

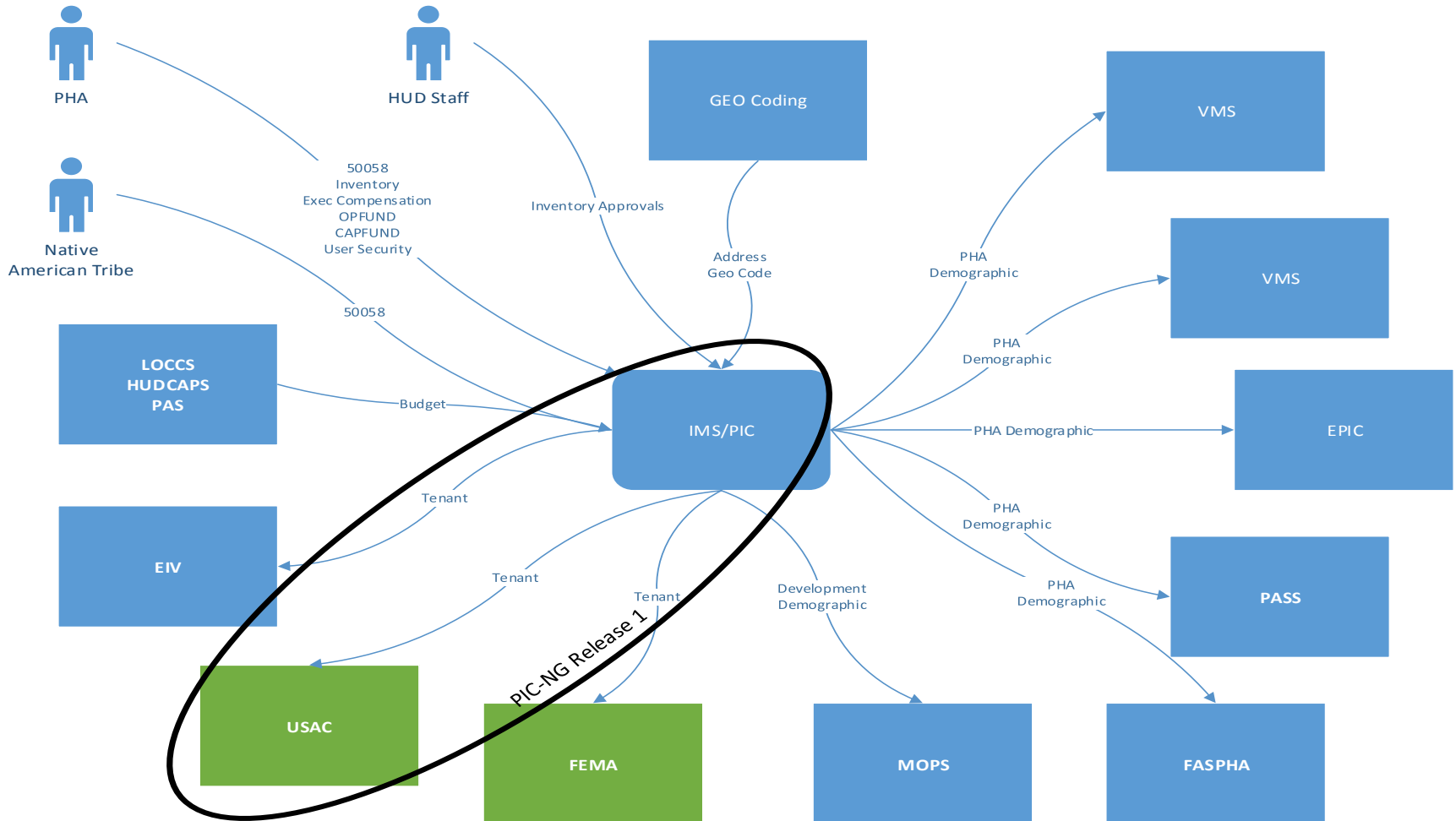
# PIC – Next Generation (PIC – NG) - Details



**U.S. DEPARTMENT OF HOUSING AND URBAN  
DEVELOPMENT**

**Industry Day - April 2017**

# 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?

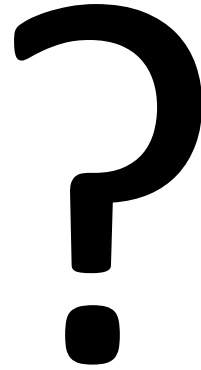
# PIC-NG – Void / Correction

- 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 know 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](mailto:PICNG_REAC@HUD.gov)

<https://pic-ng.slack.com/>

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