# Table of Contents

1. **Purpose**
2. **Context**
   - 2.1 *Information Technology*
   - 2.2 *A Dynamic Environment*
   - 2.3 *EIT Mission*
3. **Strategic Objectives**
   - 3.1 *Organizational Objectives Supporting Institute Priorities*
   - 3.2 *Technological Objectives*
4. **Implementation**
   - 4.1 *Overview*
   - 4.2 *Support for Students*
   - 4.3 *Support for Academics*
   - 4.4 *Support for Administration*
   - 4.5 *Representative Technical Activities*
   - 4.5.1 *Infrastructure*
   - 4.5.2 *Services*
5. **Summary**
1. PURPOSE
The information outlined in this document defines the overall information technology strategy for the Enterprise Information Technology (EIT) Office. The purpose of this strategy is to ensure EIT’s alignment with the Institute’s mission, goals, and strategies. Additionally, it will facilitate EIT’s aim to enhance service to the campus community, including students, faculty, staff, administrators, alumni, partners, and guests.

2. CONTEXT

2.1 INFORMATION TECHNOLOGY
Information technology (IT) is an essential element of the Institute’s mission to provide its students with the world’s best undergraduate science, engineering, and mathematics education in an environment that provides individual attention and support. Teaching and learning, student recruitment and retention, and business processes increasingly rely upon IT services to meet their needs. Members of the campus community have an expectation that technology will function ubiquitously to provide ready access to academic, research, business, and personal information on any device. In addition to Institute-supplied laptops, many students have additional mobile devices, such as smartphones, tablets, and e-book readers, etc. which they use to access institute resources. Mobile devices are increasingly the devices of choice for our client base.

2.2 A DYNAMIC ENVIRONMENT
The growth in client computing devices presents us with both opportunities and challenges. An expectation of anytime, anywhere access implies a robust network infrastructure and highly available services. For example:

- The wireless network must be ubiquitous, stable, and fast.
- The shift from computing primarily on an institute computer to a variety of devices with different hardware resources and operating systems requires more platform agnostic services, primarily web-based services.
- Institutional and personal data is stored and accessed by a myriad of devices and networks, only a small number of which are managed by EIT personnel. Securing this information (e.g. information security) is critically important.
- Increasing service availability and resiliency through increasing use of virtualization and cloud-based offerings.
• A shift by users to cloud-based storage (e.g. Box, Dropbox, Google Drive, OneDrive, etc.) could reduce enterprise storage requirements at the expense of securing institutional data.
• There is a growing expectation for 24 hour a day, 7 day a week support, especially given the growth in online and distance learning courses.
• As with any dynamic environment, future-proofing requires close collaboration between EIT and campus leadership.

2.3 EIT MISSION
Enterprise Information Technology will support the mission of the Rose-Hulman Institute of Technology by providing a reliable, secure, resilient, and innovative technology infrastructure. We will accomplish this through:

• effective leadership for strategic and tactical planning in the use of technology;
• the deployment of a highly reliable, high-speed network infrastructure with explicit attention given to the wireless network;
• the use of virtualization and cloud-based technologies to create a highly-available and resilient infrastructure;
• support for the academic and administrative functions of the Institute, specifically the collection, storage, security, and integrity of electronic data while ensuring authorized access; and
• the investigation and evaluation of innovative and novel technologies and applications.

3. STRATEGIC OBJECTIVES
The objectives listed below are fundamental to achieving EIT’s mission during the 2014-2018 timeframe. The organizational objectives are linked to published RHIT Goals and Strategies, including organizational and personnel development, and technological objectives which support the services and infrastructure required of a world-class academic organization.

3.1 ORGANIZATIONAL OBJECTIVES SUPPORTING INSTITUTE PRIORITIES
The following objectives are based on the 2014 version of the RHIT Strategic Goals and Strategies document.

• Increase and improve the use of technology in classroom and learning activities.
• Design and deploy an information technology architecture for online and distance learning activities that is secure, highly available, and scalable.
• Collaborate with campus stakeholders to provide the infrastructure and technology for an electronic collaboration space.
• Work with campus leadership to provide network connectivity and campus services to remote offices, classrooms, or facilities, regardless of their geographic local.
• Work with Professional and Organizational Development to ensure that EIT staff have the knowledge and skills necessary to anticipate and implement new and innovative technologies that evolve in accordance with the Institute’s goals and strategies.

### 3.2 TECHNOLOGICAL OBJECTIVES

The following technological objectives provide the necessary foundation for architecting an information technology infrastructure that can scale to allow existing initiatives to support future technological needs:

• Provide a network infrastructure that can scale to support the growth of mobile devices and provide the bandwidth necessary for a variety of academic content, including audio and video materials.
• Provide a highly virtualized environment, including servers and applications, utilizing on-premises and cloud-based resources that is highly available.
• Strive for simplicity and cost-effectiveness when designing and deploying technologies and services, avoiding redundancy of systems.
• Design and deliver services to meet the needs of the campus community.
• Ensure an effective system is in place to identify and evaluate emerging and innovative technologies.
• Provide a robust monitoring infrastructure with automated alerting and reporting tools that may be used to review the quality and success of the systems and services.

### 4. IMPLEMENTATION

The following themes may be derived from the technical objectives:

• Refinement of existing services to meet evolving functional and operational requirements.
• Technical solutions that introduce new or upgraded technologies necessary for the Institute to achieve its strategic goals and objectives.
• Development and training of EIT personnel to maintain currency.
• Adopting an attitude of continuous process improvement.
4.1 OVERVIEW

EIT is committed to selecting technological solutions, including hardware and software, from established and reliable vendors. Open standards and non-proprietary solutions which integrate well with the existing computing environment will be considered as alternatives. Redundant or overlapping systems will be minimized or eliminated whenever possible. System selection will emphasize institutional requirements versus department-specific requirements.

To address the use of multiple devices to access campus resources, services provided should be device and platform agnostic. To meet this demand, EIT will accelerate a move to provide more web-based services. Integration of these services will be necessary to ensure seamless and transparent access and provide a consistent user experience. Additionally, the requirements and alternatives for a campus Intranet should be examined.

Providing tools and spaces to facilitate collaboration will be essential for success beyond the traditional classroom. Students, faculty, and staff as well as external partners and collaborators require easy-to-use tools for exchanging ideas and materials. Web services offer many opportunities for building and implementing these collaborative spaces that don’t depend on specific platforms.

The identification and collection of reliable data enables good decision-making. Appropriate tools must be provided to allow for the effective retrieval and management of information. Meeting this need will require knowledgeable information technology staff working closely with subject matter experts across campus departments.

4.2 SUPPORT FOR STUDENTS

EIT will create an environment that provides students secure, ubiquitous access to information and services. This will be accomplished by working with other campus departments to ensure that students have the tools necessary to meet their individual needs. Technology should naturally and transparently enable interactions between students and the remainder of the campus community.

4.3 SUPPORT FOR ACADEMICS

Faculty members expect a highly reliable infrastructure and universally available services. A robust wireless network infrastructure is necessary to support this expectation. EIT will design and deploy wireless technologies that provide the performance, stability, and reliability necessary for a highly mobile faculty community. E-mail and other communication and collaboration services, network-based file services, and the learning management system are just a few examples of technologies that should always be available. EIT will strive to involve faculty in discussions regarding technology and pedagogy to ensure that the technology will be readily available and have a positive impact on academics. Communication is a central tenet of this objective.
4.4 SUPPORT FOR ADMINISTRATION

Administrative personnel expect that the information technology infrastructure and services will be available, stable, and reliable. EIT will provide technological support and guidance for the administration and will strive to build relationships throughout the campus. EIT will attempt to minimize confusion and loss of productivity by providing a consistent, reliable user experience as essential elements of existing and new technologies and services.

4.5 REPRESENTATIVE TECHNICAL ACTIVITIES

4.5.1 INFRASTRUCTURE

EIT will provide an operational statement of the current technologies utilized and supported by the central computing organization called an enterprise-wide technical architecture (EWTA) document. This information will help inform faculty, staff, and students of the technologies and services available to them. It may also be used to provide vendors with information regarding RHIT’s supported information technology environment when implementing new solutions.

4.5.2 SERVICES

To help faculty, staff, and students understand services available to the campus community, EIT will outline the services in an IT Service Catalog. In conjunction, EIT will provide a Service Level Agreement (SLA) that outlines the expectation level for each service listed in the catalog.

5. SUMMARY

This strategy is intended to provide the technological resources necessary for Rose-Hulman Institute of Technology to achieve its mission for world class undergraduate education by focusing on individual needs, building a scalable, secure, reliable, and resilient computing infrastructure in a cost-effective and environmentally responsible manner.