






Tools Security Product Roadmap

As of October 18, 2016

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | | |
|--|-----|-----------------------|-----|-----|-----|-----|--------------------|-----|-----|---------------------|----------------------------|--------------------------|--------------------------|-------------------------------|
| System ID / UI Restriction | | | | | | | Train: July 12 | | | | | | | |
| Legacy Tool (SSO) <ul style="list-style-type: none"> eCredit eRPM MSRS OASIS | | Train: February 9 | | | | | | | | | Prod: eCredit Nov 7-11 | Prod: eRPM Nov 14-18 | Prod: MSRS Nov 21-23 | Prod: OASIS Nov 28- Dec 2 |
| Tools Switchover to Milford Datacenter (Markets Gateway, ExSchedule, Emergency Procedures, PCLLRW, Account Manager) | | | | | | | | | | Prod: October 4 | Prod: November 9 | | | |

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|-----|-----|-----|-----|-----|-----|-----|-----|--|---|---|--|
| Geo-Location Security | | | | | | | | | Train: September 29  | Prod: October 20  | | |
| Multi-Factor Authentication (Account Manager > CAM's) | | | | | | | | | | | Train: Late November  | Prod: Late December  |
| Active Tool Sessions – Max 25 sessions | | | | | | | | | | | Prod: November 21  | |

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|-----|-----|--|-----|--|-----|-----|-----|-----|-----|-----|-----|
| Multi-Factor Authentication (Tools > Users) | | | Train: Target End of March  | | Prod: Target mid-May  | | | | | | | |
| System ID / UI Restriction | | | Prod: Target End of March  | | | | | | | | | |



Upcoming Changes - Access Control

| Access Control Feature | Sandbox/Training Availability | Preliminary Production Availability |
|--|-------------------------------|-------------------------------------|
| Account Manager – Single User Multi Account (SUMA) | August 30, 2016 | September 8, 2016 |
| Tools – Single User Multi Account (SUMA) | Q2 2017 | Q3 2017 |

Overview:

Single-Sign-On capability assigned to a registered Company Account Manager (CAM) that combines all accounts under one primary account to perform account management for their user base across all sub-accounts for which they manage.

Customer Impact:

(2016) CAM's must submit Designation Form B/B1. PJM CAM's manage setup and SUMA account management.

Contact:

AccountManager@pjm.com for setup and additional information



Upcoming Changes - Access Control

| Access Control Feature | Sandbox/Training Availability | Preliminary Production Availability |
|------------------------|-------------------------------|-------------------------------------|
| Geo-Location Security | September 29, 2016 | October 20, 2016 |

Overview:

In an effort to enhance security on the authentication methods used to access PJM tools, the Geo-Location security feature will notify users via email when logging in from outside U.S. and Canada. The email notification will instruct the user to contact their CAM to lock the account, change their account password, or terminate the account if login was not performed by the user.

Customer Impact:

No impact. Users should ensure the email address on their account profile is accurate.



Upcoming Changes - Access Control

| Access Control Feature | Sandbox/Training Availability | Preliminary Production Availability |
|---|-------------------------------|-------------------------------------|
| SSO Migration for Legacy Tools (eCredit, eRPM, MSRS, OASIS) | February 9, 2016 | Full implementation December 2016 |

Overview:

In an effort to enhance security on the authentication methods used to access PJM tools, legacy tools will be secured with the latest Single Sign-On solution.

Customer Impact:

No impact. No changes to browserless authentication



Upcoming Changes - Access Control

| Access Control Feature | Sandbox/Training Availability | Preliminary Production Availability |
|--|-------------------------------|-------------------------------------|
| Account Manager – (MFA) Multi Factor Authentication | November 2016 | December 2016 |
| Opt-In for Users/Tools – (MFA) Multi Factor Authentication | Q1 2017 | Q2 2017 |

Overview:

In an effort to enhance security on the authentication methods used to access PJM tools, an email with a one-time password (numeric ID) will be received by CAM's upon login to the Account Manager tool with user credentials. The one-time password must be entered in order to gain access to the tool. The one-time password will be stored on a maximum of 2 devices and expire after 90 days.

In 2017, this will be expanded and made optional to all user accounts and tools.

Customer Impact:

(2016) CAM's must supply valid login credentials and one-time password (numeric id) received in email to gain access to the Account Manager tool. CAM's should ensure the email address on their account profile is accurate. (2017) Expanded to all users/tools.



Upcoming Changes - Access Control

| Access Control Feature | Sandbox/Training Availability | Preliminary Production Availability |
|----------------------------|-------------------------------|-------------------------------------|
| System ID / UI Restriction | July 12, 2016 | March 2017 |

Overview:

In an effort to enhance security on the authentication methods used to access PJM tools, registered System ID accounts will no longer be permitted to access the user interface of PJM tools with the exception of PJM Tools homepage and the 'User Profile' section in Account Manager.

System ID accounts will be utilized for browserless activity only.

Customer Impact:

System ID accounts will no longer have the ability to access PJM refreshed tools UI. If access to UI is required, a new user account will need to be created.