



The Center for IDEA  
Early Childhood Data Systems

# Where to Start: Planning for a New Data System or System Enhancement

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Improving Data, Improving Outcomes Conference

Arlington, VA

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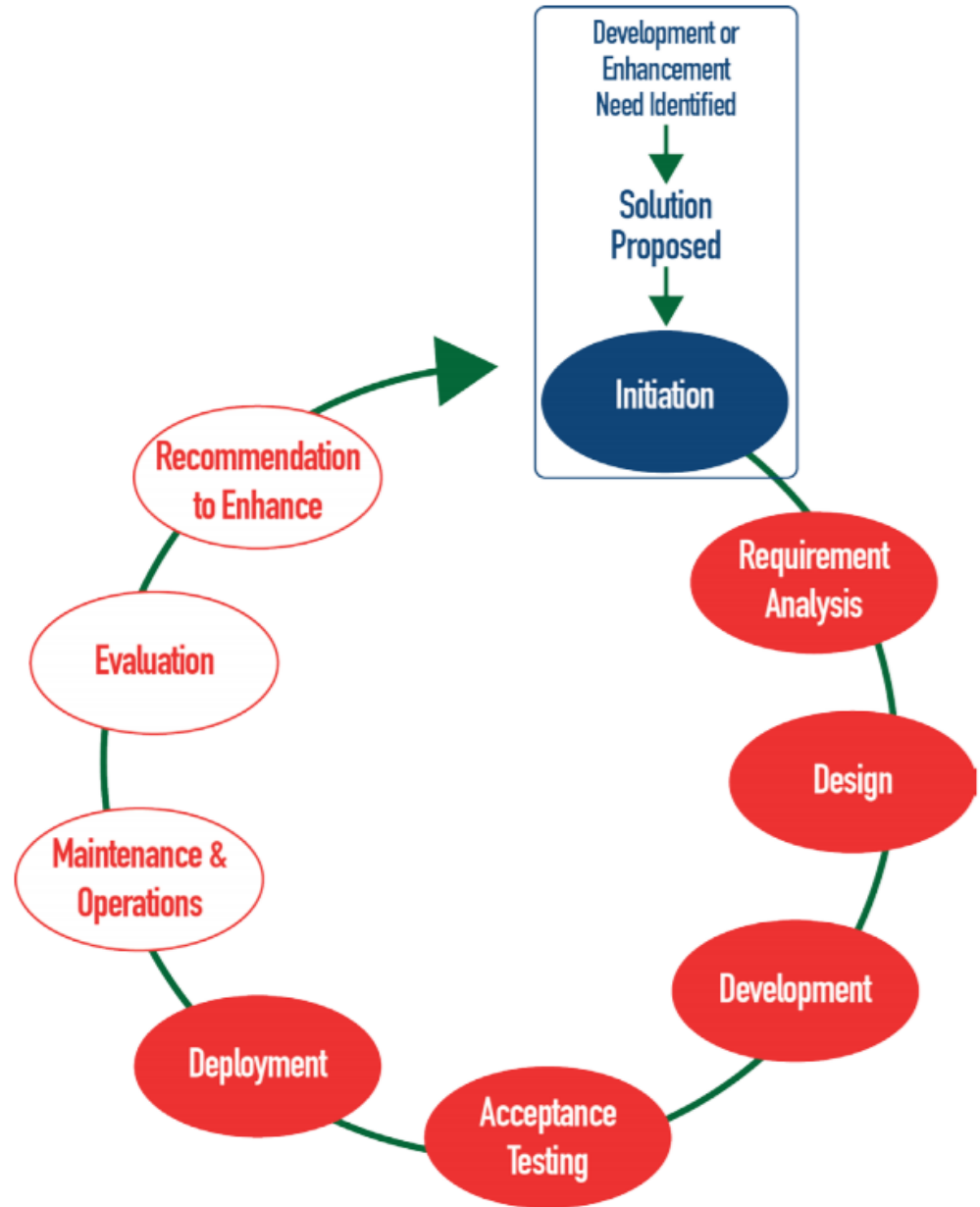
# Session Overview

- ✿ This session is intended to identify key considerations for states before working through the action phases of developing or enhancing a Part C or Part B 619 data system.
- ✿ We will describe data system features that states are using to improve the IFSP and IEP processes, facilitate data entry/workflow, and strengthen communication and collaboration.
- ✿ State presenters will share experiences and learnings from managing their data system development projects.

# Typical Barriers and Pitfalls

- \* Lack of shared vision
- \* Needs of stakeholders not aligned with vision and scope
- \* Insufficient project/contract management
- \* Taking shortcuts in development and deployment processes
- \* Architecture unsuitable for scale/scope/context

# Phases of System Development Life Cycle



# Key Considerations for Initiating and Planning a New Data System or Major Data System Enhancement

**DaSy** The Center for IDEA Early Childhood Data Systems

## Key Considerations for Initiating and Planning a New Data System or Major Data System Enhancement

Laura Hudson, Nancy Copa, Jamie Kilpatrick, Robin Nelson, & Bruce Bull

Planning for the development of a new data system or a major data system enhancement, but don't know where to start? This document presents key considerations in the form of questions to help you clarify your program needs before moving into the action phases of development or enhancement. These key considerations can be treated as items suited for group discussion or as a template to guide group planning. The key considerations will be useful for Part C/619 data managers and coordinators who participate on project teams to develop or enhance a Part C/619 data system. In particular, data managers often play crucial roles on project teams and might find this a useful reference.

Figure 1. Phases of the SDLC

The phases of developing a new system or enhancing an existing one can be viewed as a life cycle. This document draws on the *system development life cycle (SDLC)* described in detail in New York State's *Project Management Guidebook* and outlined in the DaSy Center data system framework. The SDLC begins with initiation, the SDLC phase covered in this brief, after the need for change has been identified and the initial plans have been laid. Initiation creates a strong foundation for the phases that come later: requirement analysis, design, development, acceptance testing, and finally deployment.

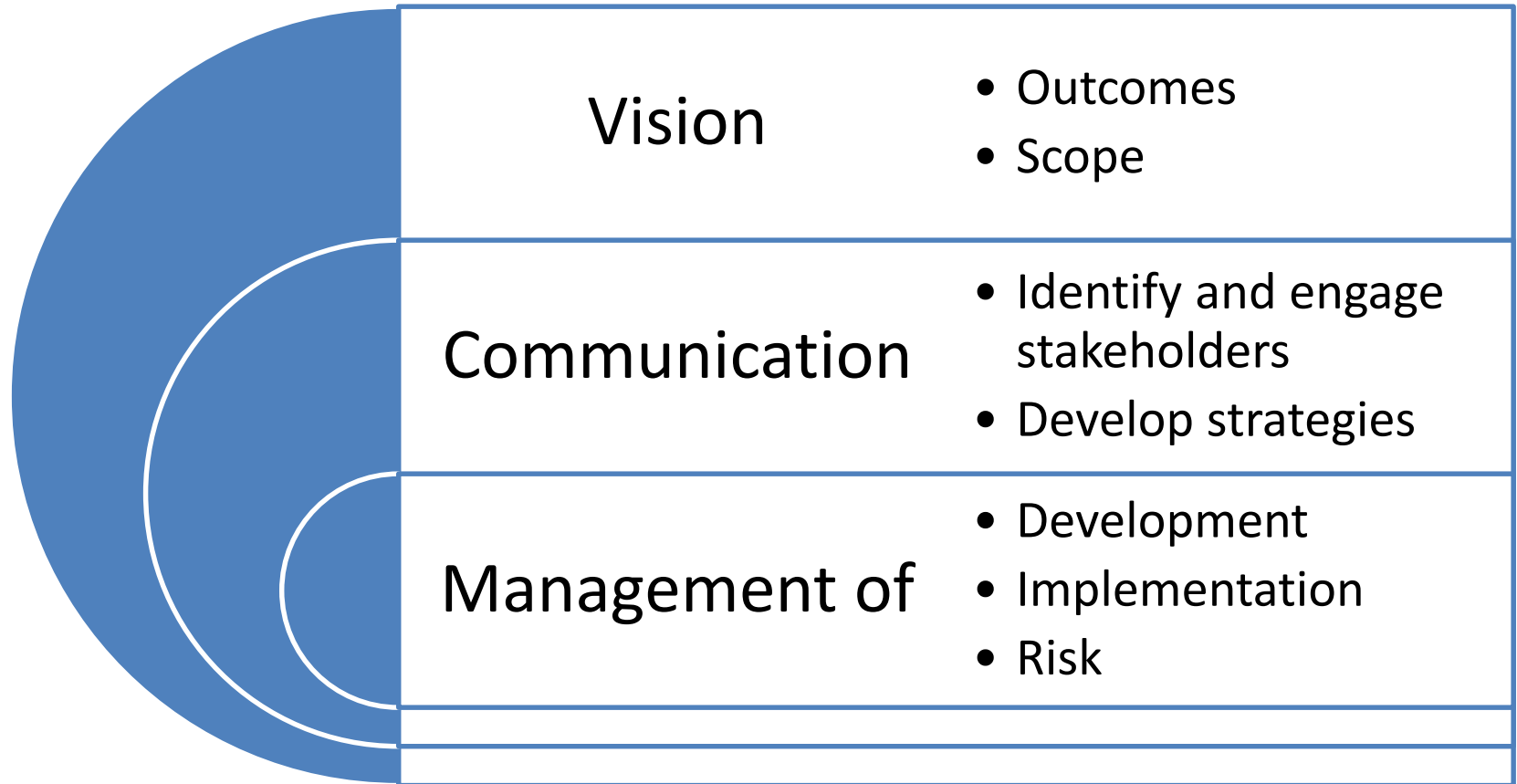
Framework connection: Each section of the [System Design and Development](#) subcomponent corresponds with and provides more information on the phases of the SDLC. Section 1, "Initiation of New System/Enhancement and Requirements Analysis," provides information specifically on the initiation phase. (<http://dasycenter.org/resources/dasy-framework/system-design/>)

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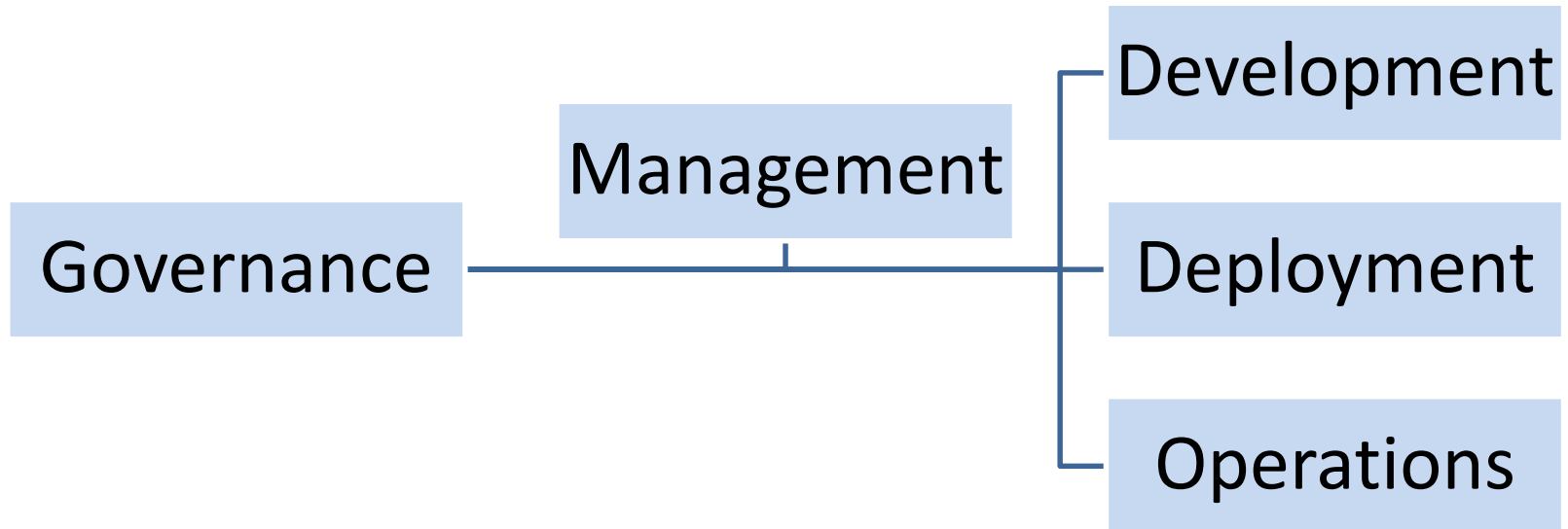
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Available as  
standard pdf  
and  
fillable worksheet

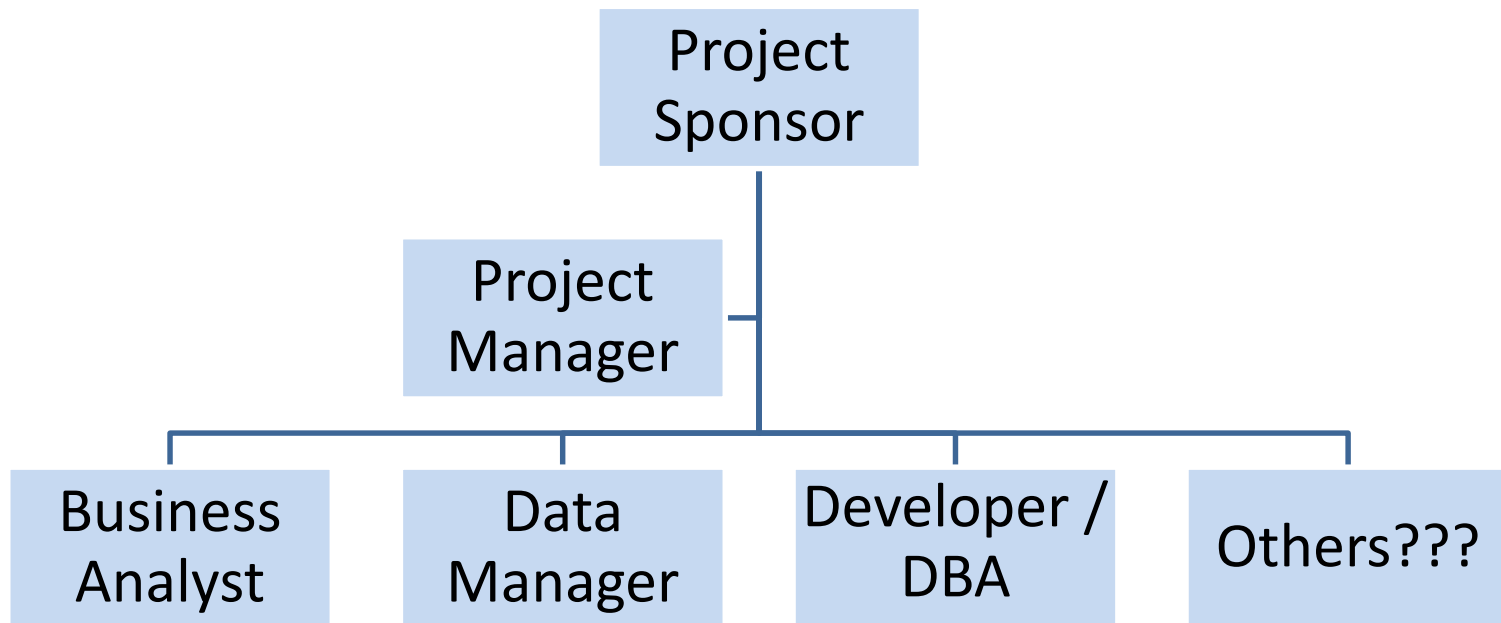
# Big Picture Issues



# Form Your Team



# Project Team





# Define what your system needs to do

- \* Describe business processes
- \* Identify and re-examine workflows
- \* Define requirements
  - Functional/business
  - Nonfunctional/technical



# Find the Right Solution

## In-house

- Internal agency
- External agency
- Contract

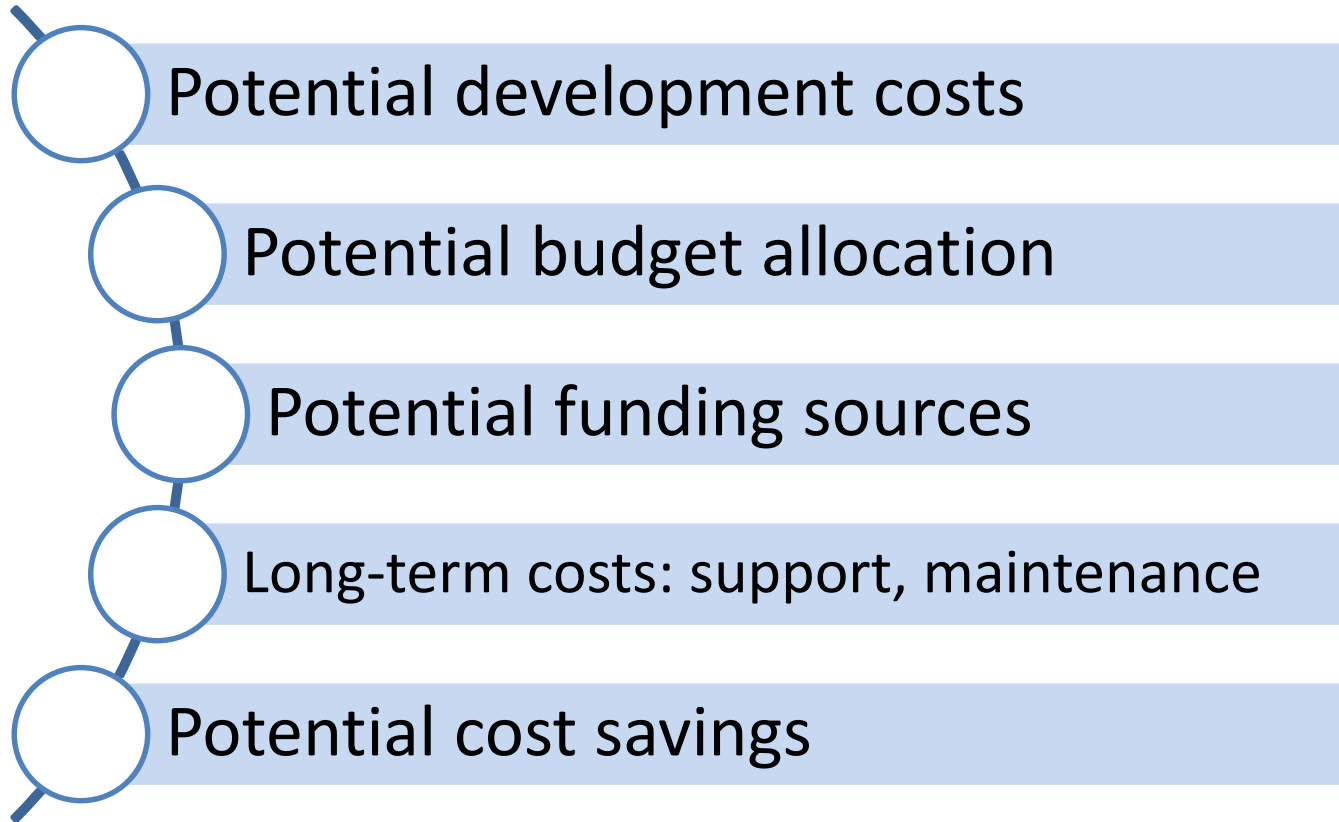
## Procurement

- Competitive RFP
- Sole source
- Off-the-shelf
- Custom build

## Options for

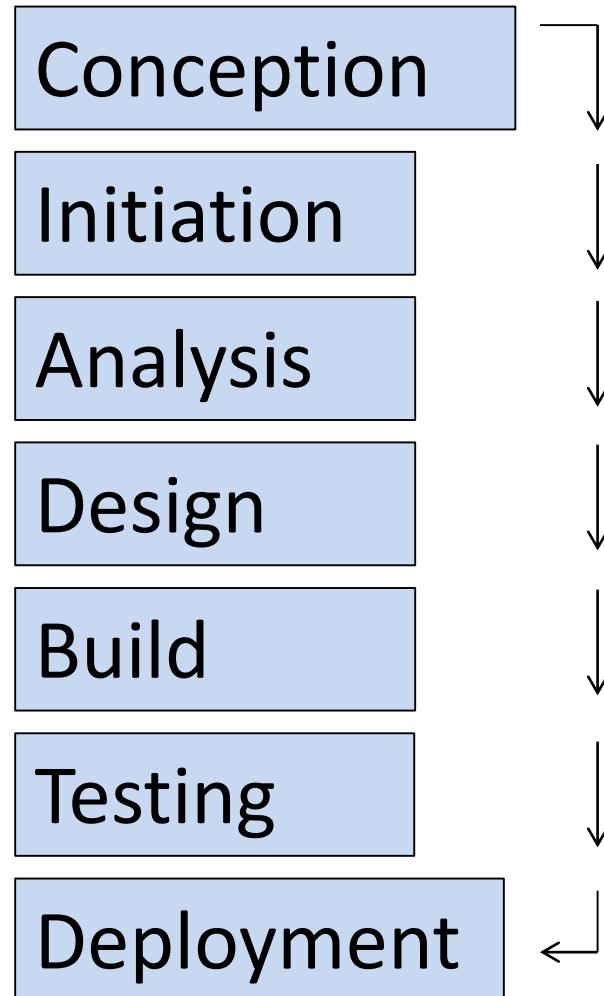
- Development
- Hosting
- Operations
- Maintenance

# Financial Considerations

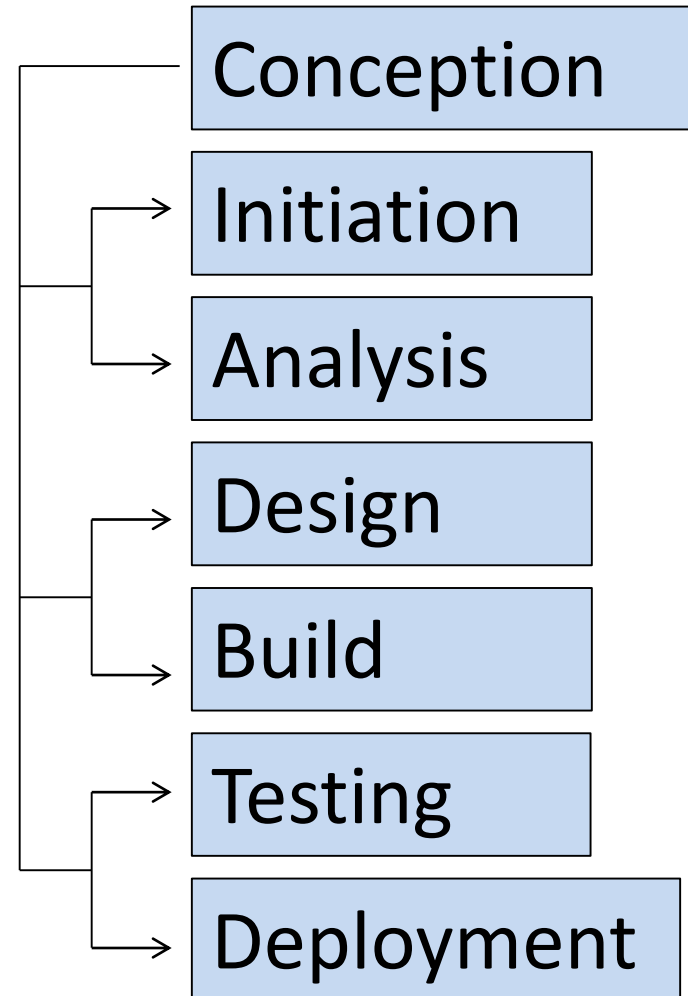


# Software Development Approaches

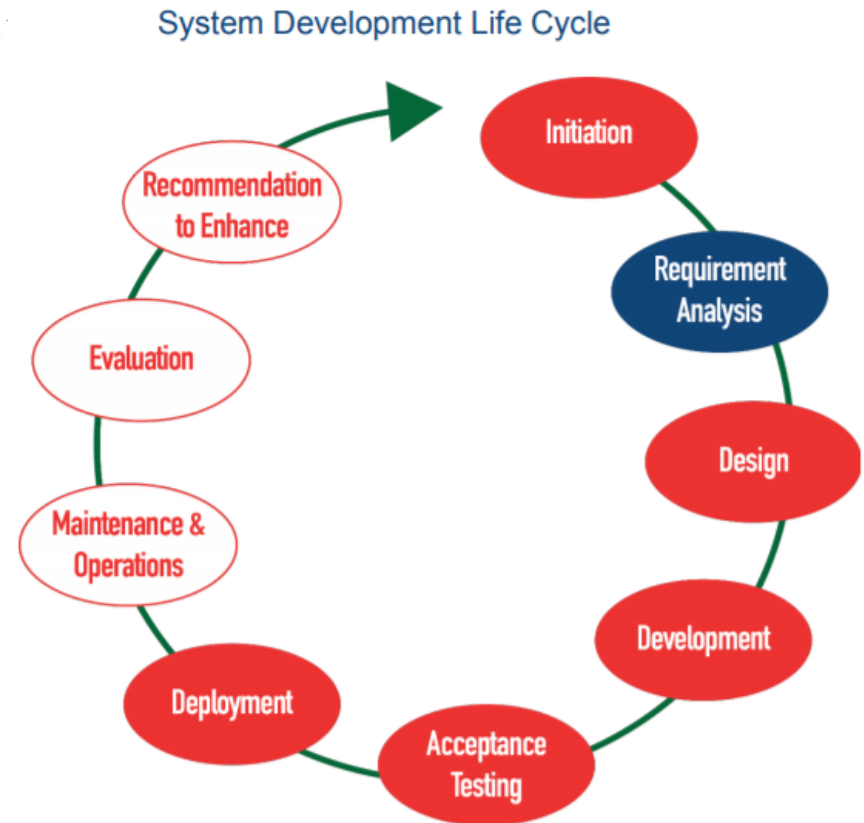
## Waterfall



## Agile



# State Experiences with Data System Projects



# Washington Early Supports for Infants and Toddlers (ESIT)

## \* Data management system (DMS) background

- Microsoft Silverlight application
- Databased structure was built for one workflow for service coordination
- Reports were built for reporting, not monitoring or measuring progress

## \* Data system enhancement project

- Research
- IT staff turnover
- Implemented Agile
- Developed a communication plan

# Washington ESIT DMS

## Current System

Built around the  
service coordinator

Data collection by geographic service  
areas

System has many “hard stops” which  
disrupts work flow

Limited administrative functions

## New System

Built around the child

Data collection by early intervention  
programs

Limit the number of “hard stops” to ease  
work flow

Add administrative functions

# Washington ESIT DMS (cont.)

## Current System

Multiple logins

Reports limited to reporting results

Records planned services

## New System

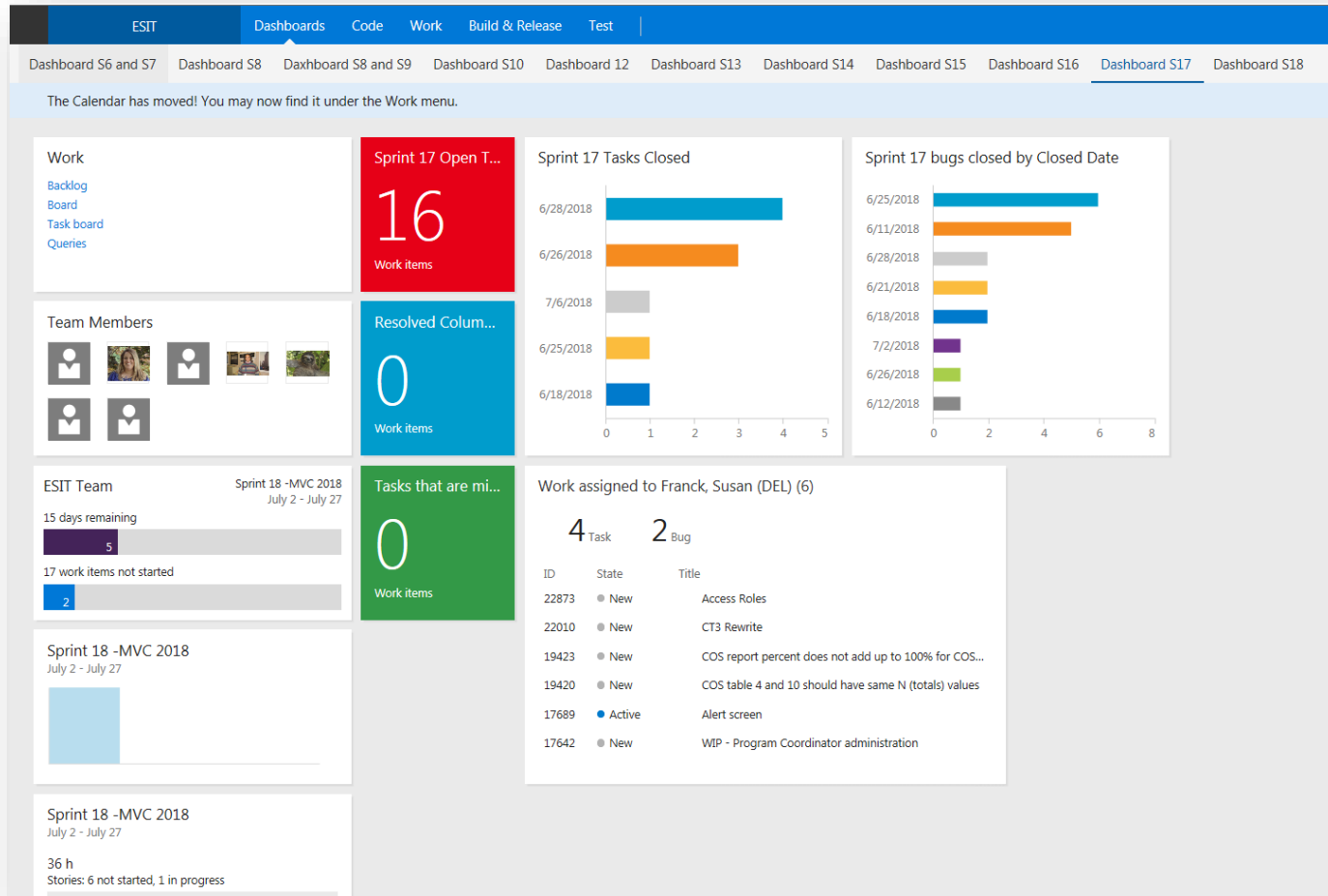
Single login

Reports include monitoring progress

Records actual service delivery



# Team Foundation Server (TFS)



# TFS (cont.)

The screenshot displays the TFS Work Board interface. The top navigation bar includes 'ESIT', 'Dashboards', 'Code', 'Work', 'Build & Release', and 'Test'. A search bar on the right says 'Search work items'. The left sidebar shows navigation options: 'acklogs', 'Queries', 'Calendar', 'Epics', 'Features', 'Stories', 'Past', 'Current', 'Future', and a list of sprints including 'Sprint 18 -MVC 2018' (which is selected).

The main area is titled 'ESIT Team Sprint 18 -MVC 2018' and shows a Kanban board with columns: 'New 36 h', 'Active', 'Resolved', and 'Closed'. The board is grouped by 'Stories'. The date range is 'July 2 - July 27' with '15 work days remaining'.

Work items are represented as cards on the board:

- 21399** UI Rewrite (New column, 36 h, assigned to Huynh, Bon (DCYF))
- 22013** Child and Family Information Record (New column, assigned to Huynh, Bon (DCYF))
- 22873** Access Roles (New column, 36 h, assigned to Franck, Susan (DEL))
- 22938** referral (New column, assigned to Huynh, Bon (DCYF))
- 22885** Data Exchange (New column, assigned to Jenks-Brown, Terri (DC...))
- 22008** Ongoing maintenance (New column, Unassigned)
- 22886** Configuration of the new esit.web (New column, assigned to Huynh, Bon (DCYF))
- 22670** Deploy COS Family Participation to Training env. (Active column, assigned to Huynh, Bon (DCYF))

# TFS (cont.)

Task 22402: Add "Informed Clinical Opinion (ICO) Edit" to the Admin tab in ESIT WEB

[Follow](#) [Templates](#) | [New branch...](#)

Tags [Add...](#)

Add "Informed Clinical Opinion (ICO) Edit" to the Admin tab in ESIT WEB ✕ 22402

| STATUS      |                   | CLASSIFICATION |                          | PLANNING |        | EFFORT (HOURS)    |  |
|-------------|-------------------|----------------|--------------------------|----------|--------|-------------------|--|
| Assigned To | Huynh, Bon (DCYF) | Area           | ESIT\UI Layer            | Priority | 1      | Original Estimate |  |
| State       | Closed            | Iteration      | ESIT\Sprint 16 -MVC 2018 | Activity | <None> | Completed         |  |
| Reason      | Verified          |                |                          |          |        |                   |  |

DESCRIPTION IMPLEMENTATION (1)

As the ESIT Data Coordinator I need to be able to update the child's informed clinical opinion summary text box in ESIT WEB.  
On the Administration tab in ESIT WEB  
When we enter the child ID  
A box with the ICO summary text needs to be displayed in the Evaluation and Assessment section  
So that I can update the text in the ICO summary text box and save my changes.

HISTORY ALL LINKS (2) ATTACHMENTS

New

Jenks-Brown, Terri (DCYF)  
5/11/2018

New

Show all

Fixed

Huynh, Bon (DCYF)  
5/17/2018

Resolved

Verified

Jenks-Brown, Terri (DCYF)  
5/23/2018

Closed

< >

DISCUSSION ONLY ALL CHANGES

Jenks-Brown, Terri (DCYF) (2 months ago)  
Done.

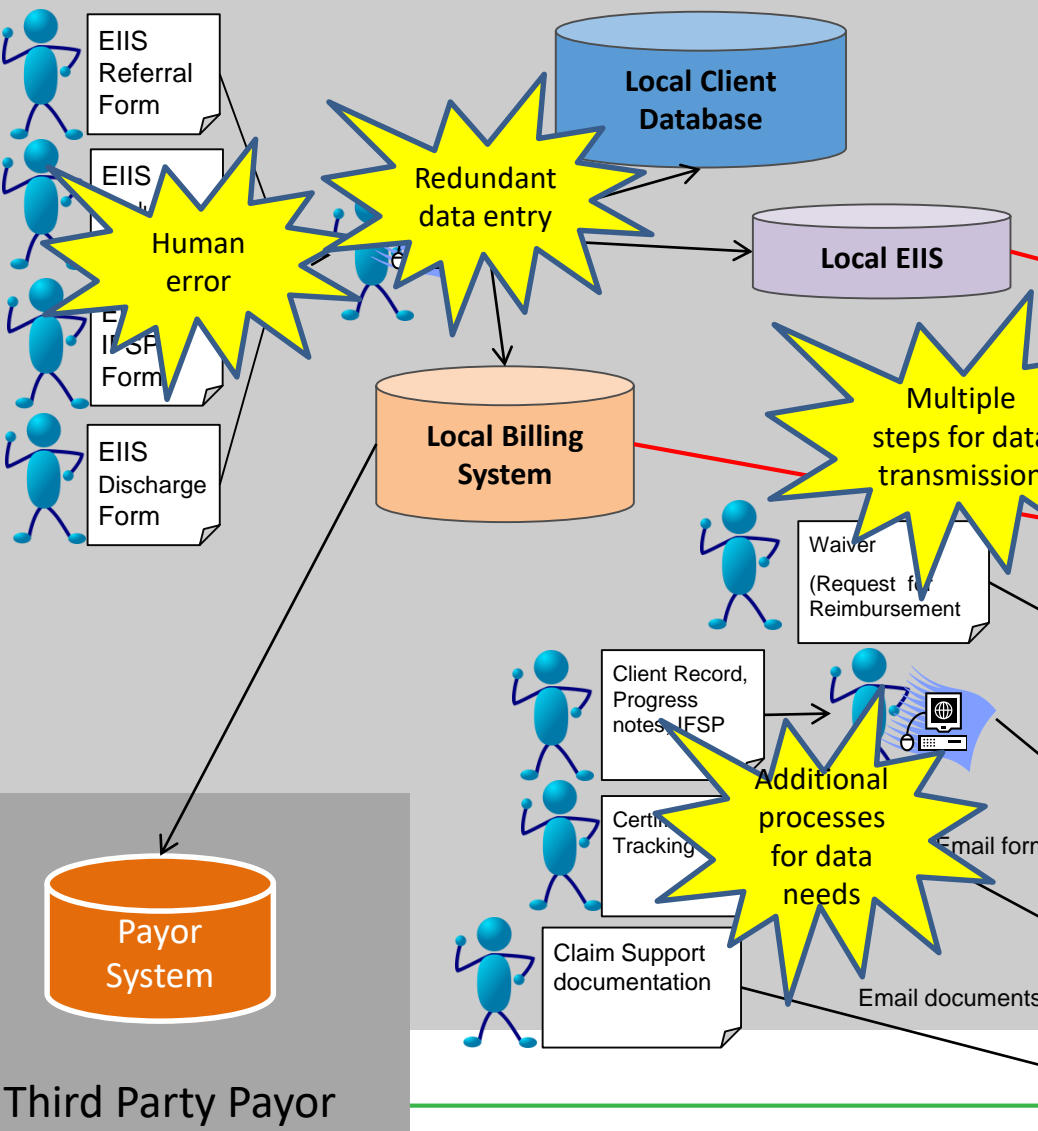
Jenks-Brown, Terri (DCYF) (2 months ago)  
Copied with all links from [Task 21206](#)

# Massachusetts Early Intervention

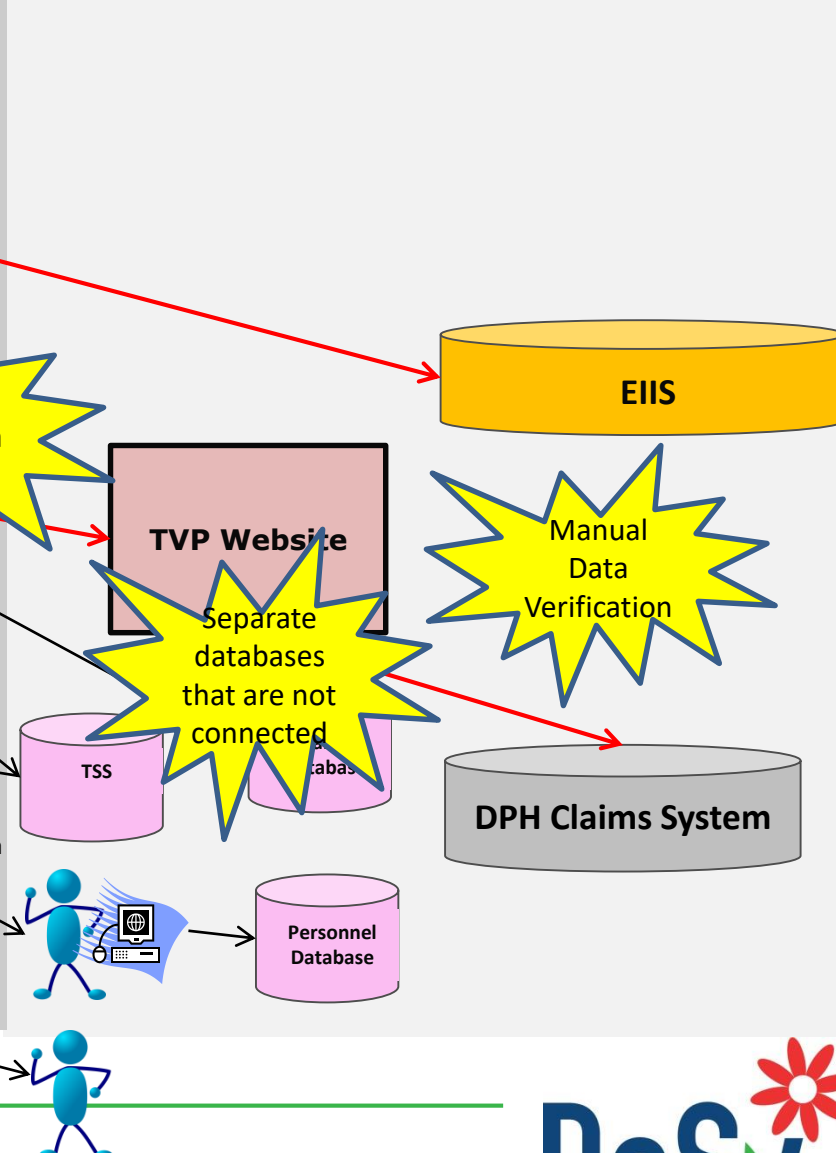
- ✿ Developing: New web-based client and fiscal system
  - Full Client record
  - EMR upload capability
  - Full Reimbursement and payment processing
- ✿ Replacing: EI Information System (EIS) and Fiscal System
  - 20+ years old systems
  - Access database and SQL

# Massachusetts: Current EI Data Processes

## Local Program Data Collection Process



## DPH Databases:

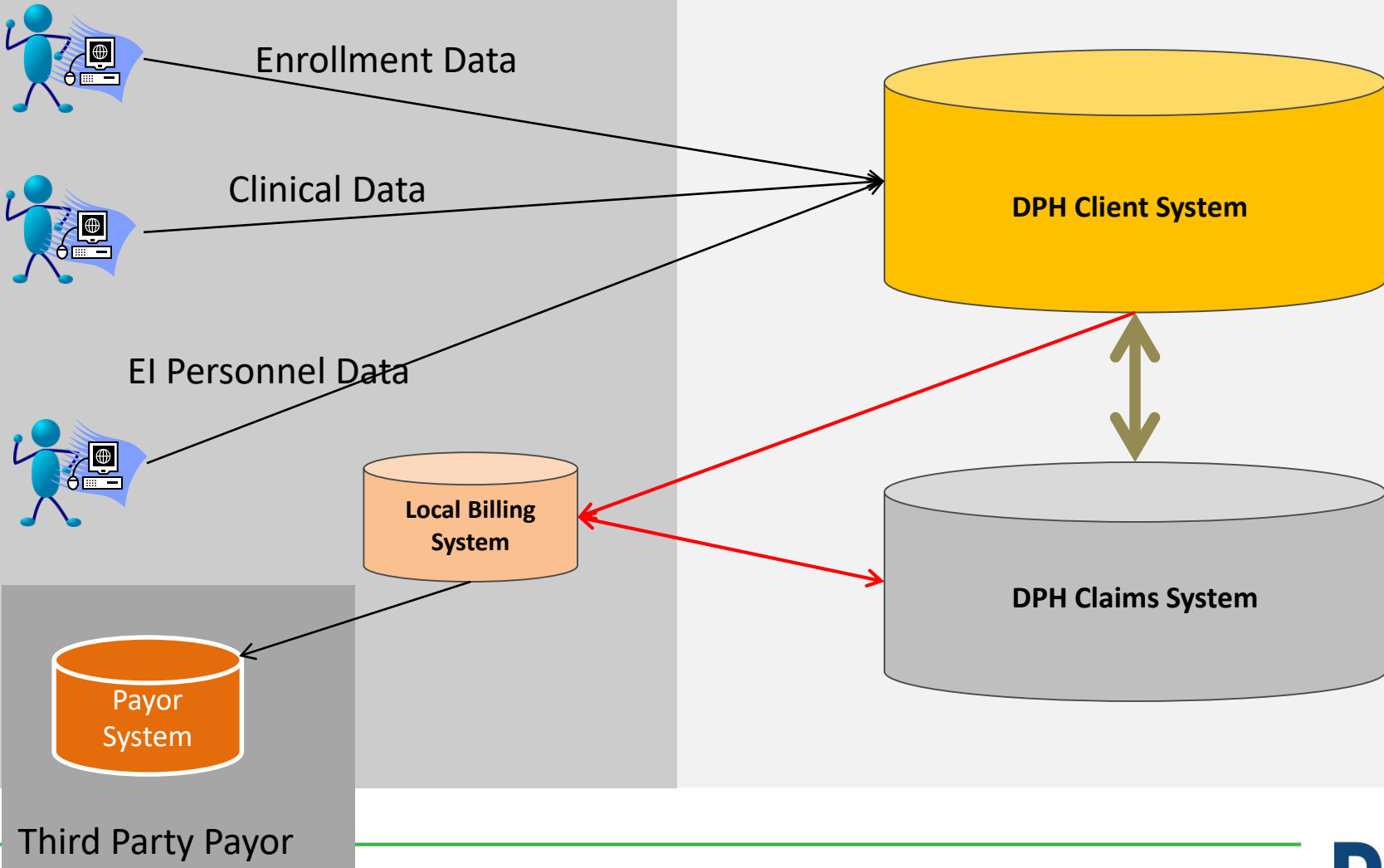


# Massachusetts: Future EI Data Processes

## Local Program Data Collection Process

## DPH Databases:

Option 1



# Massachusetts: EMR Integration Becoming Reality

**50% of EI  
agencies  
currently  
own EMR**

A large grey box on the left contains the text '50% of EI agencies currently own EMR'. Two large, curved grey arrows originate from the right side of this box. The top arrow points towards the top-right box, and the bottom arrow points towards the bottom-right box.

New EIIS as primary software

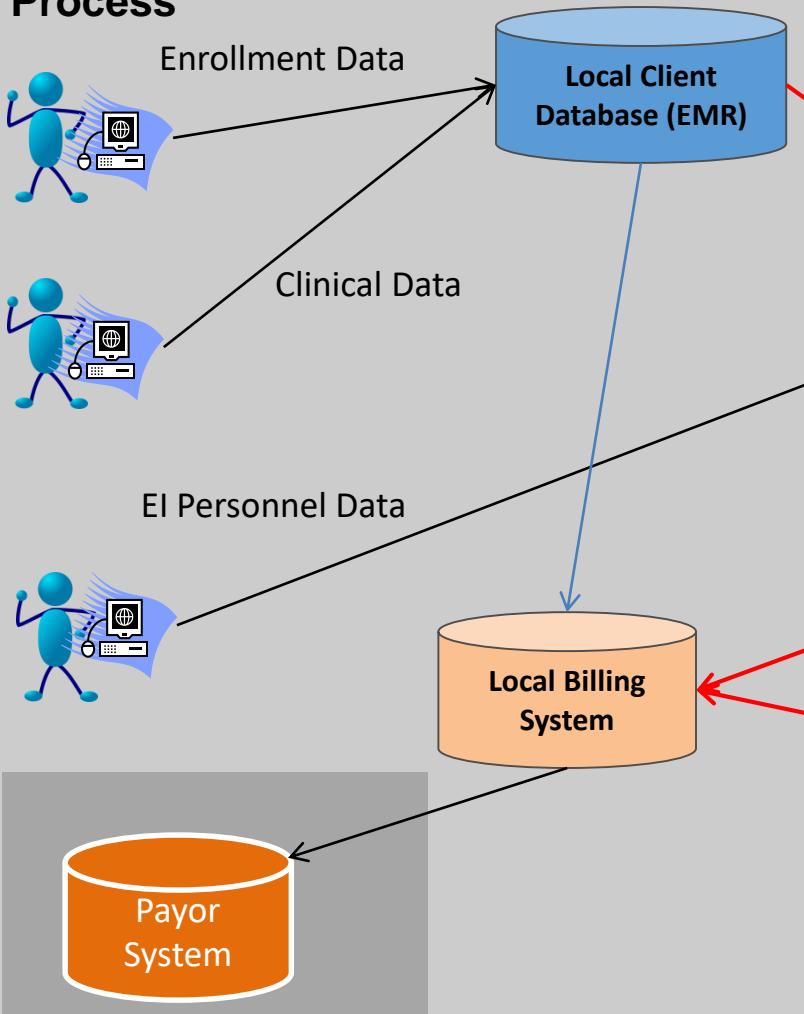
- EI DPH will develop extract for EMR upload

EMR as primary software (EIIS secondary)

- EI DPH will develop integration function for upload to EIIS
- EI agencies will develop extract for EIIS upload

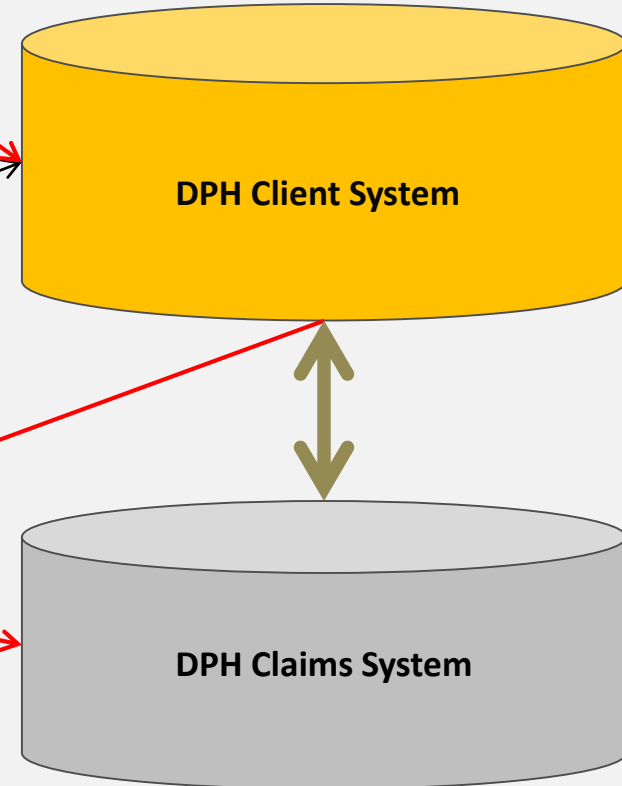
# Massachusetts: Future EI Data Processes

## Local Program Data Collection Process



## DPH Databases:

Option 2



Third Party Payor



# Data System Features



# Deciding on Features

- \* States can benefit from exploring features other states are using to collect and facilitate the reporting and use of data, including IFSP and IEP data.
- \* For each feature, specific business requirements are needed to communicate and document (in writing) all potential uses to meet program needs.
  - [Developing and Sharing Your Business Requirements to Build a Better Data System](#)

# DaSy Center Toolkit

## Including IFSP Information in Your Part C Data System: Selected Features and Related



# What You'll Find for Each Feature

- \* Connections to the [DaSy Data System Framework](#);
- \* Potential data elements needed to develop various aspects of the feature;
- \* A list of functionality options that could be used to implement the feature;
- \* Key design considerations;
- \* State examples,\* and
- \* Related technical assistance resources.

# Group Sharing & Discussion



# Related DaSy Resources

- ✿ [Key Considerations for Initiating and Planning a New Data System or Major Data System Enhancement](#)
  - Standard PDF and fillable worksheet
- ✿ [IFSP Toolkit - Including IFSP Information in Your Part C Data System](#)
- ✿ [DaSy Framework: System Design](#)
- ✿ [Developing and Sharing Your Business Requirements to Build a Better Data System](#)
- ✿ [Building a Better Data System: What are Process and Data Models?](#)

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<https://www.facebook.com/dasycenter>
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# Thank You

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