PIC – Next Generation (PIC – NG) - Details

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

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IMS/PIC - Today
PIC-NG – Layered Architecture

- Security
  - Authentication
  - Authorization
- Web
  - Presentation
  - Web Services
- Application
  - Business Rules
  - Workflows
- Data
  - Access
  - Storage
PIC-NG – Security Layer

• Authentication
  – Siteminder
    • Will be challenged first time when trying to access protected resource
    • Infrastructure team is working on enabling Digital Certificates
    • Initial testing will need to use userid/password

• Authorization
  – WASS with roles and actions for that PHA
    • PHA applications will have one role that allows access to all PIC-NG
    • PHA users, roles specific to their job
PIC-NG – Web Layer

• Presentation
  – Angular JS
    • Browser independent
    • Support for modern browsers not just IE
    • Support mobile devices
    • Uses same Web Services

• Web Services
  – JSON RESTful
    • Called directly from PHA applications
    • Called from presentation layer for users
    • All interaction is through Web Services
PIC-NG – Application Layer

• **Business Rules**
  – Rules engine, ability to share the rules
  – Database functions, called from rules engine

• **Workflows**
  – Ensure business processes have automated workflow
  – HUD and PHA users know the status of a process in the lifecycle
PIC-NG – Data Layer

• Access
  – Database Procedures and Functions

• Storage
  – Entity Attribute Value model
  – Temporal
    • Effective to and from (ability to maintain history)
    • Valid/ to and from (during what time period did we believe this information to be accurate)
PIC-NG – 50058 Submissions

• PIC-NG Version 1.0
  – No changes to the 50058
  – TRG for batch submissions does not change
  – Improvements can be made in the 50058 streaming process
  – TRG to cover all 50058 related web services
  – No plans to ‘end of life’ batch submissions
  – Synchronous validation

• PIC-NG Version 2.0 (Ideas)
  – Improvements to 50058 data fields submitted
  – Phase out of batch processing
  – Relax fatal errors to absolute minimum
PIC-NG – 50058 Submissions

• Batch
  – Screen to upload 50058 files
  – Web Service to upload 50058 files
  – Multiple 50058s at a time
  – Convert file formats to JSON
  – Each 50058s extracted and processed by streaming web service

• Streaming
  – Web Service to upload single 50058 – synchronous
  – Initial format/consistency checks – asynchronous
  – Business rules checks
  – Database updates
PIC-NG –TRG

• What is needed
  – JSON format – RAML for all Web Services
  – Rules from rules engine
  – Rules by action type
  – Security requirements
  – Submission identifier
  – Household Identifier
  – Household Member Identifier
  – Synchronous web services – how long is too long to wait
  – Submission status
  – Error messages by rule
  – Break existing rules into multiple atomic rules
PIC-NG – Unique Identifiers

• Household
  – Return a Household Identifier for a new admission

• Household Member
  – Return a random identifier unique to a SSN for each member
  – Are check digits needed

• Streaming allow submission of existing information or new identifiers?
PIC-NG – Void / Correction

• Void
  – Store information based on 50058 effective dates
  – Submit a 50058 to fill the ‘hole’
  – Assume prior 50058 carries forward
  – What happens if there is an error now in the subsequent 50058 information

• Correction
  – Allow just the field(s) corrected to be submitted
PIC-NG – Data Conversion

• Initial IMS/PIC to PIC-NG
  – Existing IMS/PIC information has ~ 15% errors
  – REAC will/is correcting known errors
  – Day one information will be taken from IMS/PIC

• On going
  – PHAs need a way to ensure HUD and PHA data in sync
  – By household, by building, by development
PIC-NG – Open Discussion

?
PIC-NG

Questions or Comments?
Please email PICNG_REAC@HUD.gov
https://pic-ng.slack.com/