A Technology Fee action plan must consist of the following sections in the order given. Each page of the proposal should be numbered sequentially.

I. Submittal Form

The first page of the proposal you submit must be the Submittal Form. Use the following guidelines when completing this form.

1. NDSU Organization or Unit: Place the name of the official NDSU organization submitting the project.
2. Title of Project: Give a best one line title of the action plan.
3. Project Duration: List the beginning and end date for the project. The maximum length of a project is three years.
4. Total Technology Fee Request: List the total amount being requested from the Technology Fee; use line K from the Budget form.
5. Project Director(s): Include name, campus address, phone #, fax #, and e-mail address of the individual who will direct this project.
6. Signatures: Type or print the names of the project director and unit head, and have those individuals sign and date the form.
7. Executive Summary: Provide a summary of the project by describing the technology need being addressed, how that need will be addressed, and the outcome from having that need addressed; this is limited to 175 words.

II. Project Overview

The project overview section contains questions routinely asked by TFAC members during the review process. If any sections do not pertain to this proposal, please explain why.

III. Project Description

The Project Description should be no more than five pages in length and should include the following information.

1. A full, clear description of project. This description should address
   (a) the technology need the project will address,
   (b) how this project will remedy that need,
   (c) the outcome once the need is addressed, and
   (d) the number of students that will benefit.
2. A clear description of how the expertise, equipment, and resources available to the project team, along with the funds requested, will be able to address this need.

IV. Milestones

Following the Project Description, present a table listing the milestones for the project and the expected date those milestones will accomplished. For each milestone, briefly describe the expected outcome and means of assessing a successful outcome.
V. Supporting documentation

Supporting documentation, such as outside reviewer's comments and department or administrative endorsement, may be appended to the Project Description.

VI. Budget

The next section of the project must be the Budget. The following description refers to the Budget Form.

1. NDSU Organization or Unit: Place the name of the official NDSU organization submitting the project.
2. Project Director(s): Include name, campus address, phone #, fax #, and e-mail address of the individual who will direct this project.
3. Salaries and Wages: By category, include person months, and dollars requested.
4. Total Salaries and Wages: Sum all of the salaries and wages requested. Please include a monthly/hourly equivalent rate per person.
5. Fringe Benefits: Use the following rates - Staff: 30%; for Graduate and Undergraduate Students enrolled in classes during the work period: 1-2%; Graduate and Undergraduate Students not enrolled in classes during the work period, for example students working but not taking classes during the summer: 10%.
6. Equipment: Itemize with item name, cost and quantity; make reference to each item in Budget Justification section and explain why it is important to the project. (Note: You will be expected to following the state approved purchasing guidelines when purchasing equipment and materials.)
7. Materials and Supplies: Itemize with name, cost, and quantity for non equipment; discuss the importance of each item in the Budget Justification section.
8. Total Technology Fee Request: Total the categories for which you are requesting Technology Fee funds.
9. Match: State the amount of match your team/unit will provide; describe this match in the Match section.
10. Total Project Expenditure: Total of Technology Fee and match funds.
11. Signatures: Type or print the names of the project director and unit head, and have those individuals sign and date the form.

VI. Budget Justification

Describe each item listed on the budget page and provide a justification for the need of that expense to the project. The length of this section is limited to one page.

VII. Budget Match

Describe what budget matches your team/unit will provide for the project. Then list each category and the amount of match. The length of this section is limited to one page.
NDSU Technology Action Plan

I. Submittal Form

NDSU ORGANIZATION OR UNIT

Accounting, Finance & Information Systems Department
College of Business

TITLE OF PROJECT

ERP @ NDSU – Phase III

<table>
<thead>
<tr>
<th>Project Duration</th>
<th>From: May 2010</th>
<th>To: ongoing</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type of Project (Check one)</th>
<th>New</th>
<th>XXXXX</th>
<th>Previously Submitted</th>
<th>Renewal</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Total Technology Fee Request</th>
<th>$700</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Project Director</th>
<th>Campus Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Latimer</td>
<td>Barry Hall 228</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phone:</th>
<th>231-7506</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fax:</td>
<td>231-6545</td>
</tr>
<tr>
<td>E-mail:</td>
<td><a href="mailto:joseph.latimer@ndsu.edu">joseph.latimer@ndsu.edu</a></td>
</tr>
</tbody>
</table>

Executive Summary (maximum of 175 words)

This proposal is requesting funds to increase the RAM memory to 40GB on our primary computer server, to support phase III of our ERP@NDSU project that is integrating Enterprise Resource Planning (ERP) systems and Business Intelligence (BI) Platforms in the College of Business curriculum. This project is based on the Microsoft Dynamics-Great Plains ERP system. Phase III centers on the continued implementation of Microsoft’s Customer Relationships Management (CRM) module and implementation of Microsoft’s Business Intelligence Platform.

ERP systems and BI Platforms have become the norm in business environments and providing hands-on exposure to these systems for students earning majors and minors in the College of Business is increasingly important. Employers are responding very favorably to students who have even limited experience with these systems.

Additionally this expanded RAM will allow the server to support two enterprise server classes being developed for the Spring 2011 and Spring 2012 semesters. These classes will use virtual machines running on the primary server to provide the students with experimental platforms.
1. **How does this project meet student needs?**

ERP systems and BI Platforms have become the norm in business environments and providing hands-on exposure to these systems for students earning majors and minors in the College of Business is increasingly important. Employers are responding very favorably to students who have even limited experience with these systems.

2. **What audience does this project directly serve? What audience is indirectly served? How many students are affected?**

This project directly serves all majors in the College of Business and may impact those College of Business minors who are taking marketing courses. There are currently about 1,500 majors and 300 minors in the College of Business.

3. **For projects that target a subset of NDSU's students, please describe the possibility for broader application in the future.**

Potential applications of the ERP systems and BI Platform outside of the College of Business are uncertain. Based on programs at other universities programs at NDSU that teach course in logistics, supply chain, manufacturing, production, and customer service may be able to benefit this system. The enterprise server classes should be of interest to students majoring in Computer Science, Computer Engineering and any others interested in advanced courses in enterprise class servers.

4. **Describe both the immediate and long term impact of this project.**

The immediate impact will be improved support of the Accounting Information Systems classes and the Applied Business Intelligence class that are currently being offered. This project will also provide a virtual environment for two enterprise server classes. These server classes have been offered in the past but have suffered from a lack of hardware for hands-on exercises.

5. **Who will pay for ongoing expenses following the technology fee funded portion of this project (e.g., who will replace hardware or software after it has reached its end of life)?**

Operational expenses will be paid by the College of Business in the form MIS Interns (paid positions) who will be responsible for implementation and maintenance of the system. Software expenses will be covered by our memberships in the Microsoft Business Solution Academic Alliance (no cost) and the Microsoft Developers Network Academic Alliance (paid by AFIS Department). Our corporate partners have shown a willingness to provide replace hardware (see VII. Budget Match).

6. **Describe how this project will follow best practices in information technology and who specifically in the Division of Information Technology, (which includes three departments: Information Technology Services, Enterprise Computing and Infrastructure, Telecommunications and Emergency Support Technologies) was consulted regarding this project?**

No specific consultations were made for this request. This is a continuation of projects that have been funded in the past.

7. **What service on campus is most similar to the one proposed here? How does this project differ?**

No similar projects known.
NDSU Technology Action Plan

III. Project Description

Our request is for funds to purchase 32GB of RAM memory for the primary College of Business server. This expanded memory will allow us to continue integrating enterprise resource planning (ERP) systems into the College of Business curriculum. The primary server (purchased with a student technology grant in 2007) is currently configured with 8GB of RAM. Additional RAM will be used to create a virtual server farm.

The virtual servers will be used to:

- More efficiently implement the Dynamics-GP and Dynamics-CRM as virtual machines
- Implement the Microsoft BI stack that requires at least one instance of a Microsoft SharePoint
- Provide virtual client machines when needed students need to run client side software that is not installed on cluster machines.
- Provide virtual servers for students in the Enterprise Server classes
NDSU Technology Action Plan

IV. Milestones

List the date for each project milestone. These milestones should represent the significant accomplishments that will be associated with the action plan. For each milestone, please indicate its expected outcome and the means for assessing that outcome. (The table may be extended if the number of milestones exceed five.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
<th>Expected Outcomes</th>
<th>Means of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 15, 2010</td>
<td>Memory Installed</td>
<td>Ability to run multiple virtual machines, implement Dynamics-GP, Dynamics-CRM, and the Microsoft BI stack in a virtual server farm</td>
<td>Virtual farm ready to support AIS and Applied BI class in Fall 2010 semester.</td>
</tr>
<tr>
<td></td>
<td>Virtual server farm running</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec 31, 2010</td>
<td>Applied BI class supported</td>
<td>Provide students with hands-on experience using a working BI platform</td>
<td>Students successfully completing hands-on exercises.</td>
</tr>
<tr>
<td>May 15, 2011</td>
<td>Enterprise Server I class</td>
<td>Provide virtual servers for hands-on exercises</td>
<td>Students successfully completing hands-on exercises.</td>
</tr>
<tr>
<td></td>
<td>supported</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 15, 2012</td>
<td>Enterprise Server II class</td>
<td>Provide virtual servers for hands-on exercises</td>
<td>Students successfully completing hands-on exercises.</td>
</tr>
<tr>
<td></td>
<td>supported</td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td></td>
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</tr>
</tbody>
</table>
V. Supporting Documentation

RAM cost is based on a quote from the NDSU bookstore.

32 GB (8 X 4GB) PC2-5300 Fully Buffered ECC @ $350 each = $1,400
### NDSU ORGANIZATION OR UNIT
Accounting, Finance & Information Systems Department  
College of Business

### PROJECT DIRECTOR(S)
Joseph Latimer

#### A. Salaries and Wages (Number)

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of Months</th>
<th>FUNDS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staff ( )</td>
<td></td>
<td>$ 0.00</td>
</tr>
<tr>
<td>2. Graduate Students ( )</td>
<td></td>
<td>$ 0.00</td>
</tr>
<tr>
<td>3. Undergraduate Students ( )</td>
<td></td>
<td>$ 0.00</td>
</tr>
</tbody>
</table>

**B. Total Salary and Wages (Sum A.1., A.2., and A.3.)**

$ 0.00

#### C. Fringe Benefits

$ 0.00

#### D. Total Salaries (Sum B and C)

$ 0.00

#### E. Equipment (List each item; include installation and maintenance costs in your estimates)

<table>
<thead>
<tr>
<th>Description</th>
<th>FUNDS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 32 GB (8 X 4GB)</td>
<td>$1,400.00</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
</tr>
</tbody>
</table>

**F. Total Equipment (Sum items in E.)**

$ 1,400.00

#### G. Materials and Supplies (List each item)

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
</tr>
<tr>
<td>5.</td>
</tr>
</tbody>
</table>

**H. Total Materials and Supplies (Sum items in G)**

$ 1,400.00

#### I. Total Salaries; Equipment; Materials and Supplies (Sum: Line D + Line F + Line H)

$ 1,400.00

#### J. Total Technology Fee Request

$ 1,400.00

#### K. Match (Describe in Match Section)

$ 700.00

#### L. Total Project Expenditure (Sum: Line J + Line K)

$ 700.00

### Name (Type or Print)  Signature  Date

**Project Director**  
Joseph Latimer

**Unit Head**  
William Bowlin
NDSU Technology Action Plan

VII. Budget Justification

The requested RAM will be installed in the primary server of College of Business ERP cluster. The addition of RAM will allow this server to be tasked as the host for virtual machines that include:

- Microsoft SQL Server
- Dynamics-GP
- Dynamics-CRM
- Microsoft BI platforms
- Virtual machines for the server classes
- Virtual clients for hands-on exercises
VII. Budget Match

The Accounting, Finance & Information Systems (AFIS) Department will provide the following matches:

- RAM Memory – The AFIS Department will fund 25% of the cost of the memory upgrade (est. $350)
- Faculty Time – The AFIS Department faculty will continue to develop hands-on exercises using the ERP system and aid in the development of ERP exercises for the Management and Marketing Department faculty.

The College of Business (COB) will provide the following matches:

- RAM Memory – The AFIS Department will fund 25% of the cost of the memory upgrade (est. $350)
- MIS Interns – The COB employs two student MIS Interns who provided day-to-day operations and maintenance of the ERP cluster.

Industry Partners

- Federated Insurance (a member of the AFIS Advisory Board) has donated a Dell PowerEdge 1950 server to the COB ERP cluster (estimated value $750).
- Microsoft (a member of the AFIS Advisory Board) is providing the AFIS Department with membership in the MSDNAA program free of charge for the next three years (value $1,200). The MSDNAA program provides the software licenses for the ERP cluster machines.