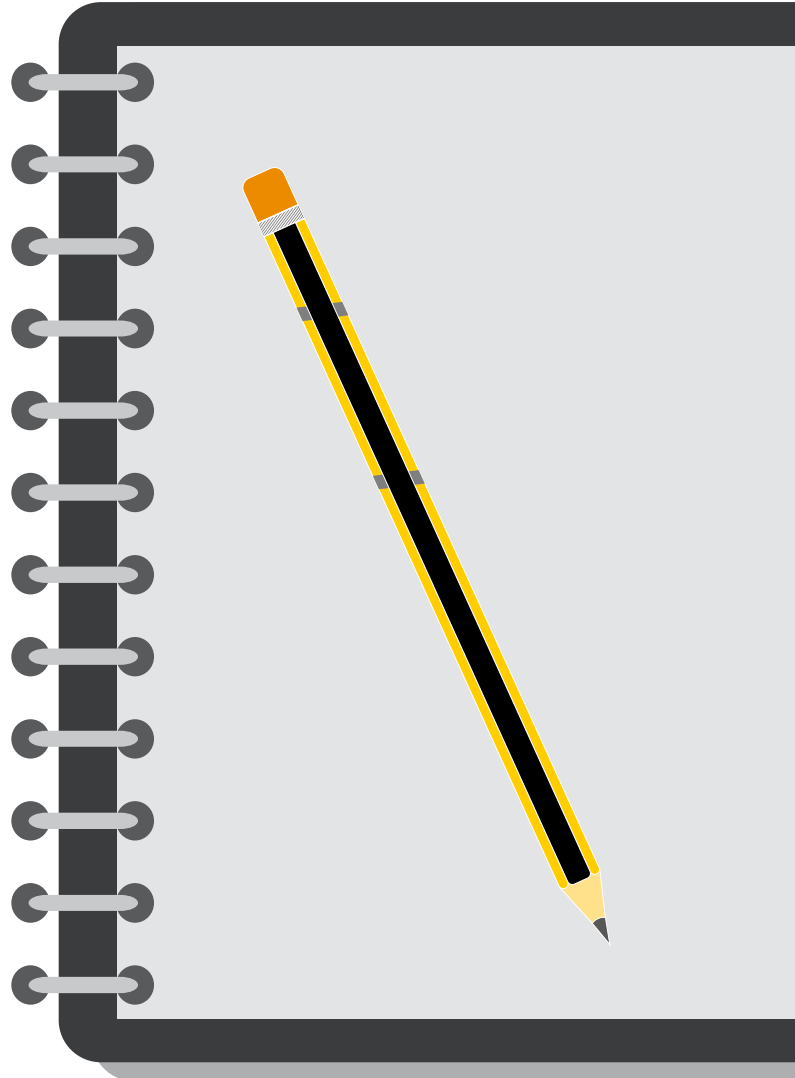




Today's Topics



1 Replatforming/Refactoring

- **Replatforming** is moving from one base technical platform to another (e.g. Mainframe to Cloud)
- **Refactoring** is translating code for improved maintainability, efficiency, or to prepare for further modernization
- There are many strategies for each, including manual recoding, emulation, and the use of automated tools.
- **Automated refactoring** is the newest, most cost effective, and lowest risk approach being used to full refactor and replatform systems today.

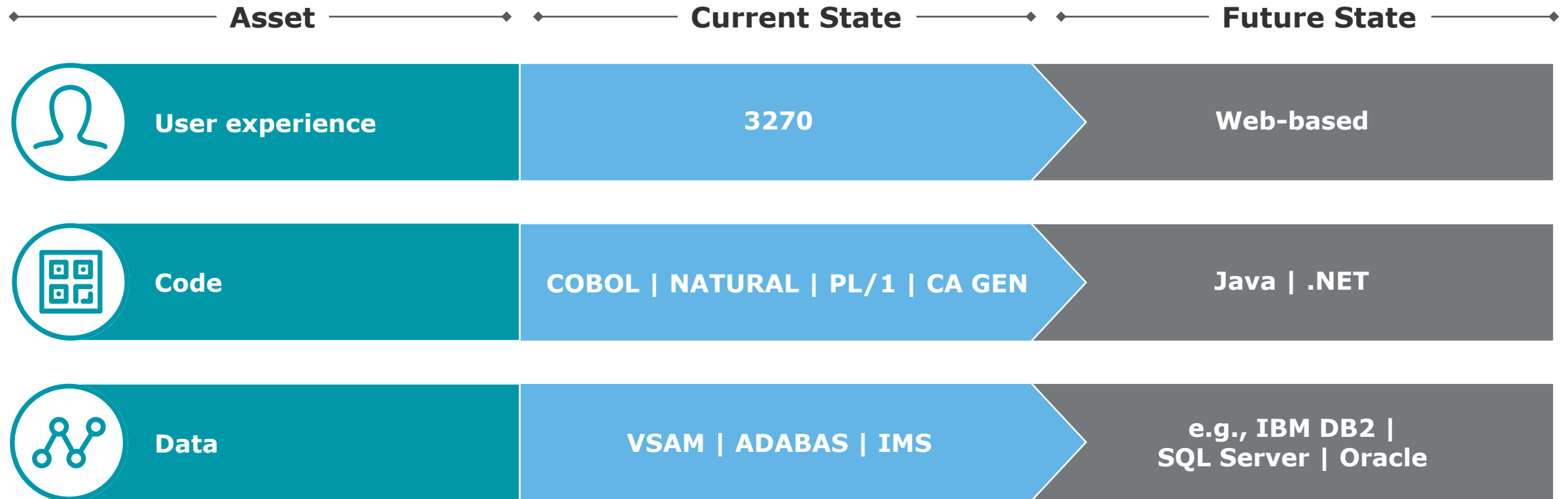
2 Low Code/COTS

- **Low Code** refers to building applications by configuring pre-built components, rather than writing custom code
- **COTS** is Commercial Off-the-shelf software, which can be purchased from the marketplace with proven components
- **Low Code COTS Platforms** like Salesforce and SAP provide complete, enterprise-grade technical platforms used by thousands of organizations around the world, with mature, robust tools for low code Child Support systems development

Automated Refactoring

Refactoring

Functional equivalence of the migrated system is achieved using code and data conversion tools.



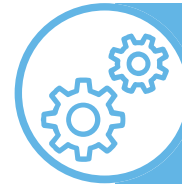
Typically, the automated refactoring projects take 16 to 20 months from start to go-live.

Why would a state choose the refactoring approach?



Business Drivers

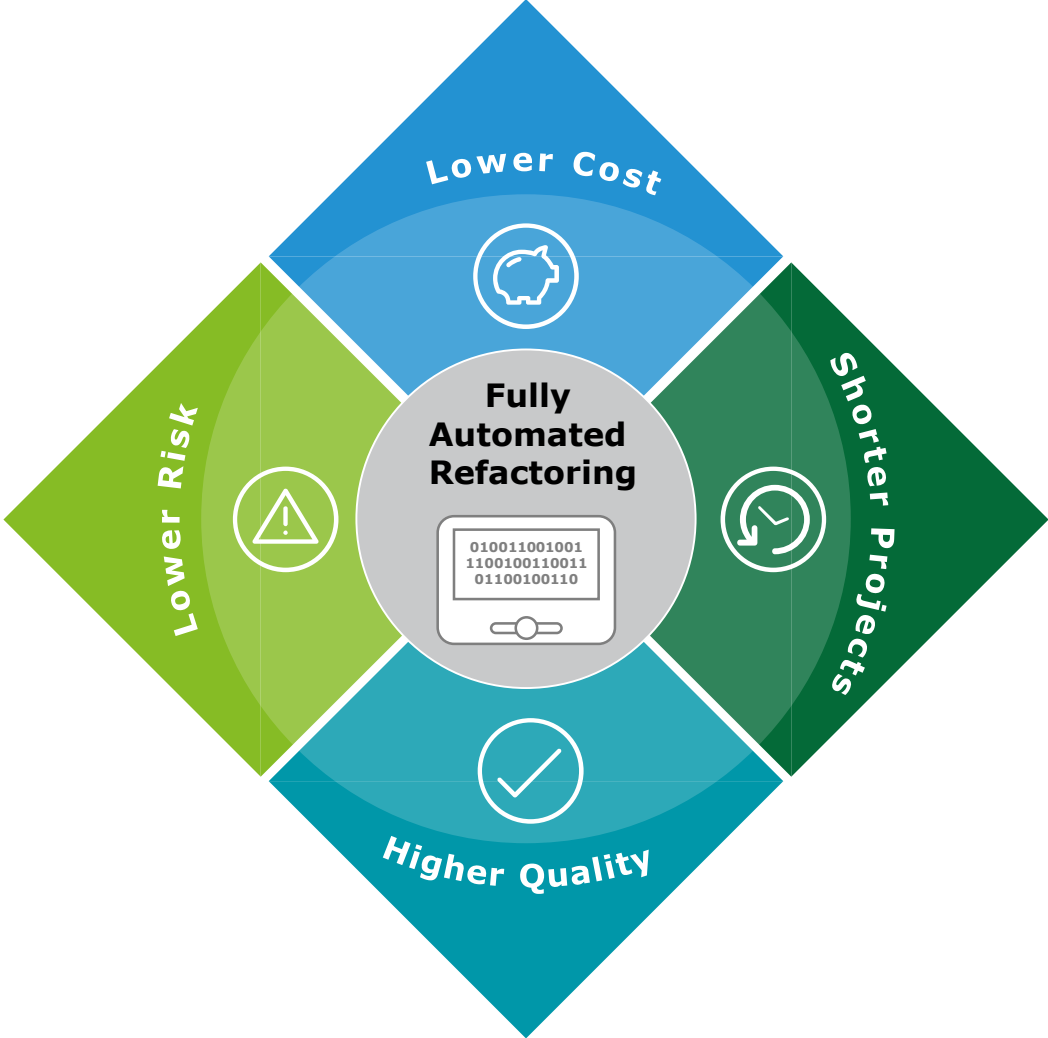
- Functional equivalence
- Minimum impact to people and operations
- Increase speed of receiving feature changes



Technology Drivers

- Rising maintenance and platform costs (e.g., mainframe)
- Inability to scale and expand systems
- Brain drain and difficulty finding resources to maintain old systems
- Lack of automation

Why automated refactoring?



Benefits of automated refactoring

- No code freeze** State agency continues to make changes to the existing system during the project execution **1**
- Interfaces stay as-is** Existing interfaces are not impacted e.g., no change in file formats and frequency of data exchanges **2**
- Role-based security stays as-is** Existing role based security functionality is migrated **3**
- Minimal training needs** Users require minimal training because the new system works the same way (e.g., screens and batch jobs) and is functionally equivalent **4**
- No manual coding** Eliminates human errors inherently involved in manual refactoring and recoding **5**

What is the output of automated refactoring?

Current

```
DOCKET LIST
TEAM: [ ] STATUS:
STATUS DOC
CD DATE TYPE OBLIGOR NAME OBLIGEE NAME CASE NBR /COURT WORKER
07/03/2018 INIT JOHNSON ROBINSON 1244780000 810076
SCREEN/FORM I.D.: KEY:
```

Automated Refactored

DOCKET LIST

TEAM: STATUS:

| CD | DATE | TYPE | OBLIGOR NAME | OBLIGEE NAME | CASE NBR | /COURT | WORKER |
|--------------------------|------------|------|--------------|--------------|------------|--------|--------|
| <input type="checkbox"/> | 07/03/2018 | INIT | JOHNSON | ROBINSON | 1244780000 | 810076 | |
| <input type="checkbox"/> | | | | | | | |
| <input type="checkbox"/> | | | | | | | |
| <input type="checkbox"/> | | | | | | | |
| <input type="checkbox"/> | | | | | | | |

SCREEN/FORM I.D.: KEY:

CLR PA1 PA2 PA3

5 things to consider in choosing the approach

Automated Refactoring



1. Don't rely on manual or partially automated code conversion because it's not one for one
2. Engage in conversation with other states that have embarked on a Automated Refactoring based implementation
3. Manage end user expectations e.g., look and feel of user interfaces
4. Engage users and stakeholders along the way from beginning of the project
5. Define a roadmap for modernization and prioritize based on what is most relevant and important for users and stakeholders

Application Modernization in action: Child Support Services



Faster Implementation

The project was completed in just 18 months—without data loss or code freeze



Retains Look and Functionality

Refactored application retains the interface and functionality of the legacy system

| | | | |
|---|------------------------------|-------------------------------|---|
| Department of Health and Welfare | | | |
| 1.7M Lines of code | 1,100+ Screens | 500+ Batch Jobs | 50 Interfaces 180GB Adabas Files |



Ready for the Future

The department is now set to use flexible tools to take advantage of essential technologies like cloud, mobile, and analytics



Lower Operating Costs

No need to support the legacy application and mainframe trims costs

1.7 million

Lines of Code
Refactored

The department now plans to build new applications and capabilities on top of its modern digital foundation

Application Modernization in action: State Child Support System



Faster Implementation

Quickly sync with the new modernized system without data loss and business disruption



Minimal Risk

Reduced risks by using an iterative deployment and minimal change impact to the organization

| | | | | |
|----------------------------------|---------------------------|-----------------------------------|-------------------------------|--|
| 600 System Users | | | | |
| 1.4M Lines of code | 800 Screens | 2,000 JCLBatch Jobs | 8,000+ Programs | 250 Interfaces 500GB Adabas Files |



Incremental Modernization

1:1 automated transformation to a distributed future state architecture



Costs Savings

Lower spending on maintenance, development of new services, and regulatory compliance

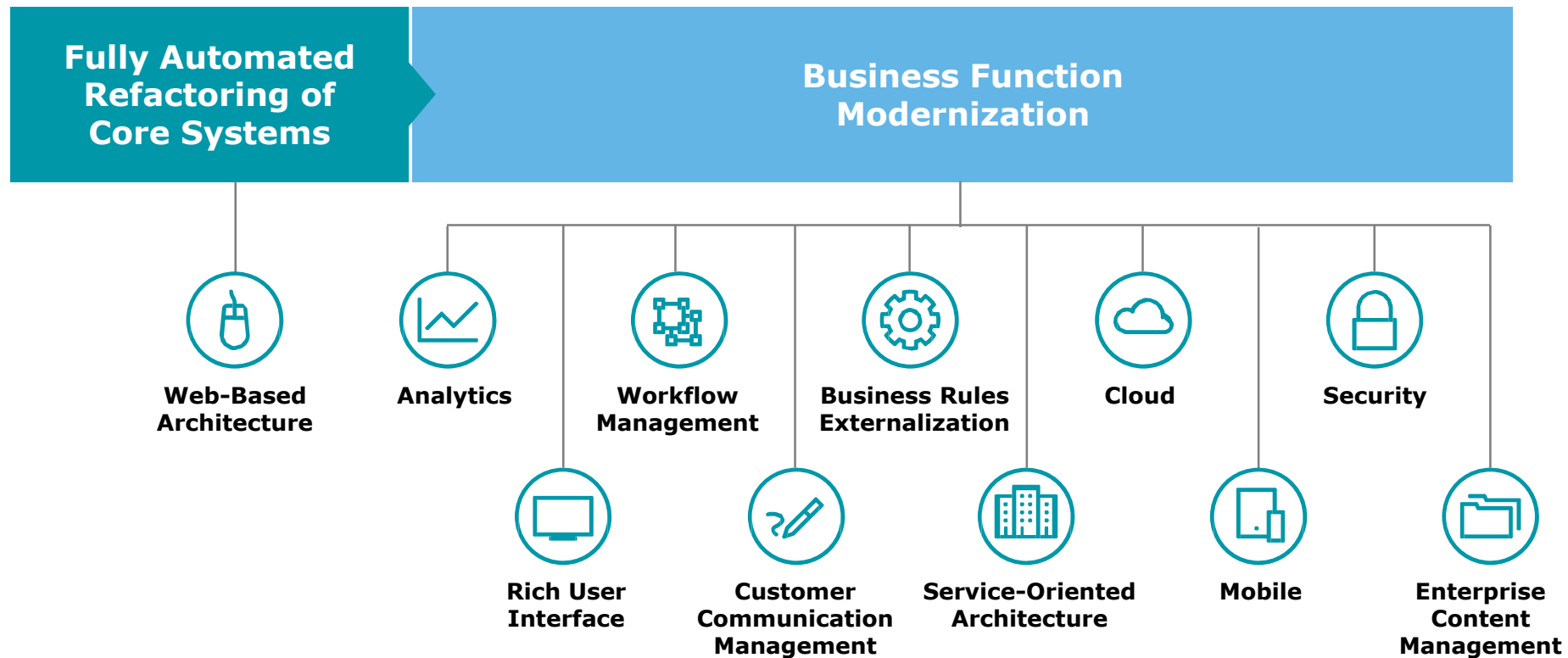
1.4 million

Lines of Code
Refactored

Our incremental approach enabled the agency to efficiently automate migration of the child support system to a server-based Java platform

Automated refactoring – The road to modernization

Refactoring enables modernizing business functions and driving innovation into other components of a Child Support system.



Low Code/COTS

What is the Low Code/ COTS approach?

Multi-Channel User Experience



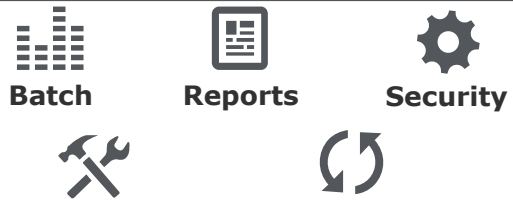
Mobile Tablet Desktop Laptop

Configured Child Support Service



Locate Enforcement Financials
Case Management Case Intake

Platform-Provided Core Services



Batch Reports Security
Workflows Correspondence

Enterprise Service Bus

External Services and Partners



The Platform

States can subscribe to rich technology platforms that provide a variety of services "out of the box". Examples include Salesforce and SAP



Configure, Don't Code

Child Support Services are configured using platform components, greatly minimizing the amount of source code that needs to be created, tested, and maintained.



Digital Native

The newest platforms take advantage of the latest advancements in cloud and efficient technical architectures, without requiring State IT to manage these components



Responsive User Experience

Because applications are configuring pre-built UX components, the system is fully responsive to mobile devices and can take advantage of the next generation of interfaces like chatbots, voice assistants, and more



Leverage an Ecosystem

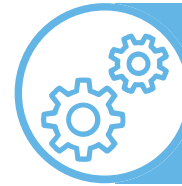
Low Code COTS Platforms are built to be easily connected to other partners and other tools – so you can build the right technology stack for your organization in a modular but well-integrated way

Why would a state choose the Low Code/COTS approach?



Business Drivers

- Modern, friendly user experience for workers and families
- Mobile-Enabled and responsive to all current and future working styles
- Reduce total cost of ownership and increase speed of receiving feature changes



Technology Drivers

- Platform-provided services don't require coding or maintaining
- Off-load mundane operational activities such as upgrades, application of patches, keeping up with security certifications etc., and focus on serving the customer
- Cloud enabled, highly scalable, highly secure and proven technology platform

Screen Shots – Low Code/COTS - Dashboard

GovConnect
Powered by Salesforce

All

★ + ? ⚙️ 🔔

Child Support Enf...
Home
Worker Dashboard
Application Registrations
Intakes
Cases
Locate
Enforcement
Collections
Member Contacts
Benefit Cases
More

Dashboard
Enforcement Case Worker Dashboard

As of Oct 29, 2019 10:03 AM Viewing as Robert Clarke

Open Refresh

Payment Status

Record Count: 95

Payment Status Legend:

- Ontime (Blue)
- 30 days past due (Light Blue)
- 60 days past due (Purple)
- 90 days past due (Light Purple)
- Older (Green)

[View Report \(Payment Status\)](#)

Tasks at a Glance

Record Count: 6

Due Date Status Legend:

- Past Due (Blue)

[View Report \(Tasks at a Glance\)](#)

Enforcement Cases

| Case Number... | Date/Time Opened | Created By | Case Last Modified By |
|----------------|--------------------|----------------|-----------------------|
| 00001053 | 3/18/2019 1:36 ... | Robert Maxw... | Robert Clarke |
| 00001060 | 3/19/2019 8:02 ... | Robert Maxw... | Robert Clarke |
| 00001097 | 7/19/2019 5:16 ... | Yashas Shah | Robert Clarke |
| 00001196 | 9/12/2019 6:18 ... | Robert Clarke | CSE System |

[View Report \(Open Enforcement Cases\)](#)

Tasks at a Glance

| Subject ↑ | Assigned | Due Date Status |
|-------------------------------|---------------|-----------------|
| Create Case for IV-A referral | Robert Clarke | Past Due |
| Create Case for IV-A referral | Robert Clarke | Past Due |
| Create Case for IV-A referral | Robert Clarke | Past Due |
| Modification Request | Robert Clarke | Past Due |
| Modification Request | Robert Clarke | Past Due |
| Modification Request | Robert Clarke | Past Due |

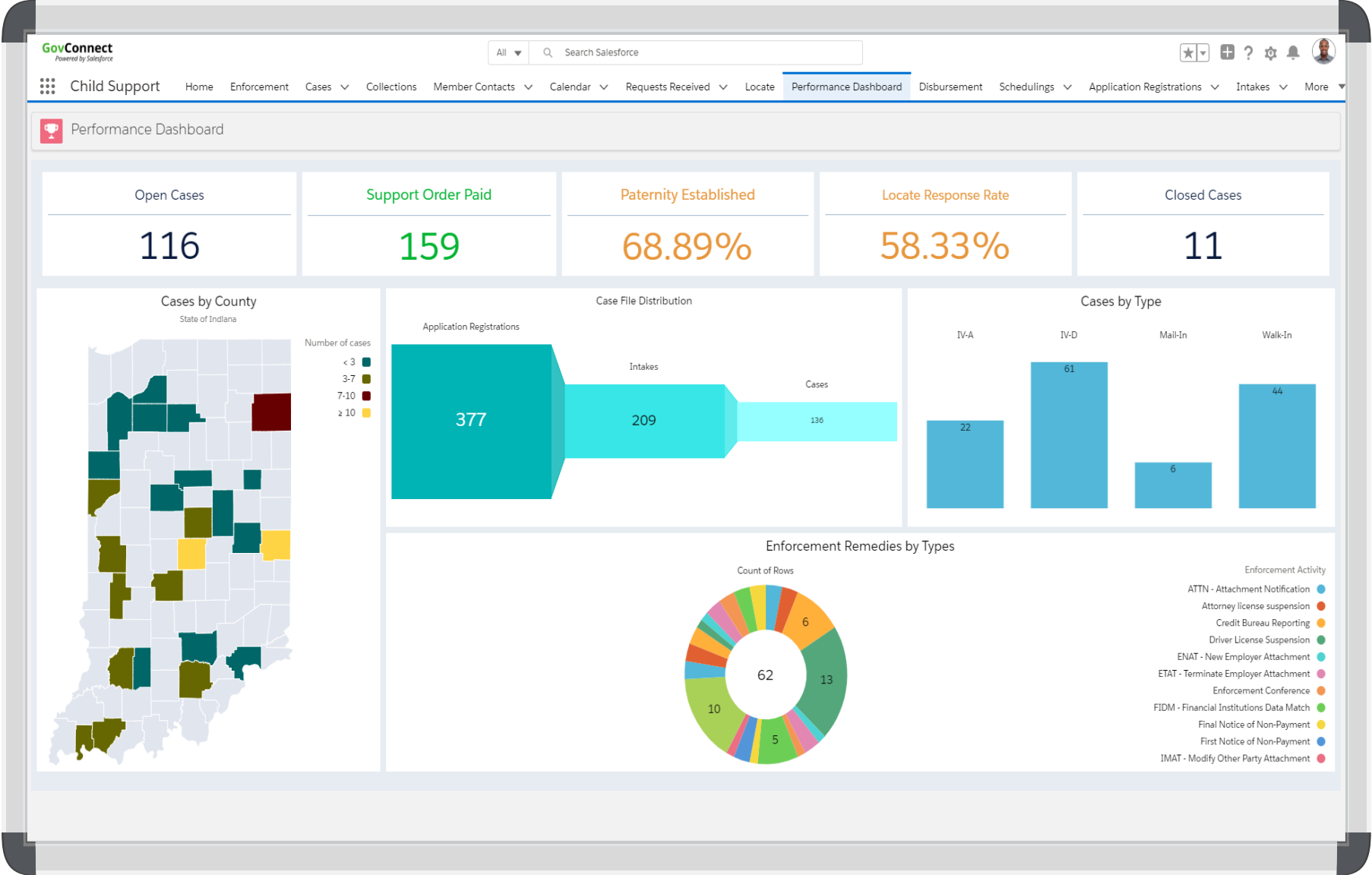
[View Report \(Tasks at a Glance\)](#)

Recent Enforcement Action

| Case: Case Num... | Enforcement Activity | Effective Start... |
|-------------------|--|--------------------|
| 00001179 | First Notice of Non-Payment | 3/21/2018 |
| 00001180 | Manual Account Garnishment | 1/3/2018 |
| 00001182 | ETAT - Terminate Employer Attach... | 1/3/2018 |
| 00001183 | INAT - New Other Party Attachment | 3/8/2017 |
| 00001185 | FIDM - Financial Institutions Data ... | 4/4/2018 |
| 00001189 | Driver License Suspension | 3/21/2018 |
| 00001193 | Attorney license suspension | 1/3/2018 |
| 00001194 | ITAT - Terminate Other Partv Attach | 6/5/2018 |

[View Report \(Recent Enforcement Action\)](#)

Screen Shots – Low Code/COTS – Performance Dashboard



Screen Shots – Low Code/COTS – Participant Financial Overview

The screenshot displays the 'Participant Financial Overview' page for Johnny Vardell in the GovConnect system. The page is divided into several sections:

- Header:** Includes the GovConnect logo, navigation tabs (Child Support, Home, Enforcement, Cases, Collections, Member Contacts, Calendar, Requests Received, Locate, Performance Dashboard, Disbursement, Scheduling, Application Registrations, Intakes, More), and a search bar.
- Member Information:** Member Id # 0000000639, Name Johnny Vardell, Age 30, Gender Male. Action buttons: Contact Summary, New Relationship, Save.
- Details:** Tabbed view with 'Participant Financial Overview' selected.
- Case Balances:**

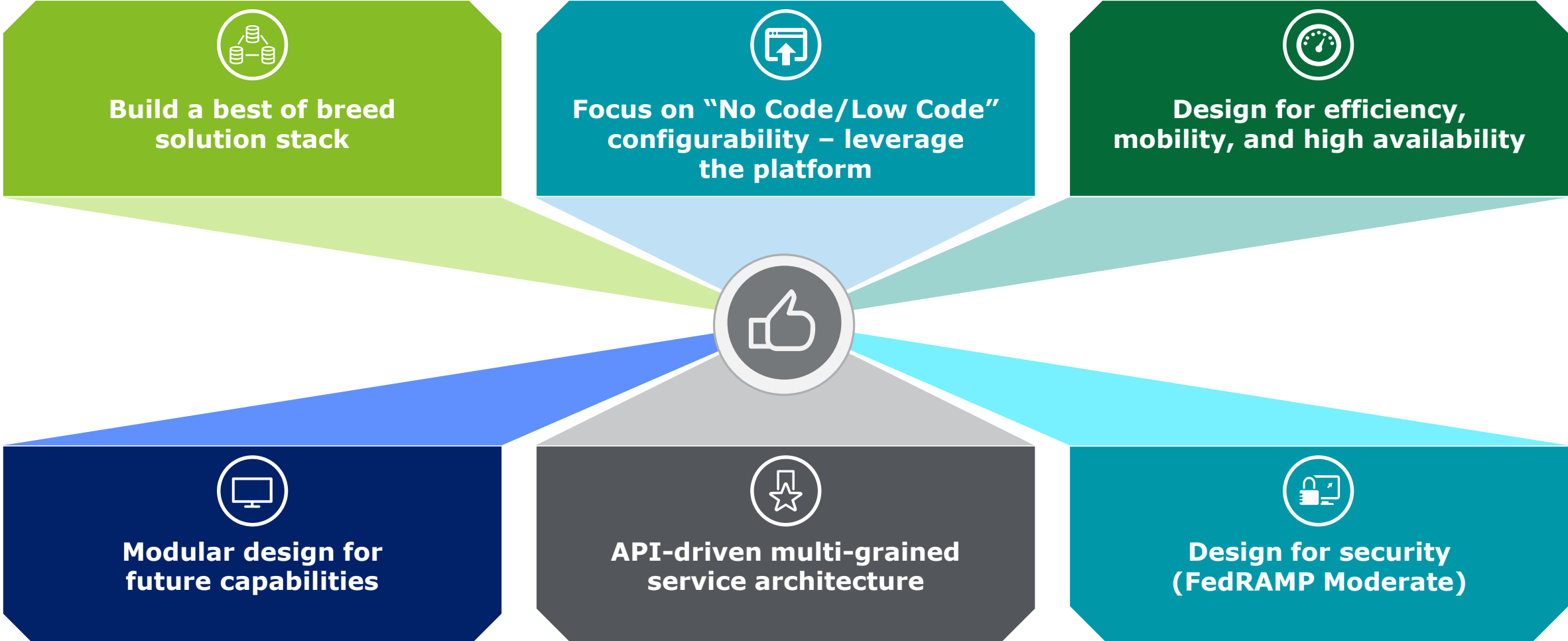
| Case Number | Support Order | Current Balance | Arrears Balance | Case Balance | Payment Plan |
|-------------|---------------|-----------------|-----------------|--------------|--------------|
| 9000000190 | SO-212 | \$540.00 | \$17,216.00 | \$17756.00 | PPL-0038 |
- Payment History:**

| Collection Date | Amount | Case Number |
|-----------------|----------|-------------|
| 06/16/2019 | \$550.00 | 9000000190 |
| 05/25/2019 | \$500.00 | 9000000190 |
| 04/18/2019 | \$300.00 | 9000000190 |
- Income:**

| Income Amount | Frequency | Income Type |
|---------------|-----------|-------------------|
| \$5000 | Monthly | Employment Income |

Generate Pleading Packet
- Profile Card:** Johnny Vardell, Gender Male, Current Age 30.
- Notes & Attachments (3):**
 - Pleading Preparation Packet-2019-10-08 18:11:46.pdf (Oct 8, 2019 - Attachment)
 - Payment-Plan-2019-10-08 18:03:03.pdf (Oct 8, 2019 - Attachment)
 - image (4) (Sep 24, 2019 - 1MB - jpg)
- Case Persons (1):**
 - 000788 (Intake: IN00000361, Case: 00001196)
- Relationships (3+):**
 - R-000044 (Related Contact: Karim Smith, Reciprocal Relationship: R-000045)
 - R-000046 (Related Contact: Kevin Brian, Reciprocal Relationship: R-000047)
 - R-000048 (Related Contact: Daria Murray, Reciprocal Relationship: R-000049)
- Footer:** Notes, Recent Items, Chatter Publisher, Modification Request, Payment Plan.

Low Code/COTS Guiding Principles



5 things to consider in choosing the Low Code/COTS approach

Low Code/COTS



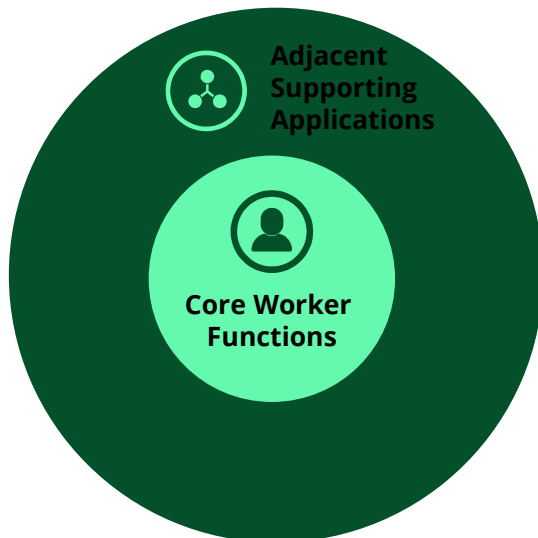
1. Engage in conversation with other states that have embarked on a COTS based implementation in child support and other HHS programs.
2. Engage in conversation with COTS product vendors and implementors to learn about trends in this space.
3. Commit to adapting to leverage the best aspects of a platform
4. Analyze total cost of ownership over time, especially relative to other options
5. Determine if there are other HHS programs within the state that are embarking on this approach – are enterprise efficiencies possible?

Modernization Pathways

Depending on the agency's readiness for modernization, there are different approaches for migrating Child Support systems to a platform, allowing agencies to innovate and transform program service delivery at their own pace to according to their particular business needs.

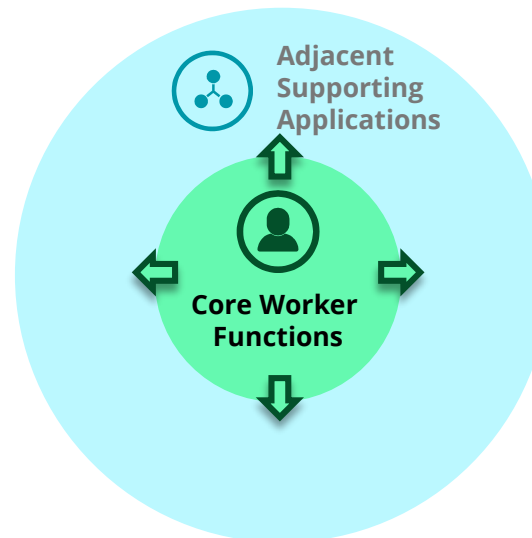
Option 1: Full Application

Agencies ready to modernize all at once can upgrade both the system of record (i.e. core worker functions such as case establishment and locate services) and the systems of engagement (i.e. adjacent supporting applications such as customer/partner portals, intake, and appeals).



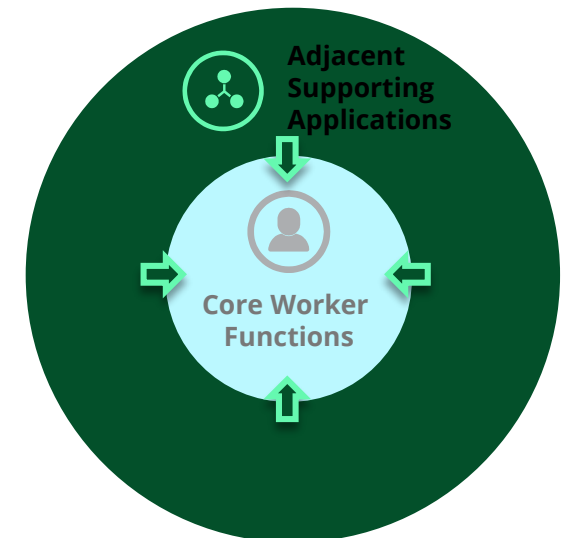
Option 2: Core to Edge

Agencies desiring an incremental modernization approach, whose business needs prioritize modernizing legacy systems of record, can begin implementation with the core worker functions and over time implement the adjacent supporting applications.



Option 3: Edge to Core

Agencies desiring an incremental modernization approach, whose business needs prioritize the systems of engagement, can begin implementation with the adjacent supporting applications and over time implement the core worker functions.





About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (“DTTL”), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as “Deloitte Global”) does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the “Deloitte” name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see www.deloitte.com/about to learn more about our global network of member firms.

Copyright © 2019 Deloitte Development LLC. All rights reserved.