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# 1.0 General Overview

This is a Service Level Agreement (“SLA”) between the University of Redlands Institute for Spatial Economic Analysis (ISEA) and the University’s Information Technology Services (ITS) department. This SLA documents:

* ISEA services requirements.
* Tiered levels of response, availability, and maintenance associated with these services.
* Responsibilities of ITS as a provider of these services.
* Responsibilities of ISEA receiving these services.
* Protocols for handling deviations from the standard ITS service level processes.

# 2.0 Roles and Responsibilities

## 2.1 Representative Contact Information

The following matrix identifies the primary stakeholders and roles associated with this SLA:

|  |  |  |  |
| --- | --- | --- | --- |
| **Client Representative** | **Title/Role** | **Email** | **Phone** |
| Johannes Moenius | Director, ISEA | johannes\_moenius@redlands.edu | 909-748-8779 |
| Jess Chen | Economist / Programmer | jess\_chen@redlands.edu  | 909-748-5178 |
| Serene Ong | Technology / GIS lead | Serene\_Ong@redlands.edu  | 909-748-8778 |

|  |  |  |  |
| --- | --- | --- | --- |
| **ITS Representative** | **Title/Role** | **Email** | **Phone** |
| Steve Garcia | CIO | steve\_garcia@redlands.edu | 909-748-8477 |
| Terry Reed | Director, Info Security | terry\_reed@redlands.edu | 909-748-8318 |
| Wes Head | Director, Info Services | david\_head@redlands.edu | 909-748-8295 |
| Chris Kincaid | Director, Infrastructure | chris\_kincaid@redlands.edu | 909-748-8309 |
| Kimberly Perna | Director, Operations  | kimberly\_perna@redlands.edu | 909-748-8316 |
| Mary Soto | Operations Assistant | mary\_soto@redlands.edu | 909-748-8498 |

## 2.2 ITS Responsibilities

ITS provides core computing infrastructure, technology, staff resources, administrative services, and monitoring necessary to support the University’s academic and administrative program. ITS commits to maintaining a technology support service program that:

* Clearly documents the scope of services to be provided under this Service Level Agreement.
* Provides appropriate notification to the ISEA client representative for all scheduled maintenance via email and/or via follow-up telephone communication as needed to ensure understanding and acknowledgement.
* Provides appropriate service and resolution within a reasonable response time relative to the level and priority assigned to service requests or incidents.
* Provides a quality of service and performance that meets the satisfaction of the ISEA client representative.

## 2.3 ISEA Responsibilities

ISEA agrees to adhere to the service protocols outline in this agreement; and to contact the ITS Director of Enterprise Services where service performance or quality is unacceptable, or when a modification of the terms of this agreement is desired.

# 3.0 Service Description

The document outlines the computing system administration support program for ISEA.

## 3.1 ISEA User Requirements

* ISEA IT infrastructure that requires support for development and production processing is listed in Appendix A. Changes to this list will be reviewed annually and budgeted accordingly.
* ISEA requires that all systems and networks are operational, within the scope of the SLA, 24 hours per day, 7 days a week (24/7), except during scheduled and preannounced maintenance periods. Should maintenance periods interfere with ISEA production schedules, ISEA can request rescheduling of maintenance periods.
* ISEA requires that all systems are operational and have ITS support during critical production periods – to be determined and scheduled in advance.
* ITS will support procurement of ISEA hardware and software. Requests, with required specifications, should be submitted to the ITS Operations Manager. The ITS Operations Manager will respond to requests with an estimated shipping date.

## 3.2 Service Scope

### **3.2.1 System Administration Services**

Information Technology Services will provide defined support for network infrastructure, servers, and workstations as follows:

* Software contracting support, equipment leasing, purchasing, and upgrade support for approved budget procurements.
* Network connectivity, hardware installation, system administration, and preventative maintenance for University-owned or leased workstations.
* Network connectivity, hardware installation, system administration, and preventative system maintenance for on-premise servers and cloud services.
* System level backup processing and disaster recovery.
* Technology support services as defined below for on-premise, University-owned or leased servers and network infrastructure.
* “Urgent” technology support services in emergency situations as warranted.

### **3.2.2 Boundaries of Service Features and Functions**

ITS services are limited to maintenance of the base operating system and standard ITS-supported software for University-owned or leased workstations and on-premise servers. ITS will provide maintenance and technology support services for cloud-based computing platforms services that have been approved and implemented by ITS.

ITS will not provide support services for custom applications, for the ESRI software suite, or for technology issues related to work performed by or on computing platforms used by ISEA’s contract application developers (unless otherwise outlined in Appendix A).

## 3.3 Service Protocols

### **3.3.1 Requesting Service**

The following are the supported methods of contacting ITS for service:

|  |  |  |
| --- | --- | --- |
| **Standard Service** | **Critical/Urgent Service** | **Purchasing** |
| Email: tech\_support@redlands.eduPhone: 909-748-8922 | Email: systems@redlands.eduPhone: 951-500-7101 (On Call) | Email: mary\_soto@redlands.eduPhone: 909-748-8498 |

For non-emergency support, the conventional service request protocol is for an ITS representative to serve as the first point of contact for all computing-related issues.

When a request for support is received (in person, by phone, or by email), a representative of IT Technology Support Services (TSS) will create a new service request, and the new service request and the corresponding service issue will be managed according to the tiered triage protocols described below.

If an ITS Technology Support Service representative is not immediately available to log and triage the issue, the support requestor may contact an alternative representative of ITS (or the Center for Spatial Studies, for issues relating to the ESRI software suite), in which case the attending representative will open a new service request as the first step toward triage and resolution.

Tiered service requests can regularly only be escalated if changes in circumstances justify escalation. Escalations will be considered upon request. However, automatic escalation ensues by default according to schedules outlined by tier. Automated escalations can be reset by mutual agreement between ITS and ISEA or if higher priority University requirements coincide.

### **3.3.2 Tier 1: Standard Service**

#### **Standard Service Request Protocol:**

* Generic (non-critical/non-urgent) service requests will be submitted to tech\_support@redlands.edu or by calling Technology Support Services at 909-748-8922.
* An automated confirmation of the support request will be communicated to the requestor as soon as the request is logged into the tracking system.
* Support will be assigned to the appropriate Technology Support Services staff professional, who will conduct an ***initial triage*** assessment (in-person or via telephone) within the same business day.
* Based on the findings from initial triage assessment, and in consultation with the requestor, a work order assignment for issue resolution service will be scheduled in the priority queue, and the requestor will receive an update of the estimated schedule for service.
* If, (a) due to overwhelming higher level University priority, issue resolution service cannot be scheduled for a timeframe that is acceptable to the requestor; or if (b) the severity of the issue based upon the initial triage assessment warrants escalation, the service request will be promptly communicated upwards to ISEA and ITS management for further review and action.
* Tier 1 requests will automatically be escalated to Tier 2 (urgent level) or Tier 3 (critical level) according to the following schedule:
	+ Central production infrastructure: (such as processing and database servers): after one business day if infrastructure is down and three business days if it is generally working.
	+ Peripheral production infrastructure and development infrastructure: after three business days if infrastructure is down and five business days if it is generally working.
	+ Delivery infrastructure (such as webservers and services) problems/requests should always be classified as Tier 2 (urgent) or Tier 3 (critical), dependent on circumstances, and, on prescheduled release dates to Tier 4. Delivery infrastructure requests without an explicit notice that they are not urgent should therefore be considered erroneous classifications and should be checked for escalation immediately during initial triage.

#### **Standard Maintenance Protocol:**

* Changes to production systems, infrastructure, and/or applications will require submission of a **Change Management Form** (Appendix B) and development of a **Service Plan** approved by both parties.
* Changes to infrastructure will be classified as a Standard Service Level request, unless such work will significantly impact ISEA production processing.
* Server and network installation will be performed on a schedule to-be-agreed-upon by both parties, taking into consideration current ITS staffing and project resource demands.
* System issues deriving from unplanned, ad-hoc, or un-sanctioned modifications to production system platforms will not constitute a “critical service” event on the part of ITS.

### **3.3.3 Tier 2: Urgent Service:**

Recognizing that ISEA professional staff are capable of triaging and self-identifying an issue or incident that requires urgent attention, such “emergency” situations warrant a direct contact to an ITS Manager or System Engineer.

#### **Urgent Service Request and Maintenance Protocol:**

ISEA management directly contacts an ITS system engineer. If direct contact with an ITS system engineer occurs, ITS management will be notified by email, phone, or in-person per the contact protocols listed above. An attending representative will either open a new service request and/or complete an **ITS** **Incident Report** (Appendix C) to document the incident.

* Examples of urgent requests are:
	+ Production infrastructure down ahead of important events, such as presentations, conferences, with key ISEA participation requiring presentation of most recent data. Regularly scheduled research conference presentations do not fall into this category.
	+ Webserver down or malfunctioning
* Tier 2 requests will automatically be escalated to Tier 3 (critical level) according to the following schedule:
	+ Central production infrastructure: (such as processing database server): upon request or after three business days if infrastructure is down and seven business days if it is generally working
	+ Peripheral production infrastructure and development infrastructure: after three business days if infrastructure is down and seven business days if it is generally working
	+ Delivery infrastructure (such as webservers and services) problems / requests: after two business days or one day ahead of prescheduled release dates / events

### **3.3.4 Tier 3: Critical Service**

Service requests that have been logged and triaged via the Tier 1 Standard Service protocol or Tier 2 Urgent Service Protocol, and which have been escalated due to severity or time-sensitivity, will be managed as follows:

#### **Critical Service Protocol:**

* The ITS and ISEA Management representatives will confer on the severity of the incident and explore alternative resolution options, including an analysis of their associated costs and timing.
* If a mutually-acceptable resolution option is not apparent, the issue will be promptly referred to the CIO, the Dean of the School of Business, and the Provost, who will confer to determine the appropriate means of responding to the service request.

#### **Critical Maintenance Protocol:**

* ITS actively monitors the fundamental system service platform, and an ITS System Engineer will immediately respond in the event of an unavailable network infrastructure component, an on-premise server component, or a cloud-based service platform component.
* Upon diagnostic troubleshooting to rule out on-premise connectivity as a causal factor in the service issue, cloud-based service platform issues will be immediately escalated to the cloud service provider.
* Direct communication to ITS system engineers may occur during critical non-standard service events. Contact information is outline in Section 2.1 above. If direct contact with an ITS system engineer occurs, ITS management should be notified by email, phone, or in-person per the contact protocols listed below.

### **3.3.5 Tier 4: Pre-Scheduled Service**

ISEA will pre-identify crucial production processing periods (such as data releases or pre-event preparations), and ITS will pre-schedule on-call support staff who will maintain coverage, monitor operations, and provide immediate service response for urgent issues.

ITS must reserve a maintenance window on the 3rd Wednesday of every month from 2:00 AM until 8:00 AM for system-wide patch management (see section 5.1.1). No crucial ISEA production should be scheduled to run in this maintenance window. Should ISEA large scale computational requirements interfere with this schedule, ISEA can request rescheduling of this maintenance window.

# 4.0 Coverage and Response

* Requests for service features and functions not yet implemented can be submitted though an ITS service request.
* For Standard Service Level requests, ITS will strive to acknowledge requests, to assign a service technician, and to perform initial triage during the same business day.
* Service coverage will be provided normal business hours, Monday to Friday, 8:00 AM to 5:00 PM.
* Critical or urgent service issues will be handled as received, and based upon severity, may be resolved after normal business hours if and as needed.
* For any request, a concurrent higher-level University priority may take precedent over ISEA requests.
* All incidents will be documented using the standard **ITS Incident Report** (Appendix C) and a copy of the report will be emailed to ISEA Project Management.

# 5.0 Maintenance and Administrative Support

## 5.1 Patch Management and Upgrades

### **5.1.1 Patch Management**

Operating system patch management will occur according to the ITS monthly patch schedule. Patch management typically occurs on the 3rd Wednesday of every month from 2:00 AM until 8:00 AM. Critical updates and security patches will be applied monthly to protect against system vulnerabilities and to comply with annual security audits. Any deviation from this policy will require advance notification and an agreement by both parties to accept the business risk to the University. Deviations that create a potential system vulnerability will be documented in the ITS Network Audit Known Vulnerabilities Report for auditors.

### **5.1.2 Systems and Software Upgrades**

Requests for upgrades to systems and software are considered Standard Service Requests unless otherwise specified and agreed upon. They are initiated as Standard Service Requests with an accompanying Change Request Form. ITS will regularly perform system upgrades to prevent system security vulnerabilities. If an upgrade has not been applied and is determined to create a potential security vulnerability, either the system will be upgraded or both parties will agree upon the acceptable business risk to the University and this decision will be documented in the ITS Network Audit Known Vulnerabilities Report for auditors.

## 5.2 Purchasing

All purchasing of hardware and software will be handled by the ITS Administrative Operations Manager. All computing-related procurements must have an approved ISEA budget and account code. Purchase requests require at least one week lead time for administrative processing. Exceptions need to be coordinated with ITS leadership. Shipping lead times will be dependent upon the vendor selected and should be taken into account when planning purchases.

ITS will provide services to evaluate and recommend systems, and to obtain purchase quotes and shipping lead times. Requests for these services should be submitted as a Standard Service Request.

# 6.0 SLA Effective Date and Update Protocol

This Agreement is valid from July 1, 2015, and shall be reviewed and updated annually or as modification is required.

The principal ITS and ISEA representatives identified in this SLA are responsible for facilitating regular reviews of this document. The contents of this document may be amended as required, provided mutual agreement is obtained from the primary stakeholders and communicated to all affected parties. The principal ITS and ISEA representatives will incorporate all subsequent revisions and obtain mutual agreements / approvals as required.

This Agreement will be posted to the following location and will be made accessible to all stakeholders:

[ISEA Service Level Agreement](https://sites.redlands.edu/Secure/CMS/Content/globalassets/depts/its/services-level-agreements/isea-service-level-agreement.docx%2C%2C118504?epieditmode=False)

# 7.0 Appendix A

The following is a list of hardware, software, and applications that are necessary for ITS support for the ISEA program. Additional support will be provided as requested and if resources are available.

* Workstations of ISEA faculty and staff
* Processing System
* SQL Server System
* Forecasting System
* 6-8TB of disk storage
* Minimum of four Virtual Machines (VMs) for ISEA development and production processing

# 8.0 Appendix B

[Change Management Form](https://sites.redlands.edu/globalassets/depts/its/services-level-agreements/its-incident-report.docx)

# 9.0 Appendix C

[ITS Incident Report](https://sites.redlands.edu/globalassets/depts/its/services-level-agreements/its-incident-report.docx)