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Dusting off the Frame

FedCASIC 2018

An open-source computing approach to high quality frame cleaning

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Topics

- Background
- Frame Cleaning
- Application Design
- Technology
- AWS role in development

Acronyms!

LECS

Law **E**nforcement **C**ore **S**tatistics

ARMS

Agency **R**ecords **M**anagement **S**ystem

LEAR

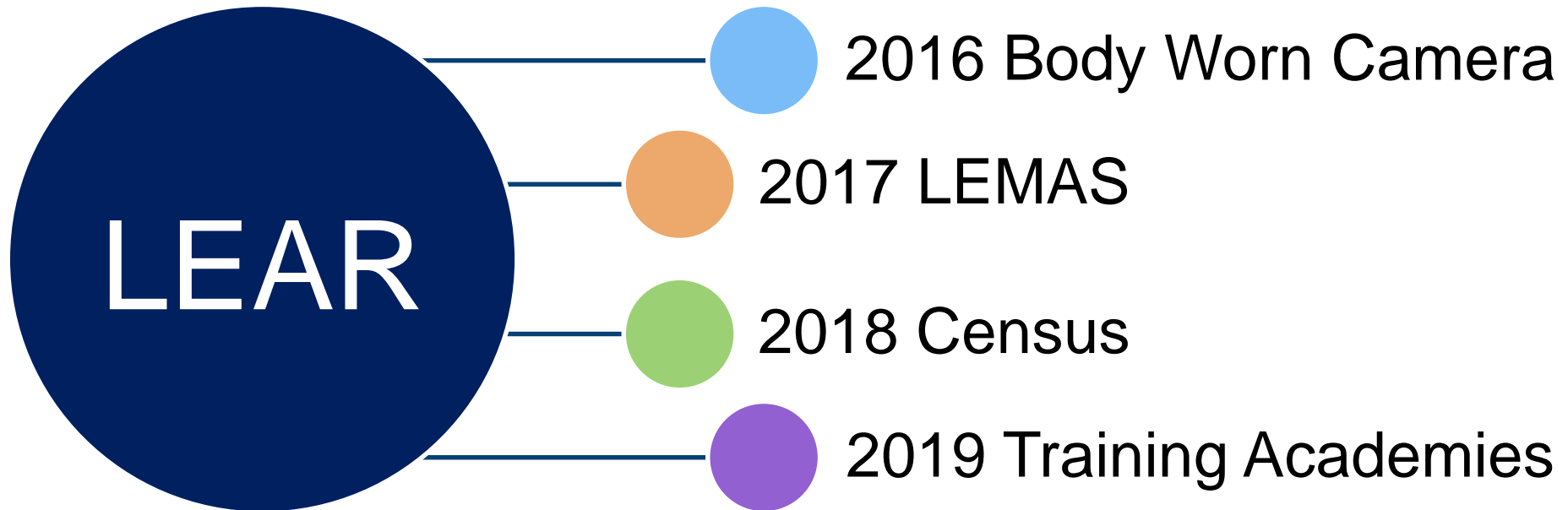
Law **E**nforcement **A**gency **R**oster

BJS

Bureau of **J**ustice **S**tatistics

LEAR – Law Enforcement Agency Roster

- 22,000+ Law Enforcement Agencies
- Primary means of identifying an agency
- Updated after survey completion
- Facilitates longitudinal data analysis



LEAR – Law Enforcement Agency Roster

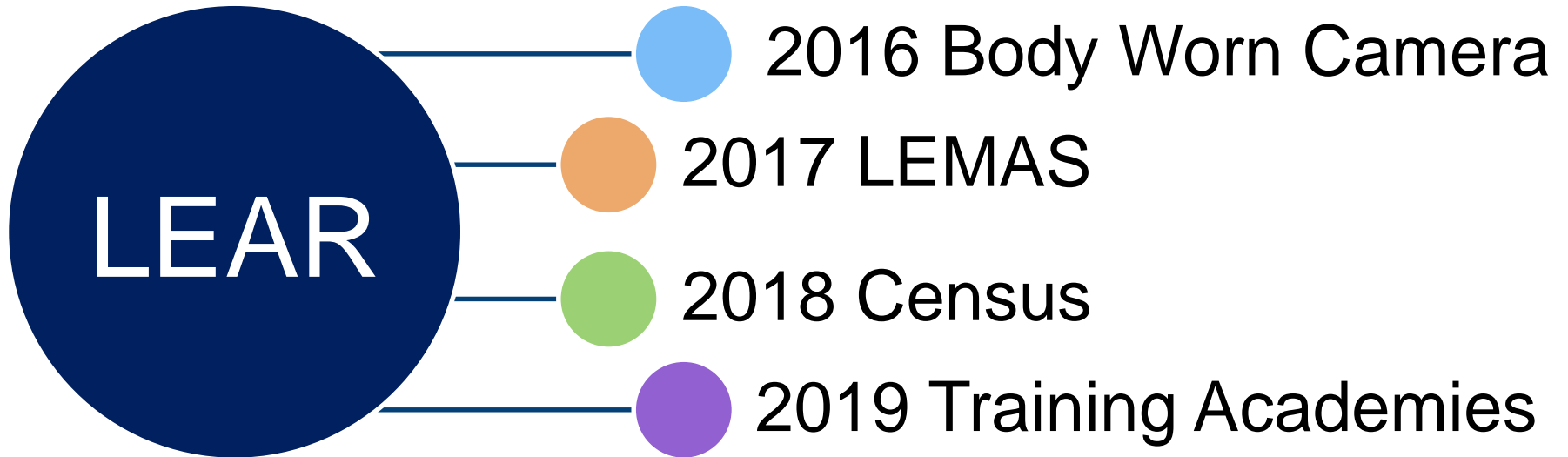
Why do we maintain this roster?

Eligibility and Scope Tracking

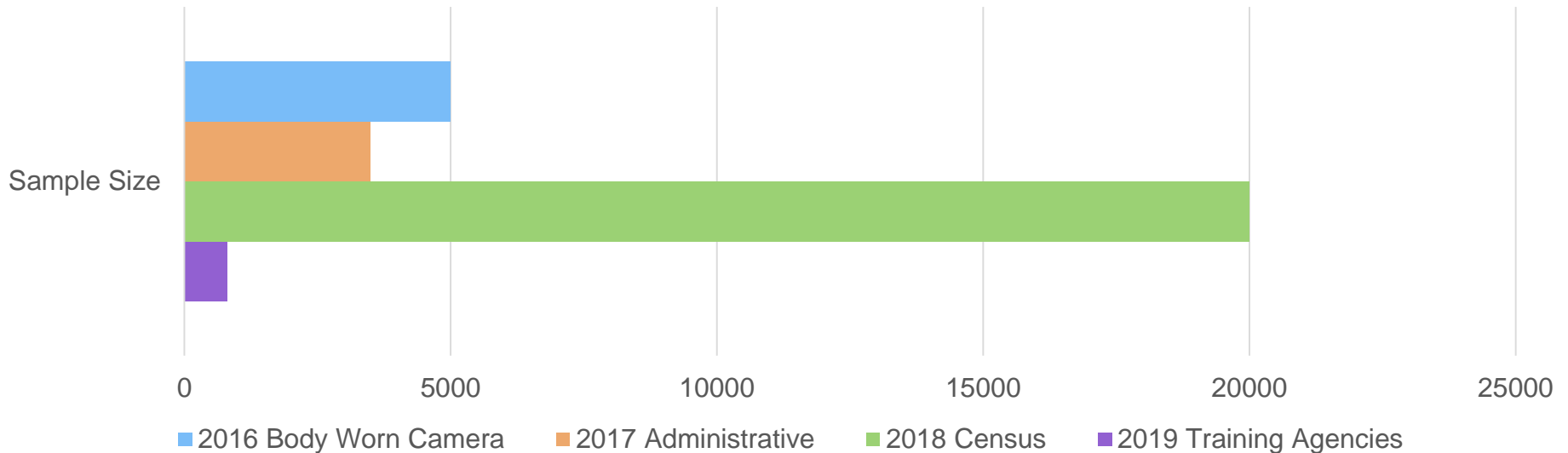
Agency Identity

Facilitates Longitudinal Analysis

What is Frame Cleaning?



Sample Sizes



What is Frame Cleaning?

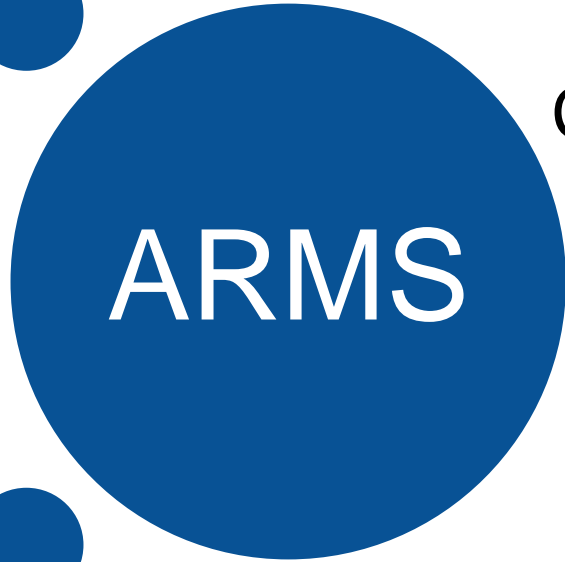
Manual Input



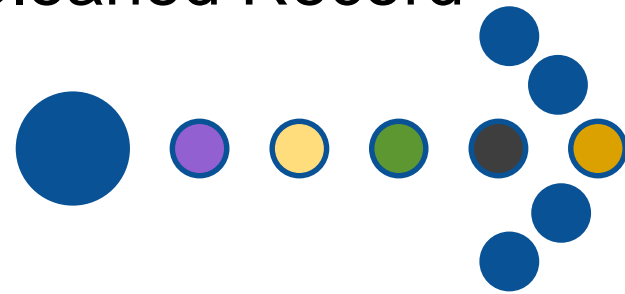
Batch Tracing



Other Sources



Cleaned Record



Application Design: UI

ARMS HOME

CREATE AGENCY

SEARCH AGENCIES

REGISTER

SEARCH AGENCIES

Agency Name or ID: <input type="text"/>	Filter by State: <input type="text" value="Select State"/>	Filter by Reviewer: <input type="text" value="Select Reviewer"/>	Filter by Review Status: <input type="text" value="Select Review Status"/>
Filter by Sample Type: <input type="text" value="Select Sample Type"/>	Filter by Duplicates: <input type="text" value="Select Duplicates to View"/>		
<input type="button" value="SEARCH"/> <input type="button" value="Reset"/>	<input type="button" value="EXPORT AGENCY DATA"/>		<input type="button" value="EXPORT AGENCY CONTACT DATA"/>

LEAR ID	Agency	City	State	County	Edit Agency	Edit Contact
642109	1854 TREATY AUTHORITY ENFORCEMENT DIVISION	DULUTH	MN	Newcounty1	Edit	LEAR
637068	A.B.A.C. POLICE DEPARTMENT	TIFTON	GA	Newcounty2	Edit	LEAR
633423	ABBEVILLE COUNTY SHERIFF'S OFFICE	ABBEVILLE	SC	ABBEVILLE	Edit	LEAR
630006	ABBEVILLE POLICE DEPARTMENT	Abbeville	AL	HENRY	Edit	LEAR
633424	ABBEVILLE POLICE	Abbeville	SC	ABBEVILLE	Edit	LEAR

Application Design: UI

- Updates to agency data are done on a single page
- All edits are tracked historically

PHYSICAL ADDRESS

Physical Address 1	<input type="text" value="804 N SANDHILLS BLVD"/>
Physical Address 2	<input type="text"/>
Physical City	<input type="text" value="Aberdeen"/>
Physical State	<input type="text" value="NC"/>
Physical Zip	<input type="text" value="28315"/>

AGENCY CHARACTERISTICS

Sample Type	<input type="text" value="3 : Local Police"/>
Service Status	<input type="text" value="1 : In Service"/>
Provides Patrols	<input type="text" value="1 : Yes"/>
Public Funding	<input type="text" value="1 : Yes"/>
Primary Jurisdiction	<input type="text" value="2 : No"/>
Contract City	<input type="text" value="1 : Yes"/>
No Policing	<input type="text" value="2 : False"/>
High Risk	<input type="checkbox"/>

Application Design: UI

- Update confirmation for all pending changes
- Viewable history for each modification

PLEASE CONFIRM UPDATES

	Current	New
Physical Address 1:	804 N SANDHILLS BLVD	804 S ANTHILL STREET N
Phone:	910-944-9721	910-999-1112
Full Time Sworn:		100
Part Time Sworn:		20
Service Status:	0 : Select Service Status	1 : In Service

Clicking the Save button will save your changes and queue them for approval

Agency Physical Addresses	Created On	Created By
804 S ANTHILL STREET N Aberdeen NC 28315	3/19/2018 4:18:48 PM	Admin
804 N SANDHILLS BLVD Aberdeen NC 28315	9/26/2017 11:10:39 AM	sample_load

Application Design: Approvals



Application Design: Approvals

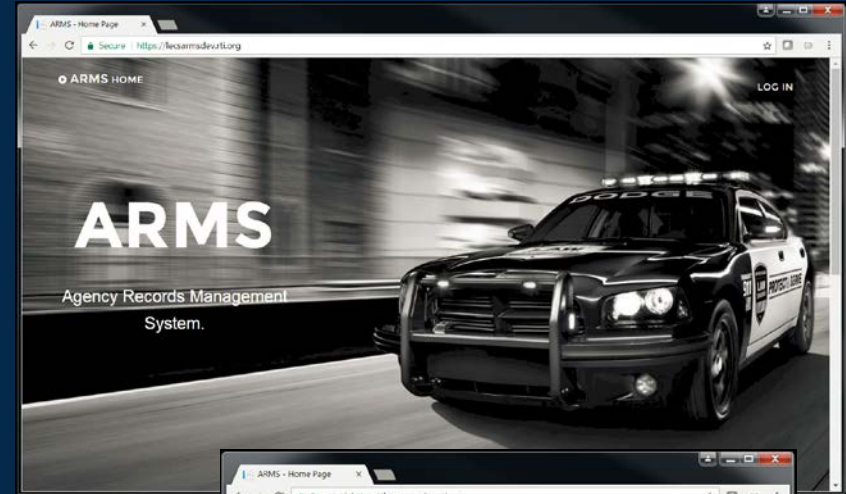
- Bulk Approval function summarizes changes to agency data
- Allows for quick adjudication of all changes

Field Changed	Old Value	New Value
Agency Approvals		
Phone Number	205-254-1700	(205) 254-1765
Phone Ext		
Comments	http://police.birminghamal.gov/ LEAR Agency Comments:Address info from BWC survey.	
Agency Contact Approvals		
Contact Name	A.C Roper	A.C. ROPER
Contact Phone Number	205-254-1700	(205) 254-1765
Contact Phone Ext		
Edit	Details	Approve All

Technology: UI Design

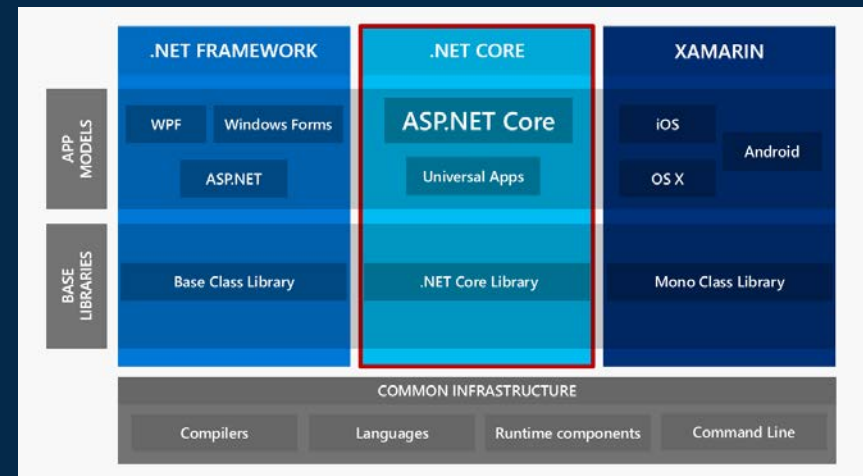
Bootstrap

- Responsive Design
- Free and Open Source
- Free templates available



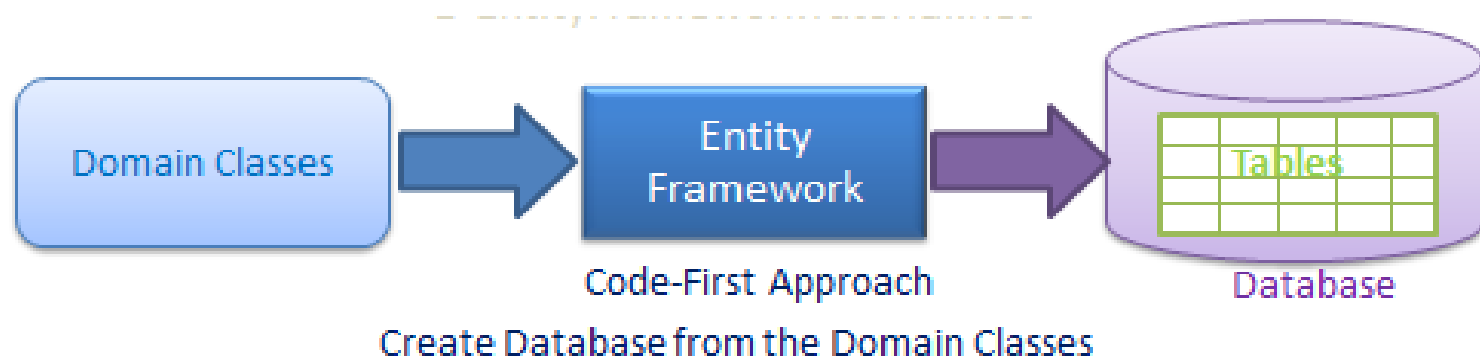
.NET Core

- Microsoft's response to open-source, open-framework.
- .NET "stripped to the core"
 - Open Source
 - Additive package manager
 - MVC paradigm
 - Entity Framework Core
 - Cross-platform (Windows/Linux/macOS)
 - Cloud friendly



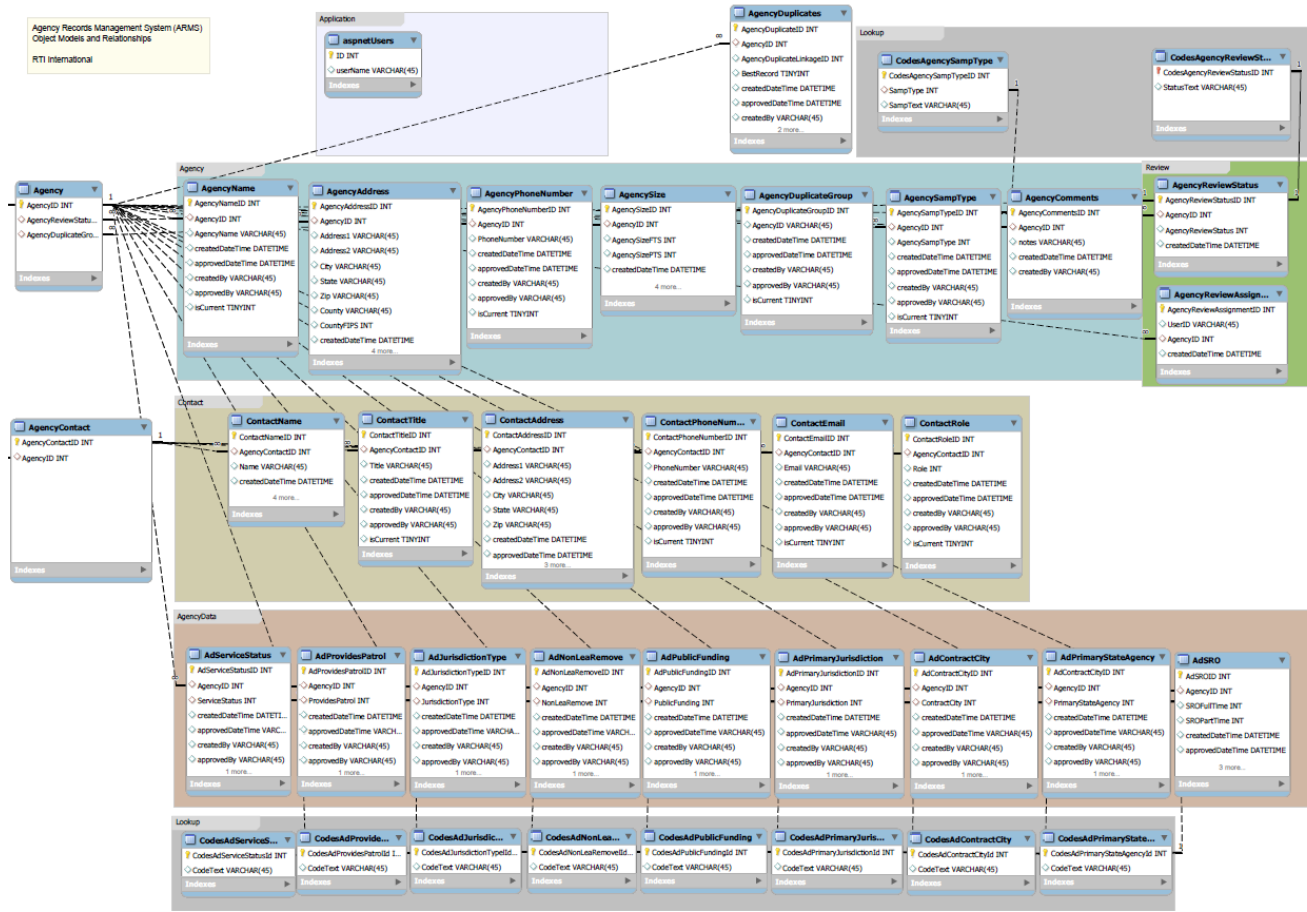
Entity Framework Core

- Code first
 - Create data classes in your code
 - Run migration scripts to create/update database objects



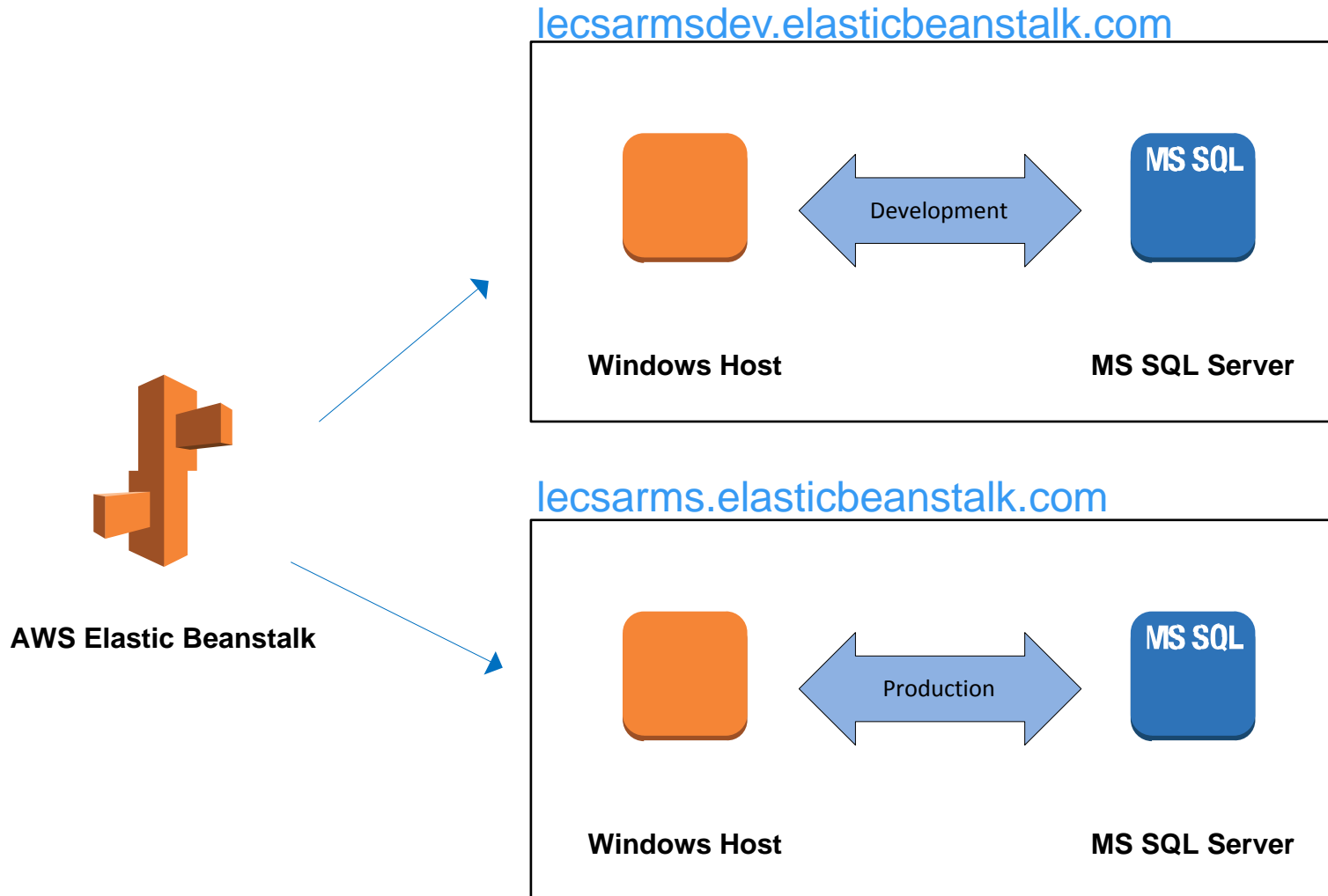
Entity Framework Core

- Rapid deployment of the application and database



Deploying to Amazon Web Services

Elastic Beanstalk



Conclusion

- ARMS has increased frame cleaning productivity
- Support for phone outreach is available
- Multi-user and approval design has increased the quality of the frame



More Information



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