



Maintaining PJM Tool Availability

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Concurrent Sessions

- Limit the number of concurrent authenticated sessions (tokens)

Usage Rates

- Limit the request rates against the PJM tools

1. Deny access

- 26th attempt is unsuccessful

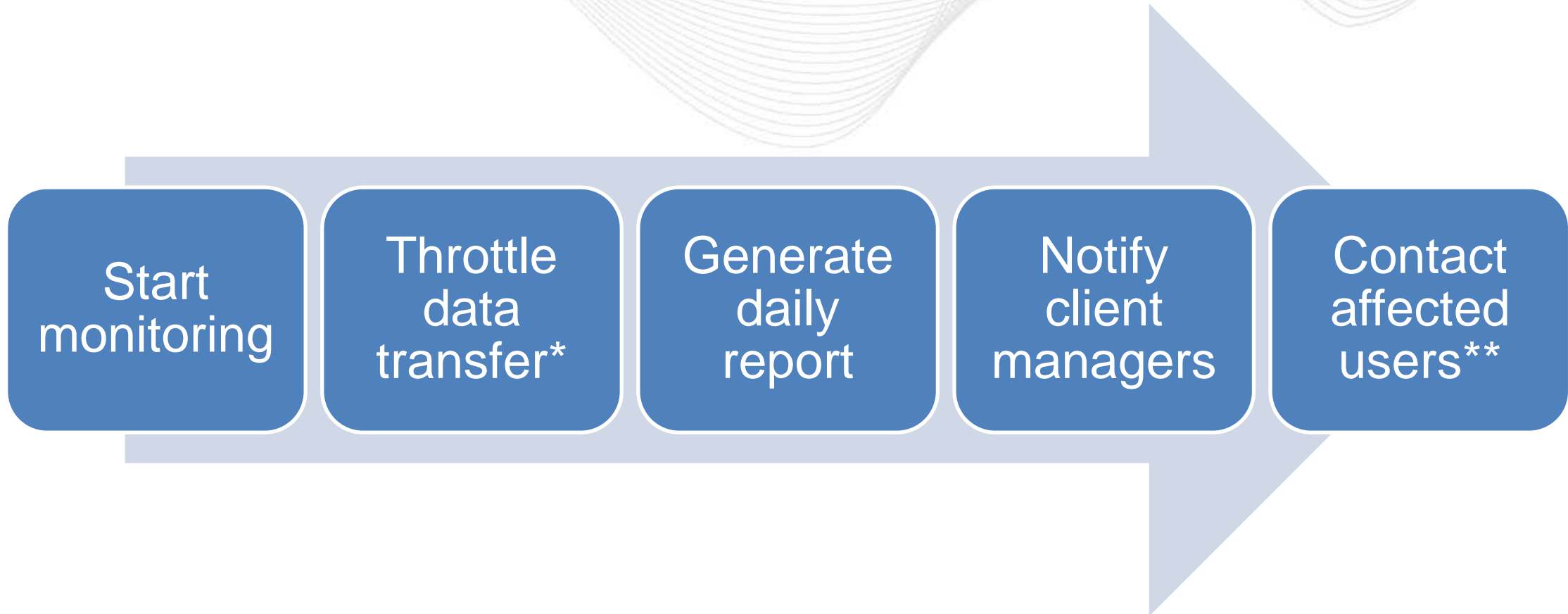
2. Invalidate next expiring session

- Session with longest inactivity time is destroyed on 26th attempt

3. Invalidate oldest session

- 1st created session is destroyed on 26th attempt

- October
 - Begun connecting with users
 - 10/24 - Implemented in Train
- November
 - 11/29 – Implementation delayed



* 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

- Monitoring will be for a request rate of 20 requests/second over a 10-15 second rolling window.
- Any request rates that go over 20 requests/second will have data transfers throttled.
- The impact of throttling will be a response code of HTTP-503 instead of the expected data
- Once the system's monitoring window has cleared, data transfer will resume

- 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.

- **November**
 - Working to implement an automated solution to manage usage for oasis.pjm.com
 - Targeting 20 requests per second (as opposed to 1200/min)
- **December**
 - Seek to implement on December 15th for oasis.pjm.com only