more. All clients are invited to participate in our online community where they can access valuable information as well as interact with each other.

Through the Desire2Learn Community you can also set up a personalized user group or community for your organization that can be used to access discussion forums, contribute feedback, and suggest improvements. Account Managers can help you prioritize, submit, and monitor progress on feature suggestions.
The Desire2Learn philosophy is to encourage client participation in the development of our software through the community of users source model. You are provided with all updates to the software at no additional cost to ensure that all your users have the latest and greatest technology available. The benefit to this model is that more new ideas are generated by users with each release of software updates. The ideas are combined with the ideas from the Desire2Learn user base (now more than five million world-wide) into updates and provide it free to users. With everyone working from the highest level, clients can build on each other’s ideas to drive products further.

Desire2Learn Incorporated also hosts an annual User Conference for all clients. Information related to the fifth annual user conference in Memphis, Tennessee, is posted here: http://desire2learn.com/Fusion/.

Desire2Learn is committed to exceptional documentation and has a Documentation website for your convenience. Desire2Learn will provide you with comprehensive manuals of instructions for every feature in the Desire2Learn system. Technical documentation is available online through our support site. All Desire2Learn documentation is accessible to our clients online with a user name and password.

Desire2Learn places great importance on user-friendly and accurate documentation and user aids. The Desire2Learn User Guides are available in printed form, or they can be downloaded and/or sent electronically as a Word document, an Adobe PDF file, or HTML to any faculty, staff, eLearning administrator or instructor. The documentation is intended solely for the use of our clients and may be edited, modified, and distributed to your students and users.

As new versions become available, Desire2Learn will provide updated printed and electronic versions of our User Guides to each client through the Desire2Learn Documentation website.

On the technical side, the system also provides documentation, technical updates, informational releases, a discussion forum, and much more. Clients can also choose to subscribe to an updates service through the portal that sends them vital system information updates and general news regarding the Desire2Learn platform.

Desire2Learn’s default documentation language is in English. Documentation can be made available in other languages on request.

**Sample of the Desire2Learn System Documentation**

- Desire2Learn Organization Management Environment (DOME) Reference Guide
- Equation Editor Troubleshooting Guide (for the WYSIWYG Editor)
- Roles and User Security Settings Guide (includes Self Registration)
- Creating Courses: Options and Approaches (Batch Course Import)
- Learning Object Repository (LOR) Guide
- Official Supported Browsers/OS List and Support Lifecycle
- Offsite Installation checklist
- Server Requirements
- Win2003 Server Setup
• Recommended (User) System Settings

_Sample of the Desire2Learn Integration and Configuration_

• Integration with Email Options (including IMAP)
• Integration with LDAP
• Integration with SIS/UIS
• Integrating your SIS/UIS with the Desire2Learn Platform
• Defining an Organizational Structure

_Sample of the Site Administrator Library_

• Site Management Guide
• WebDav and Desire2Learn
• Importing a SCO
• Bulk Course Create
• Bulk Course Export
• Email Setup Guide
• Metadata Administrator Guide
• Reporting User and Reference Guide
• User Information Privacy
• Integration with IMAP Guide
• Understanding Course Templates
• Voluntary Product Accessibility Template
• WCAG 2.0 Checklist

_Page Level Help and Tutorials_

Each tool within the Desire2Learn platform has basic instructions on the left hand side of the interface.
**10c. Describe your approach to project management.**

The Project Manager is directly responsible for allocating the appropriate Desire2Learn resources to ensure successful completion of all projects. A full project plan is developed within the first one to two weeks of the project’s initiation after a full review with input from applicable stakeholders is done. Key considerations include requirements gathering, establishing applicable roles and steering committee at the client level, identifying key project members at Desire2Learn, research requirements to determine proper allocation of resources, preparation of agendas for meetings, reporting requirements, timelines, Change Order procedures, etc.

**10d. How are change requests managed?**

Prior to a project moving into the implementation phase, the change management process is relatively informal, however, project change request are managed through a formal change management process once a project has been kicked off. Changes to project scope and timelines must be re-evaluated to determine how they will affect the ability to deliver within the original proposed timeframe.

**10e. Describe professional services available.**

At Desire2Learn, we view our clients as our partners. Desire2Learn is a private company that is client-driven where our clients provide future directions for the company. We do not have other external influences on our products and our number one focus is on client success.

Desire2Learn provides a named single point of contact for your organization, one of our Account Managers (AM), to be the client’s key stakeholder within Desire2Learn. The AM is directly responsible for the client’s overall relationship with Desire2Learn. As the single point of contact, the AM ensures that the ongoing relationship remains strong and works with the client to achieve their objectives and goals. As the key stakeholder, the AM also ensures that all projects remain on track, and facilitates the handling of issues including support, training, implementation, integration and more.

In addition to your AM, our clients work closely with our Professional Services Organization which includes Project Management, Delivery Services, Training and Support.

The Project Manager is directly responsible for allocating the right resources to ensure successful completion of all projects. A full project plan is developed within the first one to two weeks of the project’s initiation after a full review with input from applicable stakeholders is done. Key considerations include requirements gathering, establishing applicable roles and steering committee at the client level, identifying key project members at Desire2Learn, research requirements to determine proper allocation of resources, preparation of agendas for meetings, reporting requirements, timelines, Change Order procedures, etc.

Working closely with our Project Management team, our Delivery Services team is comprised of implementation consultants, integration and deployment specialists. This team will be a technical resource for Virginia Tech to provide expertise in every aspect of Implementation, Deployment, D2L Application Administration, Integration and Customization. This team is responsible for gathering client’s unique requirements, developing, testing and implementing the solutions and providing ongoing professional services.

Our Training team provides training for instructors, site administrators, instructional designers and other stakeholders who use the Desire2Learn Platform. We take a consultative approach to training services and
tailor the training sessions to meet our client’s needs. Our trainers will setup consultation sessions to capture your training requirements prior to the actual training and setup customized workshops to deliver client specific training. Trainers are also engaged at the campus level as well to understand specific needs of each campus and provide training services based on best-practices.

Our highly trained and customer focused Support team are help desk professionals who ensure that your inquiries and needs are dealt with in a fast and efficient manner. We have multiple tier support specialists to help address any issues that our clients may experience with high quality and a clearly defined escalation process.

Furthermore, our clients are constantly engaged with our Product Management team to participate in surveys, design phase of new features, submit feedback on usability, accessibility, etc. As a partner, we value your feedback and guidance.

Other teams that will be responsible for our strong relationship include IT and Content Services. Our IT team will provide custom consultations on hardware configurations, setup, disaster recovery etc. based on their expertise whether you choose to host the solution locally or at Desire2Learn Hosting Facility. The Content Services team can assist with converting your existing courses, creating Learning Objects, enhancing the course materials using Flash and other multi-media objects.

We take pride in building lasting relationships with our clients and always ensure that every possible measure is taken to exceed expectations.

10f. What technical and functional training is provided with your product or service?

Our Training team provides training for those who use the Desire2Learn Platform. We take a consultative approach to training services and tailor the training sessions to meet our client’s needs. Our trainers will setup consultation sessions to capture your training requirements prior to the actual training and setup customized workshops to deliver client specific training. Trainers are also engaged at the campus level as well to understand specific needs of each campus and provide training services based on best-practices.

The Desire2Learn Training team provides comprehensive training for those who plan to use the Desire2Learn platform.

Our innovative programs can be delivered by our expert trainers in four formats; on-site, web-enhanced, regional training workshops and virtually. We will work closely with you to customize our training programs to fit your organization's needs.

Key Benefits of our Training Programs:

- Maximize Your Potential – Our training programs are designed to provide you every possible learning opportunity.
- Achieve Goals – Every step of the way, we are committed to your success. We will work closely with you to ensure our training programs exceed your expectations and help you to attain your goals.
- Customize Sessions – Whether it's virtual, web-enhanced or on-site, you can select the session format that is most suitable for your organization.
- Enhance Productivity – Learn how to save time in the course development process and make the most of Desire2Learn's Enterprise eLearning Suite.

- Increase Learner Satisfaction – Learn how to develop creative approaches to course delivery, increase user participation and learner satisfaction.

Desire2Learn is renowned for its intuitive, user-centric design that is easy to use. Users generally require very little training on Desire2Learn’s platforms. This results in support cost savings as well as training cost savings.

The Desire2Learn training team provides comprehensive training for those who plan to use the Desire2Learn platform. We go far beyond teaching you how to use our software; we can provide course facilitation training and work closely with you in a train-the-trainer model.

"We found the trainer to be well informed about the product, flexible in her approach, and capable of adapting the presentation to somewhat challenging circumstances. The trainer was more than willing to help us adapt our needs and assisted us in finding a solution to some rather unique problems."

Paul Thomason
Program Manager Online Training
State Services, Educational Measurement
Pearson

There are two main tracks of training programs with the Desire2Learn enterprise suite of technology, specifically designed for individuals that teach with Desire2Learn and others that administer and support the system.

Teaching Track:

- Primary Session: Teaching with Desire2Learn: Teaching with Desire2Learn is geared towards instructors, instructional designers and any other individuals working with the Desire2Learn platform. Administrators, helpdesk and technical support staff are encouraged to attend to gain a better understanding of how courses will be created and managed.

- Optional Focused Session: Building Content in Desire2Learn: This informative session is geared towards instructors, instructional designers and any other individuals building content in the Desire2Learn platform.

- Optional Focused Session: Online Facilitation: Online facilitation is geared towards instructors who will be facilitating collaborative activities within Desire2Learn. This session will explore innovative facilitation techniques used in Desire2Learn’s discussion and chat/canvas tools. It will also provide participants with time management tips, best practices and creative collaborative activities to use in course offerings.

Administration and Support Track:

- Primary Session: System Administration with Desire2Learn: The site administration session is geared towards site administrators, helpdesk and technical support staff and other individuals who will be involved with the management of the Desire2Learn platform. Administrators, helpdesk and technical support staff are strongly advised to attend this session.

- Optional Focused Session: Learning Object Repository (LOR): The LOR session is geared towards instructors, instructional designers and any other individuals working
with the Learning Object Repository in Desire2Learn. Administrators are encouraged to attend to gain knowledge on how to create, manage and effectively utilize Desire2Learn’s LOR within Desire2Learn.

- Optional Focused Session: The DOME Session: This informative session is geared towards high-level administrators who will be responsible for managing the DOME (Desire2Learn’s Organization Management Environment).

### 10g. How much and what type of training is recommended for a system administrator and for faculty to use your product?

Desire2Learn provides online courses and just-in-time tutorials, FAQs, Discussion topics, comprehensive documentation for all user types, and other online resources with the purchase of the Learning Environment and/or other optional products (e.g., Learning Repository, ePortfolio).

To accommodate any training requirements, detailed training tracks are available on a per-day basis. Training sessions have a maximum of twelve instructor participants or a maximum of eight administrator participants.

Desire2Learn recommends a minimum of two days of training for instructors and the same two days plus an additional day for administrators.

Desire2Learn’s recommendation is to develop a plan to properly and fully train instructors, online faculty, Information Technologies staff, instructional designers, trainers, administrators, managers, staff and personnel at your organization. Various options exist, including the extensive “Train-the-Trainer” program. Additionally, both virtual and onsite training can provide maximum value for your budgets. Successfully implementing almost any mission critical enterprise-wide application or resource requires proper execution, planning and due consideration.

That being said, clients constantly indicate that the Learning Environment requires little or no training for the end-user taking courses or accessing resources in the system.

The Desire2Learn training team provides comprehensive training for instructors, site administrators, instructional designers, course developers and others who plan to use the Desire2Learn platform. We go far beyond teaching you how to use our software; we can provide course facilitation training and work closely with your instructors and administrators in a train-the-trainer model, as previously referenced.

**Training Services:**

**Key Benefits**

- Maximize Your Potential – Desire2Learn’s training programs are designed to provide you every possible learning opportunity.

- Achieve Goals – Every step of the way, Desire2Learn is committed to your success. Desire2Learn will work closely with you to ensure the training programs exceed your expectations and help you to attain your goals.

- Customize Sessions – Whether it’s virtual, web-enhanced or on-site, you can select the session format that is most suitable for your organization.

- Enhance Productivity – Learn how to save time in the course development process and make the most of Desire2Learn's Enterprise eLearning Suite.
- Increase Learner Satisfaction – Learn how to develop creative approaches to course delivery, increase user participation and learner satisfaction.

Overview

Desire2Learn offers a range of training programs and approaches from a three day Baseline session to highly customized consultations, workshops and virtual engagements that accomplish and support actual work. The Baseline approach best suits clients who intend to take on the full responsibility for developing and delivering the appropriate learning interactions to their faculty and staff. The custom approach is based on a strong partnership with the client to establish and develop training that is extensively tailored to your identified needs.

The following program of events will be strategically scheduled to achieve optimum learning impact while controlling costs. Duration is determined based on mutually agreed need. For example, a “standard” use of the Desire2Learn platform requires two days of Training Needs Determination whereas a “high-end” more sophisticated use requires four days. Upon consultation, this distinction will be apparent to both parties.

The fundaments of the approach outlined below are to:

- Clearly establish needs and program content,
- Customize approach and focus on desired pedagogies,
- Deliver custom workshops that accomplishes actual work,
- Prepare Trainers for delivery of Desire2Learn content.
- Support knowledge transfer through Self-Paced Web-Based Training Modules.

Please note that the intent is to train a core group of users. If CWC would like us to deliver training directly to the remaining faculty, then the faculty training can be extended by the appropriate factor of 12.

In addition to these offerings, training is available on a continuous basis as needed and Desire2Learn offers virtual sessions for every product upgrade and new release.

The following training options are available:

Training Needs Determination

Duration: 2 - 4 days
Number of Participants: TBD as required

Audience - A cross-section of client users and lead-stakeholders/decision-makers.

Outcomes

Desire2Learn will help you determine site layout and product setup requirements by exploring functions, use-case scenarios and, product fit and configuration. This will facilitate a comprehensive integration of product features and functions with your needs and desired pedagogies and, will provide the intelligence necessary to customize the training content and approach. Subsequent to this work you will be provided with a comprehensive report with baseline information on your Desire2Learn instance and detailed agendas for the training to follow.

Administration Workshop

Duration: 2 - 3 days
Number of Participants: Up to 8 with one trainer
Audience - This hands-on workshop is geared towards site administrators, helpdesk, trainers/mentors, technical support staff and other individuals who are involved with the management of the Desire2Learn platform. Administrators, helpdesk and technical support staff are strongly advised to attend this session.

Outcomes

At the end of this workshop each participant would have critically examined his/her Org Setup and will have a fully configured Learning Environment that meets identified needs. Additionally, participants will gain thorough exposure to the configuration and maintenance of the Desire2Learn platform.

Faculty Workshop

Duration: 3 - 5 Days

Number of Participants: Up to 12 with one trainer

Audience - This hands-on workshop is geared towards trainers/mentors, faculty, instructional designers and any other individuals working to develop/deploy Content with the Desire2Learn platform. Administrators, helpdesk and technical support staff are encouraged to attend to gain a better understanding of how faculty, students and course developers will be utilizing the system.

Outcomes

The focus of these sessions is the exploration and integration of eLearning pedagogies into the development and facilitation of online and blended learning interactions. By the end of this workshop, each faculty/course developer could have a completely developed course ready for consumption by learners. In addition, all participants will have thorough exposure to the Instructional and Content Development functions identified as relevant to CWC in the Needs Determination consultation.

Train the Trainer Workshop

Duration: 1 Day

Number of Participants: Up to 12 with one trainer

Audience - This synchronous virtual class session will be delivered after the Administration and Faculty Workshops and prior to your Trainers engaging faculty. It is strictly geared towards trainers.

Outcomes

The intent is to immerse participants in best practices for the delivery of Desire2Learn training to faculty. This is to ensure that the effectiveness of training is not diluted. By the end of this session participants will be well prepped to deliver Desire2Learn training which capitalizes on lessons learned in the field and that is consistent with Desire2Learn’s approach.

Self-Paced Web Based Training

Duration: As required

Number of Participants: As required

Audience - These asynchronous learning modules will be made available after initial training. These are geared towards trainers/mentors, faculty, instructional designers and any other individuals working to develop/deploy Content with the Desire2Learn platform.

Outcomes

These modules are intended as support at the point of work. This critical component will support knowledge-transfer and will help to promote user independence.
Training Program Formats

- **On-site**: Desire2Learn trainers will travel to your location to deliver hands-on training and share best practices on teaching and learning online. On-site programs include play sessions, case examples and scenarios. Training takes place in lab with each participant working from his or her very own training sites.

- **Web-Enhanced**: Combination of onsite and virtual training. A typical session will involve an intensive on-site session, followed by a virtual session with participants after training. Trainers will also utilize the discussion tool to answer questions and highlight helpful information for trainees after the on-site session.

- **Virtual**: Virtual training is conducted through Desire2Learn Live and is completely online. Trainees typically watch the trainer demonstrate and explain key concepts, terms and tools in Desire2Learn. Trainees are able to ask questions and share information with other participants. Participants are given interactive play sessions to complete after the training session.

The Desire2Learn training team will gather information prior to delivering training and work closely with you to develop a dynamic session that delivers practical information that is easily reinforced long after the training session has ended.

During the private online workshop, the attendees will have the opportunity to share information with other attendees, gain knowledge of the features available in Desire2Learn, and ask questions to a qualified Desire2Learn trainer. The workshops are presented over the Internet using Desire2Learn Live, Desire2Learn’s Web and phone conferencing tools.

Our training programs are designed to include demonstrations, practice exercises, and discussion. Our goal is to engage participants and ensure each trainee is able to get the most out of their Desire2Learn!

Our training focuses on the newest release of the system. For current clients new system feature training is available immediately upon release of a new version of our product.

Many of our customers find that Desire2Learn’s Learning Platform requires much less training than they’ve experienced with other systems. They find our interface easier to use and therefore have a much shorter learning curve. Often we find that clients have courses up and running before the scheduled training dates.

10h. Describe the documentation provided, including on-line resources.

Desire2Learn is committed to exceptional documentation. Desire2Learn will provide your organization with comprehensive instruction manuals for every feature in the Desire2Learn system. All Desire2Learn documentation is accessible to clients with a user name and password. Documentation goes through rigorous review before being released to customers and is updated promptly when new versions of the software are released.

All documents can be downloaded from the Desire2Learn Documentation website. The documentation on our Community website includes User Guides and training documents, as well as training courses, best practices, and tutorials.

Desire2Learn provides all clients with access to electronic versions of the latest and archived versions of technical documentation, user guides, instructional manuals, and learner aids free of charge.
The Desire2Learn Community (http://community.desire2learn.com) is a tremendous resource for training, support, and information on best practices. Clients can share their knowledge with each other using our discussion boards and build partnerships for collaboration, content sharing, and pedagogy. The Desire2Learn Community site was created to support all Desire2Learn users by providing information, training, discussion forums, and much more. All clients are invited to participate in our online community where they can access valuable information as well as interact with each other.

Through the Desire2Learn Community you can also set up a personalized user group or community for your organization that can be used to access discussion forums, contribute feedback, and suggest improvements. Account Managers can help you prioritize, submit, and monitor progress on feature suggestions.

11. System Releases/Upgrades

11a. What is your current release?

The current release of the Learning Environment is 8.3.1.

11b. About how many releases are there each year and what is the timing?

Desire2Learn’s first official market release was in April 2000, and we update our product with one major and one minor release per year. The major release is typically in February/March, while the minor release is targeted for August. This frequent upgrade schedule reflects the continued commitment of more than 40% of our resources towards research and development. It also reflects our philosophy of making our clients an integral part of the development process.

We listen constantly to the numerous innovative ideas for new tools or feature enhancements from our current and new clients, rather than trying to predict their needs. We leverage our community of users to gather input on new designs, run focus groups, and test new concepts. As quickly as possible, we use these ideas to drive the development of the next version of the platform and then provide the upgrades at no additional cost. This ensures that every client is benefiting from a much larger community of ideas and large R&D initiatives without the added expense.

We typically release 100-300 feature enhancements each six-month period based upon client feedback and direction. We also schedule optional maintenance releases every month to fix any outstanding issues and to touch-up usability for clients.

11c. How long are new releases supported?

To date Desire2Learn has supported each release as long as a client has wished to remain on the release. Due to the constant advancement of new features and the availability of free upgrades, our clients are eager to move forward to the new releases.

Desire2Learn will continue to maintain releases as long as underlying operating system and infrastructure systems are also supported.
11d. How are bug fixes released?

We schedule optional maintenance releases approximately every month to fix any outstanding issues and to
touch-up usability for clients. These releases are communicated to clients via the Community portal, and via
communication from the Account Managers.

Acceptance and deployment of the bug fixes and maintenance releases are completely optional, and a client
has full control over timing.

11e. How are customers notified?

Customers are notified through their account managers that maintenance and upgrades are available. Through
the account management team, you can schedule when to take releases that are convenient for you.

11f. How do customers access upgrades?

Upgrades and patches are usually scheduled off hours and in a large number of cases do not require any
downtime at all for the system, provided that the environment is load-balanced prior to the upgrade or patch
being installed. If a more complex patch is applied, downtime is almost always less than one hour. Large
upgrades to the system may take over three to four hours but usually only occur when the client would like to
schedule the upgrade, usually recommended for one to three times a year.

11g. Describe the process for transitioning course content to newer versions.

With the Desire2Learn product suite, there is no need to transition course content from release to release.
Your course content is always protected regardless of upgrades and maintenance releases.

11h. Describe how customers can make recommendations for product changes.

Desire2Learn is a client-centric company focused on meeting client needs and client success. Client input
drives our development roadmap. Clients can contribute ideas and input a variety of ways:

- Online Community Website: open discussion forums which Desire2Learn employees
  visit daily to interact in real time, or respond to, client suggestions.
- Focus Groups: clients can join focus groups on specific topics of interest to contribute
  ideas and innovate collaboratively
- User Conference: Desire2Learn hosts an annual user conference where clients and
  Desire2Learn employees can work collaboratively face-to-face.

We release one major version per year and two minor versions. We typically release 100-300 feature
enhancements in each major upgrade, based upon client feedback and direction.
11i. Describe the past processes for upgrading your software from one version to another, converting course content from one version to another, and the effort anticipated to be borne by your customers in these conversions.

As indicated in 11g, there is no special process for converting course content from one version to another. The software upgrading process does typically involve some data migration in the database, a process that requires no intervention by our customers, and is performed as efficiently as possible to reduce downtime for the upgrade.

12. Support

12a. Provide details on your company’s support plan(s).

Desire2Learn provides Tech support, help desk support, and other support feature options for end-users. Desire2Learn offers ongoing technical support to technical staff, administrators, and instructors through the following channels:

<table>
<thead>
<tr>
<th>Support Type</th>
<th>Hours of operation</th>
<th>Contact information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web based</td>
<td>24*7</td>
<td>The Desire2Learn SMS</td>
</tr>
<tr>
<td>Email</td>
<td>24*7</td>
<td>A direct email is provided</td>
</tr>
<tr>
<td>Telephone</td>
<td>24*7</td>
<td>A direct number is provided</td>
</tr>
</tbody>
</table>

Our customers will tell you that our customer support is second to none, and that our system is very intuitive and easy-to-use for learners of all levels and backgrounds.

Desire2Learn is fully committed to total customer support; our customers rave about how responsive we are. We support our clients with any of their direct needs, including software support and content support. Desire2Learn also offers high priority, emergency support through our direct support email account. This account is continuously monitored by our support staff.

Desire2Learn included the following comment from a customer to illustrate our customers’ appreciation of our Support initiatives:

“I would also add that I am as impressed with Desire2Learn’s commitment to client service and satisfaction as I am by your company’s technical prowess.”

Rick Nigol
Manager, Distance Education and DE Learning Technologies
University of Guelph

Over 90% of all calls to our help desk are answered live. Desire2Learn can also provide Service Level Agreements (SLA) that provide targets for responsiveness and resolution. Our fee-based support organization
is available 24 hours a day, 7 days a week, 365 days per year. Internal SLA’s guide the escalation process and provide targets for response and resolution times.

Typically, response times are immediate for telephone support, and usually under an hour for email correspondence and web discussions. The technicians responding to issues are informed and equipped to address the vast majority of issues that come into the support center.

At Desire2Learn, we look at our help desk as one of the most important parts of our organization and not as something we can outsource or treat as a call center. We feel our ability to provide superior support is the reason why our client satisfaction is so high and the reason our clients remain with us for the long term.

Support is managed by experts who are directly involved in product management, have direct access to senior management, and have accountability to report key metrics to the CEO of Desire2Learn. Support also assists in the management of product releases to ensure they are successful and to ensure that they are always aware of product functionality. The support team is also involved in all product development meetings. We work hard to ensure our support team has all the resources required to be the best team in the industry.

Desire2Learn provides a live, interactive, customer-accessible Issue Tracker, where customers can submit issues and see the progress of the status of those issues as they are received, in process, or completed. Issues are entered and tracked with a ticket number that can be accessed through Desire2Learn’s support system web site. This system also provides documentation, technical updates, informational releases, a discussion forum, and much more. Clients can also choose to subscribe to an updates service through the portal that sends them vital system information updates and general news regarding the Desire2Learn platform.

Desire2Learn goes the extra mile in helping resolve issues. When an error message is encountered by a user, it is automatically recorded in the Desire2Learn database, allowing our technical support staff to receive the error without having to be notified by the customer. In many cases, customers tell us how thrilled they are that a problem they encountered has already been fixed and implemented. This is another powerful example of how dedicated we are to superior customer service.

The Help Desk receives, troubleshoots, and responds to customer problems and requests, logs and tracks them, and determines how best to address them. One of the top proprieties of the Help Desk is to ensure a consistent response to problem resolution and requests.

Desire2Learn strives to resolve all generic (non-bug) problem tickets in a single phone call or email within 15 minutes and typically provides, at a minimum, an 80% resolution on first contact. For those problem tickets that cannot be resolved within that time frame, the severity, priority, and difficulty level of the problem come into play. The priority of a problem ticket is based on the level of service that the customer has purchased (Standard, Premium, or Premium Plus). If, for example, the severity of the problem is low and the level of service is Premium, the problem will enter our support system with a higher priority than those customers who have a Standard level of service. The problem ticket will begin an aging process that increases the priority level.

If the problem occurs over the weekend, the problem ticket will be reviewed to determine whether this problem, even though it may have a low severity, has sufficient priority to be resolved immediately or whether the problem ticket can be “parked” until Monday morning. If it is determined that the ticket has sufficient priority to be resolved immediately, the Level One Consultant will escalate the problem to a Level Two Consultant. The problem will continue to escalate and the necessary resources will be allocated to resolve the problem ticket. If the problem ticket can be “parked” until Monday morning, no further work will be conducted over the weekend. Monday morning, the Shift Supervisor will review all parked problem tickets to determine their priority.
Levels of support

Desire2Learn has three levels of support, which are described in the following section:

Standard

Standard level of support where problems are logged into the SMS, triaged, troubleshot, escalated as appropriate and problems are resolved. Customers who have Standard level of support receive access to web resources (FAQs, knowledge base, forum, technical support email) and ongoing access to patches and service packs. Hours of support for Standard support customers are 8:00 a.m. to 8:00 p.m. in their corresponding time zone. Support is available for after hours emergency issues (defined by the inability for any users to access the site/server that the Desire2Learn application is running on). Standard support customers may have one administrative contact (up to a maximum of three, depending on the size of the institution) with no end user support provided. There is not a guaranteed time of responsiveness via a Service Level Agreement for Standard support. Standard Support customers are limited to 20 customer contacts per month per approved Site Administrator.

Premium

Premium level of support where problems are logged into the SMS, triaged, troubleshot, escalated as appropriate and problems are resolved. Customers who have Premium level of support receive access to web resources (FAQs, knowledge base, forum, technical support email) and ongoing access to patches and service packs. 24x7x365 support is provided to our Premium customers. This 24x7x365 support is provided via telephone, web form submission, customer created problem tickets using the Desire2Learn SMS, and email. Premium Support customers may have one to a maximum of three administrators. No end user support is provided. There is a guaranteed faster time of responsiveness via a Service Level Agreement. Premium Support customers will also be provided with a toll free number to call if they desire support via the telephone. Premium Support customers are limited to 35 customer contacts per month per approved Site Administrator.

Premium Plus

Premium Plus level of support is identical to Premium Support except that end user support is provided. These end users may include faculty, staff, students, and those utilizing Desire2Learn in non-instructional situations, for example, university committees, student clubs and interest groups. Premium Plus Support has two levels – low volume and high volume. Premium Plus Support customers (depending on whether low volume or high volume level was purchased) have 75 to 200 customer contacts per month.

12b. Describe your company’s approach to responsiveness to problems: initial maximum response time, and the procedure for escalating the problem to reach a solution.

Refer to response provided in 12a for additional details.
13. Professional Services

13a. Describe and give examples of the professional services available from the company.

Desire2Learn’s Professional Services team is available to provide consulting, planning, or programming services for you. Our dedicated team has a wealth of expertise, experience, and enthusiasm to assist you in attaining your unique goals.

Our professional services to meet your listed needs include:

Implementation Services:

Desire2Learn recognizes that organizations look for much more than a stand-alone Learning Management System. Our Implementation Services team works closely with clients to ensure a seamless integration of our eLearning Suite with your existing IT investments. Our team is committed to working with you through each phase of your project, from planning through to post implementation follow-up, to ensure success.

Bridging the Gap with Your IT Investments

To reduce time spent on integration and to dramatically save on costs and maintenance, Desire2Learn has built special middleware for the majority of system integrations, even for larger clients with multiple locations and systems. Through the use of "out-of-the-box" middleware components and web services, the Desire2Learn Learning Environment integrates with the many systems supporting your organization. This includes but is not limited to:

- Student Information Systems
- Repositories
- Authentication systems (e.g. LDAP, Active Directory)
  - IT administration and human resource management systems (HRMS)
  - eCommerce systems
  - Single Sign-On Authentication into or out of systems such as Library Systems, Portal Systems and email.

Key Benefits

Implementation Leadership – Our in-depth knowledge and collaborative approach will ensure you are well positioned for the future.

Dependable Process – A structured process from planning to post-implementation ensures your educators and learners are equipped with a robust solution.

Ease of Integration – We work closely with you to seamlessly integrate with your existing systems.

Minimize Transition Time – Project planning expertise enables faster platform transition times for your organization.

Unique Solutions – Creating a unique solution which adapts to your pedagogical approach, branding and eLearning vision is essential to your institutional effectiveness.
Hosting Services:
Our Hosting Services can be counted on for highly-reliable uptime, data protection and the ability to accommodate high loads as well as growth. Depending on the support level you choose, our dedicated hosting facility enables you to offer your eLearning programs in a secure environment with 24x7 support, and fast, reliable, and scalable resources.

We offer superior performance by supplying redundant high-bandwidth connectivity directly to Internet backbone loops, as well as high performance server infrastructure. You can also expect high availability and service level agreements, dependable network connectivity, fully redundant power, and the best warranties on hardware. An independent and dedicated infrastructure with bunkerstyle construction; tiered access to sensitive areas; entry points and cages secured by key cards; security guards and biometric access technologies provides you with the assurance you need.

Additional security features found within our Hosting Facility:

- Digitally archived video surveillance
- Bulletproof guard station
- Reinforced walls
- Anti-hostage entrances

Key Benefits

Peace of Mind – You can feel confident that your eLearning application is in expert hands.

Higher Performance – Affordable solutions allow even the smallest client to perform at the highest operating level possible.

Advanced Security – Availability, redundancy, highly reliable uptime, and data protection ensure that your programs are secure, well managed, and run smoothly.

Scalable Infrastructure – Scale your environment as required to support your growth. Even smaller environments can benefit from an advanced platform without the system challenges for support, and growth.

Flexibility – Customizable hosting options give you the ability to select offerings appropriate to your unique requirements.

Simplified Operations – Utilizing Desire2Learn's hosting facilities allows you to focus on teaching and learning, and allows our experts to handle the rest.

Disaster Recovery Services
Business continuity and disaster recovery services are critical to managing risk in successful organizations. Desire2Learn can assist you with a tailored and cost effective solution that eliminates unacceptable downtime, and provides reliable recovery and protection of data. We can help you protect your data through a Desire2Learn hosted solution or by using your own self-hosted solution.

Content Services:
Through years of experience working with leading organizations and developing innovative courseware, Desire2Learn's Content Services team provides flexible, interactive, and accessible development and production services.
Whether your institution requires multimedia, Learning Object or portal design, course conversion, instructional design or even custom development services, our Content Services team has the expertise to provide you with vibrant solutions for your Learning Environment.

**Key Benefits**

**Enhance Courses** – Your environment will come alive with dynamic, engaging course content to improve learner outcomes.

**Promote Understanding** – You can feel confident in our team's eLearning proficiency and experience and know that your courseware is in expert hands.

**Increase Efficiency** – By leveraging our industry knowledge and expertise, you can focus on teaching and learning and maximize the potential of your course offerings.

**Standards-Based Portability** – Through a standards based Learning Object Repository, Content Services can design portable content allowing you to share within or externally to your organization.

**Content Services Solutions**

**Course Conversion**

We are the experts at using Desire2Learn to build courses and can easily convert your courses to maximize the impact in the Learning Environment. Let us help you convert courses from other learning systems, transform materials to AICC or SCORM conformant, design graphics, illustrations, and animations, or simply update look and feel.

**Learning Object Design**

Many clients are looking for ways to reduce the costs of content development, and allow for portability between systems. Designing portable standards-based content such as Learning Objects is a way to achieve this. Learning Objects are modular, flexible, portable, transferable (interoperable), and accessible digital content that can be shared. Our talented design team can help you build the graphics and the interactive components that will capture the concept you wish to portray in your course. We will ensure your work comes alive – captivating and engaging your participants.

**Multimedia Development**

Our team has the capabilities to provide a wide range of multimedia development options designed to enable you to select the most appropriate and effective components to meet your project needs. Let us transform your content into exciting multimedia elements!

**Custom Development**

We know it is important for you to work with a partner who understands your needs and goals, a partner who is capable of providing an eLearning solution that is cost-effective, on time, and achieves your educational objectives. Desire2Learn offers a wide range of custom development services that enables you to choose the option that appropriately addresses your project requirements.

**Portal Design**

We will work with your organization to deploy a portal solution to enable quick and secure access to relevant information from various sources throughout your organization. Whether you are looking for a graphically pleasing login page to a complete website, our Content Services team can help ensure that your Desire2Learn portal is a dynamic solution.
Training Services:

The Desire2Learn Training team provides comprehensive training for instructors, site administrators, instructional designers, course developers and others who plan to use the Desire2Learn platform.

Our innovative programs can be delivered by our expert trainers in four formats; on-site, web-enhanced, regional training workshops and virtually. We will work closely with you to customize our training programs to fit your organization's needs.

Key Benefits

Maximize Your Potential – Our training programs are designed to provide you every possible learning opportunity.

Achieve Goals – Every step of the way, we are committed to your success. We will work closely with you to ensure our training programs exceed your expectations and help you to attain your goals.

Customize Sessions – Whether it's virtual, web-enhanced or on-site, you can select the session format that is most suitable for your organization.

Enhance Productivity – Learn how to save time in the course development process and make the most of Desire2Learn's Enterprise eLearning Suite.

Increase Learner Satisfaction – Learn how to develop creative approaches to course delivery, increase student participation and learner satisfaction.

Support Services:

We take pride in building lasting relationships with our clients and always ensure that every possible measure is taken to exceed expectations. Our highly trained and friendly help desk professionals ensure that your inquiries and needs are dealt with in a fast and efficient manner. Looking forward, our Support Staff applies effective problem management by reviewing all incidents and identifying areas of improvement to ensure reliability.

Key Benefits

Customization – With multiple levels of support, we make it easy for your organization to select the appropriate support level to meet your specific needs.

Client-Focused – Every support call is considered mission-critical, regardless of the level of complexity.

Reliable and Responsive – With our around-the-clock Help Desk professionals, rest assured that your call will be answered promptly with a focus on quick resolution.

Access to Experts – Our experienced and knowledgeable team will work with you to understand your challenges and find a solution that works for you.

13b. Describe what measures are taken to develop price estimates, and what steps are taken to insure actual work does not exceed estimates.

All professional services projects will have scope defined and terms agreed in the form of a Work Order or Statement of Work before work begins on any project. Some professional services have a fixed price cost while others may be estimated based on time and materials. In either case, if a change to agreed scope arises on a given project, this change will be agreed in a Change Request which describes project impact in terms of
schedule, scope, and budget. The Change Request requires approval before any additional work is performed by Desire2Learn.

14. Hosting (ASP)

14a. Describe your hosting capabilities.

Clients can host the Enterprise eLearning Suite on their own infrastructure or leveraging the Desire2Learn Hosting Services.

The Desire2Learn hosting service offers clients a hosted solution that is monitored constantly and employs industry leading technology in all of its infrastructure tiers. Security infrastructure elements include Stateful Inspection firewall clusters, Intrusion Prevention Systems, Secure Sockets Layer (SSL) Accelerators, and host-based software that ensures client data is kept confidential and secure. All server elements including application, file, and database are load balanced and clustered to ensure high availability. Servers are connected to redundant Storage Area Networks (SAN) to ensure scalability, maximum performance, and data integrity. Data is backed up to offline storage including disk and tape daily as well as options for geographic Disaster Recovery.

The hosting facility hosts over 2 million Learning Environment, Learning Repository, LiveRoom, and Desire2Learn Essentials users across hundreds of clients. Client profiles include large state wide Higher Education and K-12 consortia with hundreds of thousands of users, as well as smaller to medium size clients like Colleges and Universities, and Government, Military, Healthcare, and Corporate entities.

Hosting Services are provided from a Tier-1 bunker style hosting facility which is connected to multiple enterprise carrier loops including Bell, Verizon, and others. There are 200Mbps of bandwidth tied directly into Internet backbones and a dedicated T3 (45Mbps) link to the Disaster Recovery site. The hosting facility has not experienced more than one minute of downtime in the last seven years due to multiple UPS and diesel generator backup units. Physical security systems include biometric and individual key code doors, CCTV, manned security guards present 24 hours a day, 7 days a week, sign-in and verification procedures, mantraps, intrusion detection systems, and electronically locked server racks. Server rack access requires an individually assigned electronic key that is recertified on a monthly basis.

There is constant support for your implementation and hosting gives you the opportunity for continuous development of your online programs. This ensures your solution is exactly what you need it to be at all times. Hosting with Desire2Learn means a proactive commitment that ensures each of your environments are managed separately in order to provide you with a seamless experience. This is one of the things that make the company truly unique. Desire2Learn software is very adaptable and the company is committed to the philosophy of educational partnership.
14b. Include details on security, redundancy, uptime %, backup, and recovery.

The Desire2Learn Hosting Infrastructure includes:

**Redundant Networking Equipment:** Redundant routers running HSRP ensure high availability and 200Mbps connections to the Internet. Gigabit Switches use VLAN segmentation by security zone and are deployed using Multi Link Trunks to create a 4Gbps LAN backbone. Bandwidth shaping is allocated based on committed licensing to ensure a consistent and reliable rich end-user experience. Desire2Learn measures incoming and outgoing bandwidth for all clients and works with clients to optimize usage based on customer requirements.

**Redundant Firewall and Intrusion Prevention Systems:** Redundant Layer 7 with full Stateful packet inspection Firewalls and Intrusion Prevention Systems ensures a secure environment that is resistant to DDoS, Session Hijacking, Injections, Trojans, and other Malware. Anomaly detection ensures zero-day attack prevention.

**Redundant Load Balancers and SSL Accelerators:** Redundant load balancers provide equal load distribution to Application farms by using the best available connection paths and server resources. An added bonus of this process is that it results in increased efficiency and performance. System health checks performed by the Load Balancers ensure Application Servers are available and performing within set thresholds and therefore adding another layer of fault tolerance to Desire2Learn’s high-availability hosting environment. SSL Acceleration offloads encryption and decryption from the Application Servers and increases performance. Caching and compression technologies also allow for increased performance and faster response time for users Internet browser sessions.

**Clustered File and Database Servers:** All servers deployed in Desire2Learn’s hosting facility are clustered to ensure high availability. Clustered file and database servers provide performance, reliability, and a fault tolerant solution which eliminates single and multiple points of failure. Redundant servers are mapped and connected to separate power domains tied back to separate UPS’s to ensure application protection against power interruptions.

**Storage Area Networks (SAN):** Redundant 4Gbps fully switched fibre channel SAN fabrics ensure multiple paths back to the Storage Arrays. The SAN fabrics are logically segmented using port zoning and Storage Arrays are segmented using storage domains and LUN masking. All SAN disks are 15K Fibre Channel drives to ensure maximum throughput or I/O for file and database servers. Storage space is allocated based on committed licensing. Additional storage capacity can be purchased as required to support customer data growth.

**Integrity and Security Services:** Desire2Learn monitors and logs traffic, analyzes activity for potential intrusions with full application layer filtering, and provides enterprise backup solutions for regular tape backups and optional real-time geographical disaster recovery. Layer 7 filtering is the deepest level of inspection possible for TCP/IP based traffic.

**The Desire2Learn Hosting Services Offering**

Desire2Learn’s Application Service Provider model is customizable to meet customer needs. Whether your institution requires secure, dedicated infrastructure with detailed Service Level Agreements or more cost effective shared instances, Desire2Learn Hosting Services can accommodate.
Hardware Solutions:

- Desire2Learn Hosting Services creates a unique Organization within the Learning Environment that is hosted on a minimum of two application servers, clustered file servers, and clustered database servers. Organizational allocation is based on performance levelling and capacity management. Server, Network, and Storage performance are monitored daily to ensure all clients are running at optimal conditions.

- Customers are secured with Layer 7 – Stateful Inspection Firewalls, and Intrusion Prevention Systems, Secure NAT, SSL, and Anti-Virus to ensure data is kept logically separate and secure at all times.

- Daily Backups ensure any data loss or corruption is restored to the last backup. Backup routines include full, incremental, and transaction logs to ensure all aspects of the application and content are safeguarded.

- Proactive Monitoring is performed at all times for the Shared Infrastructure and Application tiers.

- Optional Disaster Recovery services can be added to any hardware solution, whether it is Offsite Data Replication or Hot Site Disaster Recovery. With structured Recovery Time Objectives stipulated in an SLA, Desire2Learn Hosting Services can meet your organizations DR requirements.

- Shared hardware customers are able to leverage High Availability Infrastructure at low costs.

- Service Level Agreements can be customized to ensure uptime guarantees to meet customer requirements.
Desire2Learn Hosting Services Summary

Desire2Learn Hosting Services understand the importance of hosting services and has a proven track record of being a trusted partner in hosting complete eLearning systems for hundreds of clients, and millions of users. The Desire2Learn Hosting Services allows you to avoid the worry of providing and supporting the infrastructure, and enables you to have the freedom to focus on developing and delivering your programs, and creating the best teaching and learning environments for all of your users.

Desire2Learn Hosting Services uses industry leading Application Load Balancers from F5 Networks Inc. These redundant load balancers are responsible for directing equal web service loads to each server contained within the given application farm. Another role the load balancers play is providing a High Availability environment by mitigating server outages.

Load Balancers also decrease network latency by providing Caching and Compression technologies. This is achieved as cacheable content is stored in memory on the Load Balancers, thus eliminating the requirement for server side processing of frequently used cacheable content.
On the security front, the Load Balancers also perform Secure Sockets Layer (SSL) Acceleration by providing an offload module for the encryption and decryption of web services traffic. This allows for better response times while maintaining security as the application servers are able to pass information in clear text to the Load Balancers; the Load Balancers then encrypt the session to the destination client browser. Using this type of SSL Acceleration allows Desire2Learn to encrypt Portal Access to customer sites in order to protect student information.

**Key Benefits:**

**Load Balancing Algorithm:** Desire2Learn uses advanced Load Balancing algorithms to determine web service paths. These observation algorithms incorporate server load and average response times as a part of the validation process. This advanced configuration ensures sessions are routed to the fastest responding application server contained within the given application farm.

**Load Balancing Server Health Checks:** Along with Load Balancing algorithms, Health Checks ensure the application servers within the given application farm are up and running and in optimal condition to accept web traffic. Desire2Learn uses several health checks including HTTP get requests which ensure web services are listening on specific TCP ports – 80/443 and valid HTTP codes are being returned, and Simple Network Management Protocol (SNMP) to monitor server health including CPU, Memory, Disk, and Network I/O. Application servers that fail Health Checks are removed from the Load Balanced server pool and Desire2Learn Hosting Services is notified. These Health Checks ensure application servers are running optimally before a customer request ever reaches them.

**Caching and Compression:** Aside from Load Balancing, one of the more compelling reasons for Load Balancers is for Caching and Compression purposes. Caching ensures cacheable requests like gif, jpg, css, html, and pdf files are stored in memory for rapid retrieval and delivery. Depending on course type and content, caching can work to reduce 70% of IIS traffic. Caching technologies work to better the customers experience as a whole by reducing response times while saving on bandwidth requirements. Compression also works to mitigate bandwidth requirements by compressing communications between the Load Balancer and the customers Internet browser.

**SSL Acceleration:** SSL Acceleration allows Desire2Learn to utilize Secure Sockets Layer (SSL) for portal only or complete site access while maintaining peak performance. Traditional SSL encryption and decryption processes run on application servers and increase CPU utilization, thereby reducing overall performance. This process makes delivery of SSL content slower. By offloading SSL computations to the Load Balancers, application servers are able to run more efficiently. Application servers pass traffic to the Load Balancers in clear text; the Load Balancers have the required SSL certificate loaded into their configurations allowing the Load Balancers to communicate with customer Internet browsers using 128bit encryption. SSL Acceleration maintains security best practices for web services delivery while leaving performance unaffected.
Desire2Learn Hosting Services continues to invest in leading edge technologies such as F5 BigIP 6400 Local Traffic Managers for Load Balancing to ensure high availability, performance, and security and enrich the overall customer experience.

In 2007 our Hosting Service achieved a 99.9% uptime.

14c. Describe and provide samples of service level agreements (SLA) you offer.

Desire2Learn offers SLA’s as part of our Premium Plus Service Offering and would be happy to discuss your requirements in this area at an appropriate time in your process. An sample of Response Times and SLD’s is included below.

Response Times

Response times are related to the security level definitions and the four levels are explained, below:
## Severity Level Definitions

<table>
<thead>
<tr>
<th>Severity Levels</th>
<th>Scope</th>
</tr>
</thead>
</table>
| Severity 1 - Emergency | - System is not accessible to any users  
- Critical tools needed for normal operation are not usable  
- Critical data are not accessible  
- Data are being lost due to a problem with the Desire2Learn application.  
- The security of the system is being compromised |
| Severity 2 - High | - Problem is not necessarily serious in nature, but has a significant impact on some users  
- Presence of the problem prevents a particular tool or function from working and there are no alternatives to achieve the desired end result  
- Backup failure of mission critical application |
| Severity 3 - Moderate | - Problem is not serious by nature  
- No data loss  
- Overall system has not failed  
- Unexpected results within routine tool or function  
- Issues specific to a user/course/resource not significantly affecting use of the system |
| Severity 4 – Low (default) | - No effect on production system  
- Minor questions on usability, informational requests about the platform or feature requests  
- Isolated unexpected behavior that cannot be reproduced and has little to no impact on the system or the users at large |

Please Note: All tickets default to "Low Severity" initially.

These service level responses are intended to be a general guideline of expectations for providing service to our customers. Keep in mind that difficulty level may lengthen the Target Resolution Time Goal noted below.

<table>
<thead>
<tr>
<th>Severity*</th>
<th>Response Parameter</th>
<th>Premium Plus Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>Initial response</td>
<td>15 minutes</td>
</tr>
<tr>
<td></td>
<td>Target resolution time goal</td>
<td>8 hours</td>
</tr>
<tr>
<td>Level 2</td>
<td>Initial response</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td>Target resolution time goal</td>
<td>24 hours</td>
</tr>
<tr>
<td>Level 3</td>
<td>Initial response</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td>Target resolution time goal</td>
<td>2 days</td>
</tr>
<tr>
<td>Level 4</td>
<td>Initial response</td>
<td>4 hours</td>
</tr>
</tbody>
</table>
Target resolution time goal | 3 days

*Problems whose resolution requires a tool patch because of a bug in the system will take longer, depending on where the bug patch falls in the product development and QA cycle.

In some cases, the problem may take longer to resolve than expected and the Desire2Learn support team will ensure that customers are apprised of the problem status. The individual or representative will also be contacted and informed of the estimated time it will take to resolve the issue. In all cases, Desire2Learn will notify the customer when the issue is resolved.

14d. Provide the ASP average uptime per month.

Desire2Learn Hosting Services has achieved a 99.9% uptime in 2007.

14e. Describe the extent of scheduled maintenance windows that could disrupt service.

We perform monthly scheduled maintenance in the early morning of the fourth Sunday of every month. During this period all hardware and software maintenance is performed to reduce impact on clients around the world.

14f. How much notice is given for unscheduled maintenance?

In the event of a change to a normal scheduled maintenance window or emergency, each customer is contacted and notified via Support & Account Management with as much notice as possible, and where possible a mutually agreed upon schedule is determined.

15. Price

15a. Provide all pricing that will apply to your offer over the period of the contract.

Cost Proposal Overview

Desire2Learn is proud to propose the Learning Environment along with associated services to provide Virginia Tech the best solution for your current and future eLearning requirements.

We fully understand the technical, administrative and cost challenges of successfully making an LMS conversion. Based on our vetted experience in the industry and from detailed discussions with the members of
the Virginia Tech staff, we understand your requirements, environment, and your vision. We are pleased to present this cost proposal that was designed to meet and exceed your teaching and learning needs.

Desire2Learn is focused on partnering with Virginia Tech to provide long term success of your business. Therefore, the proposal provided is designed to meet your needs for a 5 year partnership.

The Learning Environment maintains the industry’s lowest total cost of ownership. Some providers commence with a low initial offering with a dramatic increase over subsequent years – this is something avoid doing. Furthermore, we provide the most complete, scalable, reliable, flexible, and customizable solution in our core product; thus, reducing the total cost of ownership as there is typically less customization during implementation.

Desire2Learn is confident that the Learning Environment and our services will meet and exceed your expectations, improve teacher and staff satisfaction and assist in highly effective deliver to, and collaboration amongst teachers and students. This proposal details options to enable the most cost effective method for partnership with us. When combined with the industry’s leading customer support and professional services offerings, we feel that this pricing structure will provide the best solution for Virginia Tech.
Licensing Model

The licensing model being proposed is based on the number of FTE and is on an annual basis. Users will be able to access an unlimited number of courses in the system. As requested, since this RFP will be used as a state wide Master Agreement, we have included tiered pricing for 2,500, 5,000, 10,000, and 15,000 FTE. Additional pricing tiers are available and can be provided upon request.

Desire2Learn also has licensing options available to facilitate the aggregation of multiple institutions in a consortia model which we have established with other state-wide contracts and are happy to discuss at an appropriate time in your process.

Virginia Tech University pricing is at the 10,000 FTE level.

REQUIRED PRODUCTS AND SERVICES

<table>
<thead>
<tr>
<th>One-time Fees:</th>
<th>Measure</th>
<th>Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation and Implementation for Learning Environment</td>
<td>2,500 FTE</td>
<td>$5,500</td>
</tr>
<tr>
<td></td>
<td>5,000 FTE</td>
<td>$7,500</td>
</tr>
<tr>
<td></td>
<td>10,000 FTE</td>
<td>$10,500</td>
</tr>
<tr>
<td></td>
<td>15,000 FTE</td>
<td>$12,500</td>
</tr>
<tr>
<td>Training (3 days)</td>
<td>Maximum of twelve instructor participants or a maximum of eight administrator participants</td>
<td>$7,500</td>
</tr>
<tr>
<td>Virginia Tech One-time Fees Total</td>
<td>10,000 FTE</td>
<td>$19,000</td>
</tr>
</tbody>
</table>

| Annual Fees: | 
| Learning Environment | 2,500 FTE ($13.25/FTE) | $33,125 |
| | 5,000 FTE ($9.75/FTE) | $48,750 |
| | 10,000 FTE ($6.99/FTE) | $69,900 |
| | 15,000 FTE ($5.99/FTE) | $89,850 |
| Support | Standard Support for 1 Approved Support Contact (ASC) | Included |
| Desire2Learn Hosting | 2,500 FTE | $17,500 |
| | 5,000 FTE | $32,500 |
| | 10,000 FTE | $55,000 |
| | 15,000 FTE | $71,250 |

| Virginia Tech Annual Fees: | 10,000 FTE | $124,900 |
### OPTIONAL PRODUCTS

<table>
<thead>
<tr>
<th>One-time Fees:</th>
<th>Measure</th>
<th>Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation and Configuration for ePortfolio</td>
<td>2,500 FTE</td>
<td>$5,500</td>
</tr>
<tr>
<td></td>
<td>5,000 FTE</td>
<td>$10,000</td>
</tr>
<tr>
<td></td>
<td>10,000 FTE</td>
<td>$15,000</td>
</tr>
<tr>
<td></td>
<td>15,000 FTE</td>
<td>$15,000</td>
</tr>
<tr>
<td>Installation and Configuration for Learning Object Repository</td>
<td>&lt;5,000 FTE</td>
<td>$5,500</td>
</tr>
<tr>
<td></td>
<td>10,000 FTE</td>
<td>$7,500</td>
</tr>
<tr>
<td></td>
<td>20,000 FTE</td>
<td>$7,500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Fees:</th>
<th>Measure</th>
<th>Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire2Learn ePortfolio</td>
<td>2,500 FTE ($8.95)</td>
<td>$2,375</td>
</tr>
<tr>
<td></td>
<td>5,000 FTE ($6.95/FTE)</td>
<td>$34,750</td>
</tr>
<tr>
<td></td>
<td>10,000 FTE ($5.00/FTE)</td>
<td>$50,000</td>
</tr>
<tr>
<td></td>
<td>15,000 FTE ($4.25/FTE)</td>
<td>$63,750</td>
</tr>
<tr>
<td>Desire2Learn Learning Object Repository</td>
<td>2,500 FTE</td>
<td>$10,500</td>
</tr>
<tr>
<td></td>
<td>5,000 FTE</td>
<td>$14,500</td>
</tr>
<tr>
<td></td>
<td>10,000 FTE</td>
<td>$19,500</td>
</tr>
<tr>
<td></td>
<td>15,000 FTE</td>
<td>$26,500</td>
</tr>
</tbody>
</table>

### OPTIONAL SERVICES

<table>
<thead>
<tr>
<th>Integration Services</th>
<th>Measure</th>
<th>Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIS Batch Integration</td>
<td>Per Integration (1-Time Fee)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;5,000 FTE</td>
<td>$10,000</td>
</tr>
<tr>
<td></td>
<td>10,000 FTE</td>
<td>$15,000</td>
</tr>
<tr>
<td></td>
<td>15,000 FTE</td>
<td>$25,000</td>
</tr>
<tr>
<td>SIS Batch Integration Annual Maintenance Fee</td>
<td>Per Integration (Annual Fee)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;5,000 FTE</td>
<td>$3,500</td>
</tr>
<tr>
<td></td>
<td>10,000 FTE</td>
<td>$4,000</td>
</tr>
<tr>
<td></td>
<td>15,000 FTE</td>
<td>$5,000</td>
</tr>
<tr>
<td>Service Description</td>
<td>Measure</td>
<td>Fees</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>LDAP/AD Authentication Integration</td>
<td>Per Integration (1-Time Fee)</td>
<td>$5,000</td>
</tr>
<tr>
<td></td>
<td>Annual Maintenance</td>
<td>$350</td>
</tr>
<tr>
<td>SSO Integration with Portal</td>
<td>Per Integration (1-Time Fee)</td>
<td>$5,000</td>
</tr>
<tr>
<td></td>
<td>Annual Maintenance</td>
<td>$500</td>
</tr>
</tbody>
</table>

**Support Services**

| Premium Support Upgrade from Standard Support for 1 Approved Support Contact (ASC) / per ASC | Per Approved Support Contact (ASC) per year | $4,000 |
| Premium Support for additional Approved Support Contact (ASC) / per ASC                   | Per Approved Support Contact (ASC) per year    | $9,500 |

**Training Services**

| Training | Maximum of twelve instructor participants or a maximum of eight administrator participants | $2,500 per day |

**Consulting Services**

<table>
<thead>
<tr>
<th>Position</th>
<th>Hourly Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 Consultant</td>
<td>$185</td>
</tr>
<tr>
<td>Level 2 Consultant/Project Manager</td>
<td>$210</td>
</tr>
<tr>
<td>Level 3 Consultant/Architect/Manager</td>
<td>$225</td>
</tr>
<tr>
<td>Level 4 Consultant/Architect/Manager</td>
<td>$300</td>
</tr>
</tbody>
</table>
16. Warranty

16a. Describe the terms and conditions of any warranty on the software and professional services available.

Desire2Learn warrants that:

1.01 It has Intellectual Property rights in the Applications and Software;

1.02 It will use its best efforts to ensure the Products do not contain any virus, worm, or time bomb, or other similar forms of code or any other code intended to cause harm or damage to any computer systems or data;

1.03 Its employees are appropriately trained and skilled to perform Consulting; and

1.04 Applications and Software will substantially perform according to Documentation, provided that Client has not modified Software.

1.05 Except as set forth in this Master Agreement, Desire2Learn makes no warranties, conditions, or guarantees, express or implied, oral or written, with respect to the Products or Network. Desire2Learn does not warrant that Products or Network are error-free. Desire2Learn makes no warranties of merchantability, fitness for a particular purpose, or arising from a course of performance, dealing, or usage of trade.

16b. Describe how such warranty is implemented to provide problem resolution services.

Refer to response in Section 12b for details on problem resolution.
Attachment “B”
ATTACHMENT B

Virginia Tech Security Questionnaire
For Technology-based Procurements

If purchased, Virginia Tech reserves the right to conduct an IT security assessment on the product(s), system(s) and/or service(s) once delivered to validate the answers to the questions below. If evaluation copies or instances are available for testing, they should be provided to the IT Security Office when requested.

In the space following each question, please provide a Yes, No or a “no answer” (N/A), and add any appropriate comments. If the answer is No or N/A, please provide comments indicating how this question/concern is addressed elsewhere or why it is not applicable.

1. **Does your product(s), system(s) and or service(s) protect against the SANS Top 20 security vulnerabilities [http://www.sans.org/top20](http://www.sans.org/top20)?**
   
   Yes.
   
   Server side vulnerabilities are protected by ensuring appropriate patching levels are maintained. We patch our systems on a monthly basis during our maintenance window. A meeting to review all relevant software patches is conducted monthly, and if critical vulnerabilities are identified the installation of these patches can be expedited and recommended to our self-hosted clients.

2. **Does your product(s), system(s) and or service(s) protect against the OWASP [http://www.owasp.org/index.php/OWASP_Top_Ten_Project](http://www.owasp.org/index.php/OWASP_Top_Ten_Project)?**
   
   Yes.
   
   We have carefully analyzed every item on the list against our applications, and in several cases this has resulted in application changes. For example, we increased our defense against A5 – Cross Site Request Forgery by allowing only POSTs to process data and to require a random token to be present in the form. This is in addition to the authentication cookie. This was done as a direct result of the information on the OWASP website. We continue to use the OWASP top ten list as a way to prioritize and focus our application security efforts.

3. **What specific encryption algorithms are employed for your product(s), system(s) and/or service(s)?**
   
   Yes.
   
   Desire2Learn uses AES (Rijndael) encryption. We use a 256 bit key and a block size of 128. AES encryption is used for storing passwords. No other specific encryption algorithms are used or required.

4. **Is all sensitive data (i.e. Social Security Numbers, Credit Card Numbers, Health Information, etc) encrypted in transit and at rest? If not, please explain? (NOTE: Please see the Sensitive Information page at [http://www.security.vt.edu/sensitiveinfo.html](http://www.security.vt.edu/sensitiveinfo.html) for specifics).**
   
   Yes.
   
   It is recommended that all data transfers can take place using SSL encryption technologies, which simply requires the purchase of an SSL certificate for the website. Note that the Learning Platform itself does not utilize Social Security Numbers, Credit Card Numbers, or Health Information, and the most sensitive information in transit is usually passwords, final grades, and quiz/test attempts, all of which benefit from secure data transfers. Passwords are encrypted before being stored in the Learning Platform database. Further, we have a configuration such that all HTTP traffic is forced to go through SSL. This prevents users from accidently submitting sensitive information in the clear.

5. **Is login information such as user name and password encrypted during transmission from the client to the server? NOTE: Base-64 encoding is not acceptable.**
   
   Yes.
The use of SSL for secure encrypted communication between the client and the server is optional but highly recommended in the Learning Environment Implementation. This is provided via a standard SSL Certificate, which could be self-signed or acquired from a trusted provider like VeriSign. Further, we have a configuration option that forces HTTP traffic to go use SSL. This prevents users from accidently submitted credentials in the clear.

6. Are operating systems (e.g. Windows or Linux), programming and scripting languages (e.g. Java or PHP), web servers (e.g. Apache or IIS), database servers (e.g.. Oracle or MySQL), application servers, etc. always promptly patched and current with security updates? If not, please explain.

Yes.

All are promptly patched when relevant Security Updates are available. All patching is subject to compatibility testing before general deployment is recommended.

7. Is all access, including administrative accounts, controlled and logged (i.e. firewalls, file system permissions, ACLs, database table permissions, packet logs, etc.)? If not, please explain.

Yes.

Where possible, access is logged with a combination of Application Level logs, SQL Server Logs, Web Server Logs, Operating System Access Logs, and Firewall Logs. The ability to record changes to file system permissions, ACLs, and database table permissions is limited to Operating System and SQL Server abilities when these are modified outside of the application interface.

8. Does your product(s), system(s) and/or service(s) prevent the use of shared credentials or accounts including administrative accounts?

Yes.

All users have their own unique user account, which ensures that shared credentials are not necessary. When users require the same permissions, these are managed through the use of Roles.

9. Describe how your product(s), system(s) and/or service(s) authenticates and authorizes users?

Yes.

The Learning platform can utilize local or external authentication sources. Authentication typically falls into one of three categories: local authentication, external pass-through authentication, and Single-Sign On.

When using local authentication the username and password provided by the user are compared to the encrypted version of the password stored in the Learning Environment.

When using external pass-through authentication, such as LDAP, the username and password are passed off to an authentication server supporting the LDAP interface for authentication. The username and password are typically transmitted using a secure certificate based communication method to prevent eavesdropping.

When using Single-Sign On, the user is already authenticated to another system, and a specialized authentication token is passed to the Learning Environment to validate the user. Several possible implementations can be used here, all utilize appropriate methods of encryption to prevent eavesdropping and replay attacks.

All authorization is controlled by the Learning Platform authorization structure. Once a user has been authenticated, the appropriate authorization for the user in each area of the Learning Platform is applied.

10. Does your product(s) and/or system(s) facilitate compliance with Federal and State laws, such as FERPA, HIPPA and PCI?

Yes.

Desire2Learn works closely with our clients and partners to ensure compliance with State and Federal Laws. Some examples include:

FERPA:
When it comes to FERPA and student privacy and confidentiality, Desire2Learn allows the client to define what information is public (directory) and private (non-directory). Roles can be configured to control who can see 'non-directory' information. When a user does not have sufficient permission to see information about a user, they will see 'anonymous user' rather than the actual user.

HIPPA:

Does Not Apply

PCI:

Does Not Apply

11. Does your company alert customers to vulnerabilities and security issues in a timely fashion? If so, please describe your process.

Yes.

Desire2Learn is not aware of any successful exploits of the platform.

When vulnerabilities are identified, a fix is created as soon as possible. This is usually done within one or two days. Clients in our hosting facility are patched as soon as a fix is available. All clients are then notified with high level information about the vulnerability. Self hosted clients are free to take the fix at their discretion. Desire2Learn is careful to keep vulnerability details confidential to protect clients.

Operating System and Third Party Software updates that are recommended are documented on a public site associated with the helpdesk, and any that are required are communicated directly to the appropriate client contacts to ensure our clients are not inadvertently at risk.

For hosted services, in addition to questions above

1. Are intrusion detection technologies and firewalls utilized on the hosted system(s)?

   Yes.

   Security infrastructure elements include Stateful Inspection firewall clusters, Intrusion Prevention Systems, Secure Sockets Layer (SSL) Accelerators, and host-based software that ensures client data is kept confidential and secure.

2. Describe how your facility is physically secured?

   Yes.

   Hosting Services are provided from a Tier-1 bunker style hosting facility. Physical security systems include biometric and individual key code doors, CCTV, manned security guards present 24 hours a day, 7 days a week, sign-in and verification procedures, mantraps, intrusion detection systems, and electronically locked server racks. Server rack access requires an individually assigned electronic key that is recertified on a monthly basis.

3. Does your network or facility undergo vulnerability scanning and penetration testing?

   Yes.

   We regularly use a third party, Trustkeeper, to perform a security and penetration audit.

4. Do your employees hold Information Technology Security certifications and/or secure coding certifications? If so, please describe them.

   No.

   None of the current Information Technology Staff hold any such certifications.
Desire2Learn Platform – Hosting Specifications
< 5000 Full Time Equivalent Users

Desire2Learn Platform - Hosting Specifications
September 30, 2008

Contents

About this document
Server Hardware Recommendations
  Fully Redundant Option
  Standalone Server Option
Server Software Requirements
  Operating System
  Additional Software
Infrastructure Recommendations
  Backup Infrastructure
  Network Infrastructure
  Storage Infrastructure
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Server Hardware Recommendations

The key decision in determining what Server Hardware configuration to implement relies on the level of availability and reliability that is required of the system. When a high degree of availability is needed, one should seriously be looking to increase the level of redundancy for all components in order to reduce the risk of a single point of failure. Increasing the level of redundancy implicitly increases the cost of the Server Implementation; however this is offset by a reduced risk of hardware failure, and an increased level of availability and reliability.

This section contains several potential server configurations ranging from a fully redundant option (recommended for production systems) to a non-redundant or reduced redundancy option (more appropriate for development or test environments).

Fully Redundant Option

The following is a reasonable hardware configuration for a Desire2Learn Installation of the indicated size. This configuration provides full redundancy of all major system components and servers.

Application Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>2</td>
<td>• Load Balanced</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Virtual Machines are an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>4-6 GB</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>
## File Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>2</td>
<td>• Active/Passive Clustered&lt;br&gt;• Virtual Machines are an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>2-4 GB</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>TBD</td>
<td>• 10-15K RPM SAN or Shared Disk Array</td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>

## Database Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>2</td>
<td>• Active/Passive Clustered&lt;br&gt;• Virtual Machines may be an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>4-8 GB</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>TBD</td>
<td>• 10-15K RPM SAN or Shared Disk Array</td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>
Standalone Server Option

The following is a reasonable hardware configuration for a Desire2Learn Installation of the indicated size. This configuration provides no redundancy, and would typically be appropriate for a Development or Test environment, assuming representative load testing is not a requirement.

Server

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>1</td>
<td>• Application/Database/File Server in one</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best</td>
</tr>
<tr>
<td></td>
<td></td>
<td>value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>4-8+ GB</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>TBD</td>
<td>• 10-15K RPM SAN or Shared Disk Array</td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>
## Server Software Requirements

Options for Operating System, Database, and Application Server Software that can be used with the Desire2Learn application suite are also found within this document.

The following section contains the relevant information about the Third Party software that is required to run the Desire2Learn Platform

### Operating System

<table>
<thead>
<tr>
<th>Server Role</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Server</td>
<td>One of:&lt;br&gt;• Windows Server 2003 Enterprise (32 bit)&lt;br&gt;• Windows Server 2003 Enterprise (64 bit)&lt;br&gt;• Windows Server 2003 R2 Enterprise (32 bit)&lt;br&gt;• Windows Server 2003 R2 Enterprise (64 bit)</td>
</tr>
<tr>
<td>Database Server</td>
<td>One of:&lt;br&gt;• Windows Server 2003 Enterprise (32 bit)&lt;br&gt;• Windows Server 2003 Enterprise (64 bit)&lt;br&gt;• Windows Server 2003 R2 Enterprise (32 bit)&lt;br&gt;• Windows Server 2003 R2 Enterprise (64 bit)</td>
</tr>
</tbody>
</table>
## Additional Software

<table>
<thead>
<tr>
<th>Server Role</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Server</td>
<td>All of:</td>
</tr>
<tr>
<td></td>
<td>• Internet Information Services (IIS) 6</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 1.1</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 2.0</td>
</tr>
<tr>
<td>File Server</td>
<td>None</td>
</tr>
<tr>
<td>Database Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Standard (64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Enterprise (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Enterprise (64 bit)</td>
</tr>
<tr>
<td>Standalone Server</td>
<td>All of:</td>
</tr>
<tr>
<td></td>
<td>• Internet Information Services (IIS) 6</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 1.1</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 2.0</td>
</tr>
<tr>
<td></td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Enterprise (32 bit)</td>
</tr>
</tbody>
</table>
Infrastructure Recommendations

Backup Infrastructure

Software and Hardware capable of performing regular automated backups of SQL Server databases and Microsoft File Systems is strongly recommended. The use of existing infrastructure is acceptable if there is room for the Desire2Learn Implementation.

Network Infrastructure

Appropriate network infrastructure such as firewalls, switches, optional hardware load balancing, and external data lines are required for the Implementation.

Storage Infrastructure

Most Desire2Learn Implementations, especially those in use for production, utilize a Storage Area Network (SAN) for:

- SQL Server Databases
- SQL Server Transaction Logs
- File System Storage
  - Assignment Submissions
  - Content
  - Email Attachments
  - ePortfolio Storage Space
  - Locker Storage Space

The amount of storage required varies significantly based on the way the system is utilized.

- A system used for fully online courses would typically have a heavier storage requirement than a system that is pure supplementary.
- A system heavily utilizing locker and ePortfolio would have a heavier storage requirement for file system storage than one that isn’t.
- A system heavily utilizing quizzing or email would have a heavier SQL Server Database storage requirement than one that isn’t.

As it is very difficult to provide a generic storage estimate, it is recommended that an expandable Storage Network be utilized so that you can grow the system as more space is required.
Contents

About this document
Server Hardware Recommendations
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This section contains several potential server configurations ranging from a fully redundant option (recommended for production systems) to a non-redundant or reduced redundancy option (more appropriate for development or test environments).

Fully Redundant Option

The following is a reasonable hardware configuration for a Desire2Learn Installation of the indicated size. This configuration provides full redundancy of all major system components and servers.

Application Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>3</td>
<td>• Load Balanced</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Virtual Machines are an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>4-6 GB</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>
## File Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>2</td>
<td>• Active/Passive Clustered&lt;br&gt;• Virtual Machines are an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>4-6 GB</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>TBD</td>
<td>• 10-15K RPM SAN or Shared Disk Array</td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>

## Database Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>2</td>
<td>• Active/Passive Clustered&lt;br&gt;• Virtual Machines may be an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>4+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>32+ GB</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>TBD</td>
<td>• 10-15K RPM SAN or Shared Disk Array</td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>
**Minimal Redundancy Server Option**

Although it is typically not recommended it is possible to run the Desire2Learn Installation on a set of servers with Minimal Redundancy. The configuration for this would look the same as the Fully redundant option, but with only a single server for each of the File and Database Servers.

**Standalone Server Option**

Due to the number of users a standalone server implementation is not practical, or recommended.
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Operating System

<table>
<thead>
<tr>
<th>Server Role</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (32 bit)</td>
</tr>
<tr>
<td>File Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (64 bit)</td>
</tr>
<tr>
<td>Database Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Datacenter (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (32/64 bit)</td>
</tr>
</tbody>
</table>
# Additional Software

<table>
<thead>
<tr>
<th>Server Role</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Server</td>
<td>All of:</td>
</tr>
<tr>
<td></td>
<td>• Internet Information Services (IIS) 6</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 1.1</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 2.0</td>
</tr>
<tr>
<td>File Server</td>
<td>None</td>
</tr>
<tr>
<td>Database Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Standard (64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Enterprise (32 bit)</td>
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<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>5</td>
<td>• Load Balanced</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Virtual Machines are an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>4-6 GB</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>
## File Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>2</td>
<td>• Active/Passive Clustered</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Virtual Machines are an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>2+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>4-6 GB</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>TBD</td>
<td>• 10-15K RPM SAN or Shared Disk Array</td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>

## Database Servers

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>2</td>
<td>• Active/Passive Clustered</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Virtual Machines may be an option</td>
</tr>
<tr>
<td>CPUs</td>
<td>4+</td>
<td>• More/Less CPU # and Power based on best value</td>
</tr>
<tr>
<td>Local Disk</td>
<td>2</td>
<td>• 73 GB Mirrored</td>
</tr>
<tr>
<td>RAM</td>
<td>64+ GB</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>TBD</td>
<td>• 10-15K RPM SAN or Shared Disk Array</td>
</tr>
<tr>
<td>Network</td>
<td>2</td>
<td>• 1 GB Network Interface Cards</td>
</tr>
</tbody>
</table>
Minimal Redundancy Server Option

Although it is typically not recommended it is possible to run the Desire2Learn Installation on a set of servers with Minimal Redundancy. The configuration for this would look the same as the fully redundant option, but with only a single server for each of the File and Database Servers.

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<thead>
<tr>
<th>Server Role</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (32 bit)</td>
</tr>
<tr>
<td>File Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (32 bit)</td>
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<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (64 bit)</td>
</tr>
<tr>
<td>Database Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Enterprise (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 Datacenter (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Enterprise (32/64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows Server 2003 R2 Datacenter (32/64 bit)</td>
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</table>
## Additional Software

<table>
<thead>
<tr>
<th>Server Role</th>
<th>Required</th>
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<tbody>
<tr>
<td>Application Server</td>
<td>All of:</td>
</tr>
<tr>
<td></td>
<td>• Internet Information Services (IIS) 6</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 1.1</td>
</tr>
<tr>
<td></td>
<td>• Microsoft .NET Framework 2.0</td>
</tr>
<tr>
<td>File Server</td>
<td>None</td>
</tr>
<tr>
<td>Database Server</td>
<td>One of:</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Standard (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Standard (64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Enterprise (32 bit)</td>
</tr>
<tr>
<td></td>
<td>• Microsoft SQL Server 2005 Enterprise (64 bit)</td>
</tr>
</tbody>
</table>
Infrastructure Recommendations

Backup Infrastructure

Software and Hardware capable of performing regular automated backups of SQL Server databases and Microsoft File Systems is strongly recommended. The use of existing infrastructure is acceptable if there is room for the Desire2Learn Implementation.

Network Infrastructure

Appropriate network infrastructure such as firewalls, switches, optional hardware load balancing, and external data lines are required for the Implementation.

Storage Infrastructure

Most Desire2Learn Implementations, especially those in use for production, utilize a Storage Area Network (SAN) for:

- SQL Server Databases
- SQL Server Transaction Logs
- File System Storage
  - Assignment Submissions
  - Content
  - Email Attachments
  - ePortfolio Storage Space
  - Locker Storage Space

The amount of storage required varies significantly based on the way the system is utilized.

- A system used for fully online courses would typically have a heavier storage requirement than a system that is pure supplementary.
- A system heavily utilizing locker and ePortfolio would have a heavier storage requirement for file system storage than one that isn’t.
- A system heavily utilizing quizzing or email would have a heavier SQL Server Database storage requirement than one that isn’t.

As it is very difficult to provide a generic storage estimate, it is recommended that an expandable Storage Network be utilized so that you can grow the system as more space is required.
Attachment C

Revised Pricing for Cooperative Use

Request for Proposal # 648253

Contract # UCP-TS-C02-10
Virginia Polytechnic Institute and State University

D2L proposes FTE model for calculating pricing. It is a model which provides an annual fee based on the State reported FTE count for the institution. There is a per FTE charge which is extended based on the total number reported.

Prepared by: D2L Ltd.

<table>
<thead>
<tr>
<th>Optional Product One Time Fees</th>
<th>2500 FTE</th>
<th>5000 FTE</th>
<th>10000 FTE</th>
<th>15000 FTE</th>
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<tbody>
<tr>
<td>Learning Environment (Production) Installation</td>
<td>$5,500.00</td>
<td>$7,700.00</td>
<td>$10,900.00</td>
<td>$13,100.00</td>
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<tr>
<td>Learning Environment (Test) Installation</td>
<td>$2,500.00</td>
<td>$2,500.00</td>
<td>$2,500.00</td>
<td>$2,500.00</td>
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<tr>
<td>Learning Object Repository Installation</td>
<td>$5,500.00</td>
<td>$10,000.00</td>
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<td>$20,000.00</td>
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<tr>
<td>Business Analytics Installation</td>
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<td>$10,000.00</td>
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<table>
<thead>
<tr>
<th>Optional Product Annual Fees</th>
<th>Per FTE</th>
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<th>5000 FTE</th>
<th>10000 FTE</th>
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<tbody>
<tr>
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<td>$33,125.00</td>
<td>$68,750.00</td>
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<td>Learning Environment (Test) Maintenance and Hosting</td>
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<td>$9,500.00</td>
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<td>Learning Object Repository Hosting</td>
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<tr>
<td>Hosting Services Production</td>
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<td>Hosting Services Hosting</td>
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| Optional Services One Time | | | | |
|----------------------------|-----------------------------|
| SIS Batch Integration One-time implementation fee per 500 integration | $12,500.00 | $20,000.00 | $20,000.00 | $20,000.00 |
| UCAP / AD Integration One-time implementation fee per integration | $5,000.00 | $5,000.00 | $5,000.00 | $5,000.00 |
| SIS Integration One-time implementation fee per 100 integration | $5,000.00 | $5,000.00 | $5,000.00 | $5,000.00 |

| Optional Services Annual Fees | | |
|-------------------------------|-----------------------------|
| SIS Batch Integration Annual Annual maintenance fee | $1,000.00 | $1,000.00 | $1,000.00 | $1,000.00 |
| UCAP Annual Maintenance Annual maintenance fee | $250.00 | $250.00 | $250.00 | $250.00 |
| SIS Annual Maintenance Annual maintenance fee | $500.00 | $500.00 | $500.00 | $500.00 |

| Support Services | | |
|----------------------------|-----------------------------|
| 2500 FTE | 5000 FTE | 10000 FTE | 15000 FTE |

<table>
<thead>
<tr>
<th>Standard Support</th>
<th>Support for approved support contract (ASC)</th>
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<tbody>
<tr>
<td>Standard Support</td>
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<thead>
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<table>
<thead>
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<th>Premium Plus End User Support</th>
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<tr>
<td>Premium Plus End User Support</td>
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<tr>
<td>Premium Plus End User Support</td>
<td>Support for end users</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Training Services</th>
<th>Minimum of 3 days (1 day instructor, up to 12 participants, 1 day administrator, up to 3 participants) recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Services</td>
<td>Minimum of 3 days (1 day instructor, up to 12 participants, 1 day administrator, up to 3 participants) recommended</td>
</tr>
<tr>
<td>Training Services</td>
<td>Minimum of 3 days (1 day instructor, up to 12 participants, 1 day administrator, up to 3 participants) recommended</td>
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<tr>
<td>Training Services</td>
<td>Minimum of 3 days (1 day instructor, up to 12 participants, 1 day administrator, up to 3 participants) recommended</td>
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</table>

<table>
<thead>
<tr>
<th>Consulting Services</th>
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</thead>
<tbody>
<tr>
<td>Consulting Services</td>
<td>Level two consultant / Project Manager $215/hr</td>
</tr>
<tr>
<td>Consulting Services</td>
<td>Level three consultant / Architect/Manager $225/hr</td>
</tr>
<tr>
<td>Consulting Services</td>
<td>Level four consultant / Architect/Manager $300/hr</td>
</tr>
<tr>
<td>Consulting Services</td>
<td>Travel Costs and Per/Diem At Cost</td>
</tr>
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</table>

**EARLY PURCHASE DISCOUNT** The purchase of a contract executed on or before August 31st will benefit from the following discounts of the total pre-CPI amounts (exclusive of Consulting) |

| Year 2 One Time | 12.50% |
| Year 2 Annual | 10.00% |
| Year 3 One Time | 10.00% |
| Year 3 Annual | 8.00% |
Attachment D
Revised Master Agreement for Cooperative Use - Virginia

Request for Proposal # 648253
Contract # UCP-TS-C02-10
ATTACHMENT D: MASTER AGREEMENT FOR COOPERATIVE USE - VIRGINIA

This Master Agreement, including its Addenda and Schedules ("Master Agreement") and Contract UCP-TS-002-10 (cumulatively, the "Contract") govern terms and conditions between ("Client") and D2L Ltd., 715 St. Paul Street, Baltimore MD 21202, a Maryland corporation and wholly owned subsidiary of Desire2Learn Incorporated ("D2L") as listed in any Addendum to this Master Agreement.

1. Definitions.

1.01 Active User means any user that registers for or is enrolled in one or more courses, and/or logs into the system in each consecutive 12-month period following the Effective Date.

1.02 Addendum is an executed document attached to this Master Agreement that provides specific terms and conditions of Products supplied to Client, with no terms and conditions conflicting with or revising the Contract terms and conditions.

1.03 Applications mean D2L Software applications resident on D2L computers that Client is permitted to access and use through an Applications & Hosting Addendum.

1.04 Applications Services are the means of accessing and using Applications.

1.05 Applications Fee is the fee paid to use Applications pursuant to an Applications & Hosting Addendum.

1.06 Authorizing Document is the document required before any obligation begins or any work is performed. A signed Purchase Order issued by Client is the only Authorizing Document permitted. Supporting documents do not authorize obligation or work and merely set forth the intended specifics of the work to be performed by D2L, and include any document signed or electronically agreed to by D2L and Client, such as an Addendum, a Statement of Work, an engagement letter, an e-mail (subject to reasonable authentication of sender's authority) or similar document.

1.07 Client is the entity ordering under the Contract and includes its employees, directors, officers, or agents, and to the extent they are specifically identified, its affiliates and subsidiaries.

1.08 Confidential Information is information provided to one Party about the other Party's products or services, business, affairs, computer systems, installations or clients, to the extent that the information might reasonably be expected to be confidential; provided, however, in no event shall it include this Master Agreement or the Contract.

1.09 Consulting is implementation, development, or other assistance provided pursuant to an Authorizing Document.

1.10 Deliverable is a tangible, verifiable work output such as a specification, programming, code, or other output developed under a Statement of Work.

1.11 Documentation is a document published by D2L for all clients such as a user’s manual, release notes or is otherwise designated as documentation.

1.12 Effective Date is the date that the Client signs this Master Agreement or Addendum concurrent or subsequent to the signing and effective date of Contract UCP-TS-002-10, unless otherwise specified in the Addendum.

1.13 End Users are the persons who use the Software or Applications as a product during the course of this Master Agreement.

1.14 Enrollment means the total of each unique course registrations over the course of each consecutive 12-month period following the Effective Date. For clarity, if an End User is registered in 2 course offerings during a particular year, it will count as 2 enrollments.

1.15 FTE means a count of the highest reported full-time equivalents over the course of a year. The FTE is typically based upon the FTE reported to the Integrated Post-secondary Data System (IPEDS).

1.16 Hosting is the use of Applications on D2L equipment within D2L facilities.

1.17 Intellectual Property is any present or future development work, copyright, patent, trade-mark, trade name, service mark, design, program, procedure and method of computation, trade secret, data model, invention, drawing, plan, specification, process or similar property.

1.18 License Fee is the fee paid to license the Software pursuant to a License Addendum, the Contract and Client issuance of a signed Authorizing Document.

1.19 Materials are resources produced by D2L, including all versions of printed or online guides, custom handouts, and course templates.

1.20 Network is, collectively, D2L’s hardware, Software, communications, cabling and other related resources through which Client accesses Services.

1.21 Organizational Instance means a single installation of Applications on one or more D2L servers for the exclusive use of a client.

1.22 Organizational Implementation means a single installation of Software on one or more client servers for the exclusive use of the Client.

1.23 Party or Parties is D2L and/or Client.

D2L Ltd., a subsidiary of Desire2Learn Incorporated
715 St. Paul Street
Baltimore, Maryland 21202

D2L Ltd., 715 St. Paul Street, Baltimore, Maryland 21202
Fax: +1 519.772.0324
1.24 **Product** includes Applications, Software, Hosting or Consulting specified in each Addendum and provided under the Contract.

1.25 **Rates** are charges as detailed in the Contract for professional services D2L provides, except for out-of-pocket/ travel/ per diem expenses which all shall have signed pre-authorization from Client and may not exceed Commonwealth of Virginia or other applicable travel or per diem regulations.

1.26 **Schedule** is a document attached to an Addendum.

1.27 **Software** is a D2L software application or any part thereof in object code form licensed to or accessed by Client. Software also includes Upgrades provided under the Support Schedule, but does not include software applications developed under a Consulting Addendum or related Statement of Work.

1.28 **Statement of Work** is a document created pursuant to a Consulting Addendum that specifies the roles and responsibilities of the Parties with respect to a particular engagement.

1.29 **Support** is support services provided pursuant to a Support Schedule, as more fully described in the Support Schedule.

1.30 **Upgrades** are modifications, templates and newer versions of Software and Applications provided by D2L that are made available generally to D2L clients. Upgrades do not include new independently-priced modules or utilities.

1.31 **Vendor** is a 3rd party provider of products or services to D2L.

2. **Warranties.** D2L warrants that:

2.01 It has intellectual property rights in the Applications, Software, Materials and Documentation;

2.02 It will use its best efforts to ensure the Products do not contain any virus, worm, or time bomb, or other similar forms of code or any other code intended to cause harm or damage to any computer systems or data;

2.03 Its employees are appropriately trained and skilled to perform Consulting; and

2.04 Applications and Software will substantially perform according to Documentation, provided that Client (or D2L at Client’s direction) has not modified Software.

2.05 Except as set forth in this Master Agreement and the Contract, D2L makes no warranties, conditions, or guarantees, express or implied, oral or written, with respect to the Products or Network. D2L does not warrant that Products or Network are error-free. D2L makes no warranties of merchantability, fitness for a particular purpose, or arising from a course of performance, dealing, or usage of trade.

3. **Confidentiality.**

3.01 No Party shall furnish Confidential Information to any unauthorized person or entity.

3.02 Neither Party shall be bound by confidentiality obligations if the Confidential Information (a) is required to be disclosed pursuant to court or regulatory order, provided that, where feasible, the owner of the Confidential Information is given a reasonable opportunity to limit the extent of disclosure; (b) was already rightfully in its possession before negotiations commenced that led to this Master Agreement; (c) is learned from a 3rd party under no apparent duty of confidentiality; or (d) becomes part of the public domain other than as a result of a breach of this section.

3.03 Nothing in this section is intended to prohibit D2L from issuing a mutually-acceptable press release, or naming Client in client listings.

4. **Proprietary Rights & Restrictions.**

4.01 D2L owns and retains all right, title and interest to its Applications, Software, Documentation, Materials, Deliverables, and other Intellectual Property (collectively, the “IP”), and D2L reserves all rights and privileges in connection with the IP, except as granted to Client pursuant to this Master Agreement or applicable Creative Commons license. The IP contains valuable intellectual property of D2L. The IP is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties.

4.02 Except as permitted by this Master Agreement, or applicable Creative Commons license Client shall not:

4.02.1 attempt to decompile, disassemble, modify the source code of, or reverse engineer the IP;

4.02.2 use, reproduce, transmit, modify, adapt or translate the IP;

4.02.3 rent, lease, license, transfer, assign, sell or otherwise provide access to the IP on a temporary or permanent basis;

4.02.4 alter, remove or cover proprietary notices in or on the IP.

4.03 **Audit.** Client shall maintain records of the number and location of all copies of Software, and log locations from which Client accesses Applications, and shall advise D2L, upon request, of the location of each copy or location. D2L may visit the Client’s site no more than twice a year to ensure compliance by Client with the terms of this Master Agreement and periodically review Client’s Organizational Implementation or Organizational Instance, as the case may be. D2L may retain a professional independent 3rd party to audit Client’s compliance with this Master Agreement at Client’s premises during normal business hours at D2L’s expense, upon satisfactory arrangements with Client, including execution by the auditor of a confidentiality agreement. If the visit or audit reveals that Client’s use of Applications or Software exceeds its permitted use, Client shall promptly pay D2L the applicable fees for Client’s usage.

4.04 Any default in Client’s obligations under this section may cause irreparable harm to D2L. If Client takes or threatens any action that may infringe on D2L’s IP rights, D2L may seek injunctive or other equitable relief in addition to any damages to which D2L may be entitled.

© 2010, D2L Ltd.
5. **Indemnification.**

5.01 **Claims.** D2L shall indemnify, defend and hold harmless Client from any direct costs, expenses, damages, judgments or settlements incurred because of an action or claim by 3rd parties alleging that Client’s use of Applications, Software, Deliverables or Documentation is an infringement of the intellectual property rights of a 3rd party in Canada or the United States, but only if Client (a) promptly notifies D2L in writing of any claim; (b) allows D2L to control the defense or settlement of the claim; and (c) takes no action that, in D2L’s reasonable judgment, impairs D2L’s defense of the claim.

5.02 **Exclusions and Limitations.** This indemnity shall not apply to the extent that the infringement claim results from (a) Client’s unauthorized modification to Applications, Deliverables or Software; (b) Client’s failure to install an Upgrade that would have avoided the claim; (c) the combination of the Software or Deliverables with 3rd party products where the 3rd party products are or reasonably should be governed by an agreement between Client and the 3rd party; or (d) D2L’s compliance with specifications furnished by Client. D2L’s liability to Client for damages, costs, losses or expenses under this Indemnification section shall not exceed the amount paid under the relevant Addendum in a calendar year.

5.03 **D2L Options.** If a claim arises, D2L may (a) substitute equivalent non-infringing Applications or Software; (b) modify the Applications or Software so that they no longer infringe but remain functionally equivalent; or (c) if neither (a) nor (b) is reasonably feasible, cancel the Addendum.

5.04 **Entire Liability.** This section states the entire liability and obligation of D2L regarding infringement claims.

6. **Liability Limitations.**

6.01 D2L’s liability to Client for damages, costs, losses or expenses relating to Products provided pursuant to this Master Agreement, in contract, tort or otherwise, (except for the Indemnification section) is limited as follows:

6.02 **Software:** License Fee paid by Client for the six months prior to the date of the underlying claim; Applications Fees paid by Client in the month under which the claim arises; Consulting: Amount paid by Client under the applicable Statement of Work.

6.05 Neither Party is liable for indirect, consequential or incidental damages, including loss of revenue, profits or data, even if the other Party had advised of the possibility of such damages. This section does not apply to the Confidentiality Section or the Proprietary Property Section.

6.06 Client is responsible for the content of its and its End User’s transmissions over D2L’s Network. Client agrees that it and its End Users will not use the Network for illegal purposes, to infringe the rights of a 3rd party, or to interfere with or disrupt the Network (“Disruption”). Disruptions include distribution of unsolicited advertising or chain letters, defamatory, libelous or offending content, propagation of computer worms and viruses, and unauthorized use of the Network to enter, or attempt to enter, another Network machine Organizational Implementation or Organizational Instance. If a Disruption occurs, D2L may, at its option, immediately remove the Disruption, terminate the mode of communication, suspend Client’s and its End User’s access to Network or terminate this Master Agreement, and Client may be liable to D2L for claims arising from the Disruption.

6.07 No act or omission by D2L under this Master Agreement shall be interpreted or construed as being for the benefit of, or creating any D2L obligation toward, any 3rd party or legal entity other than Client.

7. **Payment Terms & Taxes.**

7.01 Payment will be in accordance with the Virginia Prompt Pay Act if Client is a Virginia government agency or otherwise shall be due within thirty (30) days of Client’s receipt of an invoice. Late payments are subject to an interest charge of 2% per month or the highest interest rate allowable by law.

7.02 Client shall pay taxes promptly to D2L if D2L is required by law to collect them, except for taxes payable upon the income or capital of D2L.

7.03 Client shall not deduct or set-off any amount from payments due to D2L unless required or authorized by law.

7.04 D2L may accept payment from any entity without accepting that entity as Client and without waiving any provision against assignment. D2L may accept partial payments for amounts due without waiving its right to payment in full of all outstanding amounts.

8. **Excusable Delay.** If a Party cannot perform any of its obligations under this Master Agreement because of natural disaster, actions of governmental bodies, strikes, lockouts, riots, acts of war, communication line failures, power failures, fires or similar events or circumstances outside that Party’s control, the Party who cannot perform shall promptly notify the other in writing, and shall do everything reasonably possible to resume performance. Upon receipt of notice, and except for accrued payment-related obligations, all obligations under this Master Agreement are immediately suspended. If the period of non-performance exceeds 60 days from the receipt of notice, the Party receiving the notice may terminate this Master Agreement with written notice within 30 days.

9. **Term & Termination.**

9.01 **Master Agreement.** This Master Agreement shall continue until all Addenda are terminated, or may be terminated as specified elsewhere in this Master Agreement or as follows:

9.01.1 by either Party if the other breaches the provisions of Confidentiality, Import/Export Restrictions and Proprietary Rights sections;

9.01.2 by either Party if the other Party materially or repeatedly (which in the aggregate is material) defaults in performing its duties or obligations under this Master Agreement for a period of 60 days after written notice is given to the defaulting Party, unless the default is cured within the 60 day period; and
9.01.3 by either Party in the event the other Party ceases conducting business in the normal course, become insolvent, makes a
general assignment for the benefit of creditors, seeks creditor protection, suffers or permits the appointment of a receiver for its
business or assets, or becomes bankrupt.
9.01.4 by D2L if Client fails to pay an invoice, which is not the subject of a good faith dispute, provided that the invoice remains
unpaid 30 days after D2L’s subsequent notice to Client that payment is required.

10. Rights on Termination; Survival.
10.01 Prior to and upon termination the Parties shall use commercially reasonable efforts to cooperate with each other to ensure
data is successfully accessible by any subsequent Learning Management System provided that data is standards based as described
in any Documentation or the Contract. For clarity the core standards that D2L are compliant with include IMS Common Cartridge,
and SCORM. Client agrees that any services provided in accordance with this section may be subject to additional rates. D2L will not
commence any services in accordance with this section that is subject to additional rates unless an Authorizing Document has been
executed.

10.02 On termination Client’s payment obligations remain for services received prior to termination.
10.03 Client shall return all copies of Software, Documentation and Materials within 30 days of termination.
10.04 Survival. The Confidentiality, Proprietary Rights, Indemnification (to the extent the claim arose before the relevant
Addendum was terminated), Liability Limitations, and the General section shall survive termination of this Master Agreement,
regardless of the reason for the termination.

11. Assignment.
11.01 Neither this Master Agreement nor any rights hereunder may be assigned or transferred by either Party, whether directly or
by operation of law, without the prior written consent of the other Party. The other Party’s consent may be conditioned upon the
payment of additional fees to the other Party in amounts determined by the other Party. For the purposes of this section, the
following definitions shall govern:
11.01.1 “Change of control” means a person not in control of the either Party before the Effective Date acquiring the power to direct
or cause the direction of the management and policies of the Either Party;
11.01.2 an “affiliate” is a person that controls, is under common control with, or is controlled by another person;
11.01.3 “control” means the possession of the power to direct or cause the direction of the management and policies of a person;
11.01.4 “person” means an individual, a corporation, partnership, association, trust, fund or any organized group of persons,
whether incorporated or not and any receiver, bankruptcy trustee or similar official.

11.02 Deemed Assignment. A change of control of either Party, sale of substantially all of the assets of either Party, merger or
consolidation involving either Party or any affiliate of either Party effecting a change of control of either Party, is deemed an
assignment or transfer of this Master Agreement and the rights under it by operation of law requiring the prior written consent of the
other Party.
11.03 Assignment Void. Any assignment or transfer of this Master Agreement or the Product without the prior written consent of
the other Party shall constitute a material breach of this Master Agreement. Subject to the foregoing, this Master Agreement will be
binding upon and will inure to the benefit of the Parties and their respective successors and assigns. Any attempted transfer or
assignment prohibited by this Master Agreement is null and void.

12.01 Governing Law. This Master Agreement is governed by the laws of the Commonwealth of Virginia, without regard to its
conflict of laws principles. Legal action arising pursuant to this Master Agreement shall be filed in the courts of the Commonwealth of
Virginia. The United Nations Commission on International Trade Law Conventions on Contracts for the International Sales of Goods
and Related Transactions is specifically excluded from this Master Agreement.
12.02 Drug Free Workplace. D2L agrees to (i) provide a drug-free workplace for its employees; (ii) post in conspicuous places a
statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled
substance or marijuana is prohibited in D2L’s workplace, and specify the action that will be taken against employees for violations of
such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of D2L that the D2L maintains a
drug-free workplaces and (iv) include the provisions of the foregoing clause in every subcontract or purchase order of over $10,000,
so that the provisions will be binding upon each subcontractor or vendor.
12.03 Conflict between Master Agreement and Addendum or Authorizing Document. The Contract shall supersede all other
documents. An Addendum shall supersede the provisions of this Master Agreement where the documents are in conflict. The
Master Agreement shall supersede the provisions of an Authorizing Document, unless the Authorizing Document refers to the
provision of the Master Agreement it supersedes. No Addendum or Authorizing Document modifies any other Addendum or
Authorizing Document unless the Parties agree in writing.
12.04 Remedies Cumulative. All rights and remedies under this Master Agreement are cumulative and in addition to all other
rights and remedies of either Party at law or in equity.
12.05 Notices. All notices shall be in writing and delivered (a) by hand, (b) by registered mail, postage prepaid, return receipt
requested; (c) reputable overnight delivery service, or (d) by facsimile, provided that the sender retains proof of successful
transmission. All notices shall be deemed received, if delivered by hand, on the date of delivery; if mailed, on the date of receipt
appearing on the return receipt card; if sent by courier, on the date recorded by the courier company as having been received by the
addressee; or, if sent by facsimile, on the date of receipt by the facsimile machine when it reports that the transmission is complete.
Notices shall be sent or faxed to the names, addresses and numbers set forth below the signature lines to this Master Agreement.
12.06 **Import/Export Controls.** Client shall comply with all applicable export, re-export and foreign policy laws that may be imposed by the Canadian or United States government.

12.07 **Currency.** All fees, costs and expenses under this Master Agreement are in U.S. dollars.

12.08 **Amendment/Waivers.** No amendment, modification, termination or waiver of any provision of this Master Agreement is effective unless it is in writing and signed by both Parties. Any waiver or consent shall be effective only in the specific instance and purpose for which it was given. Any terms and conditions included in a Client Authorizing Document that contradict with the terms of this Agreement or the Contract or not enforceable, unless that contradiction is specifically called out as an amendment. All amendments are subject to D2L’s written agreement.

12.09 **Severability.** If a court declares void or unenforceable any term of this Master Agreement, the remaining terms and provisions of this Master Agreement shall remain unimpaired and the invalid term shall be replaced by a valid term that comes closest to the intention underlying the invalid term.

12.10 **Independent Parties.** Neither Party is an agent, employee, partner, joint venturer or legal representative of the other.

---

**Agreed and Accepted**

<table>
<thead>
<tr>
<th>D2L LTD.</th>
<th>CLIENT</th>
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<td>By:</td>
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**Notice Information:**

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<tr>
<th>D2L LTD.</th>
<th>CLIENT</th>
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</table>

**Email:**

- [John.Baker@Desire2Learn.com](mailto:John.Baker@Desire2Learn.com)
- [Legal@Desire2Learn.com](mailto:Legal@Desire2Learn.com)
## Invoicing Information

<table>
<thead>
<tr>
<th>INVOICE RECIPIENT</th>
<th>PAYABLE ENQUIRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
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<td>Email:</td>
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Note: All invoices are provided via e-mail, unless otherwise requested in writing.
APPLICATIONS & HOSTING ADDENDUM

[IMPLEMENTATION WILL INCLUDE EITHER APPLICATIONS HOSTING ADDENDUM OR LICENSING ADDENDUM]

This Applications & Hosting Addendum, together with the Master Agreement, governs terms and conditions between Client and D2L relating to Applications.

A1. Grant of Use. Upon the Effective Date, D2L shall permit to Client to use Applications in a non-exclusive, non-transferable, time-limited (revoked upon termination) manner as set forth in the attached Fees and Rates Schedule by the specified number of FTEs. Should Client not pay according to Section A4, this Addendum is terminated.

A2. Term.
A2.01. This Addendum shall be effective for the Period of Contract set forth in said Contract (“Initial Term”).

A2.02. Renewal. A signed Purchase Order issued by Client shall authorize renewal, subject to the Contract terms regarding renewal.

A2.03. Non-funding clause. Client may terminate this Master Agreement on 60 days written notice without penalty should the legislature (1) fail to appropriate sufficient funding to Client for this Addendum; (2) reduce the appropriations or Client’s authority to spend appropriations; or (3) limit funding to a level that Client reasonably deems insufficient to continue this Addendum. This section does not relieve Client of payment obligations for services provided prior to Client’s termination notice.

A3.01. Support services are set forth in the Support Schedule attached to this Addendum and are coterminous with this Addendum.

A3.02. Modifications to Applications or Hosting. D2L may modify the Applications or Hosting. D2L will advise Clients of material Modifications where feasible.

A4. Payments.
A4.01. Client shall pay the fees as per the Fees and Rates Schedule as authorized by an Authorizing Document.

A5. Use of Applications.
A5.01. Client may use or access Applications for its use only. No 3rd party, other educational institution or business group or entity other than that identified in the attached Schedules(s) may make use of, or obtain access to, Applications without a separate Agreement.

A6. Additional FTE. Client may increase its number of FTE upon paying the appropriate fee.

Agreed and Accepted

D2L LTD. 

By: ____________________________  
Name: ____________________________  
Title: ____________________________  
Date: ____________________________

CLIENT

By: ____________________________  
Name: ____________________________  
Title: ____________________________  
Date: ____________________________
License Addendum

[IMPLEMENTATION WILL INCLUDE EITHER APPLICATIONS HOSTING ADDENDUM OR LICENSING ADDENDUM]

This License Addendum, together with the Master Agreement, governs terms and conditions between Client and D2L relating to licensed software.

L1. Grant of License. Upon the Effective Date, D2L grants to Client a non-exclusive, non-transferable, time-limited (revoked upon termination), object-code License for use of the Software set forth in the attached Fees and Rates Schedule for use on the specified number of FTEs. Should Client not pay according to Section L7, this Addendum is terminated and the License is automatically revoked.

L2. Term.

L2.01. This Addendum shall be effective for the Period of Contract set forth in said Contract (“Initial Term”).

L2.02. Renewal. A signed Purchase Order issued by Client shall authorize renewal, subject to the Contract terms regarding renewal.

L2.03. Non-funding clause. Client may terminate this Master Agreement on 60 days written notice without penalty should the legislature (1) fail to appropriate sufficient funding to Client for this Addendum; (2) reduce the appropriations or Client’s authority to spend appropriations; or (3) limit funding to a level that Client reasonably deems insufficient to continue this Addendum. This section does not relieve Client of payment obligations for services provided prior to Client’s termination notice.

L3. Delivery. Within 60 days of the Effective Date or as otherwise agreed, D2L shall make available to Client Software (“Delivery”). Client shall be responsible for acquiring and installing computer hardware and necessary 3rd party software Licenses prior to the installation.

L4. Installation. The initial installation will have a cost as described in the Fees and Rates Schedule, except for out-of-pocket/ travel/ per diem expenses which shall all conform to the limitations set forth in Item 1.25 above.

L5. Warranty.

L5.01. Within 90 days following Delivery (“Warranty Period”) Client shall establish to its reasonable satisfaction that the Software operates as warranted.

L5.02. Client shall notify D2L of material defects as soon as practicable during the Warranty Period (“Defect Notice”). Upon receipt, D2L will use reasonable efforts to correct the reported defects and provide Client with an updated version of Software or workaround within 45 days.

L5.03. Client’s Warranty Period shall extend another 30 days from receipt of the updated Software (“Extended Warranty”).

L5.04. During the Warranty Period or Extended Warranty Period, if D2L is unable to cure material defects, and the defects materially impair Client’s use of the Software, Client may return the Software for a prorated refund of the License fee paid, provided it certifies that it has not retained any copies of the Software, Materials, or Documentation.

L5.05. If Client does not notify D2L of a Defect Notice, or the Defect Notice does not disclose any defects, or Client fails to return Software pursuant to this Section, the Warranty Period shall not be extended.

L6. Support. Support services are set forth in the Support Schedule attached to this Addendum and are coterminous with this Addendum.

L7. Payments.

L7.01. Client shall pay the installation fee as set forth in the Fees and Rates Schedule.

L7.02. Client shall be invoiced for the License Fee and/or other work upon Client’s issuance of a signed Purchase Order for such license and/or work. Payments may be subject to the Virginia Prompt Pay Act.

L8. Use of Software.

L8.01. Client may use or access Software for its use only. No 3rd party, other educational institution or business group or entity other than that identified in the attached Exhibit(s) may make use of, or obtain access to, Software without a separate License for Software.

L8.02. Client shall not use more than one version of Software in production.

L9. Copies of Software. In addition to the production copy of Software, Client may make 2 extra copies of the Software solely for disaster recovery or backup purposes. Unless Client cannot use the production copy, Client shall not use the disaster recovery or backup copies of Software in production.
L10. **Additional Licenses.** Client may increase its number of FTEs upon paying the appropriate fee.

**Agreed and Accepted**

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<tr>
<th>D2L Ltd.</th>
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© 2010, D2L Ltd.

MA VPTIASU – Cooperative Use - July 2010
AVAILABILITY SCHEDULE

Availability shall be as specified below. These terms are subject to change in the reasonable discretion of D2L Ltd. after informing Client. Availability is included in the fees specified in the Applications & Hosting Addendum.

**AS1. Validity.** This Schedule is only valid with an Applications & Hosting Addendum. This Schedule shall immediately terminate if the Applications & Hosting Addendum expires, terminates or otherwise becomes of no force and effect.

**AS2. Definitions.** Terms not defined in this Schedule shall have the meanings given to them in the Master Agreement or Applications & Hosting Addendum.

AS2.01. *Available* means the material components of the Applications are available for Client’s use.

AS2.02. *Downtime* means those times in which material components of the Applications are not Available but shall not include Emergency Unavailability and Scheduled Unavailability.

AS2.03. *Emergency Unavailability* means those times when material components of the Applications are unavailable for Client use resulting from the existence or repair of software bug/virus/worm, hardware failure, 3rd party communication failure, force majeure or other event outside Desire2Learn’s reasonable control, including those arising from Client error or negligence.

AS2.04. *Measurement Period* means each calendar month commencing from the Effective Date. For purposes of clarification each calendar month shall constitute a distinct Measurement Period.

AS2.05. *Scheduled Unavailability* means the times in which the material components of the System are not Available: 1) in accordance with posted maintenance schedules which may, in the sole discretion of Desire2Learn, be changed from time-to-time on 30 days notice, or 2) as a result of an agreement between Client and Desire2Learn, for example, to accomplish an upgrade.

**AS3. Availability.** Throughout each Measurement Period the material components of the Applications shall be Available at least 99.8% of the time.

**AS4. Downtime and Emergency Unavailability.**

AS4.01. Desire2Learn shall undertake commercially reasonable efforts to rectify any Downtime or Emergency Unavailability.

AS4.02. If possible, Desire2Learn shall make commercially reasonable efforts to provide Client reasonable notice prior to making the material components of the Applications unavailable for Client use during Emergency Unavailability.

**AS5. Reporting, Investigation & Classification.** Client shall report incidents to Desire2Learn Support that it considers Downtime immediately, but in no event later than 24 hours from when Client became aware of, or reasonably should have become aware of, the occurrence. In reporting, Client shall provide Desire2Learn sufficient information to investigate and classify the incident, including: date, duration, and description of occurrence. Desire2Learn shall investigate and reasonably classify any reported outage/occurrence as Scheduled Unavailability, Emergency Unavailability, or Downtime. In making its classification, Desire2Learn shall rely solely upon its own statistics software and monitoring equipment.
Support Schedule (Standard)

[Implementation will use only ONE Level of Support]

Support shall be as specified below. Support fees are set forth in the Fees and Rates Schedule. D2L reserves the right to make changes to this Support Schedule provided; (1) appropriate notice is given to the Client, (2) the level of service will meet or exceed what was originally agreed to by the Client, and (3) where the service will not meet or exceed what was originally agreed to by the Client, the Client will have the right to a pro-rated credit for the service difference, or be promoted to the next tier of service at no additional charge.

S1. Definitions.
S1.01. Business Hours mean 8:00 a.m. to 8:00 p.m., Monday to Friday, except public holidays, in Client’s time zone.
S1.02. Client Support means Software or Applications remote support;
S1.03. Emergency means an Issue that is time critical, materially impairs the use of Software and is essential to the operation of Client’s business.
S1.04. General Support means access to the client web site, general notifications, advisories, and similar services.
S1.05. Issue means a query regarding, or user-identified concern about, Software or Applications.
S1.06. Supported Version means the current and most recent prior release.

S2. Authorized Support Contact Name(s) (ASC).
S2.01. Client shall provide name(s) of the authorized contact(s) to D2L. Only Client’s authorized support contact(s) may contact D2L for Support under this Schedule. Contact may be made by phone or email methods.
S2.02. D2L provides Client Support during Business Hours. Outside Business Hours, Client Support will be provided for an Emergency only.
S2.03. Client Support is available to record Issues, explain the functions and features of Software and clarify the contents of Documentation.
S2.04. Client may access D2L’s client web site (www.Desire2Learn.com) for information about how to obtain Documentation and, for Software, available Upgrades.

S3. Unsupported Versions. D2L will support versions other than Supported Versions or versions modified by Client at its sole discretion and on an as-available basis only. Client Support for Unsupported Versions will be charged at 200% of the applicable Rate.

S4. Remote Access. To allow D2L to assess Issues in the Software, Client shall use reasonable efforts to permit D2L remote access to Client’s systems.

S5. Additional Authorized Support Contact(s). Additional Authorized Support Contact(s), beyond the one(s) currently included in the Fees and Rates Schedule, shall have a cost as described in the Fees and Rates Schedule.

S6. Other services. Client may not use Client Support for services other than Client Support. Services not identified in this Schedule, including training, implementation, modifications, configuration and communications, will be charged at the Rates, except for out-of-pocket/ travel/ per diem expenses which shall all conform to the restrictions set forth in Item 1.25 above.

S7. Termination. Support is terminated when the relevant Addendum expires or is terminated.

S8. Reinstatement. If Client is in default for payment under the Master Agreement, D2L may, at its option, (a) charge a reinstatement fee to reinstate Support and charge for future Support according to the Contract; or (b) decline to provide Client Support. Any order, including reinstatement, that is issued under the contract is at the said contract pricing.
Support shall be as specified below. Support fees are set forth in the Fees and Rates Schedule. D2L reserves the right to make changes to this Support Schedule provided; (1) appropriate notice is given to the Client, (2) the level of service will meet or exceed what was originally agreed to by the Client, and (3) where the service will not meet or exceed what was originally agreed to by the Client, the Client will have the right to a pro-rated credit for the service difference, or be promoted to the next tier of service at no additional charge.

S1. Definitions.
S1.01. Client Support means Software or Applications remote support;
S1.02. Emergency means an Issue that is time critical, materially impairs the use of Software and is essential to the operation of Client’s business.
S1.03. General Support means access to the client web site, general notifications, advisories, and similar services.
S1.04. Incident means a query regarding, or user-identified concern about, Software or Applications.
S1.05. Supported Version means the current and most recent prior release.

S2. Authorized Support Contact Name(s) (ASC).  Client shall provide name(s) of the authorized contact(s) to D2L. Only Client’s authorized support contact(s) may contact D2L for Support under this Schedule. Contact may be made by phone or email methods.

S2.01. D2L provides Premium Client Support on a 24/7 basis.
S2.02. Client Support is available to record Issues, explain the functions and features of Software and clarify the contents of Documentation.
S2.03. Client may access D2L’s client web site (www.Desire2Learn.com) for information about how to obtain Documentation and, for Software, available Upgrades.

S3. Unsupported Versions. D2L will support versions other than Supported Versions or versions modified by Client at its sole discretion and on an as-available basis only. Client Support for Unsupported Versions will be charged at 200% of the applicable Rate.

S4. Remote Access. To allow D2L to assess Issues in the Software, Client shall use reasonable efforts to permit D2L remote access to Client's systems if authorized by Client senior system administrators.

S5. Additional Authorized Support Contact(s). Additional Authorized Support Contact(s), beyond the one(s) currently included in the Fees and Rates Schedule, shall have a cost as described in the Fees and Rates Schedule.

S6. Other services. Client may not use Client Support for services other than Client Support. Services not identified in this Schedule, including training, implementation, modifications, configuration and communications, will be charged at the Rates, except for out-of-pocket/ travel/ per diem expenses which shall all conform to the restrictions set forth in Item 1.25 above.

S7. Termination. Support is terminated when the relevant Addendum expires or is terminated.

S8. Reinstatement. If Client is in default for payment under the Master Agreement, D2L may, at its option, (a) charge a reinstatement fee to reinstate Support and charge for future Support according to the Contract; or (b) decline to provide Client Support. Any order, including reinstatement, that is issued under the Contract is at the said contract pricing.
Support shall be as specified below. Support fees are set forth in the Fees and Rates Schedule. D2L reserves the right to make changes to this Support Schedule provided; (1) appropriate notice is given to the Client, (2) the level of service will meet or exceed what was originally agreed to by the Client, and (3) where the service will not meet or exceed what was originally agreed to by the Client, the Client will have the right to a pro-rated credit for the service difference, or be promoted to the next tier of service at no additional charge.

S1. Definitions.
S1.01. Emergency means an Issue that is time critical, materially impairs the use of Software and is essential to the operation of the Client's business.
S1.02. General Support means access to the client web site, general notifications, advisories, and similar services.
S1.03. Issue means a query regarding, or user-identified concern about, Software or Applications.
S1.04. Support means Applications assistance, help desk and remote support;
S1.05. Supported Version means the current and most recent prior release.

S2. Authorized Support Contact Name(s) (ASC). Client shall provide name(s) of its Authorized Support Contact(s) to D2L. Authorized Support contact(s) will have privileges to log and monitor support. In addition, Authorized named support contact(s) will have access to support available to End Users as specified below. Authorized Support contact(s) may access D2L's client web site (www.Desire2Learn.com) for information about how to obtain Documentation and available Upgrades.

S3. End User Support.
S3.01. D2L provides Support 24/7.
S3.02. Support is available to record Issues, explain the functions and features of Software and clarify the contents of Documentation.

S4. Reporting. D2L will report to Client on a periodic basis listing:
S4.01. Number of Support contacts (not including General Support)
S4.02. Type of problem reported
S4.03. Resolution times
S4.04. If applicable, information about contact limits

S5. Service Levels. Target Service Level Response Times are attached as Exhibit A. D2L strives to resolve all generic (non-bug) problem tickets in a single phone call or email within 15 minutes and typically provides, at a minimum, an 80% resolution on first contact. For those problem tickets that cannot be resolved within that time frame, the problem is escalated and the appropriate amount of resources will be allocated to assist in the resolution of the problem. These service level responses are intended to be a general guideline of expectations for providing service to our customers.

S6. Remote Access. To allow D2L to assess Issues in the Software, Client shall use reasonable efforts to permit D2L remote access to Client's systems.

S7. Additional Authorized Support Contact(s); Number of Contacts. Additional Authorized Support Contact(s), beyond the one(s) currently included in the Fees and Rates Schedule, are available at the cost set forth in the Fees and Rates Schedule. Additional monthly contacts, beyond the number currently included in the Fees and Rates Schedule, are available at the cost set forth in the Fees and Rates Schedule.

S8. Escalation. If D2L is unable to resolve a request in a reasonable length of time, or if the priority or severity of the request changes due to external factors, the request will be escalated. D2L support may request additional information to assist in the understanding of the problem. Escalation may require further research by the Help Desk, consultation of other D2L support staff members, and/or consultation with the D2L development team.

S9. Other services. Client may not use Support for services other than Support. Services not identified in this Schedule, including training, implementation, modifications, configuration and communications, will be charged at the Rates, except for out-of-pocket/ travel/ per diem expenses which shall all conform to the restrictions set forth in Item 1.25 above.

S10. Termination. Support is terminated when the relevant Addendum expires or is terminated.

S11. Reinstatement. If Client is in default for payment under the Master Agreement, D2L may, at its option, (a) charge a reinstatement fee to reinstate Support and charge for future Support according to the Contract; or (b) decline to provide Client Support. Any order, including reinstatement, that is issued under the Contract is at the said contract pricing.
### EXHIBIT A [use only with Premium Plus]

**Severity Level Definitions & Target Response Times**

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<tr>
<th>Severity Levels</th>
<th>Scope</th>
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</table>
| **Severity 1 – Emergency:** | **Initial Response: 15 Minutes**  
**Target Resolution: 8 Hours** | D2L application is down or unable to restart the system; critical software problem with a very high impact on day-to-day use  
System is not accessible to any users  
Critical tools needed for normal operation are not usable  
Critical data is not accessible  
Data is being lost due to a problem with the D2L application.  
The security of the system is being compromised |
| **Severity 2 – High** | **Initial Response: 1 Hour**  
**Target Resolution: 24 Hours** | Servers are up and running yet users are unable to access entire sections on the installation, no alternatives for problem resolution  
Problem is not necessarily serious in nature, but has a significant impact on some users  
Presence of the problem prevents a particular tool or function from working and there are no alternatives to achieve the desired end result  
Backup failure of mission critical application |
| **Severity 3 – Moderate** | **Initial Response: 2 Hours**  
**Target Resolution: 48 Hours** | All major sections are working and, obviously, the installation is up and running, but there seems to be several small issues within some sections that make the software difficult to use, minimal impact on the production server as a whole  
Problem is not serious by nature  
No data loss  
Overall system has not failed  
Unexpected results within routine tool or function  
Issues specific to a user/course/resource not significantly affecting use of the system |
| **Severity 4 – Low (default)** | **Initial Response: 4 Hours**  
**Target Resolution: 72 Hours** | End user needs instructions, minor issues with little to no impact on the production system as a whole. Informational requests about the system, feature requests and general inquiries are considered low in severity.  
No effect on production system  
Minor questions on usability, informational requests about the platform or feature requests  
Isolated unexpected behavior that cannot be reproduced and has little to no impact on the system or the users at large |

All tickets default to “Low Severity” initially.
**Fees and Rates Schedule**

**Effective Date:** [Effective Date].

**Term:** XX Years

**Client:** Client

**User Type:**

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<th>MEASURE</th>
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<td>One-time Fees Total</td>
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| Annual Fees:       |                 |      |     |
|                    |                 |      |     |
| Annual Fees Total: |                 |      |     |

| Additional Fees & Rates |                 |      |     |
|                        |                 |      |     |

*Storage overage Rate*  
Storage over 20 MB per FTE  
$0.01 per MB/Month

<p>| Optional/Additional Fees |                 |      |     |
|                         |                 |      |     |</p>
<table>
<thead>
<tr>
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<tr>
<td>Level 3 Consultant/Architect/Manager</td>
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<tr>
<td>Level 2 Consultant/Architect/Manager</td>
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<tr>
<td>Level 1 Consultant</td>
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<tr>
<th>Training</th>
<th>Daily Rate</th>
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<tr>
<td>Maximum of twelve participants or a maximum of eight participants responsible for system administration.</td>
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Please note:

- Rates For professional services may be modified on 90 days notice.
- Professional Services billing rates are dependent upon the scope of the engagement/implementation and the consulting skill levels required. Project Managers are assigned to oversee all professional services implementations at a rate dependent upon complexity of the project and skill level required.
- Travel and per diem expenses are not included in consulting rates.
- Storage amounts are currently set at 20MB per FTE.
- The effective date must occur before July 13th 2015
CONSULTING ADDENDUM

This Consulting Addendum, together with the Master Agreement and the Contract govern terms and conditions between Client and D2L relating to Deliverables produced under a Statement of Work.

C1. Intellectual Property.
C1.01 Except as specifically set forth in a Statement of Work, D2L shall retain sole and exclusive ownership of and all intellectual property rights in the Deliverables, which include: tools, methodologies, questionnaires, responses, and proprietary research, data, requirements, specifications, and code generated in the course of performing the consulting services. D2L grants to Client a time-limited, non-exclusive, royalty-free license to use and to disclose the Deliverables, subject to the limitations set forth below.

C1.02 D2L may render services to others and develop work products that are competitive with, or functionally comparable to, the Deliverables. D2L shall not be restricted in its use of ideas, concepts, know-how, data and techniques acquired or learned in the course of performing the consulting services or producing Deliverables, provided that D2L shall not use or disclose any of Client’s Confidential Information.

C1.03 Client shall retain its rights in any proprietary material that Client supplies to D2L. If Client provides D2L with materials owned or controlled by Client or with use of, or access to, such materials, Client grants to D2L all rights and licenses that are necessary for D2L to fulfill its obligations under each Statement of Work for consulting services.

C2. Use of Deliverables. Subject to payment in full of the applicable fees, D2L grants to Client for internal purposes only a worldwide, royalty-free, time-limited license to use, reproduce, and display of the Deliverables. Client shall not make the Deliverables available to anyone outside of Client, without the prior written consent of D2L, except Client may share the Deliverables with (i) its outside auditors and/or accountants, (ii) third parties who have signed appropriate confidentiality agreements with Client who are engaged by Client to review or implement suggestions or to further research the issues contained in the Deliverables, and (iii) governmental or regulatory bodies as required by law.

C3. No Third-Party Beneficiaries. This Addendum is for the benefit of the Parties only. None of its provisions are for the benefit of, or enforceable by, any third party. No third party shall have the right to (i) rely on the consulting services provided by D2L or (ii) seek to impose liability on D2L as a result of the consulting services or any Deliverables furnished to Client.

Each Statement of Work authorized under this Consulting Addendum shall include, at a minimum, the following information:

C4.01 Project Name and Number
C4.02 Project ID
C4.03 Client Project Manager
C4.04 Client Technical Lead
C4.05 D2L Project Manager
C4.06 D2L Technical Lead
C4.07 Project Description
C4.08 D2L Deliverables
C4.09 Client Obligations
C4.10 Software Requirements Specifications
C4.11 Intellectual property transfers (if any transfers are applicable)
C4.12 Project Start Date
C4.13 Project End Date
C4.14 Project Location
C4.15 Project Price & expenses (if applicable)
C4.16 Special Conditions
C4.17 A reference to this Consulting Addendum.

The Parties agree to execute this Contract by electronic means, via facsimile/ scanned signatures.

Agreed and Accepted

D2L LTD.                      CLIENT

By: ___________________________  By: ___________________________
Name: _________________________  Name: _________________________
Title: _________________________  Title: _________________________
Date: _________________________  Date: _________________________