Lamar Community College requests $644,400 to upgrade our technology infrastructure. Areas that will be improved include our wired and wireless networks, servers, IP telephony devices, and instructional technology, as well as, office and classroom computer equipment. These upgrades will improve service availability, security, performance, efficiency, and student/staff productivity.

**Background and Justification:**
Many of our systems are outdated (6+ years old) and/or do not support current technologies that improve service availability, security, performance, efficiency, and student learning. Most of our network switches have reached end of vendor software support, and do not support current networking technologies. No new security enhancements or fixes are available for them should a vulnerability be found. Furthermore, our network core is not fault tolerant. The failure of a critical hardware component in our core network switch would result in a complete loss of access to all network, data, internet and phone services for, best case, 5 hours. For students, this could result in losing a day of learning. Our wireless network is unable to take advantage of current advances in wireless technology that provides for more reliable and robust communications, critical for the increasing role it plays in our academic environment. It too, is not fault tolerant. A hardware failure in our wireless network controller would result in a service outage for, best case, 1 day. Data stored on servers is not highly available with failure of a server resulting in loss of data access requiring manual intervention to restore with outages lasting possibly a day or more. All these potential failures would have a substantial negative impact on daily operations, to include instruction. All of our IP phone systems are outdated and no longer vendor supported. They do not receive product updates or security fixes. They are unable to support current technologies that improve user experience. Many of our classrooms have outdated and inadequate instructional technology which makes displaying and viewing content extremely difficult. Many of our office and classroom computers perform poorly due to antiquated technologies that are unable to deliver a highly responsive and capable platform for work and instruction.
**Project Description:**
This project will involve replacing and/or upgrading our network switches, wireless system, servers, and IP telephony devices. Fault tolerance will be added for critical devices through redundancy and automation, reducing the impact of potential critical system failures to seconds, or at most, minutes. Inadequate computer equipment and computer tables will be replaced in offices and classrooms. Multimedia equipment will be added/improved in rooms where current technologies hamper staff and student productivity. The Project, through the introduction of modern, secure, high performing, highly available technology systems, will enable Lamar Community College to more effectively and efficiently deliver on its mission to “Enrich Lives through Learning”.

**Implementation Plan**
Responsibility for implementation of the project will be with Lamar Community College Computer Center staff. All systems will be installed with an emphasis on minimizing impact to daily operations. Classroom upgrades completed throughout the year during times of non-use (breaks between and during terms). Servers and core switches will be installed during July 2016, remaining switches will be phased in with completion by the end of December 2016. Office computers upgrades/replacements will be phased in from July 2016 through June 2017. Core wireless system component upgrades will take place in July 2017 with complete system implementation by the end of December 2016. Where professional services are to be used, Computer Center staff will work closely with vendors\contractors to ensure a satisfactory installation. Where appropriate, Computer Center staff will provide training and additional support resources to staff and students ensuring they are able to maximize use of new technologies.

**Alignment with OIT Best Practices**
Lamar Community College, as part of the Colorado Community College System, adheres to System IT policies and procedures.

**Cost Savings and Improved Performance Outcomes**
Cost savings will be realized by eliminating or minimizing lost productivity and learning opportunities due to inadequate technologies. Improved performance outcomes in these same areas will be realized as a result of the technologies deployed under this project. The new technologies will provide a modern, secure, high performing, highly capable, and highly available technology infrastructure that will create vastly improved work and learning environments that will enhance productivity and learning.

**Security and Backup/Disaster Recovery**
This project seeks to decrease our security risk through the replacement of outdated systems that no longer receive security fixes or enhancements with current systems/technologies using current security technologies that will continue to be improved.

**Business Process Analysis**
This project is designed to improve the work/learning experience of staff and students by providing a technology infrastructure that will enable increased productivity and maximize learning potential through technological advances in servers, network, client computing, and instructional technologies, that provide a secure, highly accessible, high performing, and efficient environment. IT staff will realize greater efficiencies and effectiveness of existing operational processes through the introduction of tools that allow for increased automation and availability of data/network access, management, and recovery.
Systems Integration Opportunities
See “Alignment with OIT Best Practices” section.

Program Plan
Request for waiver submitted with this request due to project below $2,000,000

Life Cycle Cost (LCC) Analysis and Project Alternatives:
The overall benefit of this project is the opportunities made available, through technology, for increased productivity and learning for staff and students. Lamar Community College does not anticipate a monetary increase in energy consumption (if any) that would outweigh the gains in productivity and learning enhancements provided by this project. Much of the technology to be implemented will have greater energy efficiency than the technology to be replaced and will offer energy cost savings under comparable usage conditions. New computer systems will be able to remain in production longer due to advances in hardware. We do not anticipate incurring additional year over year costs, such as maintenance, support and disposal, which would cause an increase over current allotted budget dollars.

As a project alternative we will continue to implement planned technology improvements as budgeting allows. Unfortunately, due to persistent funding challenges, it has become impossible for us to introduce many of these types of technology improvements in a timely fashion, if at all. For example, based on current budget allocations and assuming stationary annual funding percentage decrease, it will take over 20 years to complete the switch upgrade component of this project alone. It has become necessary to take a “replace when it breaks” replacement strategy for much of our outdated equipment. Another alternative is the continuance of our search for and utilization of external funding sources. This is however, a highly unpredictable area making planning difficult with no guarantee of additional funding.

Consequences if not Funded:
See “Background and Justification” and “Life Cycle Cost (LCC) Analysis and Project Alternatives”

Operating Budget Impact:
Lamar Community College has budget line items for recurring costs such as maintenance agreements and Software licensing. No overall increase in operating budget is expected as a result of this project.

Assumptions for Calculations:
Please see included detail list of proposed expenditures.

Supplemental Justification (if necessary):
N/A
### ADDITIONAL REQUEST INFORMATION

<table>
<thead>
<tr>
<th>Date of project’s most recent program plan:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Request 6-month encumbrance waiver?</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>New construction or modification?</td>
<td>☐ New ☐ Expansion ☐ Renovation ☐ Capital Renewal</td>
</tr>
<tr>
<td>Total Estimated Square Footage</td>
<td>ASF GSF</td>
</tr>
<tr>
<td>Is this a continuation of a project appropriated in a prior year?</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>If this is a continuation project, what is the State Controller Project Number?</td>
<td></td>
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</table>

### ESTIMATED PROJECT TIME TABLE

<table>
<thead>
<tr>
<th>Steps to be completed</th>
<th>Start Date</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom hardware upgrades/replacements – computers, multimedia equipment, computer tables</td>
<td>July 2016</td>
<td>June 2017</td>
</tr>
<tr>
<td>Server-Switch upgrades/replacements</td>
<td>July 2016</td>
<td>December 2016</td>
</tr>
<tr>
<td>Wireless upgrades/replacements</td>
<td>June 2016</td>
<td>December 2016</td>
</tr>
<tr>
<td>Office hardware upgrades/replacements – computers</td>
<td>July 2016</td>
<td>June 2017</td>
</tr>
</tbody>
</table>