

Tools Security Roadmap

As of July 15, 2020

Revisions



- Updated Impact Details
- Updated Account Manager changes
- Updated Train & Production timelines

Jpjm

Impact Details

Product - Action Required	Dates	Who May Be Affected
 Account Manager Train Associate valid PKI certificates with user account in Account Manager 	September 2020	 CAMs and users of ExSchedule and OASIS
 Train Implementation for ExSchedule & OASIS Obtain valid PKI certificates from approved Certificate Authorities Rewrite Browserless/API authentication code Use PJM provided command line interface (CLI) 	September 2020	 Users of ExSchedule and OASIS 3rd party Vendors for ExSchedule and OASIS Developers of ExSchedule and OASIS Browserless/API code
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2020 Tentative Roadmap

	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sept	Oct	Nov	Dec
PKI for OASIS & ExSchedule	Development and Testing							Troin		Production: TBD		
									Train		_	
Browserless/API		Developm	ent and Te	sting						Train	Productio	on (Opt-In
2 Factor Authentication											· ·	



Initiatives

ExSchedule & OASIS Public Key Infrastructure (PKI)

Browser-less/API 2 Factor Authentication



Background - PKI

- PKI
 - On February 4, 2020 FERC issued an order to comply with NAESB 3.2 changes
 - Implement PKI to provide secure access to
 - OASIS
 - E-Tagging applications (ExSchedule)
 - Existing certificates that meet NAESB requirements will be accepted
 - When:
 - Train: Sept
 - Production: Q4, 2020



Background – Browserless/API 2 Factor Authentication

- Browserless/API 2 Factor Authentication
 - Leverage PKI solution
 - Scope
 - Included: All PJM Tools that are part of Single Sign On and have Browserless APIs
 - Excluded: ExSchedule and OASIS
 - When:
 - Optional in Q4, 2020
 - Mandatory in 2021





- Uploading Certificate
 - User can upload the certificate or CAM can associate certificates with user account from Account Manager PKI Tab

Pending Tasks	Add New User	User Profile	My Company	Search	eDART CDW	
Profile Informati	on Account Acce	ss PKI Certifica	ates			

- CAM has to approve the upload
- Install the certificate on user's browser



ExSchedule and OASIS

- Using certificate
 - On login to ExSchedule/OASIS user will be prompted for certificate

) Submit This Form	×	+								
\leftarrow \rightarrow X \triangle	🔒 sso.test.pjm	.com/access/	oauth2/authorize?	scope=ope	enid&response_type=id_tokenℜ	m=%2F&redirect_uri=	https%3A%2F%2Fe	\$		
Apps 🕥 BSP-07	2 - Daily Res 🔇	Hudson 🔇	Nexus 🚷 CLU	🚯 Buil	Select a certificate			×		
				Select a certificate to authenticate yourself to sso.test.pjm.com:443						
					Subject	Issuer	Serial			
					kumars2		-			
					sunilkumar.rachakonda@pjm.com			L		
					Certificate information		OK Car	ncel		



Browserless/API Changes

- Changes to Authentication process
- Associate certificates with user account from accountmanager PKI Tab
- Authenticate against 'sso.pjm.com/access/authenticate/pjmauthcert' with 2 way ssl connection (mutual authentication) to get a SSO token-id
- Call to Application REST API still same, pass token-id as header

Authentication:

```
curl --request POST --key testcert.key.pem --cert 'testcert.crt:<privatekeypassword>' --header "X-
OpenAM-Username: <sso_username>" --header 'X-OpenAM-Password: <sso_password>'
'https://sso.pjm.com/access/authenticate/pjmauthcert'
```

```
{"tokenId":"<tokenid>","successUrl":"/access/console","realm":"/"}
```

Application REST API



PJM Command Line Interface (CLI)

- New version 1.5.0
- Java version 8 Patch 165 or higher is required
- New user guide will be posted to PJM.COM
- No changes to usage of Application CLI commands
- A new property (below) was added to setenv.cmd file set CERTIFICATE=-r ".pfx/.p12 file_location|privatekeypassword"





https://www.pjm.com/-/media/etools/security/pki-faqs.ashx?la=en