THE STATE UNIVERSITY OF NEW JERSEY

RUTGERS

Office of Information Technology
Enterprise Infrastructure
Systems Engineering

Service Level Expectation (SLE) Virtual Infrastructure Hosting

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Document Owner:

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Version History

Version	Date	Revision / Description	Author
0.1	*10/10/2019*	Original Draft	*Andrew Page*
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0.3	*10/17/2019*	Revisions Added	*Steven Leonard*
1.0	*11/01/2019*	Initial Version	*Steven Leonard*
2.0	*02/07/2023*	Removed outdated information and added new information that is relevant.	*Steven Leonard*

OIT Enterprise Infrastructure Office of Information Technology

Thank you for partnering with us to help deliver IT services to the university community. This document is intended to set expectations about the service Enterprise Infrastructure Systems Engineering delivers as well as how to handle exceptions to that service.

Guiding Principals

1. The Enterprise Infrastructure Systems Engineering Group architects, deploys, operates, and maintains Enterprise-Class solutions in support of the shared hosting of University Services. Our infrastructure is designed to maximize and self-heal with technology in place to provide redundancy which allow availability and reduces the need for off-hours support.
2. For services that are architected to take advantage of the infrastructure, the Enterprise Infrastructure group will make all commercially reasonable efforts to restore service after a disruption.
3. Customer participation and availability is essential to the service restoration process.

Shared Responsibility Model

The Virtual Infrastructure operates under a shared responsibility model. Different components of a University Service are run by different groups. Enterprise Infrastructure (EI) offers three[1] different models for service. Customers unable to meet the stated customer responsibilities are encouraged to take advantage of OIT consulting services to fulfill the role.

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[1] The Self-Managed Cluster option is no longer available.
[2] OS Management includes installation, patching and data protection

Enterprise Infrastructure

	EI Managed Virtual Machine	Self Managed Virtual Machine	Self Managed Cluster
Application	Customer Managed	Customer Managed	Customer Managed
Custom Platforms	Customer Managed	Customer Managed	Customer Managed
Standard Platforms	EI Managed	Customer Managed	Customer Managed
OS Management[2]	EI Managed	Customer Managed	Customer Managed
Host Networking	EI Managed	Customer Managed	Customer Managed
VM Provisioning	EI Managed	EI Managed	Customer Managed
Hypervisor / Hardware	EI Managed	EI Managed	EI Managed
Storage / Networking	EI Managed	EI Managed	EI Managed
Data Center Facility	EI Managed	EI Managed	EI Managed
Utilities	Rutgers Facilities	Rutgers Facilities	Rutgers Facilities

Routine Maintenance

In order to maintain the efficiency and security of the Virtual Infrastructure, as well as to service customer requests, Enterprise Infrastructure preforms work according to the following Schedule:

Component	Risk	Announcement[3]	Schedule
Network[4]	Very Low	None	Work is done during the workday
	Low	None	Work is done from 6:00AM-8:00AM T, W, Th
	Medium-High	2 Weeks Prior	Work is scheduled between 4:00AM-6:00AM or by arrangement
OS Patching	Low	1 Week Prior	Machines are scheduled into groups so that Pre-production is patched before production and redundant machines are patched in different groups. Work is scheduled between 3:00AM-6:30AM M-F
Data Center Facilities	Low	1 Week Prior	Work is done during the workday
	High	1 Month Prior	Work is scheduled over weekends or when least impactful.

Work is announced on the "ei_maintenance" email list. New customers are required to create a mailing list for their department to self-manage local distribution. Customers are also expected to inform the users of their services as needed regarding any impacts to their services from routine maintenance.

Data Protection[5]

The Virtual Infrastructure includes the following Data Protections services

Component	Type	Frequency	Retention	Description
Block Storage (VDMK Files)	Full	2/Month	6 months	Primary Storage is RAID protected. Backups done via NetBackup and stored on DataDomain in the ASB Datacenter. Images are replicated off-site to Philadelphia
	Incremental	Daily	6 weeks	
File Storage (Isilon)	Daily	1/Day	31 Days	Frames are located in ASB and Knights Bridge Data Centers. Storage is replicated between frames. Snapshots are used for Data Protection
	Weekly	1/Week	6 Weeks	
Database	By Special Arrangement to ensure consistent backups.			

For systems that require a formal Disaster Recovery plan, Enterprise Infrastructure can work with Sungard Availability Services to provide a quote. This service is NOT included in standard pricing. The supporting business continuity plan is a responsibility of the department.

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[3] For an emergency or ongoing incident, changes will be applied without normal lead time.

[4] The University schedules a Network Change Freeze during the beginning and end of each semester. Please see: http://www.td.rutgers.edu/policies-guidelines/network-maintenance-freeze-periods/

[5] Backups can be customized by request, and those customizations will override these defaults.

Service Requests / Incidents

A Service Request is defined as a request for information about or a change to the existing service. They may also be open to report an incident.

Enterprise Infrastructure uses ServiceNow for all submissions of requests and incidents. All requests and incidents will require a NetID to log in and make the appropriate request.

To open a service request or incident please visit https://ei.rutgers.edu and select **"Get Support"** and **Request Support** from the appropriate service group.

An email will be sent to the appropriate assignment group within Enterprise Infrastructure, and you will receive an email from ServiceNow for your records. An email notice will be sent out through ServiceNow if EI staff requires additional information regarding your request or incident. Any request or incident that requires an additional customer response that goes unanswered for 3 or more days may be closed with the comment "3 days no client response". When your issue is resolved a final email will be sent out informing you of the resolution. The request or incident may be reopened as necessary per client request.

Service Priority

Priority	Description	Expected Acknowledgement Time.	
		Normal Hours	**Off Hours**
P1	Major Interruption to critical service(s) Failure of redundant Infrastructure Customer also commits resources 24x7 until resolved (Note: Services that are not architected for high availability do not qualify for P1 Status	15 Minutes	15 Minutes – 1 hour
P2	Significant impact to service	15 Minutes	Best Effort
P3	Service degraded	1 Business Hour	N/A
P4	Routine Service Request	4 Business Hours	N/A

Normal Service Hours

- **Core EI Systems Staff Service/Support Hours:** 8:00am – 5:30pm Monday through Friday
  Note: excluding University holidays and closures

Incident Communications

Enterprise Infrastructure communicates incidents via a web page at: ~~https://status.ei.rutgers.edu~~

~~Customers are encouraged to subscribe to incidents via that website. All Customers are responsible for crafting messages to their user communities.~~

EI communicates incidents via "ei_maintenance" email list, all clients should have a mailing list already setup and added to thit for their department to self-manage local distribution.

Larger incidents which need to be communicated to the larger university community are handled through the OIT Enterprise Service Delivery Team.

Escalation Process[6]

The normal service request process should be used whenever possible. When a P1 or P2 Incident happens outside of Normal Service Hours, customers can begin our escalation process:

1. Please submit a normal service request. This step should only be skipped if the service request system is broken. Please include a way to get in contact off-hours.
2. ~~Check our status page for a list of known impacts to the virtual hosting page. If a known issue is listed, your service request will be seen by staff working the issue~~ (Coming Soon)
3. If you need to reach the on-call technician, please call +1 (224) 269-7273
   LISTEN TO THE PROMPTS AND CHOOSE THE BEST OPTION
4. The system will attempt to connect you live to an EI staff member. After 60 seconds you will be prompted to leave a message. Please leave all proper contact information for an EI staff member to properly return your call. Leaving incomplete information could/will delay the escalation and resolution of service(s) or incident(s) being reported.

Once a call is placed an alert is created in our Opsgenie instance. This cloud-based tool will follow a pre-defined escalation policy to reach someone in the Enterprise Infrastructure Systems Engineering Group. The policy is as follows

1. The call is routed live to the on-call technician. If they can be reached, you will be connected via voice. The tech will ask for your contact information and ticket number. They will arrange for a call back.
2. If the call is not connected quickly, the system will take a voice mail. This voice mail will be attached to an alert which will follow the normal escalation path.
   a. The on-call tech is given 5 minutes to acknowledge the alert.
   b. The other members of the on-call rotation are contacted and given 5 minutes to acknowledge the alert
   c. After 10 minutes, the alert is escalated to Enterprise Infrastructure Leadership team.
   d. Alerts continue to repeat until acknowledged.

Please note, the timeframe given are for acknowledgement. All on-call technicians in Enterprise Infrastructure, are capable of basic triage for incidents, but may need to engage other teams during

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[6] Significant changes to the escalation process are expected as part of the IT Service Management / Service now project. Please make every effort to refer to current information before starting the process.

problem resolution. Only one staff member is officially on call. Reaching other resources will continue to be best effort.

Escalation Flow

Call Off-Hours Support Line

Select Menu Option

Route Call to identified Team

Call On-Call Tech for team

Call Answered in 60 Seconds?

Customer Leaves Voice Mail

Opsgenie creates Alert with Voice Mail Attached

Alert routed to other Team Members

Alert Acked in 5 minutes

Alert Acked in 15 minutes

Tech Gathers info from customers and performs Triage

Alert Routed to EI Management

Alert Acked in 15 minutes

Problem is routed to mostly likely team for resolution

Alert Closed

Issues Resolved?

Key
Customer Step
EI Step
System Step