

PIC – Next Generation (PIC – NG)



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

October 2016

PIC-NG

What?

- PIH Information Center- Next Generation
- Updates PIC: PIH's inventory management center

Why?

- Long-standing PIC issues cannot be fixed due to system incompatibility
- Modernize processes and technology
- Allow system flexibility for changing HUD programs
- Failure of PIC rated as one of PIH's top 5 risks in FY15

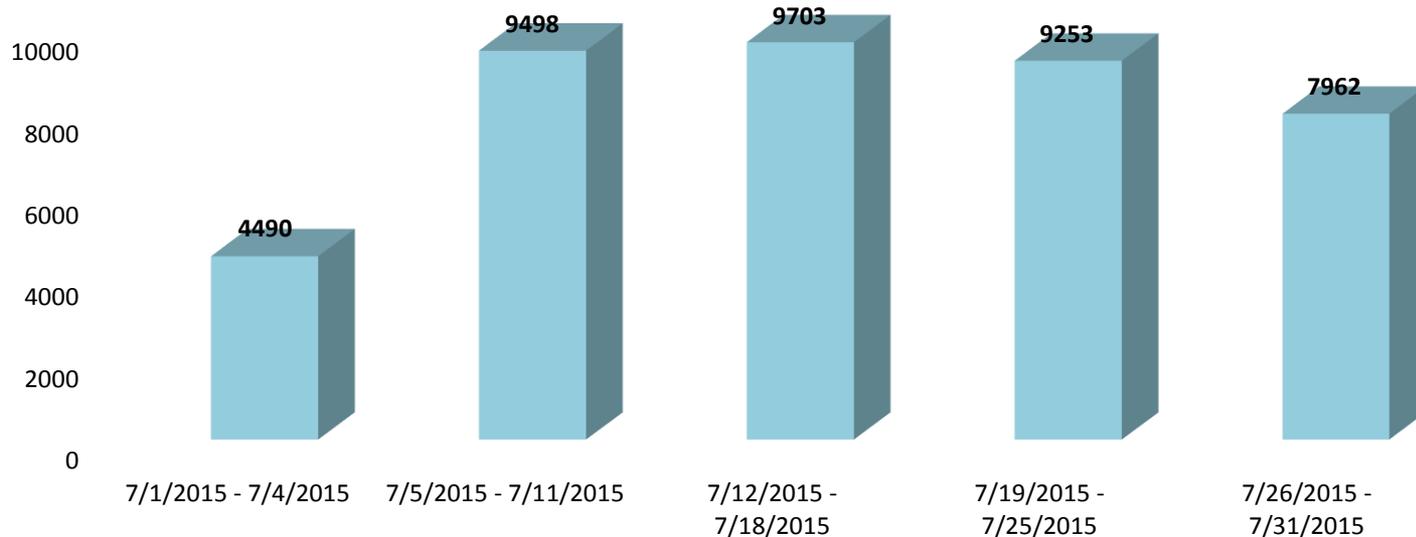
Who?

- Developed by PIH in-house developers using agile development methodology
- Designed by stakeholders including PHAs, vendors, business areas, and field representatives

Who Uses PIC and How Often?

PIC Users	Number of Active User Accounts
HUD Users (Includes HUD staff, Contractors and Super Users)	4,250
PHA Users	44,200

Unique Logins



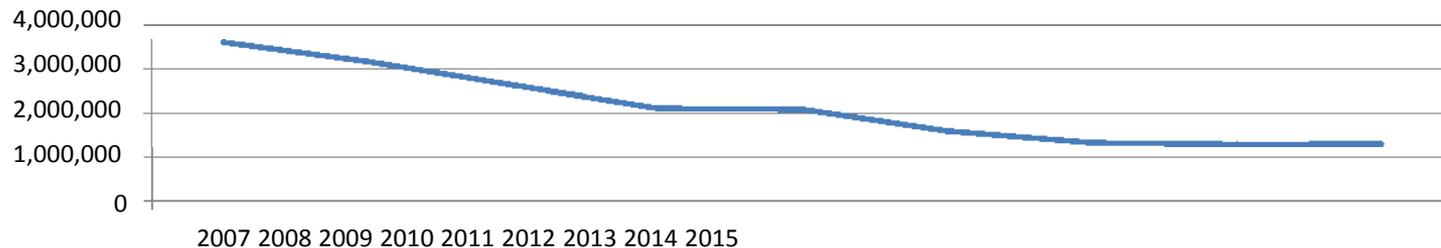
PHA Issues with PIC/IMS

- PHAs interact with other parts of HUD and the US government
- Many PHAs use **multiple vendors** to run their properties, often due to mixed-finance
- Form 50058 error correction takes an average of 1 hrs./error- costing approximately **1.3 million hrs./yr.**
- In 2016, 10 days below 80% availability, and PIC was only 96% available
- Voiding records in PIC/IMS has a significant effect in the accounting portion of PHA software
- Not all tenants have a social security number
- Some **gaps exist** in the vendor software for PHA actions in PIC
- PHA applications may capture **information not transmitted** to PIC/IMS
 - Reasons for moving out
 - HUD form HUD-52517 Request for Tenancy Approval

PHA Submissions to PIC/IMS

Year	Total 50058 Forms Submitted	Total Fatal Errors	Total Warnings	% 50058 Forms with Fatal Error	% 50058 Forms with Warnings
2007	10,417,014	3,606,616	1,048,866	35%	10%
2008	9,759,365	3,160,684	871,756	32%	9%
2009	9,514,043	2,638,590	549,381	28%	6%
2010	9,421,047	2,114,538	812,347	22%	9%
2011	9,306,925	2,094,005	796,742	22%	9%
2012	9,280,068	1,602,990	619,064	17%	7%
2013	8,929,610	1,336,168	559,469	15%	6%
2014	8,974,355	1,301,845	471,221	15%	5%
2015	8,766,618	1,305,453	458,401	15%	5%

Fatal Errors



70% Section 8 – 30% Low Rent Public Housing

PHA's IT vendors efficiency has been a major factor in reducing fatal errors and warnings

HUD Issues with PIC/IMS

PIC/IMS application developed in 1999-2000

- Does not conform to Enterprise Architecture standards
- Costly to maintain, requires different developer skill set

No enhancements to PIC since 2007

- 300+ outstanding enhancements requests

Burdensome to PHAs to provide accurate information

- No validation of information prior to submission
- Contract with vendors to support PIC/VMS input often required
- Batched data along with fatal errors creates heavy administrative burden
- Enter VMS data manually, 30 days behind schedule, and is duplicate data

No system design flexibility to accommodate change

- Program Funding
- Rental Assistance Demonstration
- Changing reporting requirement

PIC-NG Solution

- Creates a **common submission approach** of HUD required information for PHAs
- No upload denial (**no fatal edits**) – Dramatically decreases PHA administrative burden
- **Simplified user access**, removes need to align PHA application security with PIC-NG application security
- PHA users work in their own systems and information is streamed to HUD
- **Ease of data correction**, removes PHA accounting issues
- PHA staff can focus on the **mission** of assisting tenants rather than trying to provide information to HUD
- PHAs are the single data source for tenant and physical inventory information

PIC-NG Approach

Stakeholder involvement

- More than 90% of PIC information comes from PHAs

Software development partnership between REAC and OCIO

- OCIO Infrastructure, Enterprise Architecture, and Information Security
- REAC Federal software development team
- Cloud application
- Layered architecture to prevent vendor software lock in

Development methodology

- AGILE- Incremental software delivery with increasing functionality
 - Sprints produce something useful every two weeks
 - Iterative nature allows for changing requirements
 - Allows for more stakeholder involvement
 - Increased flexibility

PIC-NG Progress

Agile Scrum

- REAC IT is working on a 2-week sprint schedule
- Currently on Sprint 18 of process

Building the Foundation

- Infrastructure setup and Web Services for 50058 submissions
- Configure Pilot Environment
- Develop Security approach
- Develop web application using web services and Java Script

Put up the walls

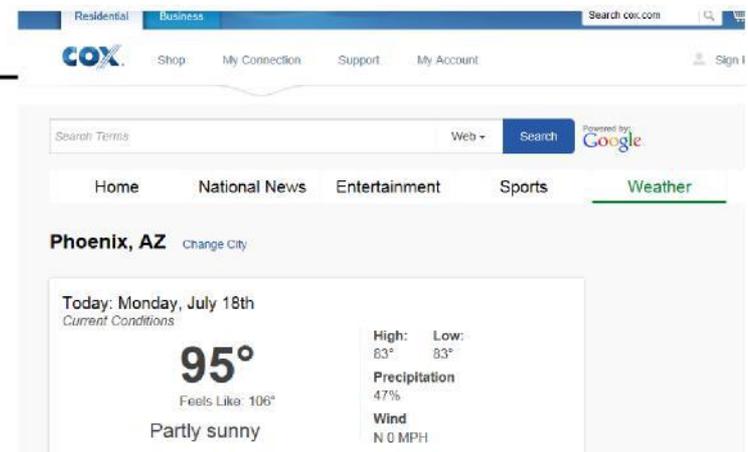
- Incorporate business requirements and processes
- Increase functionality



PIC-NG Proposed Data Submission

- Share Business Rules with PHAs
- Integration with PHA vendor applications allow distributed applications
- Each PHA vendor software can have different interfaces based on their users specific role and needs
- Industry standard interfaces
 - Weather: <http://openweathermap.org/API>
 - Twitter: <https://dev.twitter.com/rest/p>

of them endorse.



A screenshot of the COX website's weather page for Phoenix, AZ. The page features a navigation bar with 'Residential' and 'Business' tabs, a search bar, and links for 'Shop', 'My Connection', 'Support', and 'My Account'. The main content area shows the current weather for Phoenix, AZ, with a temperature of 95°F, a high of 83°F, a low of 83°F, and 47% precipitation. The page is powered by Google.

High:	Low:
83°	83°

Precipitation
47%

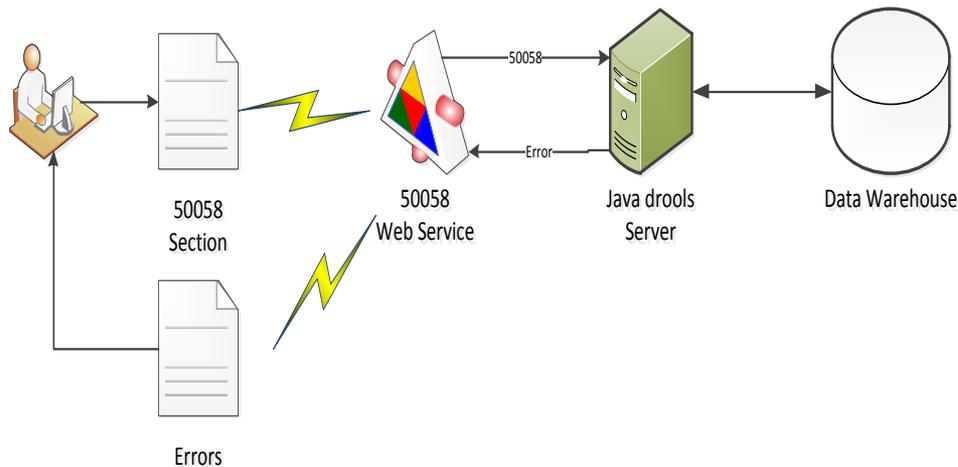
Wind
N 0 MPH

Synchronous and Asynchronous

Synchronous

50058 validation – while completing 50058

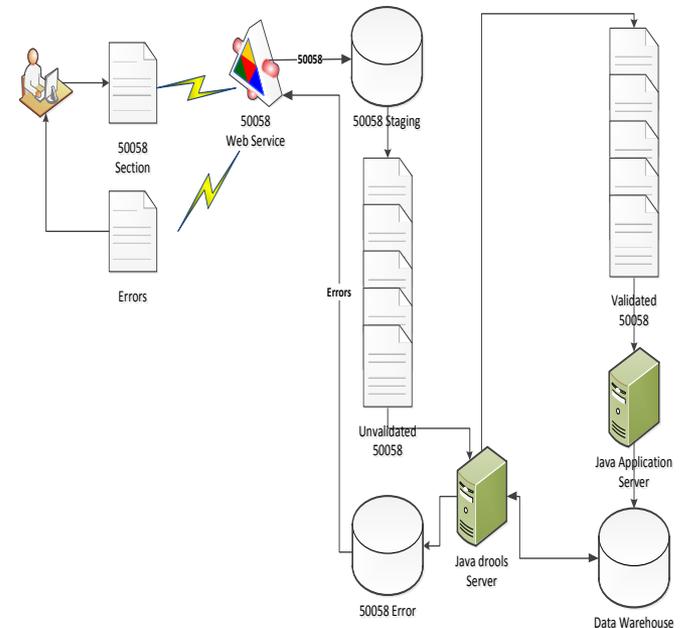
Validate each section/portion of the application



Asynchronous

50058 validation – when 50058 submitted to HUD

Submit to a queue and back ground processes later



PIC-NG Roadmap

	Current State	June 2016	December 2016	March 2017	June 2017	September 2017
Business Functionality	<ul style="list-style-type: none"> • PHA Pilot • 50058 streaming • Business to Government Security 	<ul style="list-style-type: none"> • ONAP VASH • 50058 file • 50058 validation • Tenant Reporting • PII Minimization • Tenant Validation • Connect Home 	<ul style="list-style-type: none"> • Section 8 Only PHAs • 50058 streaming • 50058 file • 50058 pre validation • 50058 validation • Tenant Reporting • PII Minimization • SEMAP 	<ul style="list-style-type: none"> • Section 8 Only and Combined PHAs • 50058 streaming • 50058 file • 50058 pre validation • 50058 validation • Tenant Reporting • PII Minimization • SEMAP 	<ul style="list-style-type: none"> • All PHAs • 50058 streaming • 50058 file • 50058 validation • 50058 pre validation • Tenant Reporting • PII Minimization • SEMAP • Low Rent Inventory • Demolition Disposition 	

Next Steps

Preliminary testing of the web services and security protocols

- 9 PHAs contacted to assist in initial testing
- Will minimize overall impact to user community
- Enhance ability to manage error tracking and correction

First phase: Test transmittal of 50058 Section 1,2 and 4 using a secure and encrypted web service

Second phase: Parallel transmittal of the full 50058 using the web services and submitting the 50058 in PIC to test for:

- No loss of records
- Data transmitted without corruption
- Error messaging works and is user friendly
- Metric to measure time saved using the Web Service

What does the future hold?

After the tenant information is conquered we then will turn to the rest of PIC-NG

- SEMAP submittals
- Building and unit changes
- Removals form inventory
- Reports and Business intelligence

Check PIC-NG site for more information about development and future calls

http://portal.hud.gov/hudportal/HUD?src=/program_offices/public_indian_housing/systems/pic/pihinfoctrnextgen

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