



OPERATIONAL WEDDED BLISS

Marrying the Power of Robotic Automation and BPM Automation for Core Business Successes

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CLAIMS AUTOMATION

How to Improve Auto Adjudication Rates and Claim Quality Outside Oof Your Core Claims Platform with Unattended Process Automation

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Agenda

- UnitedHealth Group Overview
- How UnitedHealthcare leverages Process Automation outside it's core Claims Administration Platform.
- Optum's role in delivering Process automation solutions

Our Mission

UNITEDHEALTH GROUP

Ranked **6th**
of the Fortune 500

\$184.8B
FY16 revenue

Helping people live healthier lives and helping make
the health system work better for everyone



Health Benefits



Health Services

As of Q4, 2016



PEGAWORLD2017

PW
17

Business View

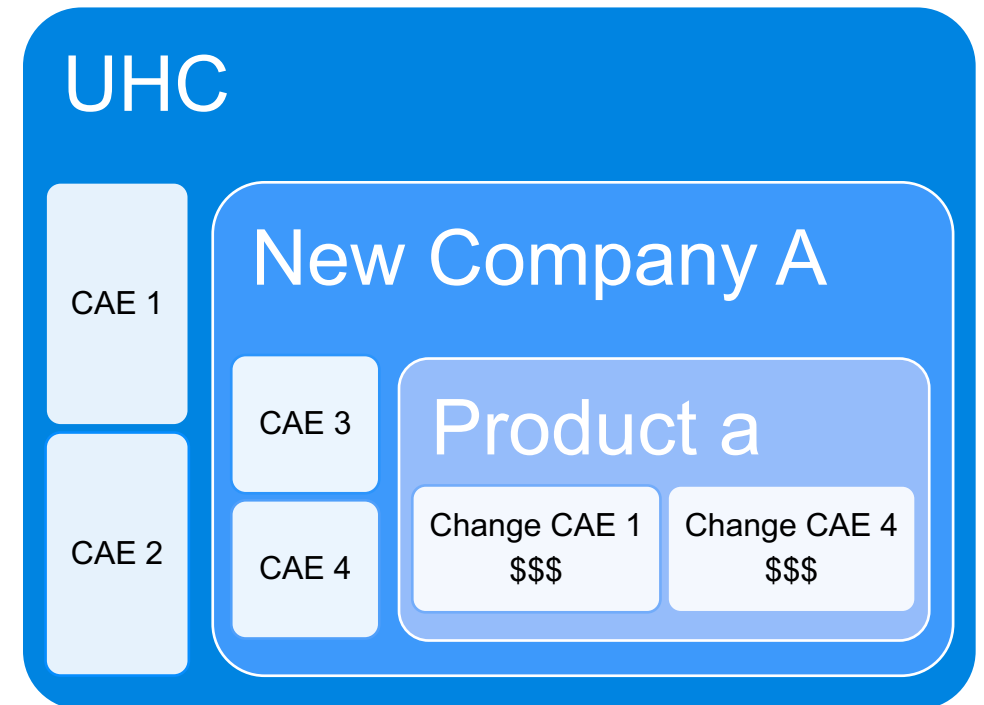
Claim Automation



Business Problem

Why Did UnitedHealthcare Implement Claim Automation Outside Core Adjudication Engines (CAE)?

- Legacy CAEs are large and complex
 - UHC has grown through acquisition and our claim platforms reflect that medley of technology and function
- Changes are expensive
 - And take up to a year to implement (4 technology releases annually)
- Product mix is broad
 - New products are constantly being developed to react to the changing marketplace or are cutting edge and leading
 - CAE changes could not be implemented quickly enough to react to this shifting landscape



Business Vision

Develop Alternative Methods for Non-core Auto Adjudication

- As our business grew – claim volumes grew. As a result, the number of claims processors to manually process claims also grew.
- While core auto adjudication of claims is ideal, robots have shown to be inexpensive and very flexible.
- Our approach to automation is first to evaluate building the automation into (or enhancing) the existing application to achieve full automation. If that is not feasible (most often because of cost) then we explore alternative automation to achieve the same goal.

Claim Adjudication Solutions

Core Auto Adjudication	Auto Non-Core	Manual w/BPM	Manual w/Legacy	Manual w/SAM Edit
<ul style="list-style-type: none"> Core capability to use AA engine to process claims hands-off Consistent focus to ID, develop and implement opportunities that can be automated Assure all existing automation within the Core platforms is being leveraged 	<ul style="list-style-type: none"> Use of non legacy IT capability to process groups of uniquely identified claims Post AA; Pre Manual Reduces multiple hand offs/ touches of claim Increases quality over manual Productivity saves 	<ul style="list-style-type: none"> Frontend BPM (like COMET or Pega) applied to legacy environment Better routing and workflow capabilities Increases quality and efficiency over Legacy Enhanced inventory management 	<ul style="list-style-type: none"> Core Legacy application processing Typical green screen type UI Highly standardized and documented processes Tools supplied to users such as macros, calculators, and KL documentations to improve productivity 	<ul style="list-style-type: none"> Claims ID post processing with potential errors Post claim processing but prior to check Manual review of claim Reduces # of incorrect checks out the door Increases quality



End-User Macros:
(Manual)

Adds efficiency to manual transaction

- Does not require capital funding, quick to produce
- High effort maintenance cost; difficult to measure cost savings

EAS	Robot (ARU)	Droid
<i>Large scale w/"surgical precision"</i>	<i>Large scale initiatives</i>	<i>Small scale projects</i>
<ul style="list-style-type: none"> IT developed/supported (capital funding required) Flexible technology but scalability to address large issues Able to access data from other applications Effective for complex issues addressing multiple pieces and layers of logic and routing Often a permanent solution No manual intervention required Developed in PEGA technology 	<ul style="list-style-type: none"> IT developed/supported (capital funding required) Able to address large scope issues Able to access data from other applications Effective for complex issues addressing multiple pieces of logic Can be a permanent solution No manual intervention required 	<ul style="list-style-type: none"> Business developed/supported (no capital required) Cost/benefit allows for smaller, targeted solutions Narrow scope such as a single policy or benefit Generally applicable for low complexity projects and not permanent solutions Manual claims must be identified via a report and requires FTE to initiate Physical or virtual PC architecture drive lower throughput capability

*There is significant opportunity to **expand usage of these tools to non-supported platforms** to increase business value*



What is ARU and EAS?

- Enterprise Adjudication Service (EAS)
 - Pega Rules Engine
 - IT developed & envisioned as legacy replacement
 - First Pass claims processing
 - Medium-Large scale initiatives addressing multiple pieces of logic
 - No manual intervention required
- Automated Resolution Units (ARU)
 - Originally envisioned to be used as a quality tool, not auto adjudication
 - Evolved into a tool to help with adjustment claims
 - Short-term solution
 - Solutions are single platform based

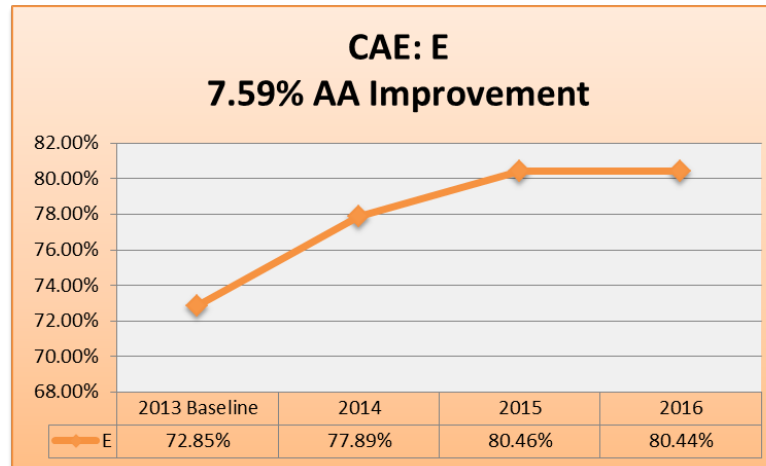
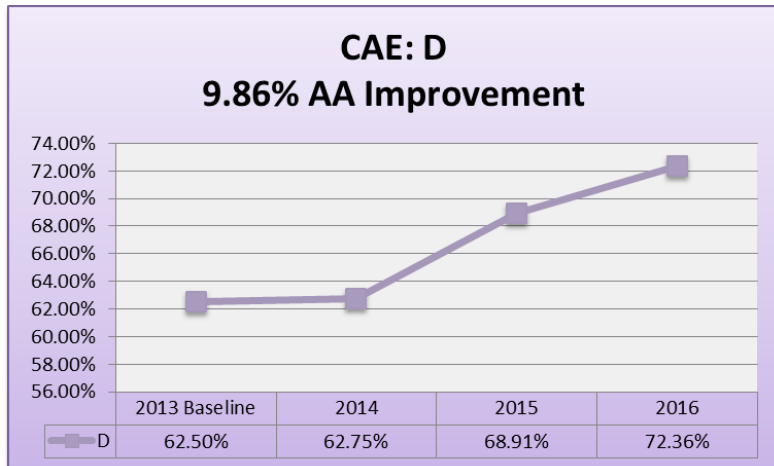
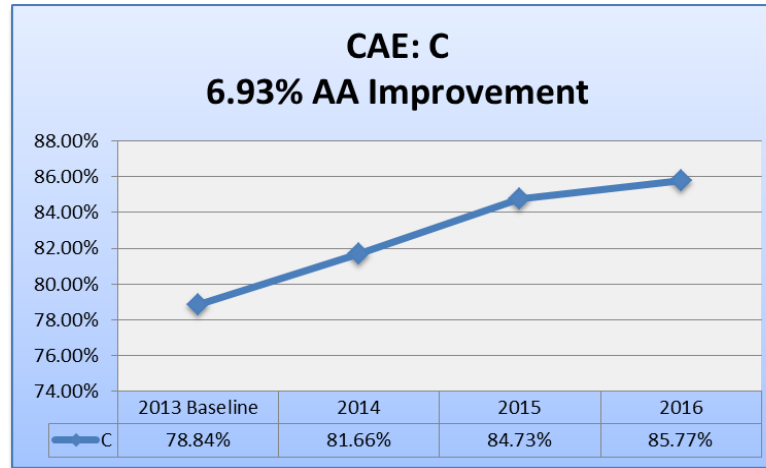
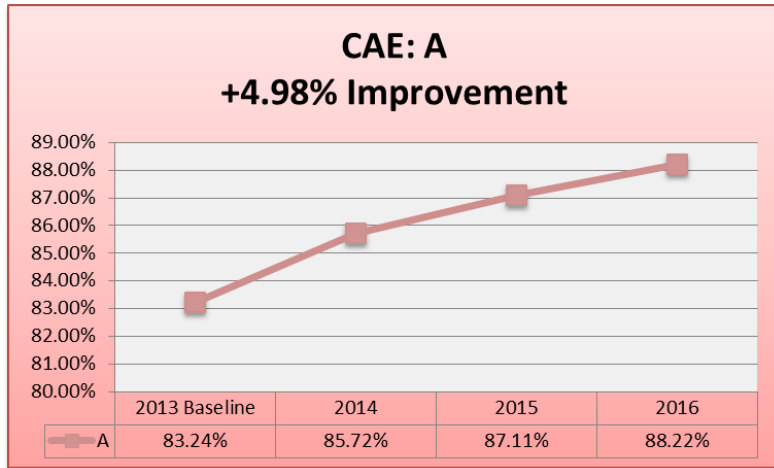
ARU or EAS?:

- Number of platforms impacted
- Volume of claims to be processed
- Business solution prioritization

Validation of Adjudication Integrity (AKA Testing)

Method	Environment	Sample	Impact of Change	Turn-Around Time	Sign-Off
Legacy CAE	Test	Test Claims	Cannot break out only claims that went down "new" path	Requires set up and maintenance	<ul style="list-style-type: none"> • Methodical • Cumbersome • Dependent upon success of other projects being deployed
ARU / EAS	Version of Production	Production Claims	Can compare the claims with the change	TAT is rapid (w/in 24 H) and changes can be made to the code quickly to see impacts	<ul style="list-style-type: none"> • Iterative • Near real time • Business customer can look at each step and the impact on a claim

Business Results



ARU/EAS

- Since 2013, our 4 critical CAE platforms have improved AA rates by 5% - 10%
- > 150M claims were automated by non-CAE automation tools over the past 3 years
- 4.98% increase in overall claim automation during 2014-2016

Business Benefits

EAS / ARU

❑ QUALITY

- Automation increases quality over manual
- Testing is near real time and uses “production” data allowing a higher quality output and reduces re-work

❑ VALUE – External

- Ability to implement change quickly drives value and “helps the health system work better for everyone”
- Improves the “speed to pay” time to providers
- Improves the claim accuracy and communicates co-pay and deductible information to members more accurately

❑ VALUE - Internal

- Highly desired process becomes the “go-to” when business needs a solution quickly
- Productivity savings can be achieved in a shorter time horizon

Technology View

Claim Automation

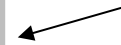


Technology Overview

```

Session A - [32 x 80]
File Edit View Communication Actions Window Help
Edit_Settings Menu Utilities Compilers Test Help
VIEW TSUBFHT.A.COBOL (N5938F07) - 01.01 Columns 00001 00072
Command ==> Scroll ==> CSR
000945 34212H
000946 34212H MOVE F07-C-PRDCT-0FR-ID TO PRF-PRDCT-0FR-ID.
000947 34212H
000948 34212H EXEC SQL
000949 34212H SELECT DISTINCT GTKPR_IND
000950 34212H INTO :PRF-GTKPR-IND
000951 34212H FROM PRDCT_OFR
000952 34212H WHERE PRDCT_OFR_ID = :PRF-PRDCT-0FR-ID
000953 34212H END-EXEC
000954 34212H
000955 34212H EVALUATE TRUE
000956 34212H WHEN SQLCODE = +0
000957 34212H WHEN SQLCODE = +100
000958 34212H CONTINUE
000959 34212H WHEN OTHER
000960 34212H SET REQ-FAILED-SEE-EXP-CODE OF
000961 34212H F5957REQ TO TRUE
000962 34212H SET RQE-UNRECOVERABLE-DB2-ERR OF
000963 34212H F5957REQ TO TRUE
000964 34212H MOVE '21020-G
000965 34212H
000966 34212H MOVE 'GTKPR I
000967 34212H
000968 34212H MOVE 'DB2 ABE
000969 34212H GO TO 00075-A
000970 34212H END-EVALUATE.
000971 34212H
-DSLST ISFPCU41 *DSLST
    
```

COBOL



Rules Configuration



DECISION TABLE UHG-FW-Claims-Data-BenefitTemplate-T003 • AdjudicationTable_Chiro_VisitLimit UHGBenefitTemplate :

Table Results Pages & Classes History

Show Conflicts Show Completeness Edit in Excel

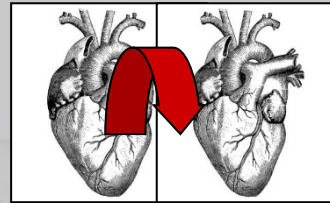
	Conditions				Actions				
	Visit	MCR	Attac		AdjudicationStatus	CARCodeDescription	Adjudication Scope	Processing Status	ReturnID
if	@Check			→				BUS-MAN-MP-047	R001
else if	@Check			→	DENY		Line	BUS-VAL-NOVE-021	R002
else if		@evalua		→				BUS-MAN-MCR-046	R003
else if		@evalua		→				BUS-MAN-MP-047	R004
else if		@evalua		→	PAY		Line		R005
else if		@evalua		→	DENY	"Denied Soft Medical Review"	Line	BUS-MAN-DSMR-025	R006
else if		@evalua		→				BUS-MAN-NOVMCR-049	R007
else if		@Check		→				BUS-MAN-NOVMCR-049	R008
else if		@Check		→				BUS-MAN-MP-047	R009
else if				→	PAY		Line		R010
otherwise				→					

Technology Overview – Enterprise Adjudication Services (EAS)



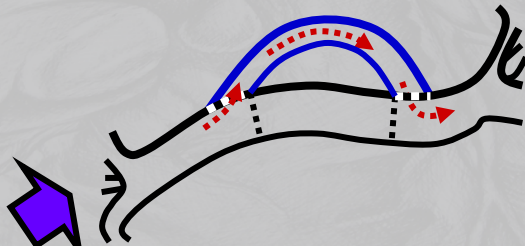
Transplant

Long Term : Permanent



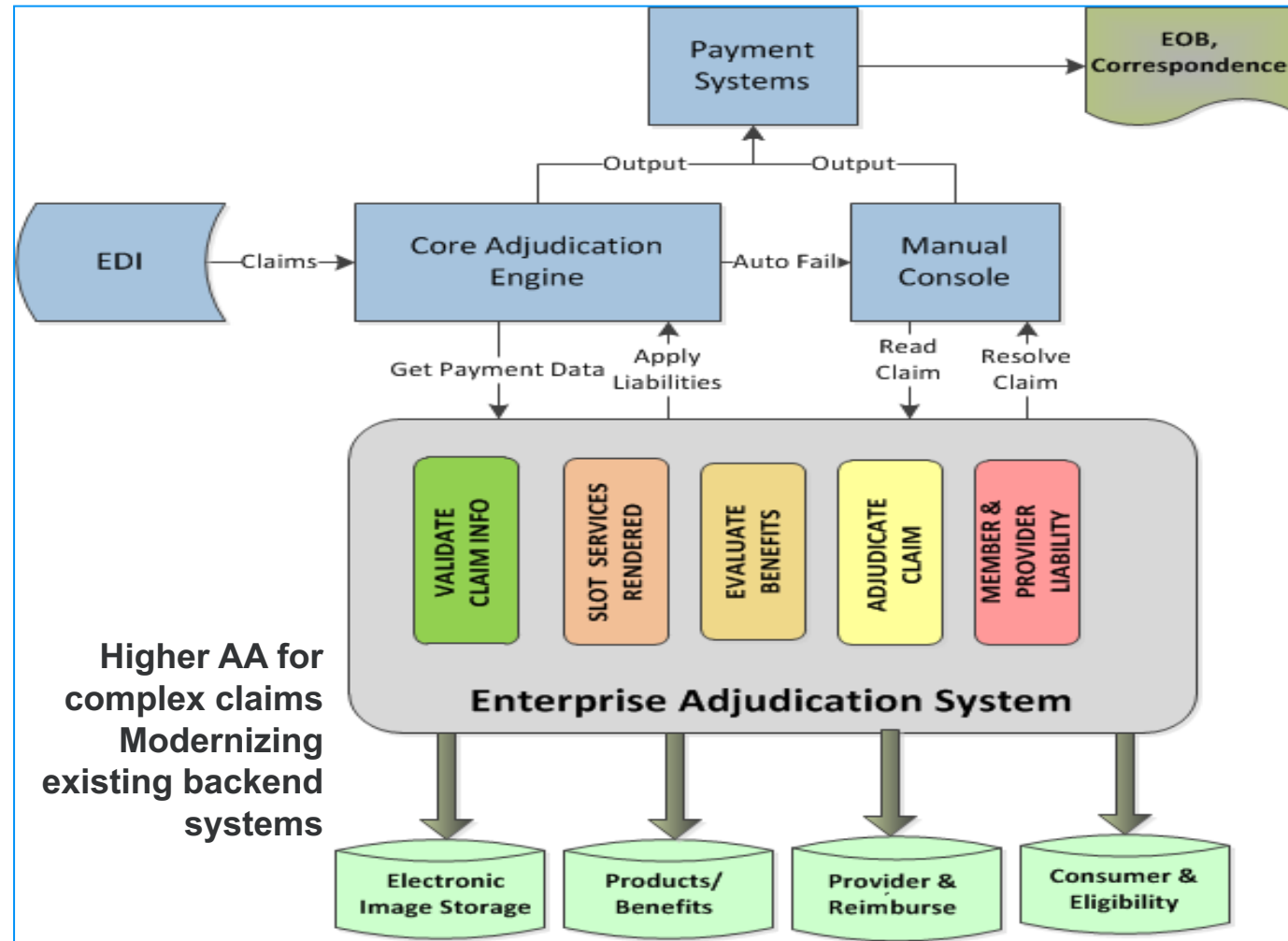
Bypass

Intermediate Term : Temporary

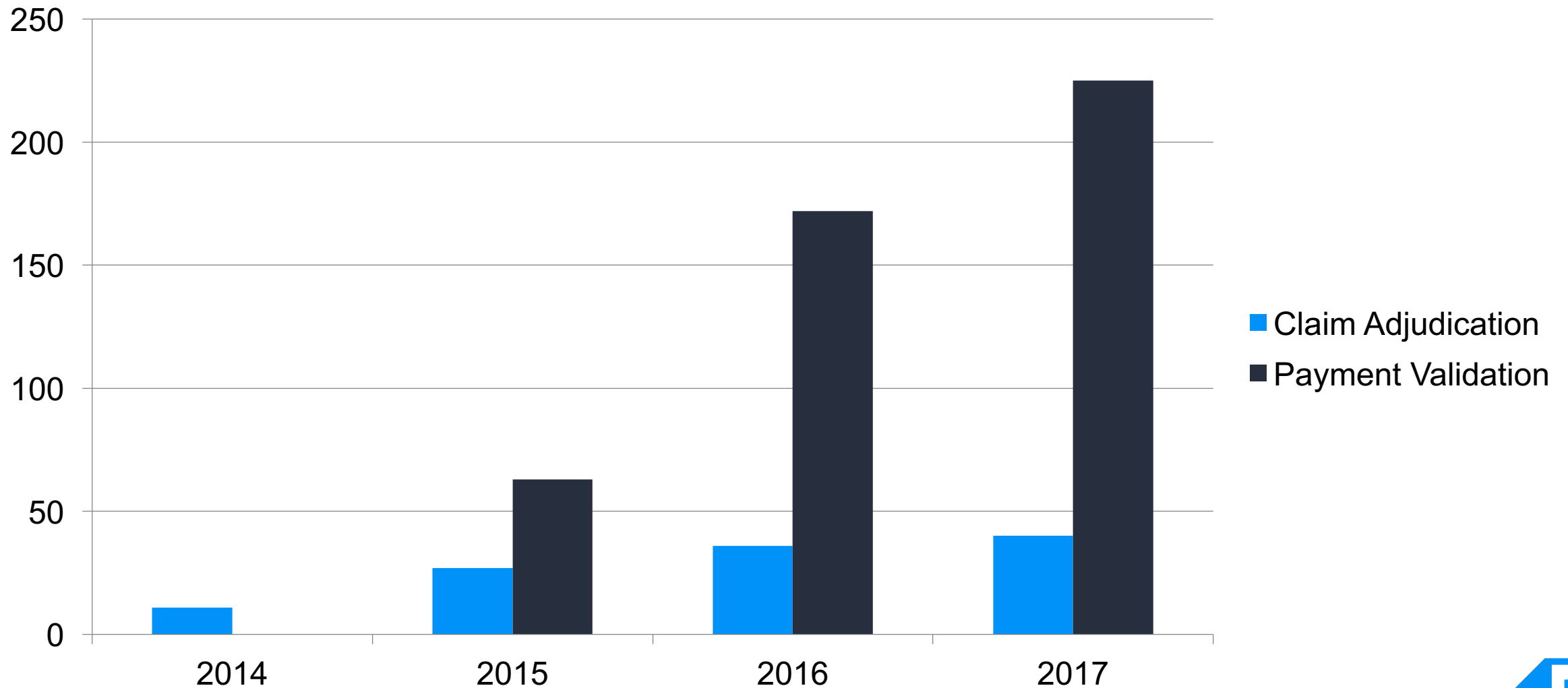


Medicate

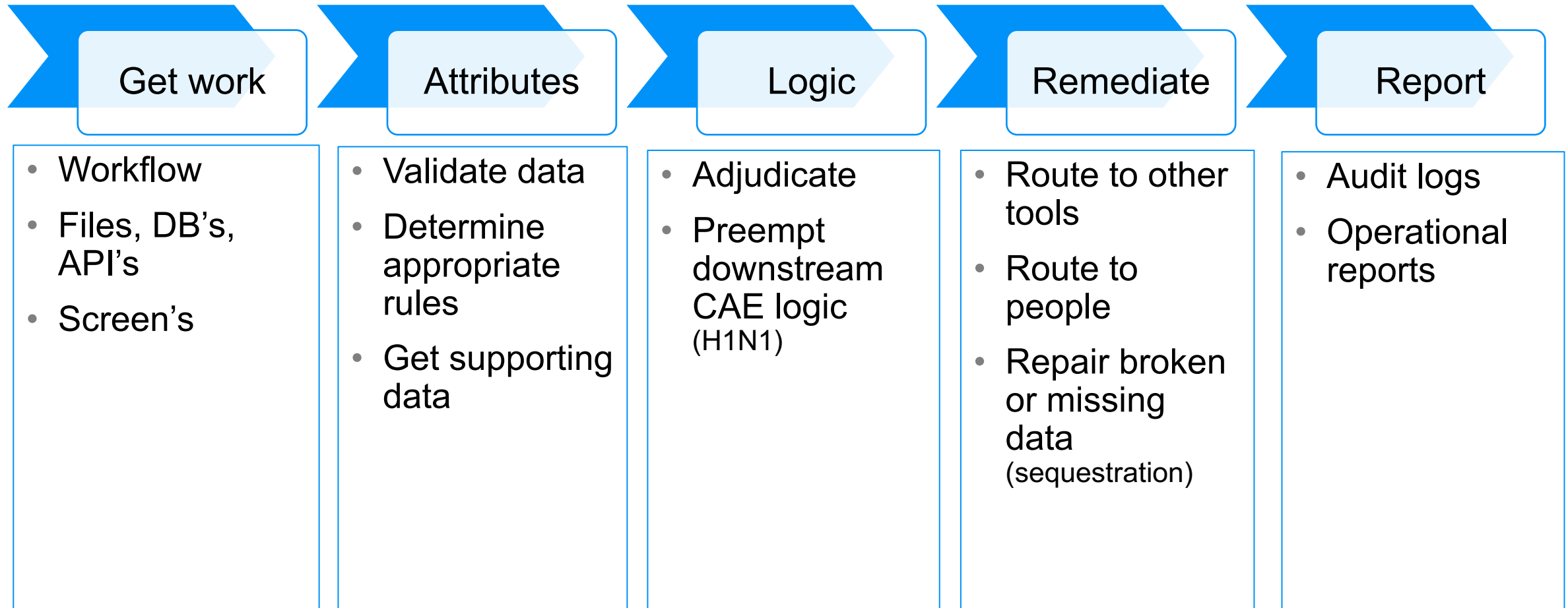
Short Term : Temporary



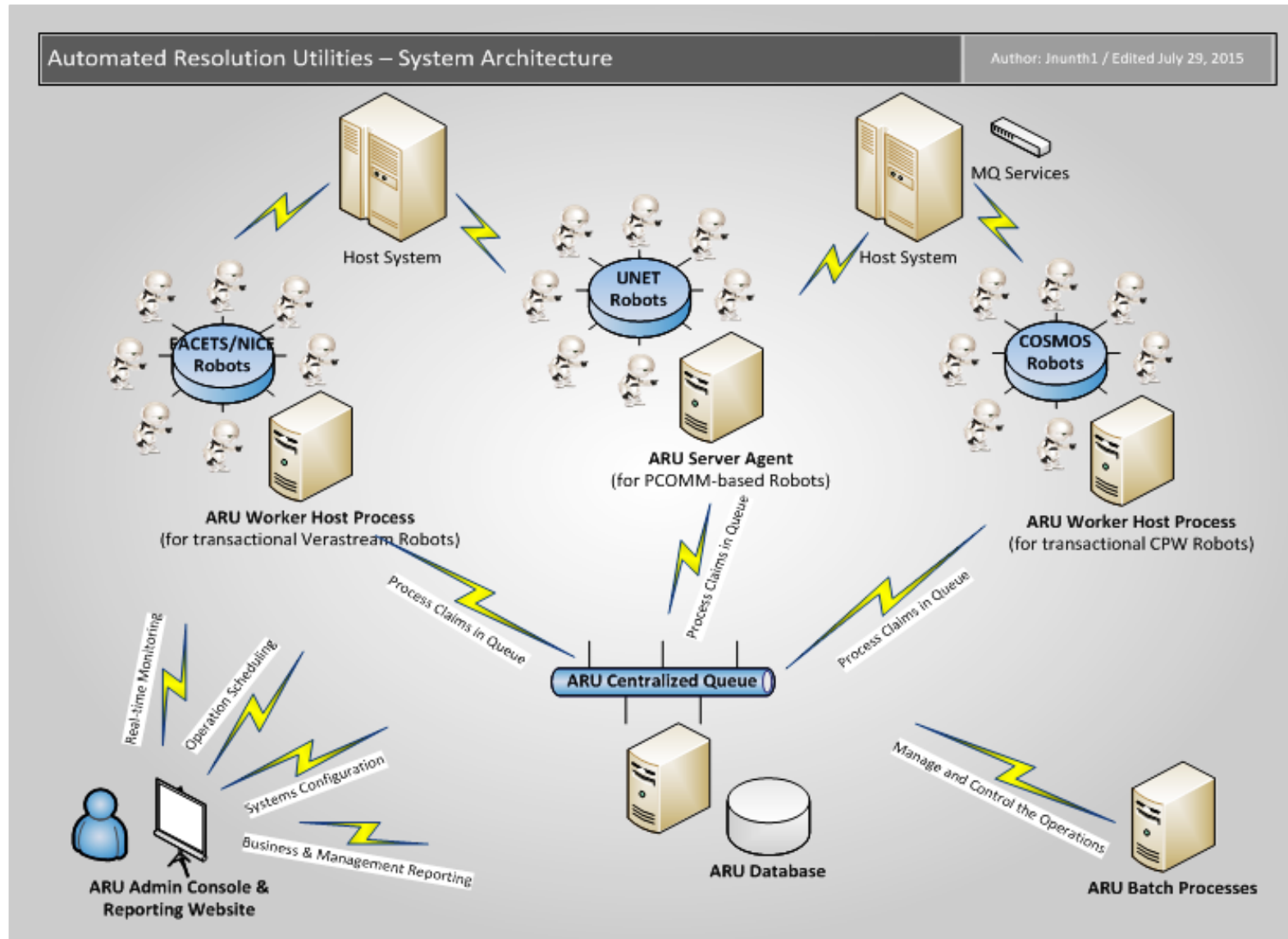
EAS Claims Processing Automation Scale



Technology Overview – Automated Resolution Units (ARU)



ARU Technology Overview

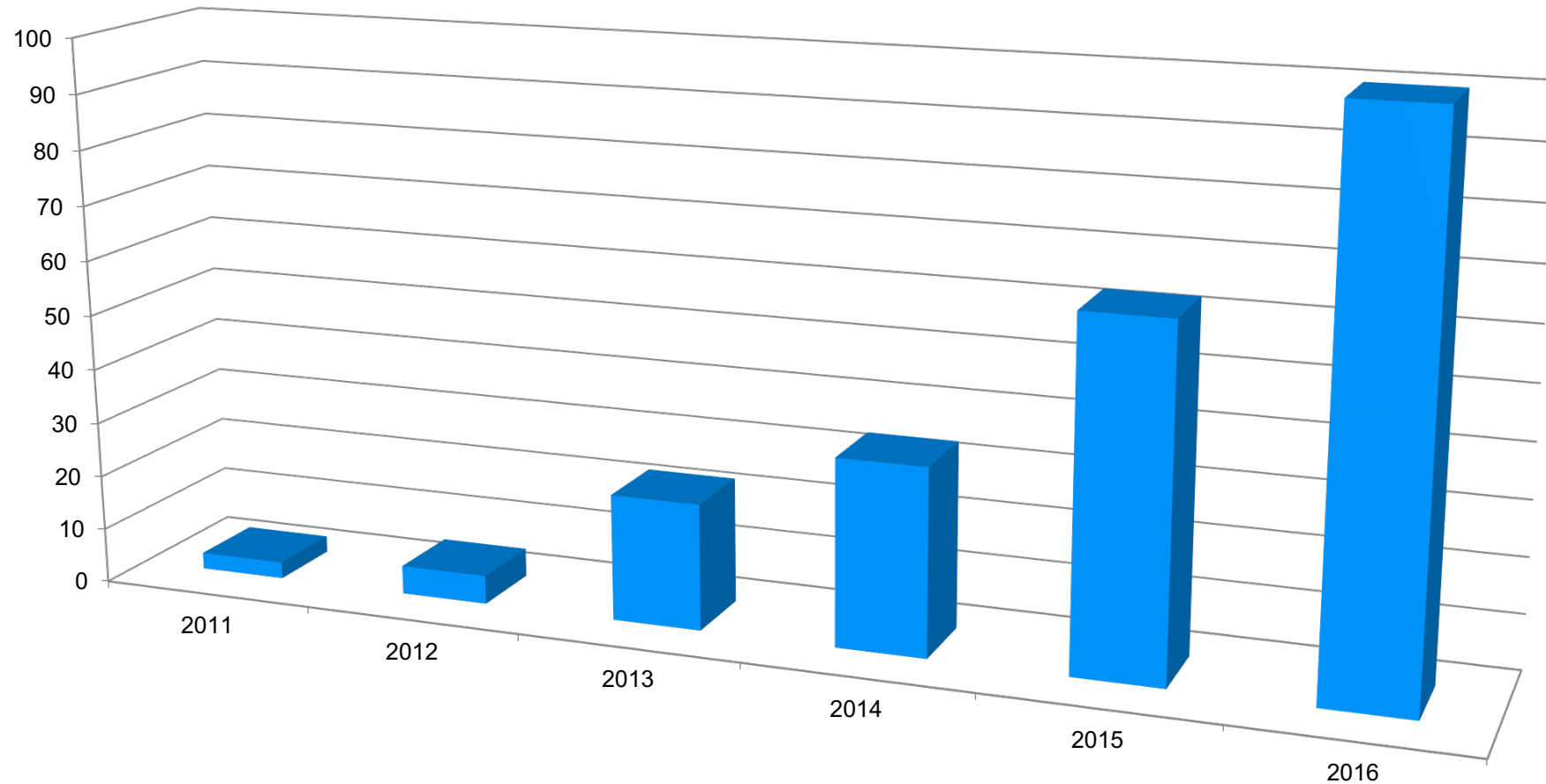


ARU – Automation Models

	RDA Model	RPA Model
Automation Model	Partial	Full
Deployment Model	User Desktop	Server-Based
Execution Model	Single-Threaded	Multi-Threaded
Trigger Model	Manual / Automatic	Automatic
Triggered By	<ul style="list-style-type: none"> • User • Desktop Events 	<ul style="list-style-type: none"> • Schedules • System Events • Custom, etc.
Tools/Technologies	OpenSpan, UIPath, Macros, etc.	ARU / Other 3 rd Party Frameworks, etc.

ARU – Claims Processing Automation Scale

ARU – Number of Claims Processed (millions)



Lessons Learned

- Engage the business very early in the tool assessment process
 - What do they need?
 - What problems are they trying to solve?
 - What else can these tools do?
- Flexible nature of these tools allows customers to solve for “pain points” that a business case would otherwise not support
- Be careful of “short-term” solutions that turn into “long-term” solutions
- Created a more collaborative relationship between business and technology partners
 - Able to communicate in a jargon free, solution based manner
 - Changed the concept of requirements definition – Business defines the solution they need for claims processing
 - No longer need to think in terms of “screens” – think in terms of “pieces of data”
- Consider the ongoing maintenance and defect management of these robots
- Ensure alignment with Claims Adjudication Platform – dependency management

QUESTIONS?

THANK YOU.