Management of Change Events and Communications of Planned and Unplanned Outages

IT manages the Mason online network, a complex mosaic of hardware, software, and infrastructure uniquely designed to meet Mason’s information technology needs. Keeping a network of this magnitude operating efficiently is a daunting task. Sometimes IT needs to make changes to the network or services. From time to time, something unexpected causes an interruption to service provided to customers. While not every service interruption to can be planned and controlled, IT makes every effort to anticipate changes under its control, address unexpected issues, and provide customers as much information about these changes as possible. This section describes how IT manages situations when planned and unplanned situations occur and how it communicates information to customers in these instances.

1.1. The Change Management Process
The Change Management process is intended to anticipate and manage the impact of changes made to customer services and reduce the impact of unintended service disruptions on the business operations and customer schedules.

1.1.1. Benefits of Change Management
Change Management enables IT to manage a large number of changes systematically and effectively.

Specific benefits of Change Management include:

- Fewer changes need to be reversed, and any reversals, as well as implementations, proceed more smoothly
- Improved diagnosis of problem areas and more stable services
- Server support teams can manage their workload more efficiently
- Improved stability of the IT environment while incorporating necessary changes.

Without a common process to manage change, we find that:

- Customers and IT staff are not always aware of upcoming changes to systems or services.
- Mishandled changes cause downtime for customers and create additional work for service support teams.
- Standards for testing, documenting, announcing or implementing changes to production systems vary.
1.2. Change Management Process
The Change Management Process currently applies to the Technology Systems Division (TSD) of the ITU. The Change Management Process requires all service IT support teams planning service work on the network or infrastructure to submit a Request for Change (RFC) to the Change Review Board (CRB) for approval.

1.3. The Change Review Board
The Change Review Board (CRB) meets daily, Monday, Tuesday, Thursday, and Friday, which allows for changes to be approved and implemented without undue delay while making sure changes are not a detriment to the overall health of Mason’s network and infrastructure. The CRB meets 9:30 a.m., at the beginning of TSD’s Daily Operations meetings. The CRB is a TSD group tasked with determining that a requested change is necessary and that TSD adequately assesses the impact.

1.4. Communication of Planned Outages and Changes
A planned outage is an intended and necessary interruption in customer or services that the IT Unit uses to make services temporarily unavailable while changes are being performed by IT service support. IT service support gives customers as much notification as possible, but at a minimum, IT service support teams follow the guidelines below. If an SLA is in place, the notification guidelines in the SLA supersede the minimum guidelines below.

1.4.1. Benefit of Managing Planned Outages and Change Events
IT manages planned outages and changes to provide consistent information about service outages and change events to customers, support, and technical groups.

1.5. How TSD Support Teams Report Planned Service Outages or Change Events
Managing and communicating a service outage or change event

First, IT service support must assess the impact of the outage and plan for when it will happen.

1. Service Support groups assess the customer impact of the planned outages or change events during Daily Operations Meetings held Monday, Tuesday, Thursday, and Fridays at 9:30 a.m. The Change Review Board members present at the Daily Operations meeting review all proposed changes and approves the date and time that they will be made.

2. Changes events are generally scheduled during the regularly planned maintenance window (Sundays from 7-11 am), per the conditions of a Service Level Agreement (SLA), a time when the minimal amount of disruption to production services and customer groups will take place, or in some cases as quickly as possible to address a threat to services or the network.

3. If the change event will impact the delivery of service to customers, information about the event will be communicated to users primarily through the IT Maintenance Calendar located in the IT Services Alerts & Outages webpage. In instances when there is enough lead-time and the change is significant, an E-file may be posted.

4. When mutually agreed upon, or per the stipulations of an SLA, support teams will work with service owners or end users to manage a change event.
5. Generally, TSD service teams do not schedule planned outages and changes during the first or last weeks of academic instruction, finals, or grading week, or during other significant campus events or key dates.

Service teams and other groups who are planning and activity that may affect information services to end users can use the [Submit a Planned Outage form](#) to request a change event be added to the IT Maintenance Calendar.

The IT Maintenance Calendar is maintained by TSD’s Client Relations department. If you have questions or comments, please e-mail [outage@gmu.edu](mailto:outage@gmu.edu)

### 1.5.1. The Planned Outage Communications Matrix

Depending on the impact of the change on customers, the ITU will communicate these changes and other planned change events according to the matrix below.

<table>
<thead>
<tr>
<th>Impact of Change</th>
<th>Minor</th>
<th>Moderate</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of Urgency</strong></td>
<td>Minor or repetitive changes considered part of the normal workflow.</td>
<td>Small changes that have a documented and proven implementation process.</td>
<td>Changes that may affect multiple applications across multiple departments.</td>
</tr>
<tr>
<td><strong>Impact on Customers</strong></td>
<td>No affect on the Customer's business</td>
<td>Little impact to the customer's business.</td>
<td>Significant impact to customer's business.</td>
</tr>
<tr>
<td><strong>Notification to Customers</strong></td>
<td>These changes may not be communicated to end users</td>
<td>Usually five days or more in advance</td>
<td>Usually five days or more in advance</td>
</tr>
<tr>
<td><strong>Method of Notification</strong></td>
<td>None</td>
<td>- ITU Maintenance Calendar - Outages and Alerts page</td>
<td>- ITU Maintenance Calendar - Outages and Alerts page - E-files Messages - E-Files Alerts, if needed - Group e-mails to Selected Groups, if needed</td>
</tr>
<tr>
<td><strong>Example</strong></td>
<td>System back-ups</td>
<td>Configuration changes</td>
<td>Major network changes or service outages, PBX upgrades, office moves</td>
</tr>
</tbody>
</table>
1.5.2. Communication Mediums

1.5.2.1. Push Communications Channels

Online: University-wide distribution for communication of a significant system outage
- E-files Alert (non-ITU Managed)
- Mason E-Mail

Voice:
- Mason Voice Mail

Online: University-wide Access – ITU Managed Primary Integrated Information Access Points

- Mason Alerts – ITU Alerts: The capability to send outage information to text message enabled cellular phones, personal digital assistants, (PDAs), pagers, personal and university e-mail accounts, telephones, and voice mail.
- Support Center ITU Pages
  - Alerts & Outages page: Initial communication of system performance issues and communication of planned outages information
  - Systems Status & Metrics page: Indication of systems health with links to updates of systems status information on the Outages page
  - ITU Maintenance Calendar: planned outage/change management tentative dates and details
- myMason Portal: Reposting of significant unplanned outage information the Announcements section on the myMason home page per the discretion of the DoIT department

1.5.2.2. Pull Channels – User Group Focused

E-mail: Limited Distribution for Specific Groups – User Opt-In
- ITU Alerts listserv
- Telecom Coordinators listserv:
  - Other ITU distribution lists for specific groups.

1.6. Guidelines for ITU Core Infrastructure Maintenance Windows

A maintenance window is a defined period of time during which planned outages and changes to production (see definition below) services and systems may occur. The purpose of defining standard maintenance windows is to allow customers of the service to prepare for possible disruption or changes.

IT encourages all services and systems providers to negotiate a maintenance window with their customers via a Service Level Agreement (SLA). If a service does not have a negotiated maintenance window (via an SLA or equivalent) the following guidelines apply:

- Planned outages are generally scheduled and performed between 7PM and 11AM on Sundays. Work scheduled outside of this window should have explicit sign-off from the customer representative.
- TSD service support teams should not schedule planned outages and changes during the first or last weeks of instruction, finals or grading week of the academic quarters, or during other significant campus events or key dates.

Production means university staff, faculty, and users depend on the service to complete business and academic tasks and objectives.
TSD treats major upgrades to a service as projects outside the scope of a weekly maintenance window.

1.7. Communication Process for Unplanned Outages
When an ITU service experiences an outage, slowdown, or problem of any kind, our goal is to return it to regular operation quickly and to reduce the inconvenience to our customers by providing clear, concise information to the people who are affected, regular updates about the status of the service, and notification when the problem is resolved. Our current method for notifying customers is via an ITU Alert, which sends an e-mail notification to the ITU-ALERTS-L listserv and posts the information to a website.

1.7.1. Benefit of Managing Unplanned Outages
Whenever possible, IT manages unplanned outages and changes to provide consistent information to customers, support, and technical groups about service outages and change events.

1.7.2. Initiating the Communications Process for Unplanned Outages
When an ITU service is unexpectedly disrupted, the ITU Support Center is usually made aware of the outage by a customer, the Data Center because of a monitoring alert or by the ITU team responsible for the service being affected. An ITU Alert is posted within 15 minutes of the start of an outage and a resolution ITU Alert is sent when the ITU Support Center receives notification that the service has been restored. If there is an extended outage, an updated ITU Alert may be sent.

1.7.3. Technical team members’ responsibilities:
- At the start of the disruption, provide ITU Support Center the following information:
  - Description of what service is disrupted (i.e. network; server; application; voicemail; etc.)
  - What is being done (i.e. engineers are investigating; hardware is being replaced, etc.)
  - Who is impacted (i.e. department; building; campus; all campuses; etc.)
  - When service is expected to be restored, if known
- Provide status update every 90 minutes
- When the issue is resolved, provide the ITU Support Center the following information:
  - Description of the problem and how it was fixed
  - Who was impacted (i.e. department, building, campus, all campuses, etc.)
  - If additional work will be done, explanation of when and the impact (i.e. weekend maintenance to replace a part, etc.)
- Alternatively, the technical team member may write up their own resolution message and send to itualert@gmu.edu to be sent and posted

1.7.4. ITU Support Center responsibilities:
- At the start of the disruption,
  - Notify Data Center, if they are not already aware
  - Gather information about the outage from the technical team
  - Send generic ITU Alert within 15 minutes of notification of the outage
  - When necessary, gather more information from customers and provide to technical team
  - If high call volume, update upfront message on the ACD system
  - If high call volume, create Whiteboard in SDE, add incidents to it as customers call
- If the outage is impacting the entire university and/or is expected to last for an extended period of time, escalate to appropriate ITU management.
- If the disruption lasts more than 4 hours, follow-up with the technical team to get an update to determine if another ITU Alert should be sent or the issue should be escalated
- When the issue is resolved,
  - Gather information about the resolution
  - Write and send ITU Alert based on information provided
  - Notify customers, close incidents; close Whiteboard if one was opened
  - Remove upfront message

1.7.5. **ESCALATION PROCESS**

1.7.6. **TU Support Center responsibilities – escalation process:**
- During business hours, if no notification is received from the Technical Team within 90 minutes, the Support Center will escalate to the Manager of the Technical Team.
  - If no response after another 90 minutes, Support Center will escalate to Director of Technical Team.

1.7.7. **Data Center responsibilities – escalation process:**
- During non-business hours, if no notification is received from the Technical Team within 60 minutes, the Data Center will escalate to the Data Center Manager who escalates to the appropriate managers. If no response is received from the appropriate managers in 15 minutes, the Data Center Manager escalates to the Director.

1.7.8. **Data Center responsibilities – escalation process:**

*Insert a link to the process flow diagram (process flow IT communication for an outage.vsd)*

1.8. **Continuous Process Improvement**

As part of IT’s commitment to continuous process improvement, the Outage Review and Analysis committee (ORAC) is responsible for the periodic review of IT communications effectiveness.

Every two weeks, or as needed, ORAC meets to review and analyze Service Desk Express trouble ticket related data collected over the period under review, as well as communications delivery issues from other sources. ORAC also reviews the findings of the IT Root Cause Analysis (RCA) committee that investigates and determines the cause of outages documented in SDE when root cause cannot be initially determined.

The committee notes exceptions to documented communications processes and any other communication impacting issues uncovered during the review period. The committee reports the results of its analysis to the Executive Director of TSD who reviews, then passes the items requiring action to the Architectural Standards Committee, or other IT group for issues resolution.

- [Process Flow - ITU Communication for an Outage v01-5](#)