Maintaining PJM Tool Availability

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2 Separate Approaches

Concurrent Sessions

- Limit the number of concurrent authenticated sessions (tokens)

Usage Rates

- Limit the request rates against the PJM tools

www.pjm.com
Concurrent Sessions - Implementation Options

1. Deny access
   • 26th attempt is unsuccessful

2. Invalidate next expiring session
   • Session with longest inactivity time is destroyed on 26th attempt

3. Invalidate oldest session
   • 1st created session is destroyed on 26th attempt
Concurrent Sessions - Implementation

• October
  – Begun connecting with users
  – 10/24 - Implemented in Train

• November
  – 11/29 – Implementation delayed
Usage Rates - Process

Start monitoring  Throttle data transfer*  Generate daily report  Notify client managers  Contact affected users**

* Whenever a user goes over the maximum request rate, the response will be an http-503 error
** We will contact affected users when we are able to identify them
• Any request rates that go over published rate will have data transfers throttled.
• The impact of throttling will be a response code of HTTP-503 instead of the expected data during the monitoring window.
• The window starts from the instant the first request is served and is not a clocked window.
• Every request in excess of the configured rate will be throttled by getting no data.
• On a daily basis our system will provide a report to our client managers
• Client managers will reach out to users in cases where IP addresses can be tied to usernames (due to accessing other tools)
• The reaching out is to inform folks that they were impacted by the throttling system.
• Once implemented, if you have questions, please call your client manager and provide the exact error you’re seeing – it will help determine if you’re being throttled by the system or not.
• The initial implementation will be targeted at:
  – http://oasis.pjm.com/
    • drate.html
    • impact.htm
    • linesout_new.txt
    • projload.txt
    • system.htm
• The monitored rate will be 10 requests per half second instead of the initially published 1200 per minute.
• November
  – Working to implement an automated solution to manage usage for oasis.pjm.com

• December
  – Seek to implement on December 15th for oasis.pjm.com only