April 16, 2003

Ulrika Myggen
Executive Vice President and COO
ELM Resources
505 14th Street
Suite 1130
Oakland, CA 94612

Dear Ms. Myggen:

On behalf of the Board of Directors of the Postsecondary Electronic Standards Council (PESC), I am pleased to inform you that ELM is being awarded Co-Winner of PESC's 2002 Best Practices Competition! Our Board Review Committee was pleased with your submission and grateful to you and your staff for taking the time to pull together all the necessary documentation.

To ensure you are aware of events and activities, please note the following:

- The official announcement and award will be made by PESC during the opening general session at PESC's Annual Conference on the morning of May 7 immediately following the keynote address. We request that you not disclose receipt of this award (i.e. please keep it secret) until the presentation is made. Please let me know who will be receiving the award on ELM's behalf. A photographer will be present as we will use this opportunity to promote the Best Practices Competition and the award winners.
- Award winners are offered the opportunity to present their submission during a concurrent session at the conference, which is already in place for that purpose.
- A press release will be issued immediately following the conference announcing the co-winners and your submission will be posted on PESC's website.

Thank you to you and your staff for providing valuable services to the higher education community, and congratulations!

Best Regards,

Michael D. Sessa
Executive Director

cc: PESC Board of Directors

April 16, 2003

Tim Cameron
Director of Technology Services
NCHELP
1100 Connecticut Avenue NW
12th Floor
Washington, D.C. 20036

Dear Mr. Cameron:

On behalf of the Board of Directors of the Postsecondary Electronic Standards Council (PESC), I am pleased to inform you that Meteor is being awarded Co-Winner of PESC's 2002 Best Practices Competition! Our Board Review Committee was pleased with your submission and grateful to you and the Meteor team for taking the time to pull together all the necessary documentation.

To ensure you are aware of events and activities, please note the following:

- The official announcement and award will be made by PESC during the opening general session at PESC's Annual Conference on the morning of May 7 immediately following the keynote address. We request that you not disclose receipt of this award (i.e. please keep it secret) until the presentation is made. Please let me know who will be receiving the award on Meteor's behalf. A photographer will be present as we will use this opportunity to promote the Best Practices Competition and the award winners.
- Award winners are offered the opportunity to present their submission during a concurrent session at the conference, which is already in place for that purpose.
- A press release will be issued immediately following the conference announcing the co-winners and your submission will be posted on PESC's website.

Thank you to you and the Meteor team for providing valuable services to the higher education community, and congratulations!

Best Regards,

Michael D. Sessa
Executive Director

cc: PESC Board of Directors

February 3, 2003

Mr. Michael Sessa, Executive Director
Postsecondary Electronic Standards Council
One Dupont Circle, NW, Suite 520
Washington, DC 20036-1135

Dear Michael:

It is with great pleasure that I submit to you and the PESC Board ELM Resources' entry for the 2003 Postsecondary Electronic Standards Council Best Practices Competition. Within the attached documentation, we propound that our student loan transaction and inquiry system, ELMNet, is a prime example of a system specifically designed to foster, encourage, and support the use of electronic standards in the post-secondary financial aid industry.

ELM Resources has been a major proponent of electronic standards since its inception in 1996. One of the major commitments of ELM Resources is to provide a means by which schools and service providers can communicate electronically even though all parties may not yet be utilizing the same file formats or transportation protocols. ELMNet, the culmination of several years of development, stands out in the student loan industry as the universal technology bridge that allows schools, students and their families the ability to access or exchange data with any education-financing provider through an open, common, and provider-neutral network Inherent in this system is the ability to bridge the gap from multiple providers to multiple school customers, many of whom are utilizing different file formats and transportation methods.

The interoperability of ELMNet results in a system that annually processes over 2 million loans and several million transactions. Along with processing transactions for new loans, this same interoperability provides on-line, real-time inquiry access to diverse loan origination and servicing system platforms for over 12 million borrowers. It is this specialized functionality that makes ELMNet such a valuable tool and worthy of consideration as the recipient of the 2003 PESC Best Practices Award.

Thanks to you and the Board for your time and consideration. Please let me know if you have any questions or need additional information.

Sincerely,

Bill Connor
Director, ELMNet Services
ELM Resources

ELMNet

Fostering Electronic Standards

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I. Overview

A. Executive Summary

ELM Resources nominates ELMNet for the PESC Best Practices Award. ELM's technology services are a prime example of a system specifically developed to foster and encourage the use of electronic standards within the post-secondary education arena.

The fundamental technology of the ELM services, ELMNet, is designed to both promote the adoption of technology standards and, recognizing that financial aid participants have differing readiness to adopt any such standards, enable the members of the financial aid community to move to these standards at their own pace while still conducting their necessary business. ELMNet was specifically created to allow participants to prepare to make the transition to data standards despite systems or IT barriers. Under this concept, for example, a school can still send vital information utilizing records in a CommonLine 4 format while the recipient can receive the information in a CommonLine 5 format. The ELMNet software recognizes each format and makes the appropriate adjustment between the two formats.

B. ELM's Mission

ELM Resources is a mutual benefit organization of FFELP providers dedicated to promoting an open market by administering a national data exchange network that provides for the universal availability of all education financing information. Our members include the bulk of the lenders, guarantors, and servicers in the FFEL program.

C. Introduction

An electronic standard, such as the record formats used by the student loan industry, becomes the standard by universal agreement and adoption by all participants. To be successful, an electronic standard must be adopted by a wide

variety of participants. Barriers to the adoption process include the wide variety of student loan systems and processes in use by hundreds of lenders, guarantors, and servicers, and thousands of schools. ELMNet provides an answer to this problem of universal adoption.

Not all service providers, colleges, and universities are prepared for the move to any one standard at the same time, and in fact that type of global change could result in monumental problems. Early adopters face problems in communications with participants not yet ready for the move, while those other participants struggle with resources and timing to move to the new standard. A service such as ELMNet is crucial to the implementation and acceptance of such standards.

The ELMNet system facilitates the smooth transition to an electronic standard by providing bridging technology for all participants. By mapping data between an older standard and a new one, ELM allows schools to have the confidence to adopt an electronic standard knowing they will have the time needed to make necessary programming changes. (See Appendix B) While most service providers are able to provide a similar connection for their customers on their own system, only ELMNet has the ability to bridge the gap from multiple providers to multiple school customers.

ELM members work cooperatively through the ELMNet system to provide schools, students and their families the ability to access or exchange data with any education-financing provider through an open, common, and provider-neutral network. The ELMNet system has been expressly designed to implement current electronic standards for all participants (both service providers and schools) allowing schools to choose trading partners based on customer service rather than on any specific data exchange protocol or data channel.

ELM's strategy is premised on a robust and neutral technology bridge between network participants and between the old and the new technologies. Perhaps most

critically, ELMNet has been designed so the FFELP community can proactively maintain a comprehensive loan index, both FFEL and private, for both inquiries and loan transactions.

ELMNet currently supports one out of every four FFEL loan applications, and ELMNet's loan index includes over 90% of all outstanding FFELP loans. Over 700 schools are currently ELM participants, and many of those schools have moved from proprietary data formats to implement standard data protocols with support from ELM's technology bridging. (See Appendix D)

II. ELMNet System

While ELMNet is designed to promote connectivity throughout the financial aid community, ELMNet is also a primary beneficiary of standards: the greater the availability and adoption of standards, the easier for ELMNet to provide connectivity. As a result, ELM is an industry leader in promoting the adoption of standards. While the ELM concept was initially formulated before the financial aid community had standards, ELM has been quick to adopt, support, and promote appropriate industry standards. In fact, ELM has actively participated in industry organizations, such as NCHELP and PESC, to define such standards. Thus ELM has enabled connectivity for data formats such as CommonLine 96, CommonLine 4, and CommonLine 5 as well as formats unique to an individual school.

A. ELM's Approach to Technological Challenges

Colleges and universities faced many technological challenges in the mid to late 1990's as they processed loans with a variety of lenders and servicers, all of whom had their own record formats and methods of exchanging data with the schools. The confusion inherent in loan processing at that time was further compounded by a lack of technical staff and financial resources available to the financial aid offices around the country.

A common format for loan transmission and a common loan application, developed by FFELP participants in the student loan industry, were major improvements and helped resolve some of the historical problems faced by students and schools alike. However, even with the addition of these new initiatives, schools were faced with a variety of business partners and multiple transmission paths and protocols. With limited resources, colleges were often unable to take advantage of the new record format and continued to process in an inefficient manner, thus limiting their abilities to improve loan approval time and receipt of loan funds.

Recognizing these limitations, the founding members of ELM decided that they should provide schools one channel, free of charge, by which schools could exchange their loan records with multiple loan providers. Additionally, instead of requiring schools to build a certain record format for data transmission, ELM developed the ability to act as a technology buffer for the school and accept any record format the school can provide and then transmit the loan data in the record format requested by the loan provider. To facilitate this process, a profile is set up for each participant that records their business partners, preferred processing flows, and the required electronic format of their electronic files. In this manner, a school could send in a format as simple as an Excel spreadsheet and ELM would map this data into a CommonLine 3 or 4 file as needed.

B. Data Exchange Service

As an industry-wide data exchange service, ELMNet serves as a universal translator enabling two business partners to communicate effectively and efficiently even though the school and the service provider may be utilizing different record formats. In this role, the ELMNet system benefits from uniformity or standardization between exchanging entities. Thus ELM actively promotes current standards in such areas as data formats and transactions as well as the use of XML.

ELMNet electronically interacts with a diverse group of entities utilizing a diverse set of hardware, software and human resources. While the diversity supported by ELMNet is of great value to the industry, it is also a technological burden affecting both performance and cost. To the extent that ELM can promote and utilize standards, the benefits accrue to both ELM Resources internally and to all the entities with which ELM does business.

C. Technology Buffer

By serving as a technology buffer, ELMNet facilitates the development and deployment of standards. ELM Resources recognizes that, regardless of the merit of a particular standard, participants will move to the standard at differing speeds. The ELMNet design acknowledges that it would be impossible to create a meaningful standard if it could not be adopted and deployed until the entire community was ready to move to the new standard at the same time. Thus ELMNet software is designed to serve as a buffer and provides a migration path, which enables different participants to move to the new standard when they are ready. This technology buffer allows the latest technology standards to be deployed by the 'early adopters', which in turn creates momentum for the other participants to move to the new standard.

Additionally, this buffer means that ELMNet participants are not limited to doing business with other participants who use the same technology and adhere to the same standards. In this approach, ELMNet utilizes technology as an enabler rather than an inhibiter. Indicative of the importance of this role as a buffer, ELMNet has interfaces with entities utilizing such data formats as CL96, CL4, and CL5 as well as unique or proprietary records. ELMNet also supports the exchange of data in both batch and real-time as well as fixed length and XML data structures.

D. File Formats and Standards

Working with both its Members and its participating schools, ELM seeks to encourage the formulation, adoption, and deployment of meaningful standards. The ELM approach does not require or impose the use of standards, but rather promotes standards based upon the benefits they convey to the users.

ELMNet is an industry leader in both messaging and the use of XML for data structure. Rather than merely continuing to expand and refine the traditional, fixed length, batch-oriented record layout, ELM made an early decision to apply XML to financial aid. For over three years, ELMNet has utilized XML as a primary data retrieval and exchange tool within the ELMNet global loan inquiry system. At that time, there was no agreed upon XML standard for the FFELP loan industry, so ELM created its real-time loan inquiry XML messages based upon the data elements inherent in the current flat file format adopted by the loan industry. This early XML message format enabled multiple providers to interface with the global inquiry system and prepare for the future of XML within the industry. Inclusion of these new servicing platforms interfaced with the ELMNet loan status inquiry system has brought the total number of borrowers on the ELMNet inquiry index to approximately 12 million, 85% of all outstanding FFELP loans in the nation.

Since the initial ELMNet XML data schema preceded the current PESC XML efforts, ELM has been looking to PESC to promote emerging XML standards in the financial aid community. By actively participating in these PESC-led efforts, ELMNet will be ready to utilize and support this new standard.

III. Future with ELMNet

ELM Resources continues to enhance the value of XML. It recently implemented its latest design involving real-time loan transaction processing utilizing XML messages based upon the current version of the CommonLine. (See Appendix A)

An additional benefit will be realized in 2003 as the integration of ELMNet's real-time global inquiry and real-time transaction processing is finalized. The FFELP industry is scheduled to begin development of the Common Record in 2003 with a planned implementation date of April, 2004. The current and expanded ELMNet is already built upon XML technology, so ELM will be ready to fully support and promote the new message format and business rules for both loan inquiry and transaction processing in 2004.

As schools implement the Common Record and loan providers implement the real-time and near-real-time capabilities of ELMNet, students and schools will receive the benefits of these new technologies – even when one or more of the parties is still using an older system.

Despite changes in technology and stunning growth, some things at ELM will not change. ELM Resources was founded to provide colleges and universities with a simple, standardized way to exchange student loan data while ensuring an open marketplace. That commitment remains the foundation of ELM's services.

IV. Summary

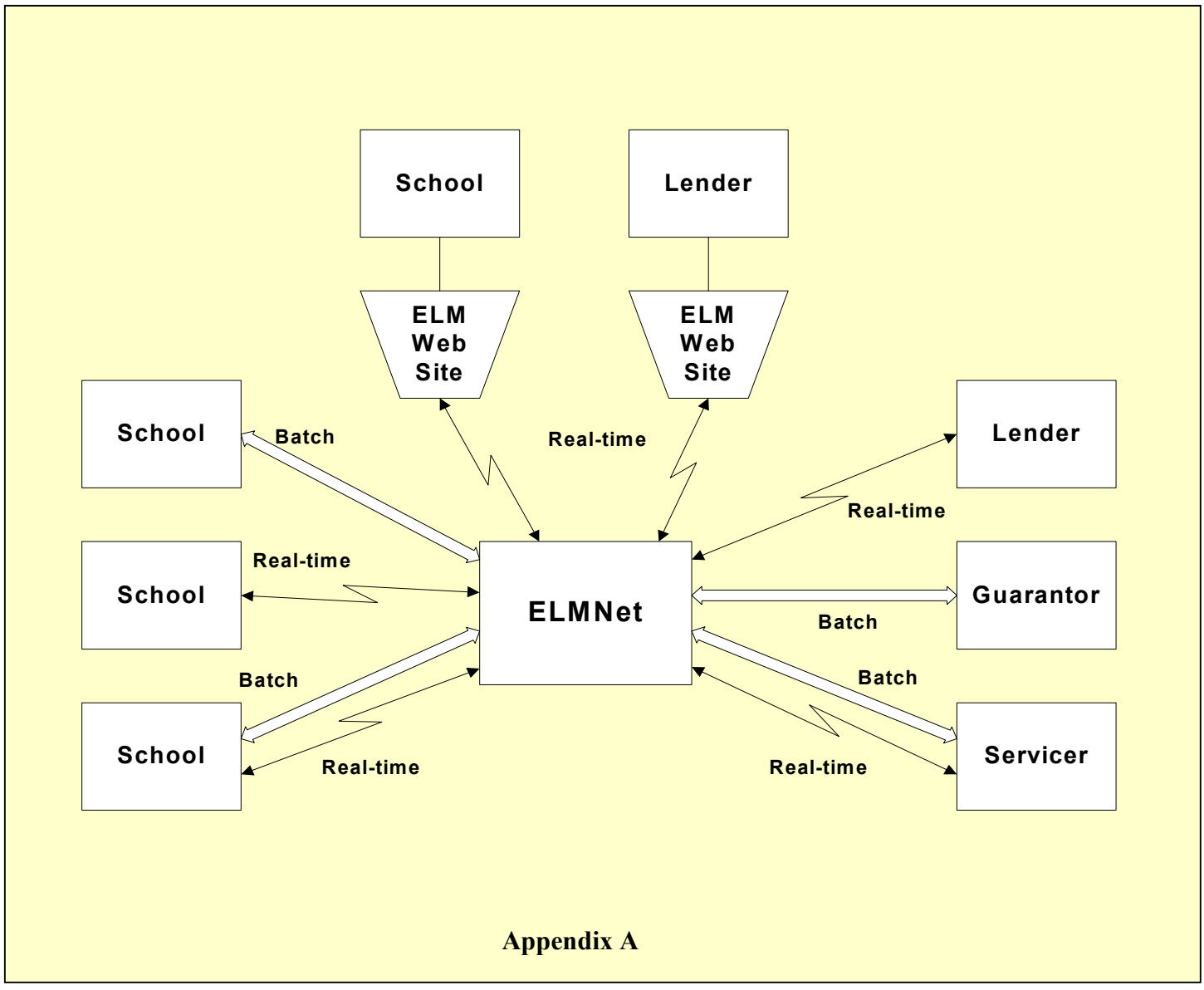
ELMNet has been built specifically to foster and encourage the use of electronic standards within the post-secondary education arena. While we operate as the technology buffer for those participants who are unable to embrace current electronic standards such as loan file formats, we consistently work with our schools and members to improve their processing by supporting their move to the newer technology.

ELM's success is a reflection of our dedication to meet the technological needs of colleges and universities by providing a means by which all FFELP participants can communicate with each other as they individually implement the latest industry standard. Many of the current ELM schools were initially using a proprietary file format and have, over time, been able to move to the common file formats. With one out of every four

FFELP applications being processed via the ELMNet system, it is obvious that colleges, universities, and service providers have benefited from the ability to access and employ industry standards with the help of ELM Resources even though they were not yet technologically advanced enough to program these standards in their own departments.

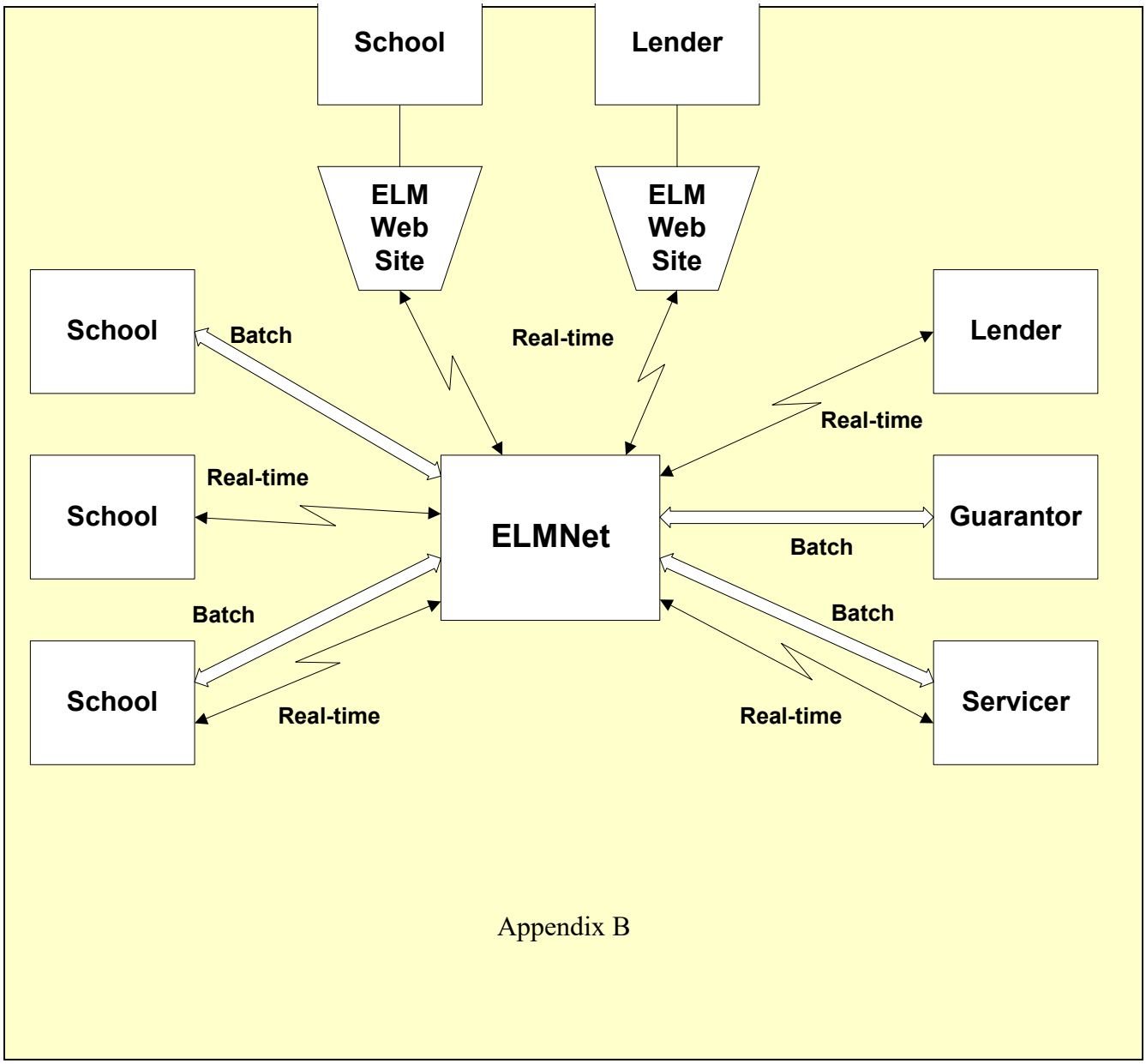
APPENDICES

Flexibility through ELMNet
Data Flow



Appendix A

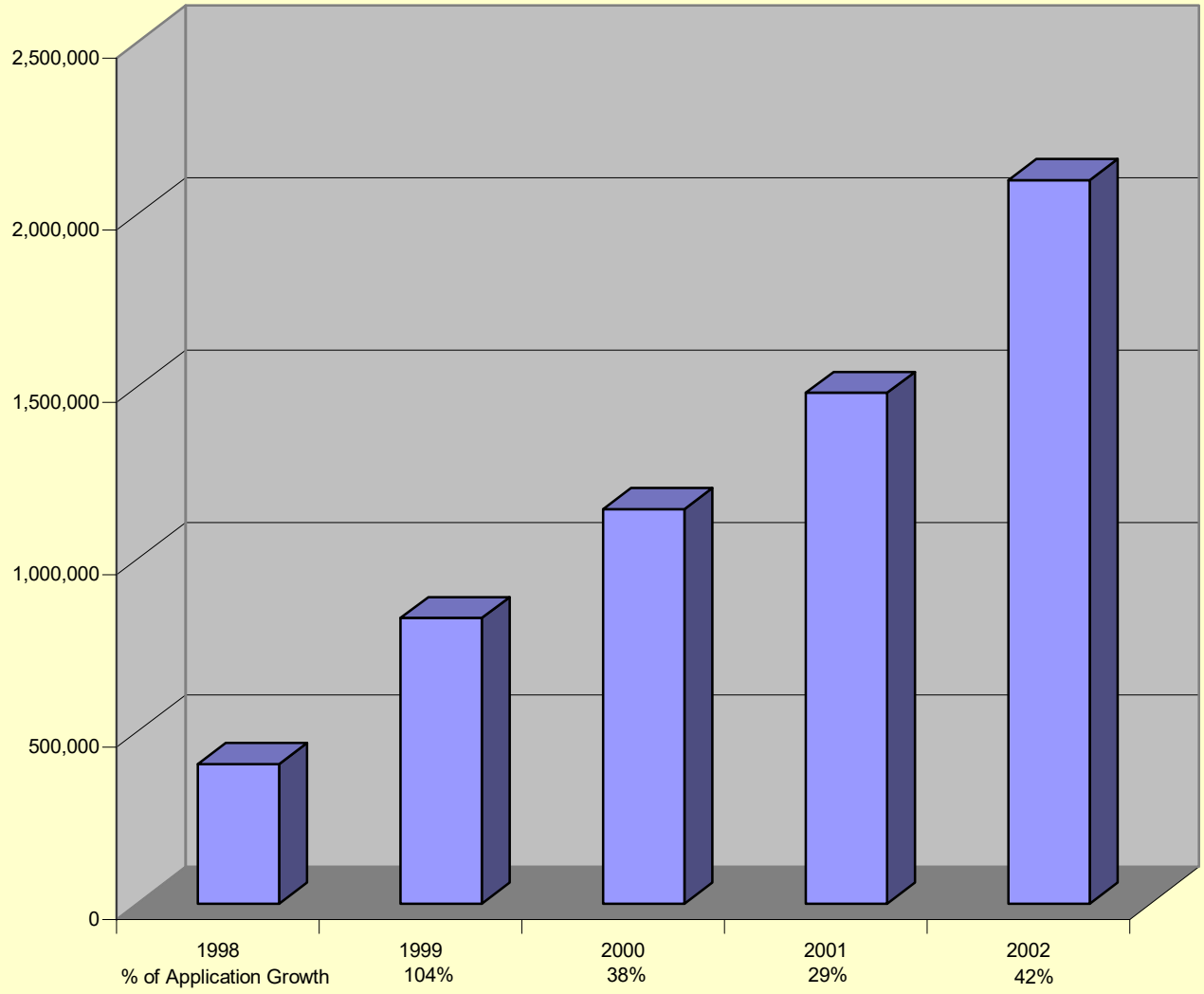
Flexibility through ELMNet
Data Exchange



Appendix B

ELM RESOURCES

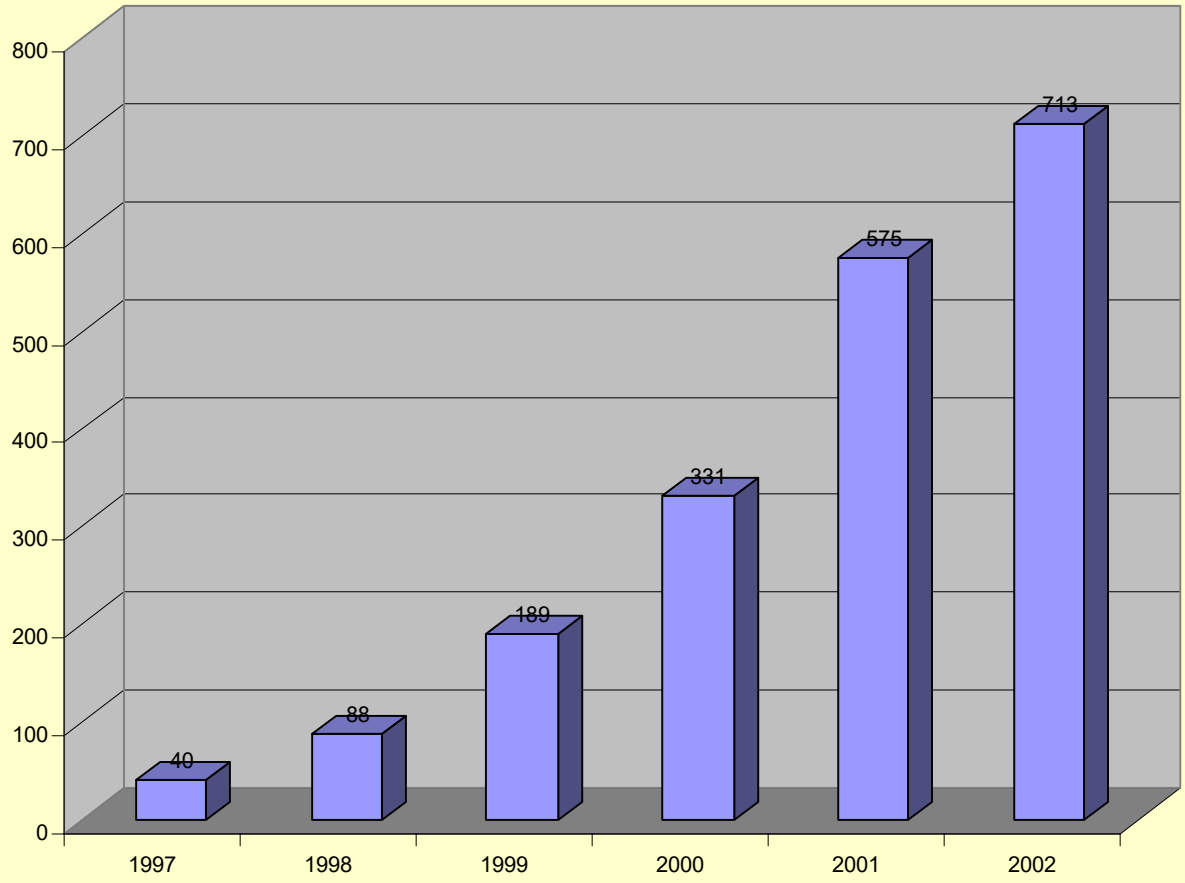
Loan Application Growth



Appendix C

ELM RESOURCES

School Participation Growth



Appendix D

January 31, 2003

Mr. Michael Sessa, Executive Director
Postsecondary Electronic Standards Council
One Dupont Circle, NW, Suite 520
Washington, DC 20036-1135

Dear Michael:

On behalf of the NCHELP Meteor Advisory Team, I am pleased to submit the Meteor project for consideration for the 2003 PESC Best Practices Award. We appreciate the Standards Council's consideration and your efforts to promote standardization in the higher education community.

Meteor is a Web-based universal access channel to student/borrower financial aid information. As envisioned, Meteor will display aggregate information including FFELP, Private, Perkins, and Federal Direct loans, as well as grants and other financial aid awards. Meteor is also one of the first open source, collaboratively developed Web services applications implemented in higher education and potentially the technology world in general.

The current Meteor system aggregates student/borrower loan information for presentment to Financial Aid Professionals. Student loan providers provide the Meteor software as a gift to schools and borrowers. NCHELP is leading this effort, similar to CommonLine, as another collaboration of industry participants to provide quality products to schools and borrowers.

Meteor currently provides data on 58.8% of total FFELP guarantees and will provide data on 63.7% of total FFELP guarantees when those organizations currently testing their Meteor implementation go live. Additionally, Meteor will provide 65.9% of total FFELP guarantees when those organizations currently developing their Meteor implementation go live.

Meteor provides financial aid professionals with a vehicle to obtain accurate and comprehensive information to help them with counseling borrowers and assisting with the financial aid process in general. Following this initial implementation, Meteor will be enhanced to provide student/borrower access to this same data.

Efforts such as CommonLine demonstrated our industry’s commitment to reduce the complexity faced by financial aid professionals when dealing with multiple student lending participants. Meteor is a logical next step in simplifying access to student loan information, initially for financial aid professionals, and ultimately for borrowers.

A single Meteor inquiry will retrieve loan information from guaranty agencies, lenders, loan servicers and others, and present a consolidated view of all information to the inquirer. Because Meteor information is retrieved in real-time, participation by Data Providers assures that borrower and school customers are provided with the most accurate, up-to-date information possible.

There are many benefits of the Meteor project. For the user, financial aid professionals and borrowers, some of the many benefits are as follows:

- Consolidates information from all Data Providers, eliminating multiple access methodologies and passwords
- Information is retrieved in real time assuring that it is current and accurate
- Goal is to provide access to all forms of aid through Meteor
- School-issued ID & Password can be used to access Meteor
- Referring students to Meteor can free FAPs from answering routine questions
- Promotes student awareness of total debt (and delinquency once in repayment)

It is intended that schools will also become Access Providers in the Meteor network. Some of the benefits that will be realized by these schools are as follows:

- Enhances service to students and staff
- Keeps inquirers on school's own site using existing authentication methods
- Can be customized to school look and feel and integrated with existing web capabilities
- Provides a low-risk pathway to state of the art technology and open standards
- Software components and ongoing enhancements are provided free of charge

Benefits to student loan provider implementers of Meteor are as follows:

Data Providers

- Strengthens the student loan industry by simplifying access to multiple systems
- Demonstrates a commitment to work together to improve service to schools and borrowers
- Provides a low-risk path to implementing state of the art technology and open standards
- Software and enhancements are provided at no charge

Access Providers

- Enhances relationship with school and borrower customers by making the organization their portal to aid information
- Expands range of Web-based services offered
- Can be integrated with existing services and customized to your "look and feel"

- Provides a low risk path to implementing state of the art technology and open standards
- Software and enhancements are provided at no charge

The Meteor software is an outstanding example of the implementation of standards for data sharing in a Web services environment. The Meteor project utilizes standard data definitions, data formats and transmission protocols.

Meteor currently implements the following standards:

Unified Modeling Language (UML) – the methodology used to design and develop the Meteor project. UML provides the application modeling language for:

- Business process modeling with use cases
- Class and object modeling
- Component modeling
- Distribution and deployment modeling
- Database Design

Extensible Markup Language (XML) – the standard used for Meteor business messaging. The Meteor messages are consistent with the Department of Education's Common Record and the current NCHELP CommonLine re-engineering XML initiative. These standards were developed in collaboration with the PESC XML Forum for Education.

JAVA - the Java in Administration Special Interest Group (JA-SIG) is an independent organization designed to increase the flow of information between educational institutions and companies involved in the development of administrative applications using Java technology. Meteor is coded in JAVA.

Simple Object Access Protocol (SOAP) – the standard implemented for the transport protocol for the Meteor messages. The Meteor protocol was developed in collaboration with the Electronic Exchange Advisory Team of the NCHELP Electronic Standards Committee's High Performance Channel which is a collection of software components that provide a secure, efficient, open methodology for moving data among FFELP participants.

Security Assertion Markup Language (SAML) – used for the Authentication model implemented in the Meteor software. Because an industry standard doesn't currently exist, the Meteor model was based on SAML. It is intended that Meteor will converge with an industry standard when it is available. The design of the authentication model was done in collaboration with Shibboleth. Shibboleth, a project of Internet2/MACE, is developing architectures, policy structures, practical technologies, and an open source implementation to support inter-institutional sharing of web resources subject to access controls. In addition, Shibboleth will develop a policy framework that will allow inter-operation within the higher education community.

I have attached a copy of the following documents to assist PESC in its evaluation of the Meteor project:

- Meteor Implementation Guide
- Meteor Readiness Chart – details the industry organizations currently in production with Meteor and those that are developing and/or testing the software for implementation.

Thank you for your consideration of the Meteor project for the 2003 PESC Best Practices Award. Please contact me directly if you have any additional questions and feel free to visit the Meteor web site at www.nchelp.org/meteor.htm

Sincerely,

Timothy J. Cameron, Director of Technology Services
NCHELP