Incident Report - September 19, 2016
Incident #2016-166
SSO - uApprove Database Outage

Summary
On the morning of September 19, 2016, users that attempted to navigate to select production single sign-on (SSO) protected websites, which utilize the Shibboleth user consent module (and require users to accept a terms of use agreement) were being presented with an error page, which was generated by the Shibboleth IdP. The following error message was displayed:

“Error Message: Could not get JDBC Connection; nested exception is java.sql.SQL Exception: Connections could not be acquired from the underlying database!”

The MySQL database was restarted, and connectivity was re-established from the Shibboleth IdP servers to the user consent database. This action was completed by about 9:35 am on September 19, 2016. A notification was created and published to our user base just after the service was restored.

Impact
The following SSO protected sites that utilize the user consent module were not available:

- Lynda.com
- Concur - Expense Reimbursement System
- Libauth.com
- smithschoolofbusiness.freshservice.com
- Open Science Data Cloud
- Scholar's Portal
- Simply Voting
- Theisabeltickets.universitytickets.com
- Library QSpace

Root Cause
The database reached its maximum number of connections, which prevented any new connections from occurring.
Resolution
The MySQL database was restarted, and connectivity was re-established from the Shibboleth IdP servers to the user consent database. This action was completed by about 9:35 am on September 19, 2016. A notification was created and published to our user base just after the service was restored.

Communications (Internal)
Internal communication was completed in-person amongst the ITS Middleware team members.

ITSSPP Communications (External)
An ITS Notification was issued during the incident using the ITS Notification Tool, which posted a message on the ITS website and sent email to the ITAdmin Representatives.

Lessons Learned
As a part of the IdP version 3 upgrade, we will be moving the user consent database to a monitored MySQL instance. In addition, with v3, users will be prompted to give consent again but will still be able to access affected sites in the event of any future issues with the consent database.

Action Items
The current uApprove database will have its configuration examined in order to mitigate further issues. When the database is migrated to a Linux VM for the Shibboleth IdP version 3 upgrade, its status will be monitored.