

Pegasystems & TxDOT's Additive Alternates Bidding Project: The Promise, the Reality, and the Future

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IT Strategy Office Director
Texas Department of Transportation



Modernizing Transportation with Technology

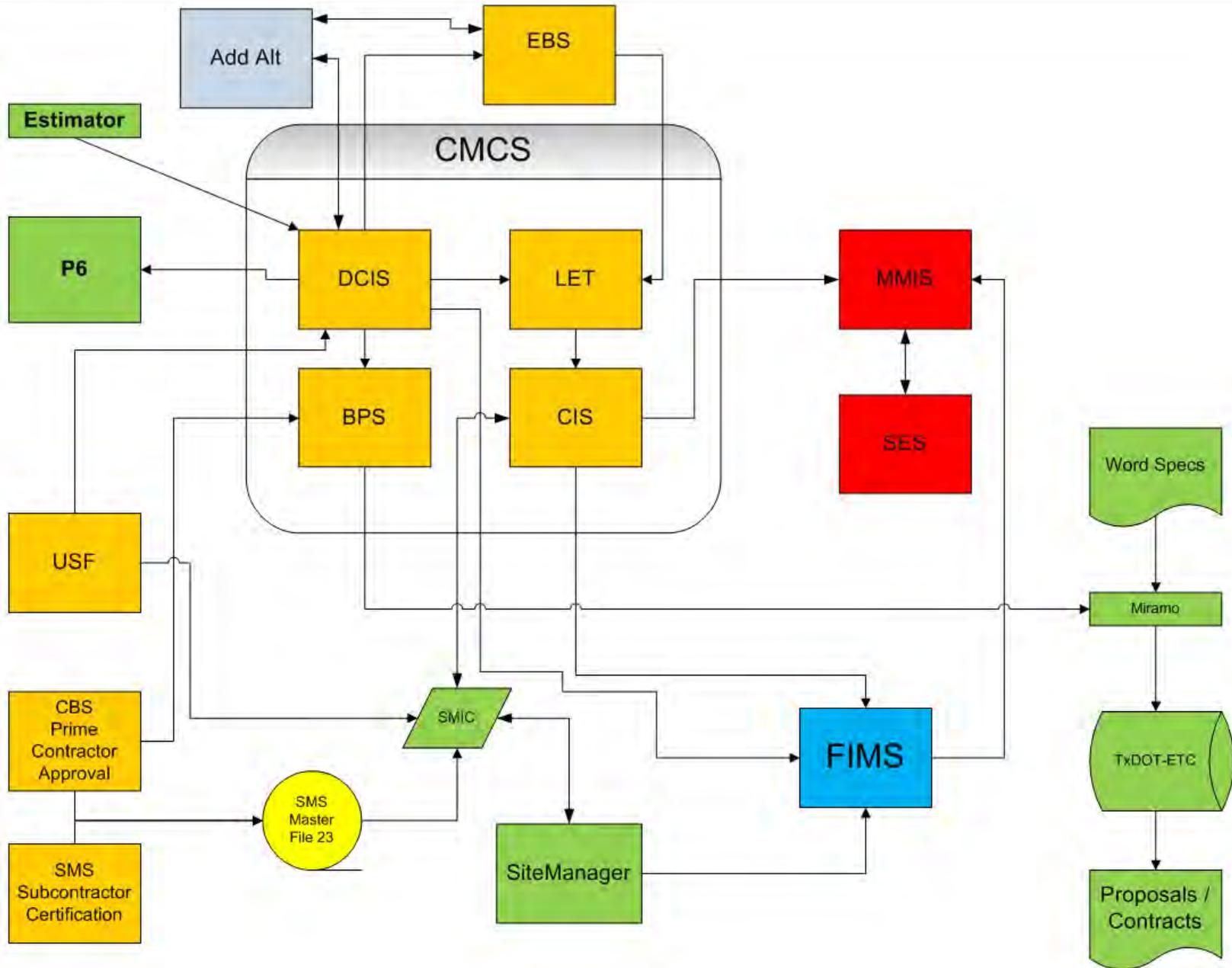


The need...

Additive Alternates—What is it?

- Base Bid – Minimum amount of work to achieve desired result
- Additive Alternates – Additional bundles of work related to the base bid
- The bid that includes the base bid plus the maximum amount of additive alternate work and falls within the project budget is selected

Contract Flow



Traditional Development Pitfall



What the customer really needed



How the customer explained it



What was built by the developers



How the project was documented

The problem...

Where we are:

- Mainframe, client/server and web applications
- Poorly documented
- Outdated functionality
- Difficult to support architecture
- Aging staff knowledge base

Where we need to go:

- Web based, Service Oriented Architecture
- Well documented code
- Ease of maintenance
- Reliable standardized architecture
- Up-to-date staff knowledge base
- Leverage analysis skills

Did someone say risk?

- Critical business need
- Deadline
- Unproven technology in our environment

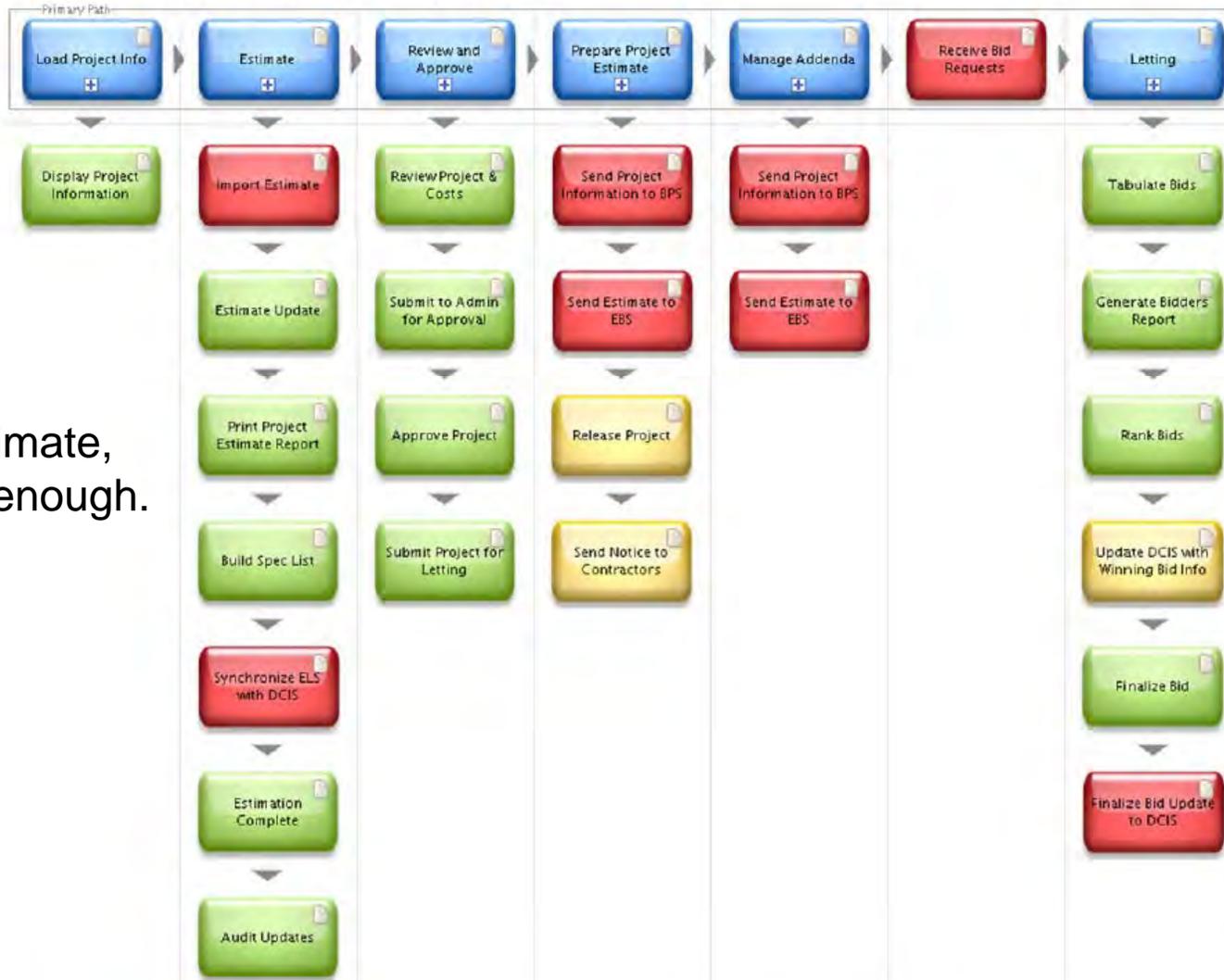
Scope?



The Promise

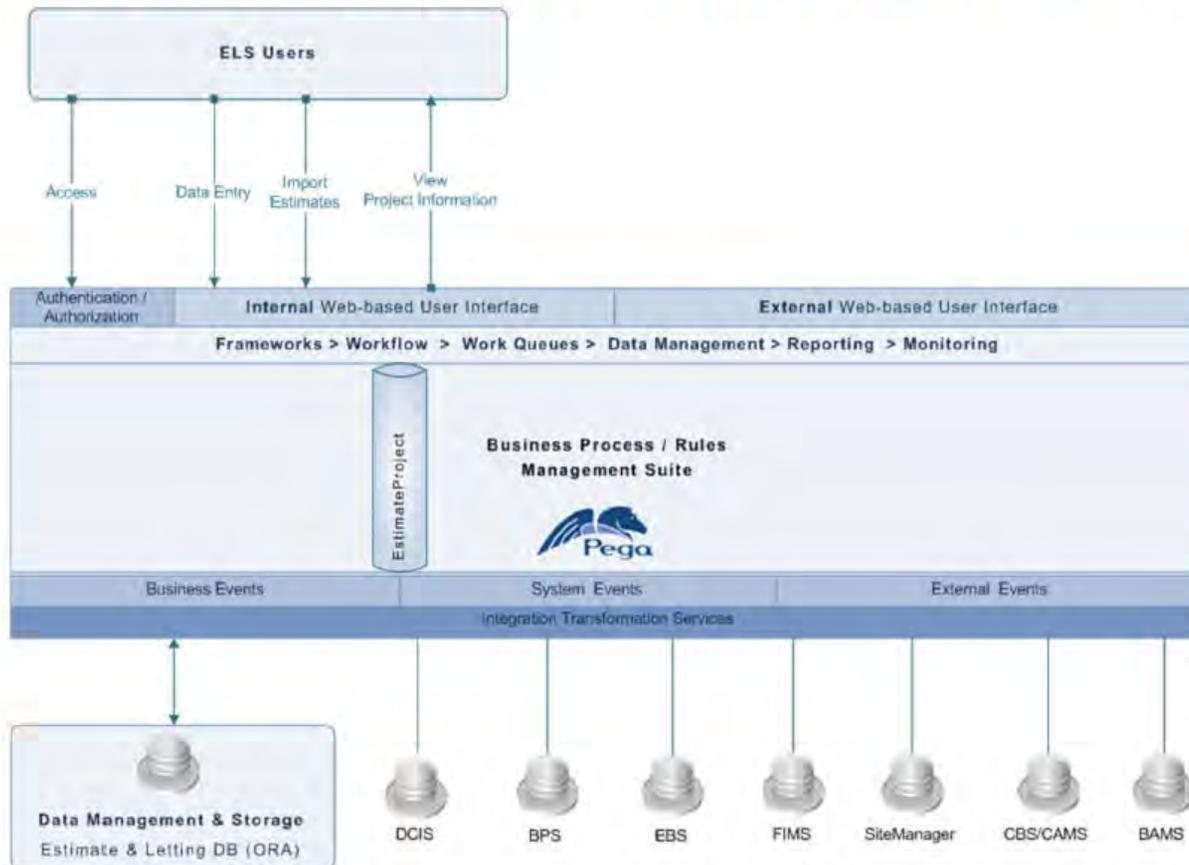


3.1.1 StartEstimateProject



Original estimate, looks easy enough.

Our Understanding High Level Solution Architecture – ELS (Future State)



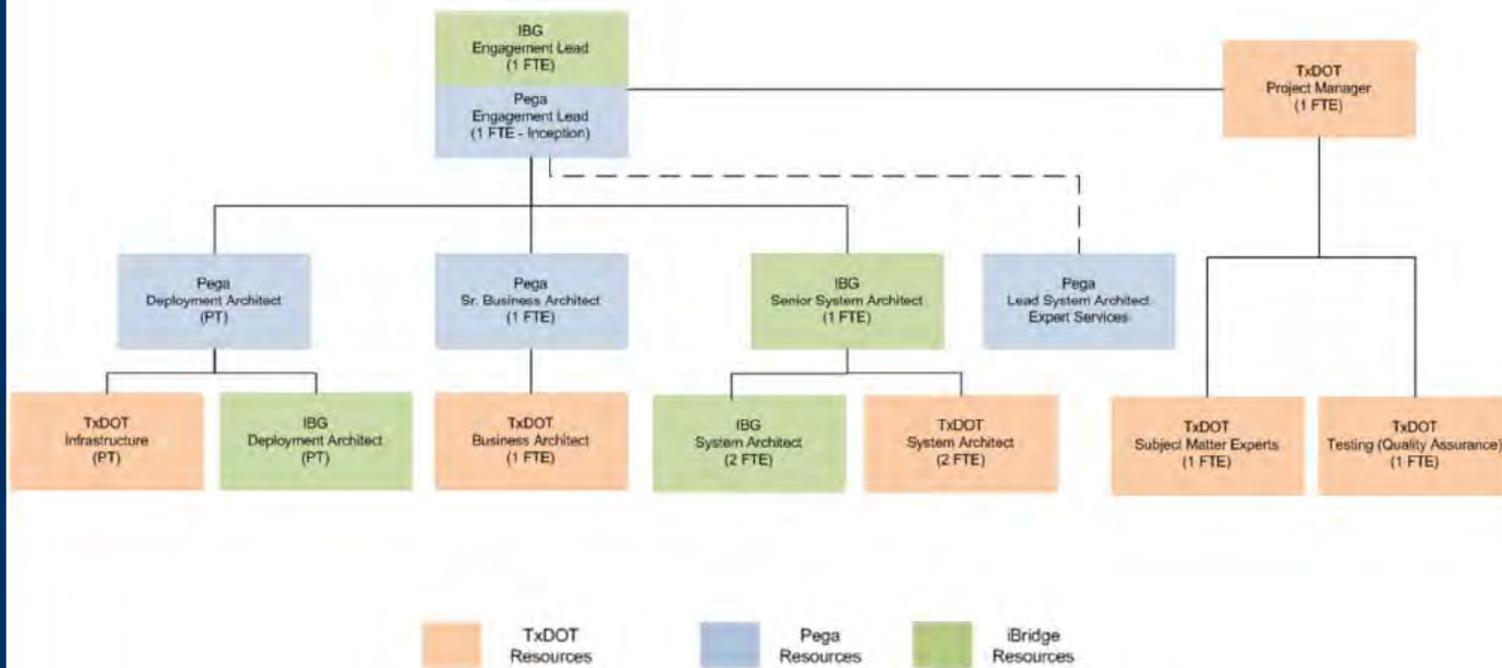
Sliver 1 - Proposed Timelines, Deliverables, Staffing Plan

		Sliver 1 Estimate & Letting for Add Alternate Bid Items															
Phase		5/2	5/9	5/16	5/23	5/30	6/6	6/13	6/20	6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15
Inception																	
Elaboration																	
Construction																	
Transition - Integrated System Testing																	
Core Team	Engagement Leader	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Core Team	Sr. Business Architect	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Core Team	Sr. System Architect			1	1	1	1	1	1	1	1	1	1	1	1	1	1
Core Team	System Architect			2	2	2	2	2	2	2	2	2	2				
Expert Services	Services		.7											1			
iBridge/Pega Team Headcount		2	2.7	5	5	6	5	5	5	5	5	5	5	4	3	2	2

Phase-wise Deliverables

- Inception phase - Requirements gathering using DCO, Application Profile, Application Accelerator
- Elaboration phase – Class Structure, Design the flows and skeletal structure
- Construction phase - Actual construction of the use cases, Unit Test plan, Unit Test cases, System Test Plan, System Test Cases
- Transition phase - System Test Results, UAT results, Defect resolution, Go-Live

Team Structure



Project kickoff!



Prepared by Pegasystems, for
Texas Department of
Transportation



PRPC Resource Sizing Estimate
Version 1



TxDOT – PRC 6.1 sp2 / PMF 6.1.2 sp1 – Installation Documentation

PRPC System Management Application (SMA)

Only one instance of SMA is required. However, for consistency, I set up SMA on both JVMs and configured both to support Dev and PMF management.

URL (pega): <http://pega-dev:9080/prsysmgmt>

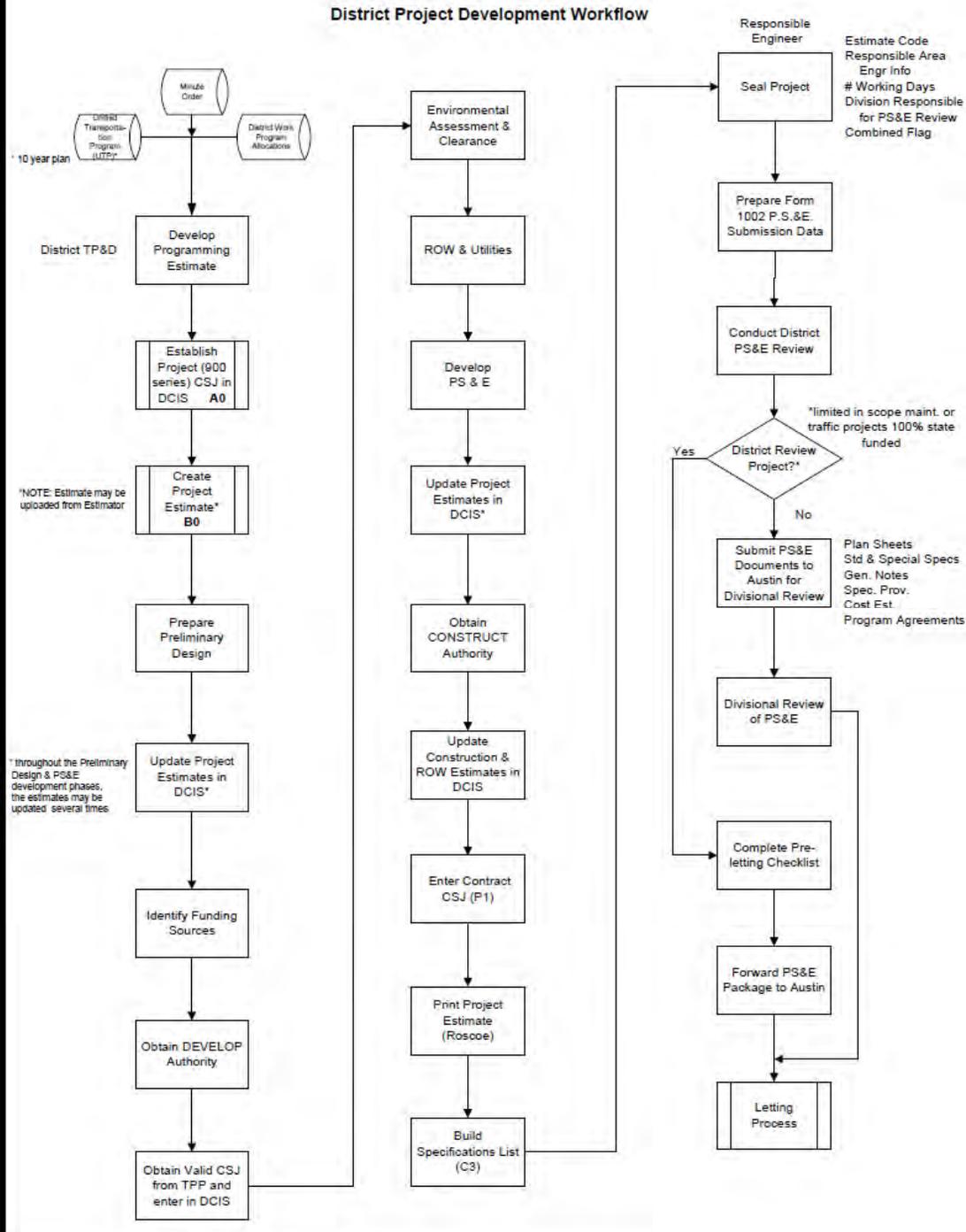
URL (PMF): <http://pega-dev2:9080/prsysmgmt>



Prepared by: Felipe Kohn (felipe.kohn@pega.com)
Date: 2011-July-14 at 12:40pm CDT

Page: 4

Conducted daily DCO sessions reviewed existing process.



Assigned documentation responsibility to team members.

Direct Capture of Objectives



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Responsible												
2	Those who do the work to achieve the task. There is typically one role with a participation type of <i>Responsible</i> , although others can be delegated to assist in the work re												
3	Accountable												
4	Those who are ultimately accountable for the correct and thorough completion of the deliverable or task, and the one to whom <i>Responsible</i> is accountable. In other wo <i>Accountable</i> must sign off (Approve) on work that <i>Responsible</i> provides. There must be only one <i>Accountable</i> specified for each task or deliverable.												
5	Support												
6	Resources allocated to <i>Responsible</i> . Unlike <i>Consulted</i> , who may provide input to the task, <i>Support</i> will assist in completing the task.												
7	Consulted												
8	Those whose opinions are sought; and with whom there is two-way communication.												
9	Informed												
10	Those who are kept up-to-date on progress, often only on completion of the task or deliverable; and with whom there is just one-way communication.												
11	Status (Milestones)												
12	DCO	Beginning DCO - nothing has been finalized											
13	Flows	Draft Flows are complete and agreed to											
14	Skeletal Structure	Draft Flows and Uis (including all data attributes mapped) are complete and agreed to											
15	Use Case Construction Complete	All Flows, UI and data fields mapped along with integration objects complete and working											
16	Unit Test Cases	Unit Test Cases are written for the Use case											
17	Unit Test	Unit test case have been ran and have passed exit criteria											
18													
19													
20													
21													
22													
23													
24													
25													
26													

Server Read-Only This workbook was opened from a server in read-only mode. Edit Workbook

	A	B	C	D	E	F	G	H	I
1	R - Responsible								
2	A - Accountable								
3	S - Support								
3	C - Consulted								
4	I - Informed								
5	Spr	Use Case Lead (BA)	TxDOT Lead (SME)	Use Case Tech Lead (SA)	Use Case Number	Use Case / Integration Point Name	Status (Milestone)	DCO 1 Time	DCO 1 Location
6	1	Justin	Rene	Keith	1.1.1.	Load Project Information	Flows	Tue-Jul-26 8:15 AM	Riverside
7	1	Tricia	Rene	Glen	1.1.2	Estimate	DCO	Thu-Jul-28 10:00 AM	Riverside
8	1	Justin	Rene	Keith	1.1.3	Review and Approve	DCO	Wed-Aug-03 8:15 AM	Riverside
9	2	Tricia	Rene	Glen	1.2.4	Prepare Project Estimate	DCO	Thu-Aug-11 8:15 AM	Riverside
10	2	Justin	Scott	Keith	1.2.5	Manage Addenda	DCO	Fri-Aug-12 8:15 AM	Riverside
11	2	Tricia	Scott	Glen	1.2.6	Receive Bid Requests	DCO	Fri-Aug-12 8:15 AM	Riverside
12	2	Justin	Scott	Keith	1.2.7	Letting	DCO	Mon-Aug-15 8:15 AM	Riverside
13	3	Tricia	Rene	Keith	1.3.1	Load Project Information - End to End	DCO	Wed-Aug-24 8:00 AM	Riverside
14	3	Tricia	Rene	Glen	1.3.2	Estimate - End to End	DCO	Fri-Aug-26 8:00 AM	Riverside
15	3	Justin	Rene	Keith	1.1.3	Review and Approve	DCO	Tue-Aug-30 8:00 AM	Riverside
16	3	Tricia	Rene	Keith	1.3.4	Prepare Project Estimate - End to End	DCO	Thu-Sep-01 8:00 AM	Riverside
17	3	Tricia	Tim	Glen	1.3.5	Manage Addenda - End to End	DCO	Tue-Sep-06 8:00 AM	Riverside
18	3	Tricia	Tim	Keith	1.3.6	Receive Bid Requests - End to End	DCO	Thu-Sep-08 8:00 AM	Riverside
19	3	Tricia	Tim	Glen	1.3.7	Letting - End to End	DCO	Mon-Sep-12 8:00 AM	Riverside
20	1	Billy	Bruce	Keith	1.1.8	Int - Send Project Proposal to EBS (Pull)	DCO	Wed-Jul-27 8:15 AM	Campus RM 324
21	1	Billy	Bruce	Keith	1.1.9	Int - ADABAS Connector to DCIS, FIMS, Storage	DCO	Tue-Aug-02 8:15 AM	Campus RM 324
22	1	Billy	Bruce	Keith	1.1.19	Int - Common TACS (Table and Code System)	DCO	Mon-Aug-08 8:15 AM	Campus RM 332
23	1	Noreen	James	Keith	1.1.16	Int - BAMS Connector - DBA	DCO	Wed-Aug-10 8:15 AM	Campus RM 324
24	1	Billy	Bruce	Keith	1.1.11	Int - Common Design SQL Server.	DCO	Mon-Aug-15 8:15 AM	Campus RM 324
25	1	Bruce	Kay	Keith	1.1.17	Int- ELS Database - DBA	DCO	Wed-Aug-17 8:15 AM	Campus RM 332
26	2	Billy	Bruce	Keith	1.2.14	Int - SiteManager Connector (Item Master) - DBA	DCO	Mon-Aug-22 8:15 AM	Campus RM 507
27	2	Billy	Bruce	Keith	1.2.15	Int - Get Vendor Info from CBS (Common Constructor	DCO	Wed-Aug-24 8:15 AM	Campus RM 507
28	2	Bruce	Billy	Keith	1.2.10	Int - Receive Bid Requests from EBS	DCO	Mon-Aug-29 8:15 AM	Campus RM 507
29	2	Bruce	Billy	Keith	1.2.12	Int - Import from Estimate Spreadsheet	DCO	Wed-Aug-31 8:15 AM	Campus RM 332
30	2	Stewart	Thane	Keith	1.2.13	Int - Site Manager (Pull from Site Manager)	DCO	Tue-Sep-06 8:15 AM	Campus RM 324
31	2	Bruce	Ana	Keith	1.2.18	Int - Spec List - BPS Connector	DCO	Thu-Sep-08 8:15 AM	Campus RM 332
32									
33									

	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	
1			CO	TxDOT														iBridge														
2			Department																													
3			Title	Proj	Proj	Syst	Syst	Syst	Syst	Syst	Syst	Syst	Bu	Bu	Qual	Subj	Subj	Data	Data	Web	Web	Hard	Bu	Subj	Subj	Hard	Proj	Eng	Lead	Seni	Seni	Depl
4			Name	Tim Jennings	David Debo	Billy Snyder	Bruce Wilson	Thane Mitchell	Stewart Dewitt	Noreen Ozment	James Bunner	Tricia Ramirez	Rolando Tovar	Michelle Flores	Scott Nichols	Rene Garcia	Kay Bradley	Ted Wilson	James Pennington	Gary Grose	Kevin Wagner	Ana Rameriz	Griselda Martinez	Tim West	Gia Dirks	Tim Lindstrom	Molly Rivera	Justin Hissong	Keith Carrington	Glen Caldwell	Scott Shurtz	
5	DCO 2 Location	PRPC Rule Set ID	Total Count	26	26	26	26	1	1	1	1	26	26	26	26	23	26	26	20	20	0	11	14	14	0	26	26	26	26	26	12	
6	Riverside		>																													
7	Riverside		V																													
8	Riverside			I	A	C	C					S	S	I	S	R	C	C	C	C			S	S		I	A	R	S	S		
9	Riverside			I	A	C	C					S	S	I	S	R	C	C	C	C			S	S	S	I	A	R	S	S		
10	Riverside			I	A	C	C					S	S	I	R	S	C	C	C	C			S	S	S	I	I	S	S	S		
11	Riverside			I	A	C	C					S	S	I	R	S	C	C	C	C			S	S	S	I	I	C	C	C		
12	Riverside			I	A	S	C					S	S	I	R		C	C	C	C			S	S		I	I	S	C	C		
13	Riverside			I	A	C	C					S	S	I	S	R	C	C	C	C			S	S		I	A	R	S	S		
14	Riverside			I	A	C	C					S	S	I	S	R	C	C	C	C			S	S	S	I	A	R	S	S		
15	Riverside			I	A	C	C					S	S	I	S	R	C	C	C	C			S	S	S	I	A	R	S	S		
16	Riverside			I	A	C	C					S	S	I	S	R	C	C	C	C			S	S	S	I	A	R	S	S		
17	Riverside			I	A	C	C					S	S	I	S	S	C	C	C	C			S	R		I	I	C	C	C		
18	Riverside			I	A	C	C					S	S	I	S		C	C	C	C			S	S	R	I	I	C	C	C		
19	Riverside			I	A	S	C					S	S	I	S		C	C	C	C			S	S	R	I	I	C	C	C		
20	Campus RM 324			I	A	R	S					C	C	I	C	I	S	S	I	I						I	I	I	S	C	C	
21	Campus RM 324			I	A	R	S					C	C	I	C	C	S	S	I	I						I	I	I	S	C	C	
22	Campus RM 324			I	A	R	S					C	C	C	C	C	S	S	I	I						I	I	I	S	C	C	
23	Campus RM 324			I	A	R	S			R	S	S	S	I	C	C	S	S								I	I	I	S	C	C	
24	Campus RM 332			I	A	R	S					C	C	I	C	C	S	S	I	I						I	I	I	S	C	C	
25	Campus RM 332			I	A	S	S					C	C	I	C	C	R	S								I	I	I	S	C	C	
26	Campus RM 507			I	A	R	S					C	C	I	C	C	S	S	I	I						I	I	I	S	C	C	
27	Campus RM 507			I	A	R	S					C	C	C	C	C	S	S	I	I						I	I	I	S	C	C	

Reality

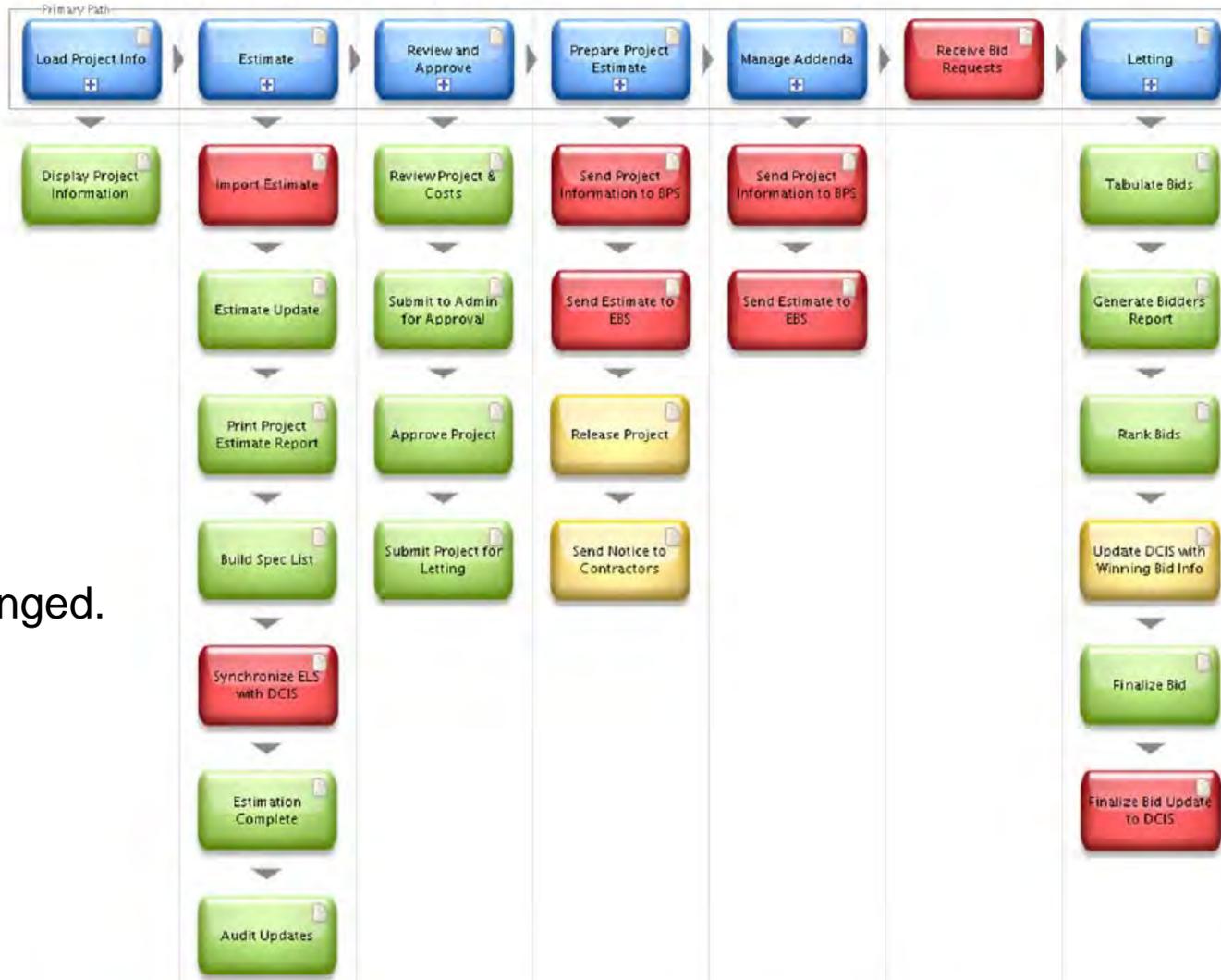
Time really flies!



We made a few changes.

- We changed the timeline from 16 weeks to 10 months.
- We increased project staffing.
- We adjusted the payment schedule but the bottom line didn't change.
- We still delivered a significant application in 10 months.

3.1.1 StartEstimateProject



This changed.

TxDOTELSFW - bug fixes round 3 - SmartBPM (BA) - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zY2bHr8_WVICm8Ww87PHrb_fvLDS00SM4%5B*/!Devel

File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

Application Explorer

TxDOT-FW-ELSFW-Work

- Data Model
- Process
- Decision
- User Interface
- Integration-Services
- Reports
- Technical
- Security
- SysAdmin
- Application Definition
- ContractCSJ
- Letting
- LoadEstimate
- Tabulation

Discovery Map Status Use Case Explorer Governance KPIs What's Happening

Work type: ProjectCSJ Starting process: StartProjectCSJ

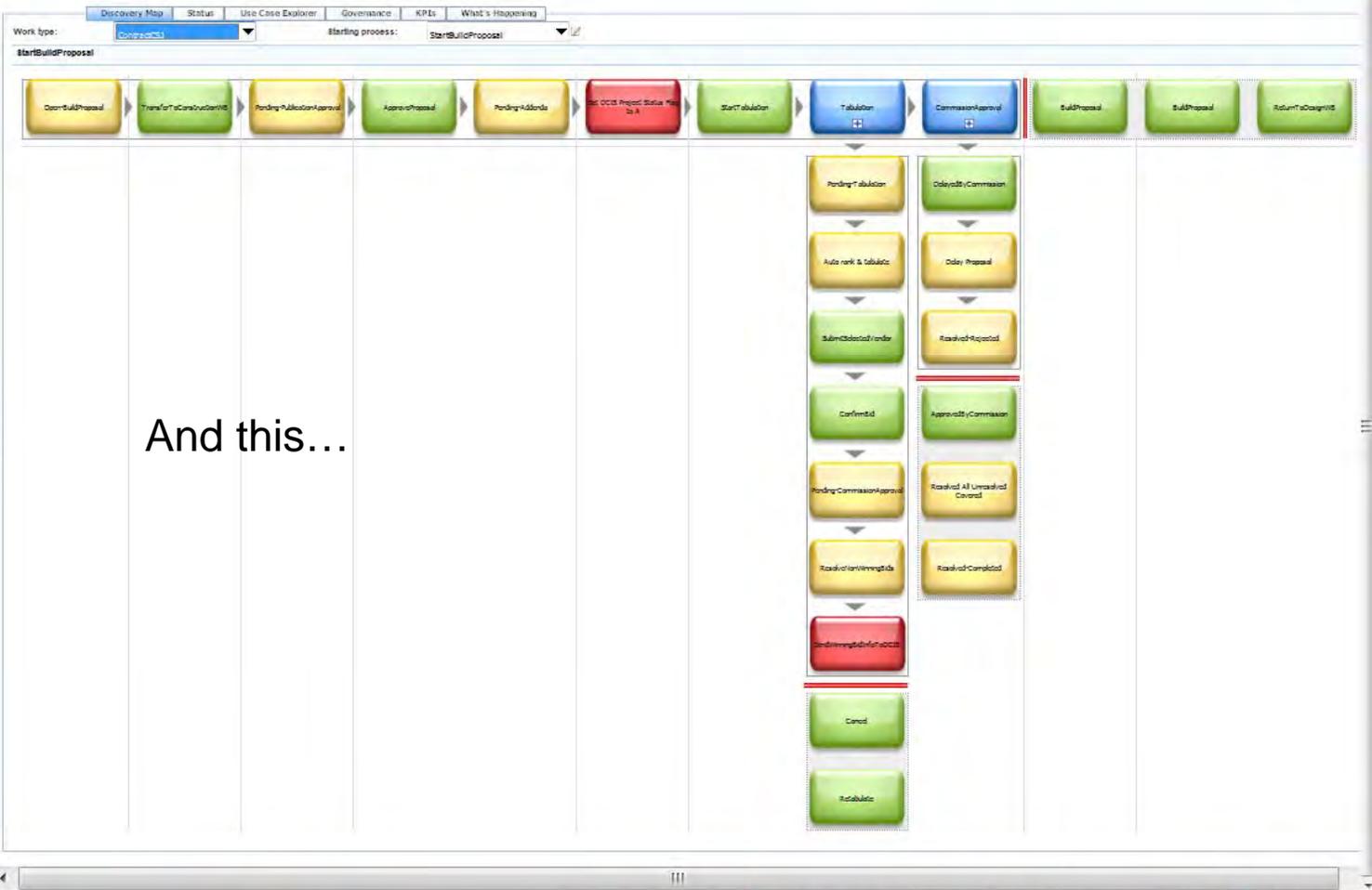
StartProjectCSJ

To this....

Local intranet | Protected Mode: Off 100%

3:36 PM 4/30/2012

- TxDOT-FW-ELFSW-Work
- [-] Data Model
- [-] Process
- [-] Decision
- [-] User Interface
- [-] Integration-Services
- [-] Reports
- [-] Technical
- [-] Security
- [-] Spoken
- [-] Application Definition
- [-] Contract(CS)
- [-] Letting
- [-] LoadEstimate
- [-] Tabulation



And this...

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zY2bhr8_WViCJm8Ww87PHrb_fvLDS00SM4%5B*/!Devel

File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes round 3 - S... David Debo

Application Explorer

TxDOT-FW-ELSPW-Work

- Data Model
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Discovery Map Status Use Case Explorer Governance KPIs What's Happening

Work type: Addendum Starting process: StartAddenda

StartAddenda

Status Pending-Accense → Set DCIS Project Status Flag to 4 → Update DCIS Est. Code (ownership) → PublishAddendum → Set DCIS Project Status Flag to 4 → Resolved-Completed → AddendaNotification → Cancel → Set DCIS Project Status Flag to 4 → Resolved-Canceled

And this...

Local intranet | Protected Mode: Off 80%

4:21 PM 4/30/2012

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

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File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes round 3 - S... David Debo

Application Explorer

TxDOT-FW-ELSPW-Work

- Data Model
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Discovery Map Status Use Case Explorer Governance KPIs What's Happening

Work type: LoadEstimate Starting process: LoadEstimate

LoadEstimate

Pending-LoadEstimate LoadEstimates ForEachCS3CreateProcCS3 Resolved-Completed ProcessiveCS3 Cancel DoNotOverrideExistingEstimate OverrideExistingEstimate Cancel Cancel

And this...

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4:21 PM 4/30/2012

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

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File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes round 3 - S... David Debo

Application Explorer

TxDOT-FW-ELSPW-Work

- Data Model
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Discovery Map Status Use Case Explorer Governance KPIs What's Happening

Work type: Letting starting process: StartLetting

StartLetting

UpdateStatusForLetting → CreateManualBids → AssignManualBids → Create Bids For Each Vendor → GetElectronicBids → ConfirmElectronicBids → Get Electronic Bids → Cancel → LettingComplete → Resolved-Completed

And this...

Local intranet | Protected Mode: Off 80%

4:22 PM 4/30/2012

TxDOTELSFW - bug fixes round 3 - SmartBPM (BA) - Windows Internet Explorer

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File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes ro... David Debo

Application Explorer

TxDOT-FW-ELSFW-Work

- Data Model
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Discovery Map | Status | **Use Case Explorer** | Governance | KPIs | What's Happening

Work Types & Use Cases	Short Description	Type
ProjectCSJ	Estimate	Work Type
ContractCSJ	Proposal	Work Type
Addendum	Addendum	Work Type
Bid	Bid	Work Type
LoadEstimate	Load Estimates	Work Type
Letting	Letting	Work Type
Tabulation	Bid Tabulation & Ranking	Work Type
Common	Use cases shared by multiple work types	Supporting Type
Security	Use cases dealing with authentication, authorization	Supporting Type
Navigation	Use cases specific to getting between work types and general ...	Supporting Type
DataManagement	Use cases specific to managing lists of products, reference d...	Supporting Type
SysAdmin	Use cases specific to managing operator profiles, calendars, ...	Supporting Type

Local intranet | Protected Mode: Off

3:41 PM
4/30/2012

This is just a different view of the discovery map. See tabs At the top.

TxDOTELSFW - bug fixes round 3 - SmartBPM (BA) - Windows Internet Explorer

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File Edit View Favorites Tools Help

Application Explorer

- TxDOT-FW-ELSFW-Work
- Data Model
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Work Types & Use Cases	Short Description	Type
ProjectCSJ	Estimate	Work Type
ContractSearchCriteria	Contract Search Criteria	Use Case
DisplayProjectInformation	Display Project Information	Use Case
DisplaySearchResults	Display Search Results	Use Case
LoadProjectInfo	Load Project Info	Use Case
QueryCommonDesign	Query Common Design	Use Case
SelectContractProject	Select Contract/Project	Use Case
UC_S2_015_Start_Estimate	UC_S2_015_Start_Estimate	Use Case
UC_S2_017_Estimate_Update_or_Manual_Create	UC_S2_017_Estimate_Update_or_Manual_Create	Use Case
UC_S2_018_Spec_List_Creation	UC_S2_018_Spec_List_Creation	Use Case
UC_S2_019_Print_Project_Estimate	UC_S2_019_Print_Project_Estimate	Use Case
UC_S2_020_Submit_Estimate_for_Approval	UC_S2_020_Submit_Estimate_for_Approval	Use Case
UC_S2_022_Write_Data_to_ELS_Database	UC_S2_022_Write_Data_to_ELS_Database	Use Case
UC_S2_023_NotifyStakeholders	UC_S2_023_Notify Stakeholders	Use Case
UC_S2_024_Submit_EstimateforProposal	UC_S2_024_Submit_Estimate for Proposal	Use Case
UC_S3_016_Load_Estimate	UC_S3_016_Load_Estimate	Use Case
UC_S3_021_Line_item_and_Specification_Validation	UC_S3_021_Line_item_and_Specification_Validation	Use Case
ContractCSJ	Proposal	Work Type
UC_S1_001_Start_Proposal	UC_S1_001_Start_Proposal	Use Case
UC_S1_002_View_Proposal	UC_S1_002_View_Proposal	Use Case
UC_S1_003_Generate_Proposal	UC_S1_003_Generate_Proposal	Use Case
UC_S1_004_Proposal_Publication	UC_S1_004_Proposal_Publication	Use Case
UC_S3_001_StartProposal	UC_S3_001_Start Proposal	Use Case
UC_S3_003_Generate_Proposal	UC_S3_003_Generate_Proposal	Use Case
UC_S3_004_Proposal_Publication	UC_S3_004_Proposal_Publication	Use Case
UC_S3_025_Build_Proposal	UC_S3_025_Build_Proposal	Use Case
UC_S4_007_Bid_Opening	UC_S4_007_Bid_Opening	Use Case
UC_S4_012_Tabulate_and_Ranking_of_Bids	UC_S4_012_Tabulate_and_Ranking_of_Bids	Use Case
UC_S4_013_Generate_Bid_Tab_Report	UC_S4_013_Generate_Bid_Tab_Report	Use Case

Expanded view of previous slide. All of this is documentation that is used to generate the Application Document.

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3:39 PM
4/30/2012

- TxDOT-FW-ELFSW-Work
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Edit

Name: ContractSearchCriteria Short Description: Contract Search Criteria

RuleSet: ELSFW:01-01-01

active

Shape: Human Based Step Trigger: Web Browser

Status: New Complexity: Low

Actors:

- DCIS
- ELS
- MNT/TRF/DES User
- District User
- FIN User
- TPP User

Business Objective:
Increase the amount of work that can be performed for less money by implementing Add Alternate Bid Items within Bid/Estimate/Proposal proc

Subject Matter Experts:
Tricia Ramirez

OK Cancel

Select a use cases (example in previous slide) and a screen like this opens up to allow for input.

- TxDOT-FW-ELSFW-Work
 - Data Model
 - Process
 - Decision
 - User Interface
 - Integration-Services
 - Reports
 - Technical
 - Security
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Edit

Name: ContractSearchCriteria Short Description: Contract Search Criteria
RuleSet: ELSFW:01-01-01

Details **Description** Requirements Attachments Comments

[Open in Word](#) active

Use tabs at top to work through.

Anal 13

Description:
Each project in DCIS is assigned a control section number, and this is the key to retrieving information from DCIS.

Normal Course of Events:

1. User logs in to application
2. User selects option to search for a CSJ (or Project Number, see alternate course 1 for this)
3. User is presented with a selection screen with a basic and advanced option (see alternate course 2 for advanced search)
4. User selects basic option
- 4) User inputs CSJ if known, or 1st 3 numbers for drop-down list of available CSJs to show (or Project Number, see alternate course 1 for this)
- 5) User clicks Search button

Alternate Course

- 1) User inputs Project Number from basic search screen, or if Project Number is not known, input the first 3 characters of project number for a drop-down list of available numbers, then clicks Search

OK Cancel

- TxDOT-FW-ELFSW-Work
 - Data Model
 - Process
 - Decision
 - User Interface
 - Integration-Services
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Application Definition
 - ContractCSJ
 - Letting
 - LoadEstimate
 - Tabulation

Edit

Name: UC_S2_015_Start_Estimate Short Description: UC_S2_015_Start_Estimate
RuleSet: ELSFW:01-01-02

Details Description Requirements Attachments Comments

Shape: Human Based Step Trigger: Web Browser
Status: Open Complexity: Medium

Actors:
District User
Design Division User
ELS Database
ELS Application
DCIS

Business Objective:
Improve auditing by maintaining all Add Alternative bid item information and modifications within the system

Subject Matter Experts:
Rene Garcia

OK Cancel

This is an example of a use case that was developed in Word then imported. You still fill out the detail screen (see blue tab above).

- TxDOT-FW-ELFSW-Work
 - Data Model
 - Process
 - Decision
 - User Interface
 - Integration-Services
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Application Definition
 - ContractCSJ
 - Letting
 - LoadEstimate
 - Tabulation

Edit

Name: UC_S2_015_Start_Estimate Short Description: UC_S2_015_Start_Estimate
RuleSet: ELSFW:01-01-02

Details Description Requirements Attachments Comments

 [Open in Word](#)

This document was last modified using MS Word on 1/6/12 2:46 PM

OK Cancel

But this tab is just used to hold the imported document.

- TxDOT-FW-ELFSW-Work
 - Data Model
 - Process
 - Decision
 - User Interface
 - Integration-Services
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Application Definition
 - ContractCSJ
 - Letting
 - LoadEstimate
 - Tabulation

Edit

Name: UC_S2_015_Start_Estimate Short Description: UC_S2_015_Start_Estimate

RuleSet: ELSFW:01-01-02

Requirements				
Name	Category	Importance	Status	External Req. ID
> AdvancedProjectsSearch	Business Rule	3 - Important	Open	
> AssociatedProjects	Business Rule	3 - Important	Open	
> AssociatedProjectsFields	Business Rule	2 - Very Important	Open	
> BasicCSJSearch	Business Rule	2 - Very Important	Open	
> BasicSearchCriteria	Business Rule	3 - Important	Open	
> CCSJAdvancedSearch	Business Rule	3 - Important	Open	
> CSJDigitSearch	Business Rule	4 - Desirable	Open	
> CSJSelectionListResults	Business Rule	3 - Important	Open	
> CaptureProjectClass	Business Rule	5 - Useful	Defer	

OK Cancel

Then you tie the use case back to the appropriate requirements.

You can also attach & comment.

Application Summary

TxDOTELFSW - bug fixes round 3

Description:

CMD (Construction Division) of TXDOT (State of Texas Department of Transportation) use ADABAS/Natural based systems mainframe systems to manage the state allocated funds and the bid proposals from the bidders/contractors. The current processes and systems cannot handle the Add Alternate Bid Items which is new and efficient way of managing the allocated funds. TxDOT strongly believes that by increasing the usage of bids that contain Add Alternate Bid Items and options, the allocated funds can be utilized more efficiently.

Business Objectives:

- 1 Increase the amount of work that can be performed for less money by implementing Add Alternate Bid Items within Bid/Estimate/Proposal process
- 2 Improve fund forecasting of projects by allowing more proposal options to be allocated within 2 to 3% of estimates
- 3 Improve District Project funding by automating the Add Alternate bid items tabulation capabilities
- 4 Improve auditing by maintaining all Add Alternative bid item information and modifications within the system
- 5 Reduce risk for TxDOT's Pega adoption by replacing existing system incrementally

Details and History:

Rule:	TxDOTELFSW
Version:	01.01.13
RuleSet:	ELFSW
Created:	4/11/2012 2:29 PM by Glen Caldwell
Updated:	4/11/2012 2:29 PM by Glen Caldwell

Once you've done all that you can generate an Application Document.

Comes standard with Pega.

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo

File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S... David Debo Logout

Document an Application

Application

Select an Application: TxDOTELSFW

Select a Template: Application Document

Options

Detail Level: High Level Overview

Section headings will display: Short Description

Suppress Class and RuleSet references:

Create links to rule forms within document:

Rule Sets

Make Selection

- ✓ ELSFW
- ✓ ELS-DB-Int
- ✓ ELS-FileImp-Int
- ✓ ELSFileExp-Int
- ✓ ELSFWInt
- ✓ TxDOT
- ✓ TxDOTInt

Work Types and Supporting Use Case Categories

Make Selection

Document Preview with
Click Refresh to update Pr

Document Table of Contents (Preview)

Refresh

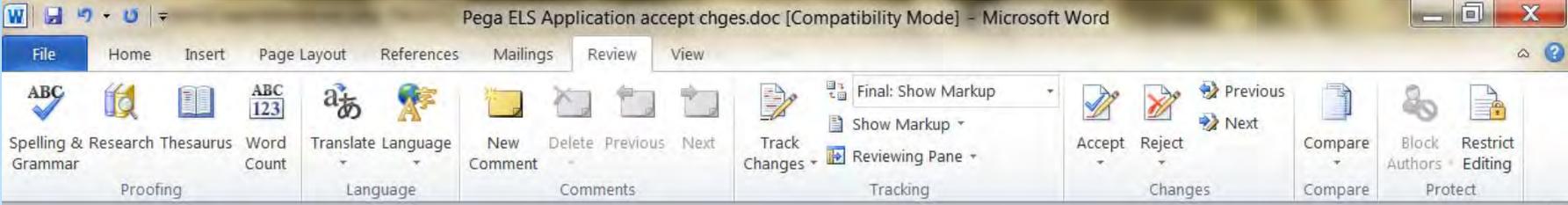
- 1 Application Overview
- 2 ProjectCSJ
- 3 ContractCSJ
- 4 Addendum
- 5 Bid
- 6 LoadEstimate
- 7 Letting
- 8 Tabulation
- 9 Common
- 10 Security
- 11 Navigation

Cancel Save Next >> Document Now

Local intranet | Protected Mode: Off 125%

Note the bar, lots more choices below.





 APPLICATION DOCUMENT 

This document combines whatever you care to see.
This one is a 270 page document that includes the current
version of all Business Process Management flows and
corresponding use cases.

Application Document for
TxDOTELSFW
01.01.13
TxDOTELSFW - bug fixes round 3

Contents

1 Application Overview

- 1.1 Description
- 1.2 Business Objectives
- 1.3 Actors
- 1.4 Case Type Definitions
- 1.5 Work Types
- 1.6 Supporting Types
- 1.7 RuleSets

2 ProjectCSJ

2.1 Other Use Cases referenced in the application (outside of a Process)

- 2.1.1 Contract Search Criteria - Use Case
- 2.1.2 Display Project Information - Use Case
- 2.1.3 Display Search Results - Use Case
- 2.1.4 Load Project Info - Use Case
- 2.1.5 Query Common Design - Use Case
- 2.1.6 Select Contract/Project - Use Case
- 2.1.7 UC_S2_015_Start_Estimate - Use Case
- 2.1.8 UC_S2_017_Estimate_Update_or_Manual_Create - Use Case
- 2.1.9 UC_S2_018_Spec_List_Creation - Use Case
- 2.1.10 UC_S2_019_Print_Project_Estimate - Use Case
- 2.1.11 UC_S2_020_Submit_Estimate_for_Approval - Use Case
- 2.1.12 UC_S2_022_Write_Data_to_ELS_Database - Use Case

2.1.13 UC_S2_023_Notify Stakeholders - Use Case

2.1.14 UC_S2_024_Submit_Estimate for Proposal - Use Case

2.1.15 UC_S3_016_Load_Estimate - Use Case

2.1.16 UC_S3_021_Line_item_and_Specification_Validation - Use Case

3 ContractCSJ

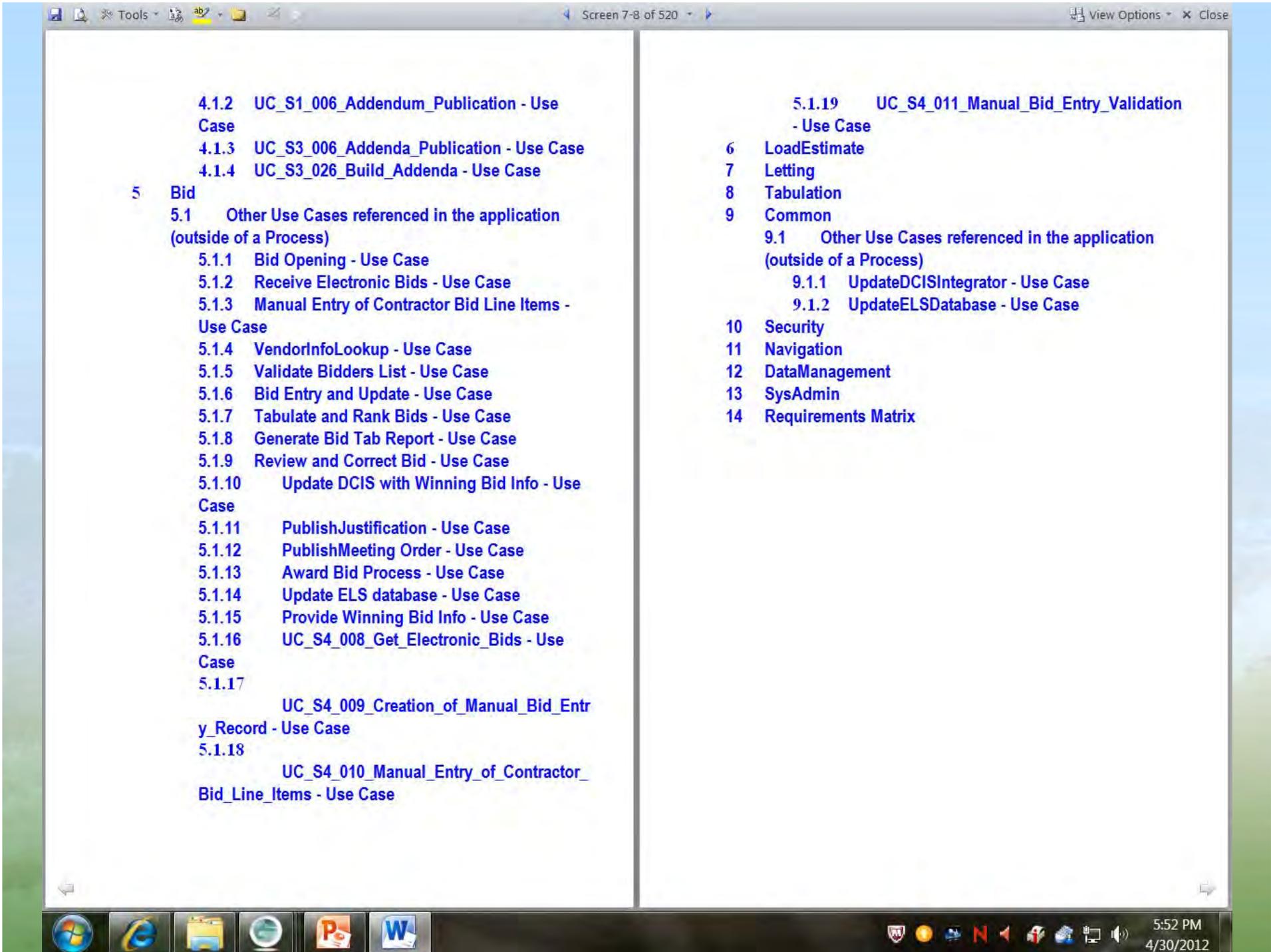
3.1 Other Use Cases referenced in the application (outside of a Process)

- 3.1.1 UC_S1_001_Start_Proposal - Use Case
- 3.1.2 UC_S1_002_View_Proposal - Use Case
- 3.1.3 UC_S1_003_Generate_Proposal - Use Case
- 3.1.4 UC_S1_004_Proposal_Publication - Use Case
- 3.1.5 UC_S3_001_Start Proposal - Use Case
- 3.1.6 UC_S3_003_Generate_Proposal - Use Case
- 3.1.7 UC_S3_004_Proposal_Publication - Use Case
- 3.1.8 UC_S3_025_Build_Proposal - Use Case
- 3.1.9 UC_S4_007_Bid_Opening - Use Case
- 3.1.10 UC_S4_012_Tabulate_and_Ranking_of_Bids - Use Case
- 3.1.11 UC_S4_013_Generate_Bid_Tab_Report - Use Case
- 3.1.12 UC_S4_014_Update_from_Commission_Meeting - Use Case

4 Addendum

4.1 Other Use Cases referenced in the application (outside of a Process)

- 4.1.1 UC_S1_005_View_Addendum - Use Case



4.1.2 UC_S1_006_Addendum_Publication - Use Case

4.1.3 UC_S3_006_Addenda_Publication - Use Case

4.1.4 UC_S3_026_Build_Addenda - Use Case

5 Bid

5.1 Other Use Cases referenced in the application (outside of a Process)

5.1.1 Bid Opening - Use Case

5.1.2 Receive Electronic Bids - Use Case

5.1.3 Manual Entry of Contractor Bid Line Items - Use Case

5.1.4 VendorInfoLookup - Use Case

5.1.5 Validate Bidders List - Use Case

5.1.6 Bid Entry and Update - Use Case

5.1.7 Tabulate and Rank Bids - Use Case

5.1.8 Generate Bid Tab Report - Use Case

5.1.9 Review and Correct Bid - Use Case

5.1.10 Update DCIS with Winning Bid Info - Use Case

5.1.11 PublishJustification - Use Case

5.1.12 PublishMeeting Order - Use Case

5.1.13 Award Bid Process - Use Case

5.1.14 Update ELS database - Use Case

5.1.15 Provide Winning Bid Info - Use Case

5.1.16 UC_S4_008_Get_Electronic_Bids - Use Case

5.1.17

UC_S4_009_Creation_of_Manual_Bid_Entry_Record - Use Case

5.1.18

UC_S4_010_Manual_Entry_of_Contractor_Bid_Line_Items - Use Case

5.1.19 UC_S4_011_Manual_Bid_Entry_Validation - Use Case

6 LoadEstimate

7 Letting

8 Tabulation

9 Common

9.1 Other Use Cases referenced in the application (outside of a Process)

9.1.1 UpdateDCISIntegrator - Use Case

9.1.2 UpdateELSDatabase - Use Case

10 Security

11 Navigation

12 DataManagement

13 SysAdmin

14 Requirements Matrix

Actor	Type	Count	Access Method
Traffic Division User	Operator		Browser
Traffic Division User	Operator		Browser
Contract Letting User	Operator		Browser
ELS Application	This System		System Agent

1.4 Case Type Definitions

Case Type	Prefix	Starting Process
ELSFW - Framework (ELSFW - Framework)	W-	
Proposal (Proposal)		
Estimate (Estimate)	PC-	
Bid (Bid)		
Addendum (Addendum)		StartAddenda
Other (Other)	C-	
Letting (Letting)	W-	
Load Estimates (Load Estimates)		
Bid Tabulation & Ranking (Bid Tabulation & Ranking)	W-	

1.5 Work Types

Name	Implementation Class
ProjectCSJ	TxDOT-FW-ELSFW-Work-ContractCSJ-ProjectCSJ
ContractCSJ	TxDOT-FW-ELSFW-Work-ContractCSJ
Addendum	TxDOT-FW-ELSFW-Work-ContractCSJ-Addenda
Bid	TxDOT-FW-ELSFW-Work-ContractCSJ-Bid
LoadEstimate	TxDOT-FW-ELSFW-Work-LoadEstimate

Name	Implementation Class
Letting	TxDOT-FW-ELSFW-Work-Letting
Tabulation	TxDOT-FW-ELSFW-Work-Tabulation

1.6 Supporting Types

Name	Description
Common	Use cases shared by multiple work types
Security	Use cases dealing with authentication, authorization
Navigation	Use cases specific to getting between work types and general application processing
DataManagement	Use cases specific to managing lists of products, reference data tables, broadcast messages
SysAdmin	Use cases specific to managing operator profiles, calendars, skills, rule migration/promotion

1.7 RuleSets

RuleSet	Version	Description	Prerequisites
ELSFW	01-01-13	RuleSet to identify, manage, and control the set of rule instances that define ELSFW application	Pega-ProcessCommander:06-02-10 TxDOT:01-01-02 ELS-DB-Int01-01-01 ELSFWInt01-01-01 IBridgeUtilities:01-01-01 ELSFFileExp-Int01-01-01 IBridgeComponents:01-01-01 ELS-FileImp-Int01-01-01
ELS-DB-Int	01-01-01	ELS-DB-Int	Pega-ProcessCommander:06-



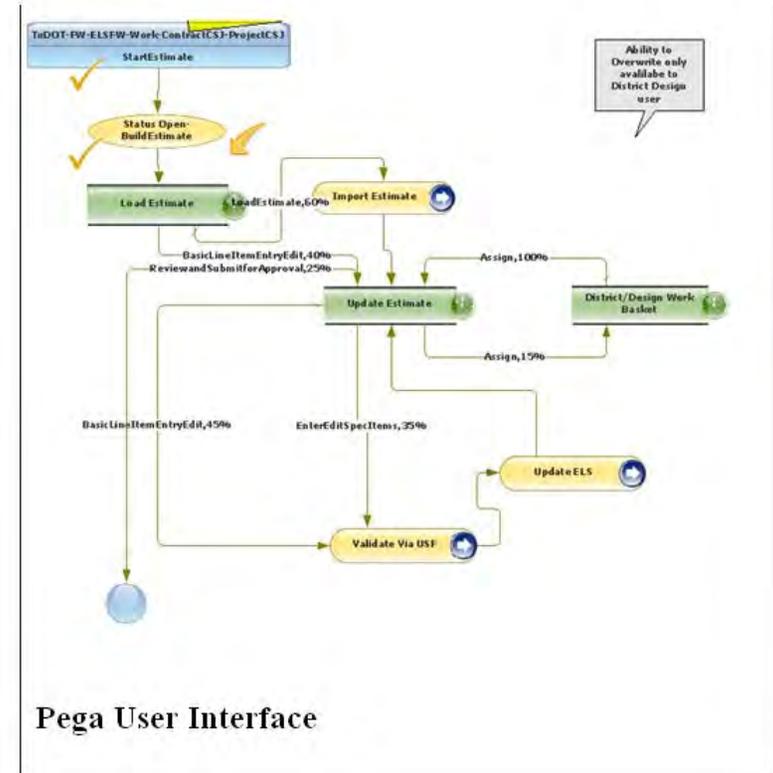
Pega Team
11/16/2011

Pega Flow

Pegasystems

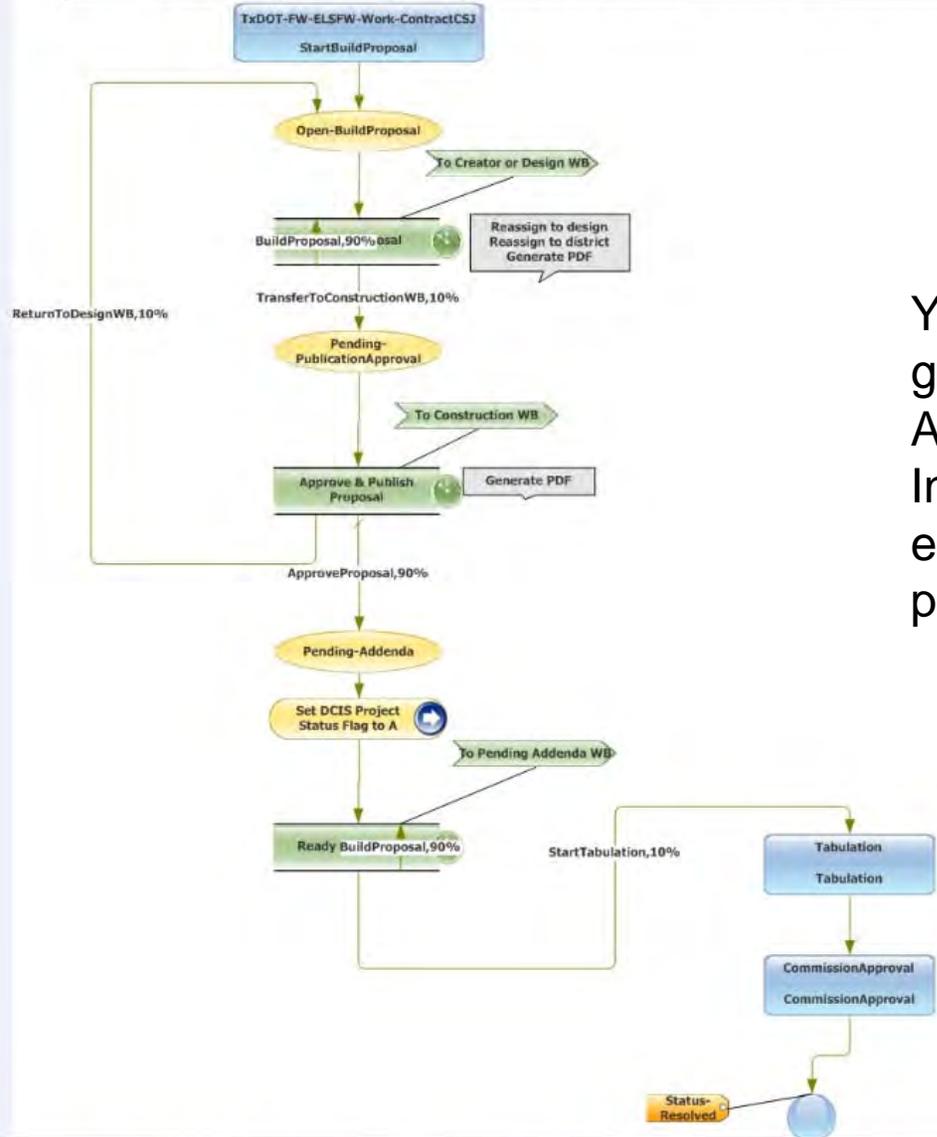
Estimate Update or Manual Create

Pega Flow, UI and AUC



Pega User Interface

RuleSet	ELFSW	Operator	gcaldw-c	Description	Start building a proposal
Version	01-01-13	Date/Time	Apr 11 2012 - 14:54:08 CDT	Circumstance	



You don't have to generate an Application doc to get Information. Here's an example of a single process flow.

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zY2bhR8_WViCJm8Ww87PHrb_fvLDS00SM4%5B*/IDevel

File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes ro... David Debo

Application Explorer

Property for TxDOT-F...

TxDOT-FW-ELSFW-Work

- Data Model
- Process
- Decision
- User Interface
- Integration-Services
- Reports
- Technical
- Security
- SysAdmin
- Application Definition
- ContractCSJ
 - Data Model
 - Process
 - Flow ✓
 - Case Type
 - Correspondence
 - Validate
 - Work Parties
 - Decision
 - User Interface
 - Integration-Connectors
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Addenda
 - Bid
 - ProjectCSJ
- Letting
 - Data Model
 - Process
 - Decision
 - User Interface
 - Integration-Connectors
 - Technical
 - Security
 - SysAdmin

Property

- AddAltGroupList of class TxDOT-Data-Work-ProposalBidItem
- AddAltGroupList of class TxDOT-Data-Work-ProposalBidItem
- BidItemsDetailedCSJList of class TxDOT-Data-Work-ProposalBidItem
 - CalculatedTotal
 - ConsolidatedCSJPrice
 - GrpType
 - ItemNumberNDescCD
- OptionGroupList of class TxDOT-Data-Work-ProposalBidItem
- ProposalBidItemList of class TxDOT-Data-Work-ProposalBidItem
 - Rank
 - Ranks
- ReplacementGroupList of class TxDOT-Data-Work-ProposalBidItem
- SPCL_PROV_NBR
 - WeightedAvgTotalPrice
 - WeightedAvgUnitPrice
- AddAltRankItems of class TxDOT-Data-Work-ProposalBidItem
- AddOptionsRankItems of class TxDOT-Data-Work-ProposalBidItem
- BidDetails of class TxDOT-Data-BidItem
- BidDetailsForTabulation of class TxDOT-FW-ELSFW-Work-ContractCSJ-Bid
 - BidSelectedFlag
 - CalculatedTotal
 - CCSJ
- ConsolidatedFrcAcc of class TxDOT-Data-Work-ForceAcctItem
- ContractSummary of class TxDOT-Data-Contract
- County of class TxDOT-Int-DB-ELS-VW-TX_CNTY_VW
 - DistrictName
- EngineerInfo of class TxDOT-Int-DB-ELS-VW-DCIS_ENGINEER_VW
 - FileMonth
 - FileName
 - FileNameDigits
 - FormattedCCSJ
 - HighwayNumber
 - icAnyPlaceHolderPresent

Excel Editor

Additional application detail is also available.

Local intranet | Protected Mode: Off 125%

5:01 PM 4/30/2012

The screenshot displays a web browser window with the URL `http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo`. The browser's address bar shows the page title "TxDOTELSFW - bug fixes round 3 - S...". The application interface includes a navigation menu on the left with categories like "Data Model", "Process", "Decision", "User Interface", "Integration-Services", "Reports", "Technical", "Security", "SysAdmin", and "Application Definition". The "ContractCSJ" category is expanded, showing sub-items such as "Data Model", "Process", "Flow", "CommissionApproval", "StartBuildProposal", "Tabulation", and "ViewProposal". The main workspace shows a flow diagram titled "StartBuildProposal" with the following steps: "Open-BuildProposal", "TransferToConstructionW", "Pending-PublicationApproval", "ApproveProposal", "Pending-Addenda", and "Set DCIS Pr Flag". The flow diagram is displayed in a "Diagram" view, with other views like "Parameters", "Pages & Classes", "Design", "Process", "Use Cases", "Requirements", "Test Cases", and "History" available. The bottom of the browser window shows the system tray with the date and time "8:54 AM 5/4/2012" and the text "Local intranet | Protected Mode: Off".

Going from a Business Analyst role to a Systems Analyst Role requires a different account with different rights. Once the overall desired flow has been established and Documented the Systems Analyst takes over.

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo

File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes ro... David Debo Logout

Application Explorer

- TxDOT-FW-ELSFW-Work
 - Data Model
 - Process
 - Decision
 - User Interface
 - Integration-Services
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Application Definition
 - ContractCSJ
 - Data Model
 - Process
 - Flow
 - CommissionApproval
 - StartBuildProposal
 - Tabulation
 - ViewProposal
 - Case Type
 - Correspondence
 - Validate
 - Work Parties
 - Decision
 - User Interface
 - Integration-Connectors
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Addenda
 - Bid
 - ProjectCSJ
 - Letting
 - LoadEstimate
 - Tabulation

StartBuildProposal

Flow TxDOT-FW-ELSFW-Work-ContractCSJ +StartBuildProposal ELSFW : 01-01-13

Diagram Parameters Pages & Classes Design Process Use Cases Requirements Test Cases History

View Modeler Visio Discovery Map

Click on this button to edit

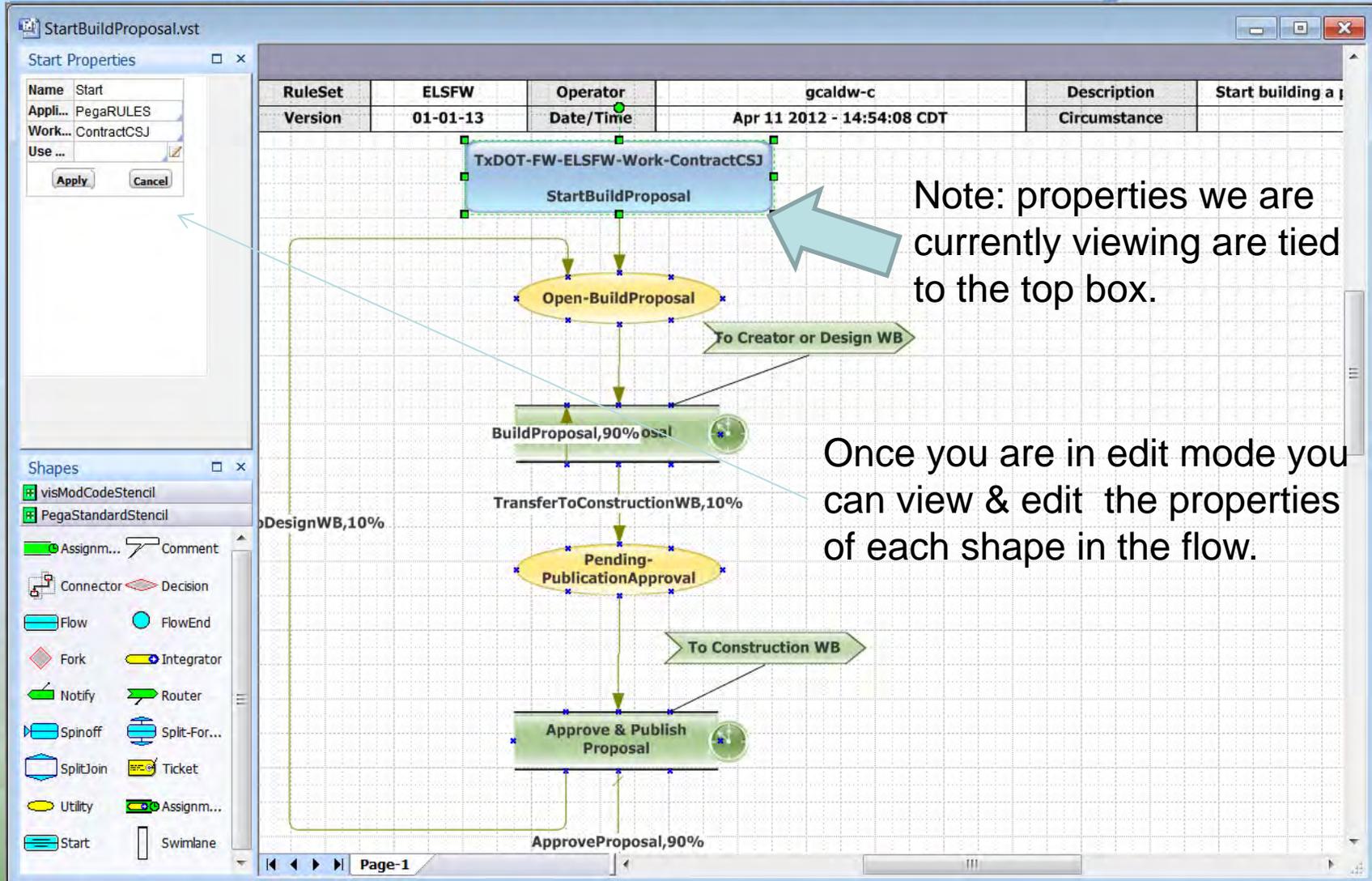
Clicking on the Visio button provides a different view of the discovery map (as shown in this example).

Click an Assignment or Start shape to preview it. Double-click a shape to open its primary rule. Right-click a shape to view, open or edit the rules that it uses.

In this example the flow has already been created. When you are initially Developing you would start with a blank Screen.

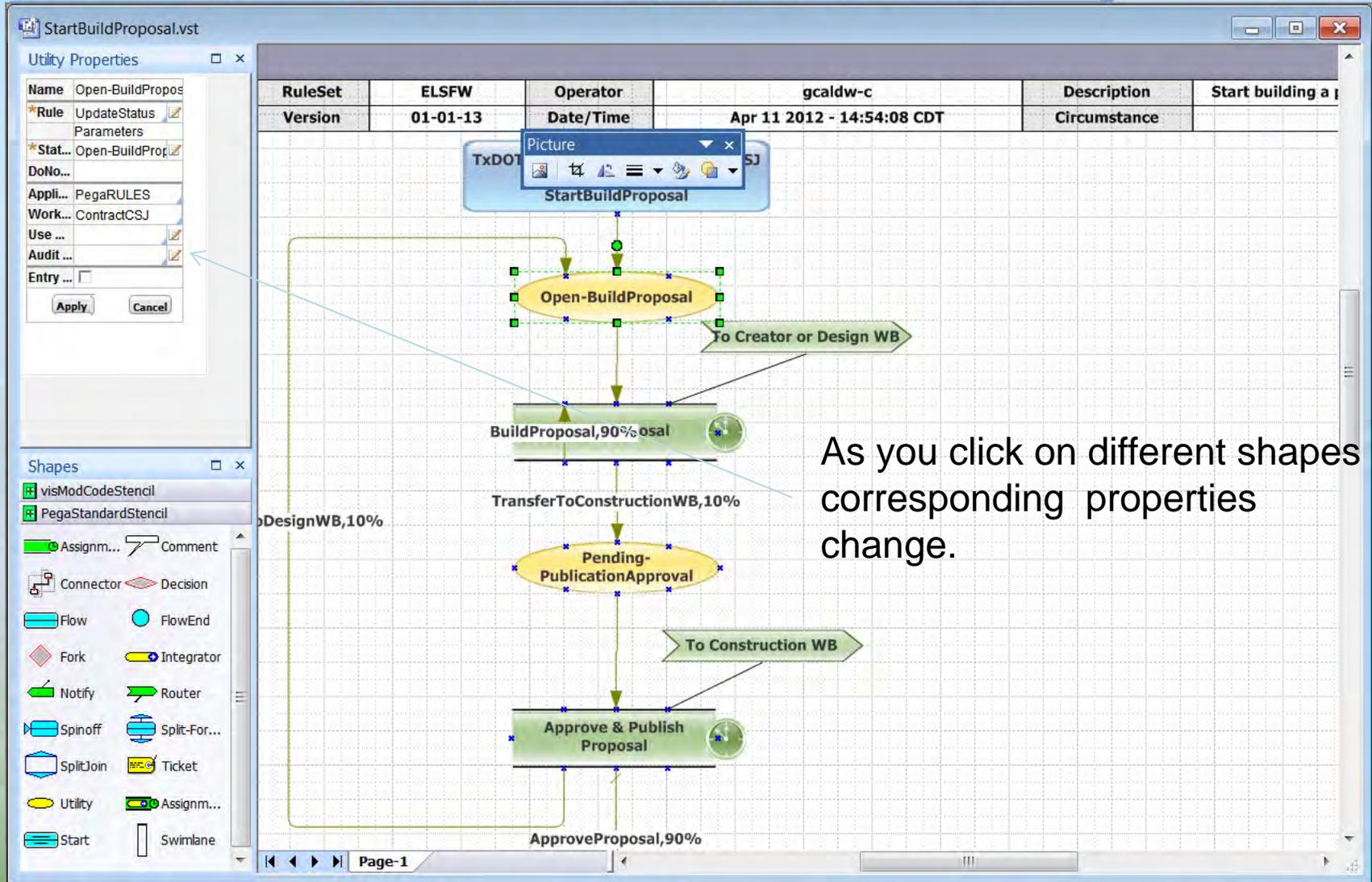
Local intranet | Protected Mode: Off 125%

8:54 AM 5/4/2012

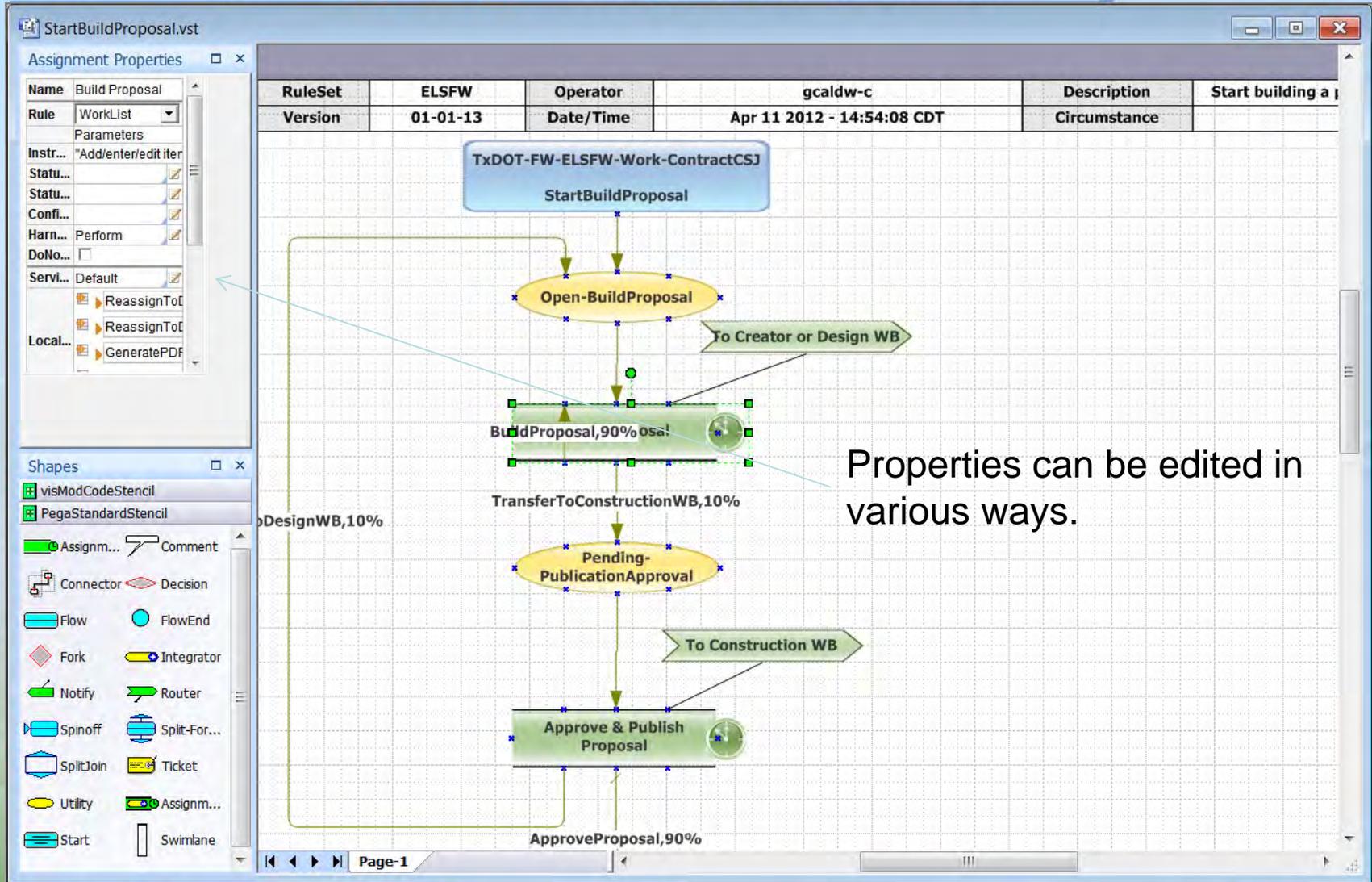


Note: properties we are currently viewing are tied to the top box.

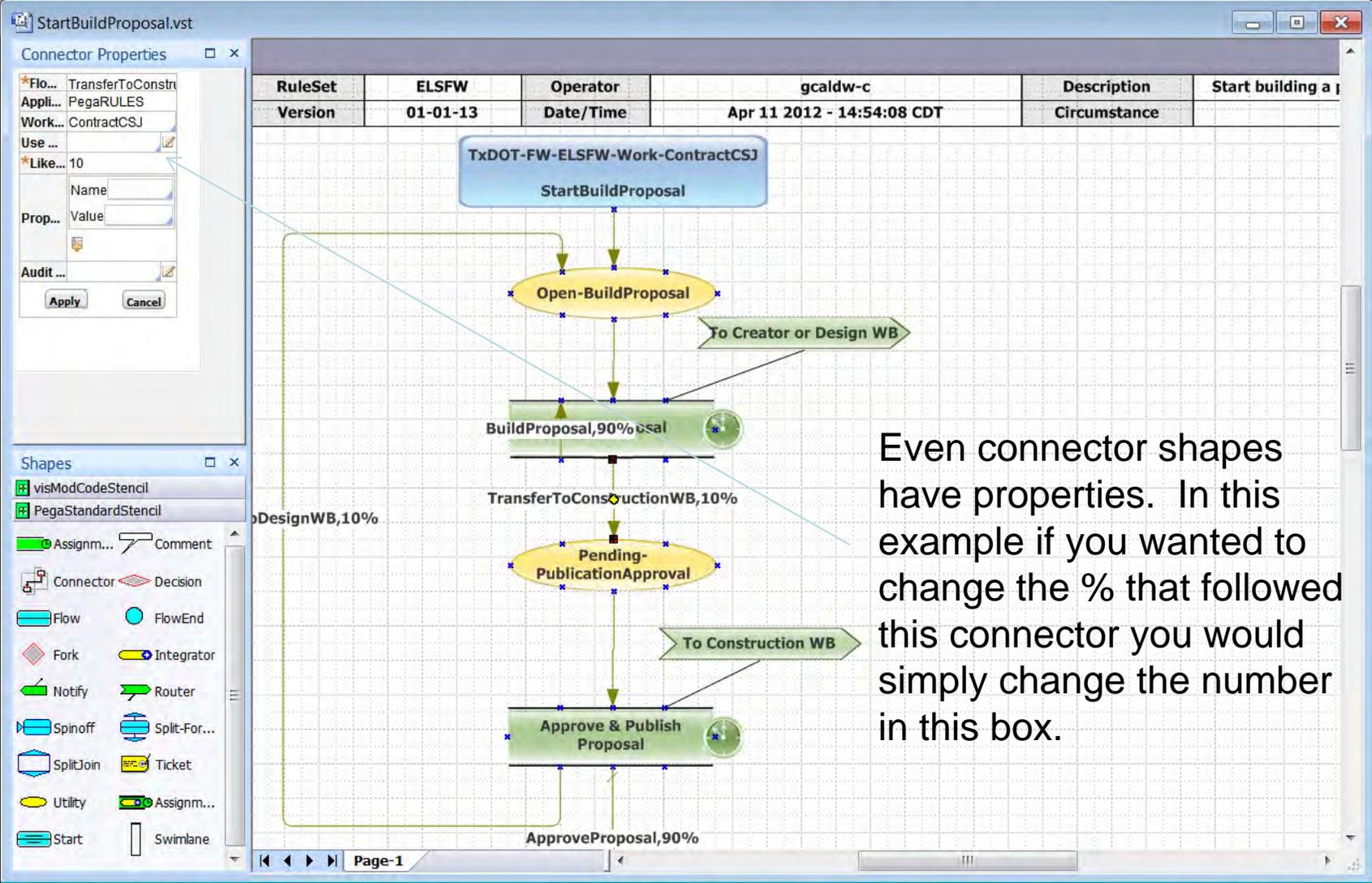
Once you are in edit mode you can view & edit the properties of each shape in the flow.



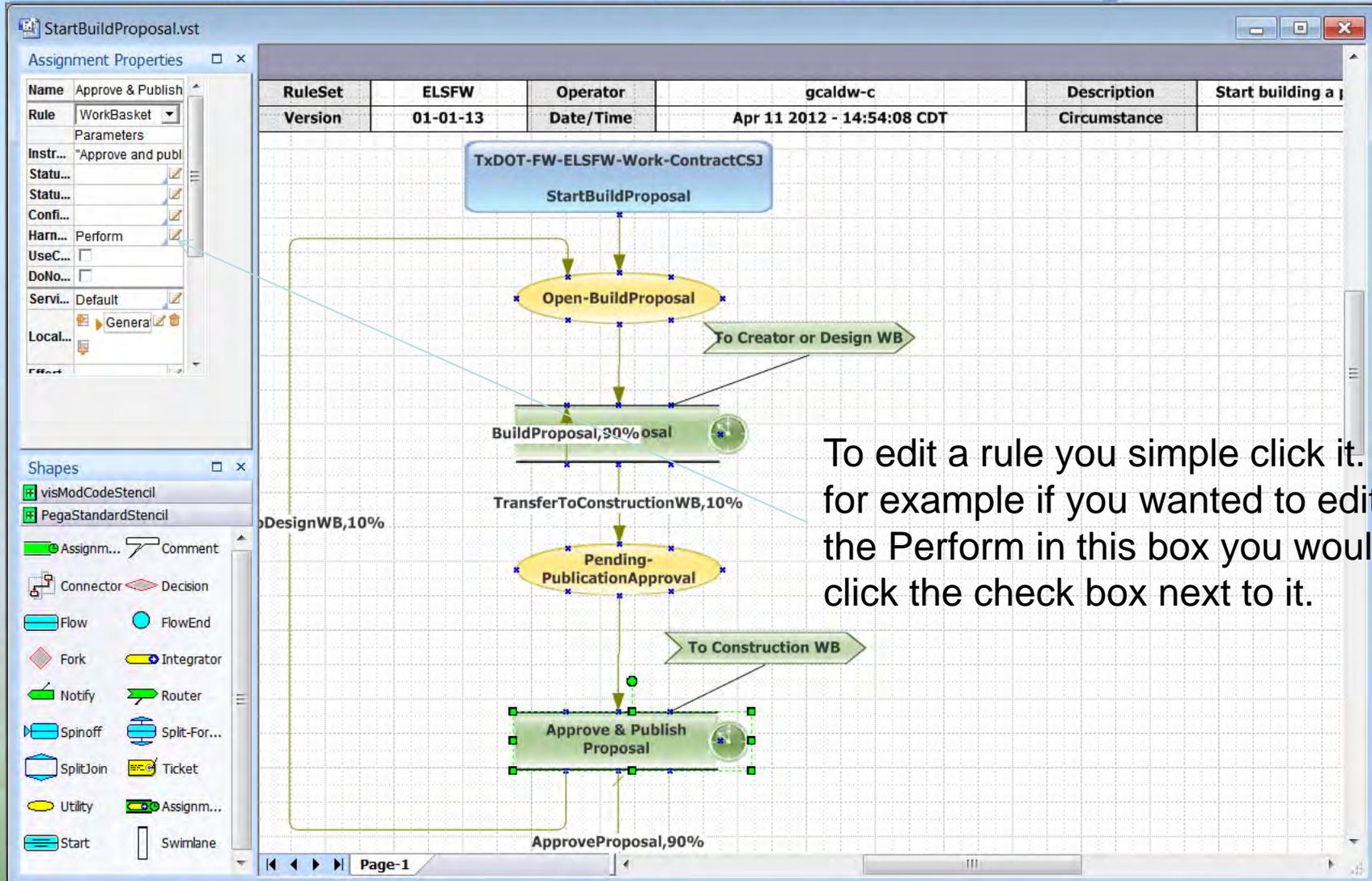
As you click on different shapes corresponding properties change.



Properties can be edited in various ways.



Even connector shapes have properties. In this example if you wanted to change the % that followed this connector you would simply change the number in this box.



To edit a rule you simple click it. for example if you wanted to edit the Perform in this box you would click the check box next to it.

The screenshot shows a web browser window displaying the Pega Designer Studio interface. The browser title is "TxDOTELFSW - bug fixes round 3 - SmartBPM - Windows Internet Explorer". The address bar shows the URL "http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo". The browser menu includes File, Edit, View, Favorites, Tools, and Help. The Pega logo is visible in the top left corner of the application. The main workspace is titled "HARNESSTxDOT-FW-ELFSW-Work-ContractCSJ • Perform" and "ELFSW : 01-01-10". The workspace contains a table with columns "HeaderTitle", "Status", and "CCSJ- CCSJ". Below the table is a "Take Action" section with an "Add Work..." dropdown. A "FlowActionHTML_Simple" element is highlighted in the workspace, and a blue arrow points to a small icon next to it. The left sidebar shows a tree view of the application structure, including "ContractCSJ", "Data Model", "Process", "Flow", "Case Type", "Correspondence", "Validate", "Work Parties", "Decision", "Declare Expressions", "Map Value", "When", "User Interface", "Harness", "Flow Action", "Paragraph", "Section", "Integration-Connectors", "Reports", "Technical", "Security", "SysAdmin", "Addenda", "Bid", "ProjectCSJ", "Letting", "LoadEstimate", and "Tabulation". The bottom status bar shows "Local intranet | Protected Mode: Off", "125%", and the date "9:33 AM 5/4/2012".

TxDOTELFSW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo

File Edit View Favorites Tools Help

Favorites Web Slice Gallery Suggested Sites

TxDOTELFSW - bug fixes round 3 - S...

TxDOTELFSW - bug fixes ro... David Debo Logout

Pega Application Explorer

StartBuildProposal Perform

HARNESSTxDOT-FW-ELFSW-Work-ContractCSJ • Perform ELFSW : 01-01-10

Layout Scripts and Styles Pages & Classes HTML Display Options History

Cover classes () Add Work ...

HeaderTitle	Status	CCSJ- CCSJ
Take Action		Add Work...

FlowActionHTML_Simple

Submit Submit Next>> << Back

Local intranet | Protected Mode: Off 125% 9:33 AM 5/4/2012

The perform harness comes up in Pega for editing. Click on the icon next to it to view its properties.

File Edit View Favorites Tools Help

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgCMWdM1JobIIUJSU9eksUEI%5B*/IDevelo

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes ro... David Debo Logout

Application Explorer

- Reports
- Technical
- Security
- SysAdmin
- Application Definition
- ContractCSJ**
 - Data Model
 - Process
 - Flow
 - CommissionApproval
 - StartBuildProposal**
 - Tabulation
 - ViewProposal
 - Case Type
 - Correspondence
 - Validate
 - Work Parties
 - Decision
 - Declare Expressions
 - Map Value
 - When
 - User Interface
 - Harness ✓
 - Flow Action
 - Paragraph
 - Section
 - Integration-Connectors
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Addenda**
 - Bid**
 - ProjectCSJ**
- Letting**
- LoadEstimate**
- Tabulation**

StartBuildProposal Perform pzActionAreaContent

SECTION Work- • pzActionAreaContent Pega-Gadgets : 06-02-01

Layout Parameters Pages & Classes HTML History

PAGES AND CLASSES

	Page Name	Class	Mode
1.	myParamPage	PegaGadget-ActionArea	[Dropdown]

Open

Local intranet | Protected Mode: Off 125%

9:45 AM 5/4/2012

Almost everything you see has another level. It takes time to learn what to touch when but there is great power in that knowledge.

- ProjectCSJ
 - Data Model
 - Process
 - Decision
 - User Interface
 - Harness ✓
 - Flow Action
 - Paragraph
 - Section
 - Integration-Connectors
 - Technical
 - Security
 - SysAdmin
 - Class ✓
 - Declare Index
 - AddAltBaseGroupBidItem
 - AddAltBidItem
 - AddAltReplacementBidItem
 - BaseBidItem
 - ForceAccount
 - NonPayItem
 - OptionalSpecialProvision
 - OptionalSpecifications
 - OptionBaseGroupBidItem
 - OptionBidItem
 - OptionReplacementBidItem
 - ProjectSpecialProvision
 - RemovedSpecialProvision
 - RemovedSpecifications
 - ReplacementBidItem
 - RequiredSpecialProvision
 - RequiredSpecifications

DECLARE INDEX TxDOT-FW-ELFSW-Work-ContractCSJ-ProjectCSJ • AddAltBidItem ELSFW : 01-01-13

Indexes Pages & Indexes History

INDEX CLASS DATA

Source Page Context: .ProjectAddAltsList().ProjectBidItem()
Source Page Context Class: TxDOT-Data-Work-EstimateItem
Index Class To Write: Index-TxDOT-FW-ELFSW-Data-Project

PROPERTIES FOR INDEXING AND MAPPING

	Source Class Property	Mapping	Index Class Property
1.	.Placeholder	Equals	.PLACEHOLDER_FLAG
2.	.Funding	Equals	.FUNDING_NM
3.	.ProjectItem.CSJ_NBR	Equals	.CSJ_NBR
4.	.ProjectItem.ITEM_NBR	Equals	.ITEM_NBR
5.	.ProjectSubItem.SUB_ITEM_NBR	Equals	.SUB_ITEM_NBR
6.	.ProjectSubItem.PRELIM_SUB_ITEM_DSCR	Equals	.SUB_ITEM_DSCR
7.	.ProjectSubItem.PRELIM_UOM_CD	Open als	.UOM_CD
8.	.ProjectSubItem.ESTMT_UNIT_PRICE_AMT	Equals	.ESTMT_UNIT_PRICE_AMT
9.	.ProjectSubItem.ESTMT_QTY	Equals	.ESTMT_QTY
10.	.ProjectSubItem.CalculatedCost	Equals	.ESTMT_ITEM_COST_AMT
11.	.ProjectSubItem.LCL_FUND_LOCN_NM	Equals	.LCL_FUND_LOCN_NM
12.	.ProjectBridgeItem.BRDG_NBI_NBR	Equals	.BRDG_NBI_NBR
13.	.Category.WorkCategory.WRK_CTGRY_NM	Equals	.WRK_CTGRY_NM
14.	.Category.WorkSubCategory.WRK_SUB_CTGRY_N	Equals	.WRK_SUB_CTGRY_NM

DB mapping example.

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gxbDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/!Develo

File Edit View Favorites Tools Help

Just in case this is all looking too easy, there are also activities & methods.

TxDOTELSFW - bug fixes round 3 - S...

Pega Application Explorer TxDOT-FW-ELSFW-W... AddOrEditItems Logout

Decision
User Interface
Harness
Flow Action
Paragraph
Section
Integration-Connectors
Connect SQL
Technical
Activity

Activity Explorer

Activity TxDOT-FW-ELSFW-Work-ContractCSJ-ProjectCSJ • AddOrEditItems ELSFW : 01-01-12

Steps	Parameters	Pages & Classes	Security	Test Cases	History
Label	Description	Step Page	Method		
1.	Copy Primary Page into temp Page		Page-Copy		
2.		tmpItemDetails	Page-Clear-Messages		
3.		tmpPrimaryWorkPage	Page-Clear-Messages		
4.	validate mandatory fields when placeholder	tmpItemDetails	Property-Validate		
5.	validate mandatory fields when placeholder	tmpItemDetails	Property-Validate		
6.	in case was placeholder, but now is not	tmpItemDetails	call ValidateBidItem		
7.	in case was placeholder, but now is not	tmpItemDetails	Property-Set		
8.	Set CSJ for Items	tmpItemDetails	Property-Set		
9.		tmpItemDetails			
10.	Check for duplicates in Base0, Base group	tmpItemDetails	Call CheckDuplicateItems		
11.	Activity Call to Add Base Items	tmpItemDetails	Call AddBaseItems		
12.	Activity Call to Add Replacement Items	tmpItemDetails	Call AddReplacementItems		
13.	Replacements Tab Active		Property-Set		Open Rule
14.	Base Tab Active		Property-Set		
15.	Call Activity to Add Option Items	tmpItemP	Call AddOptionItems		
16.	//Set		Page-Set-Messages		
17.	Options Tab Active		Property-Set		
18.	Call Activity to add Add Alternate T	tmpItemDetails	Call AddAlternateItems		
19.	Set	tmpPrimaryWorkPage	Page-Set-Messages		

Local intranet | Protected Mode: Off 125% 2:45 PM 5/7/2012

Open activities to view & edit methods.

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIJSU9eksUEI%5B*/IDevelo

File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes ro... David Debo Logout

Application Explorer

- Decision
- User Interface
 - Harness ✓
 - Flow Action
 - Paragraph
 - Section
- Integration-Connectors
 - Connect SQL
- Technical
 - Activity ✓
 - AddBase0Items
 - AddOrEditForceAccts
 - AddOrEditItems
 - CheckForDuplicateSpecialF
 - ClearSearch
 - ClearSearch_Button
 - CreateEstimate
 - CreateLineItemTempPage
 - DeleteForceAccount
 - DeleteItem
 - EditForceAccount
 - EditItem
 - EditPrjSpclProv
 - FetchEstimateDataForSear
 - FetchLettingDateForCorre:
 - FetchRequiredSpecialProvi
 - FetchRequiredSpecialProvi
 - FetchRequiredSpecificator
 - FetchSpecsAndSpdProvsvF
 - ForceAcctQtyValidation
 - GetAvgBidItemPrice
 - GetDistrictandCountyNam
 - getEmailSenderInfo
 - GetProjectAndContractSui
 - GetProjectSummary
 - GetStandardNonPayItems
 - LookupSpecDescription

TxDOT-FW-ELSFW-W... AddOrEditItems AddReplacementItems Page-Copy

METHOD Page-Copy Pega-RULES

Parameters History

PARAMETERS

	Name	Description	Data Type	Required?	In/Out	Prompt Default Value
1.	CopyFrom	Page name to copy from. The CopyFrom can a	String	No	In	
2.	CopyInto	Page name to copy to	String	Yes	In	
3.	Model	Defaults based on ObjClass	String	No	In	
4.	PageList	The page.property containing a list of page nam	String	No	In	

JAVA

Java Implementation

Now we are down to a method which could be modified.

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2:47 PM 5/7/2012

TxDOTELSPW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo

File Edit View Favorites Tools Help

Application Explorer

- Decision
- User Interface
 - Harness ✓
 - Flow Action
 - Paragraph
 - Section
- Integration-Connectors
 - Connect SQL
 - TxDOT-FW-ELSPW-Work**
 - TxDOT-FW-ELSPW-Work
- Technical
- Security
 - Privilege
 - EstimatePrivilege
 - VerifySendCorrPrivilege
- SysAdmin
 - Class ✓
 - TxDOT-FW-ELSPW-Work
- Declare Index
 - AddAltBaseGroupBidItem
 - AddAltBidItem
 - AddAltReplacementBidItem
 - BaseBidItem
 - ForceAccount
 - NonPayItem
 - OptionalSpecialProvision
 - OptionalSpecifications
 - OptionBaseGroupBidItem
 - OptionBidItem
 - OptionReplacementBidItem
 - ProjectSpecialProvision
 - RemovedSpecialProvision
 - RemovedSpecifications
 - ReplacementBidItem
 - RequiredSpecialProvision
 - RequiredSpecifications

CONNECT SQL TxDOT-FW-ELSPW-Work-ContractCSJ-ProjectCSJ • MSSQL • FindEstimateByCSJ ELSFW : 01-01-10

Open Delete Save Browse History

OPEN SQL

```
select pzInsKey, CCSJ, CSJ
from {Class: TxDOT-FW-ELSPW-Work-ContractCSJ-ProjectCSJ}
where CSJ = {.CSJ}
and pxObjClass = 'TxDOT-FW-ELSPW-Work-ContractCSJ-ProjectCSJ'
```

Error Handler Flow

Test Connectivity

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You can use SQL for integration as shown in this example.

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo

File Edit View Favorites Tools Help

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes ro... David Debo Logout

Application Explorer

- Decision
- User Interface
 - Harness ✓
 - Flow Action
 - Paragraph
 - Section
- Integration-Connectors
- Technical
- Security
 - Privilege
 - EstimatePrivilege
 - VerifySendCorrPrivilege
- SysAdmin
 - Class ✓
 - TxDOT-FW-ELSFW-Work
 - Declare Index
 - AddAltBaseGroupBidItem
 - AddAltBidItem
 - AddAltReplacementBidItem
 - BaseBidItem
 - ForceAccount
 - NonPayItem
 - OptionalSpecialProvision
 - OptionalSpecifications
 - OptionBaseGroupBidItem
 - OptionBidItem
 - OptionReplacementBidItem
 - ProjectSpecialProvision
 - RemovedSpecialProvision
 - RemovedSpecifications
 - ReplacementBidItem
 - RequiredSpecialProvision
 - RequiredSpecifications

- Letting
- LoadEstimate
- Tabulation

VerifySendCorrPrivilege

PRIVILEGE TxDOT-FW-ELSFW-Work-ContractCSJ-ProjectCSJ • VerifySendCorrPrivilege ELSFW : 01-01-12

Roles History

Displaying 1 records

Access Role	Access Class	Description	RuleSet
TxDOTELSFW:UserWithProjectCSJPriv	TxDOT-FW-ELSFW-Work-ContractCSJ-ProjectCSJ	Access privileges for class TxDOT-FW-ELSFW-Work-ContractCSJ-ProjectCSJ	ELSFW

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2:49 PM 5/7/2012

Pega includes all kinds of fun security features that are set up by application.

TxDOTELSPW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/!Develo

File Edit View Favorites Tools Help

TxDOTELSPW - bug fixes round 3 - S...

TxDOTELSPW - bug fixes ro... David Debo Logout

Application Explorer

- Reports
- Technical
- Security
- SysAdmin
- Application Definition
- ContractCSJ**
 - Data Model
 - Process
 - Flow
 - CommissionApproval
 - StartBuildProposal**
 - Tabulation
 - ViewProposal
- Case Type
- Correspondence
- Validate
- Work Parties
- Decision
 - Declare Expressions
 - Map Value
 - When
- User Interface
 - Harness
 - Flow Action
 - Paragraph
 - Section
- Integration-Connectors
- Reports
- Technical
- Security
- SysAdmin
- Addenda
- Bid
- ProjectCSJ
- Letting
 - LoadEstimate
 - Tabulation

StartBuildProposal

Flow TxDOT-FW-ELSPW-Work-ContractCSJ *StartBuildProposal ELSFW : 01-01-13

Diagram Parameters Pages & Classes Design Process Use Cases Requirements Test Cases History

View Standard

```
graph TD; StartBuildProposal[StartBuildProposal] --> OpenBuildProposal(Open-BuildProposal); OpenBuildProposal --> BuildProposal[BuildProposal, 90% post]; BuildProposal --> PendingApproval(Pending-PublicationApproval); PendingApproval --> ApprovePublish[Approve & Publish Proposal]; ApprovePublish --> PendingAddenda(Pending Addenda); ApprovePublish -- "ReturnToDesignWB, 10%" --> OpenBuildProposal; ApprovePublish -- "TransferToConstructionWB, 10%" --> ApprovePublish; ApprovePublish -- "To Creator or Design WB" --> CreatorWB[To Creator or Design WB]; ApprovePublish -- "To Construction WB" --> ConstructionWB[To Construction WB];
```

Assuming you made changes you could save and close then click the run button to test.

Pega includes tool like an HTML tracker that will enable you to go directly to the rule that applies on any given screen.

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9:56 AM 5/4/2012

TxDOTELFSW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

http://pega-dev:9080/prweb/PRServlet/i2gbxDG26zaCbzu1BO7PgcMWdM1JobIIUJSU9eksUEI%5B*/IDevelo

File Edit View Favorites Tools Help

TxDOTELFSW - bug fixes round 3 - S...

TxDOTELFSW - bug fixes ro... David Debo Logout

Application Explorer

- Reports
- Technical
- Security
- SysAdmin
- Application Definition
- ContractCSJ
 - Data Model
 - Process
 - Flow
 - CommissionApproval
 - StartBuildProposal
 - Tabulation
 - ViewProposal
 - Case Type
 - Correspondence
 - Validate
 - Work Parties
 - Decision
 - Declare Expressions
 - Map Value
 - When
 - User Interface
 - Harness
 - Flow Action
 - Paragraph
 - Section
 - Integration-Connectors
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Addenda
 - Bid
 - ProjectCSJ
 - Letting
 - LoadEstimate
 - Tabulation

StartBuildProposal

Flow TxDOT-FW-ELFSW-Work-ContractCSJ +StartBuildProposal ELSFW : 01-01-13

Diagram Parameters Pages & Classes Design Process Use Cases Requirements Test Cases History

View Modeler Visio Discovery Map

View Standard

```
graph TD; Start[StartBuildProposal] --> Open([Open-BuildProposal]); Open --> Build[BuildProposal, 90% 0%]; Build --> Pending([Pending-PublicationApproval]); Pending --> Approve[Approve & Publish Proposal]; Approve --> PendingAddenda([Pending-Addenda]); Approve -- "Return To Design WB, 10%" --> Open; Approve -- "Transfer To Construction WB, 10%" --> PendingAddenda; Approve -- "To Creator or Design WB" --> Open; Approve -- "Approve Proposal, 90%" --> PendingAddenda;
```

Once everything is closed out you can return all the way back to the discovery map to ensure documentatic is properly updated to reflect all changes.

Click an Assignment or Start shape to preview it. Double-click a shape to open its primary rule. Right-click a shape to view, open or edit the rules that it uses.

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10:02 AM 5/4/2012

TxDOTELSFW - bug fixes round 3 - SmartBPM - Windows Internet Explorer

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File Edit View Favorites Tools Help

Web Slice Gallery Suggested Sites

TxDOTELSFW - bug fixes round 3 - S...

TxDOTELSFW - bug fixes ro... David Debo Logout

Application Explorer

- Reports
 - Technical
- Security
- SysAdmin
- Application Definition
 - ContractCSJ**
 - Data Model
 - Process
 - Flow
 - CommissionApproval
 - StartBuildProposal**
 - Tabulation
 - ViewProposal
 - Case Type
 - Correspondence
 - Validate
 - Work Parties
 - Decision
 - Declare Expressions
 - Map Value
 - When
 - User Interface
 - Harness
 - Flow Action
 - Paragraph
 - Section
 - Integration-Connectors
 - Reports
 - Technical
 - Security
 - SysAdmin
 - Addenda
 - Bid
 - ProjectCSJ
 - Letting
 - LoadEstimate
 - Tabulation

StartBuildProposal

Flow TxDOT-FW-ELSFW-Work-ContractCSJ +StartBuildProposal ELSFW : 01-01-13

Diagram Parameters Pages & Classes Design Process Use Cases Requirements Test Cases History

View Modeler Visio Discovery Map

StartBuildProposal

Open-BuildProposal → TransferToConstructionW → Pending-PublicationApproval → ApproveProposal → Pending-Addenda → Set DCIS Pro Flag

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10:05 AM 5/4/2012

And we're back where we started.

Almost forgot about the application.



User - Windows Internet Explorer
 http://pega-tst:9080/prweb/PRServlet/i2gbxDG26zbT3CFoHFjcUNPNwC7o0rej*/!Developer? Bing

File Edit View Favorites Tools Help

Google Search More >> Sign In

Texas Department of Transportation New Search Log off

Jason Evert

Recent
 PFW-105 Estimate

News

Profile
Portal Layout: ELS User Portal
Name: Jason Evert
Application: TxDOTELSFW 01.01.15
Access Group: TxDOTELSFW:Users
Organization: TxDOT
Division: ABL
Unit: ABILENE
Work Group: Default-District@txdot.gov

Full Profile

My Work New

Search CSJ 091320082 Advanced Search

Contract List

Displaying 1 records

Select	CSJ	CCSJ	District	County	City	Project Number	Highway Name/Number	Total Cost
<input checked="" type="radio"/>	>> 091320082	091320082	Yoakum	Austin		BR 2010(405)	CR	\$230,091.30

Start/Build Estimate

This is just a few sample screen shots from the application, this is not all inclusive.

A



My Work **E-091320082**

Estimate Status Open-BuildEstimate **CSJ- 091320082**

Manually create/edit/update line items OR --select a different action--

Bid Items Force Accounts Specifications Special Provisions

Enter Items

Place Holder

Item Details

Item Number Description Code Unit Of Measure

Description

Quantity Unit Cost Calculated Cost \$0.00

Category

Sub Category

Funding

Average Bid Item Price

Item Grouping

Add/Update Items

Base

Alt Item Number Description Code Description Unit Of Measure Quantity Unit Price Calculated Cost Funding Category

Estimate Status Open-BuildEstimate CSJ- 091320082

Manually create/edit/update line items OR --select a different action--

Bid Items Force Accounts Specifications Special Provisions

Enter Items

Place Holder

Item Details

Item Number* Description Code* Unit Of Measur

Description

Quantity* Unit Cost* Calculated Co

Category* Roadway

Sub Category Select...

Funding* Federal

Average Bid Item Price

Item Grouping

Add/Update Items

Base

Estimate: Status Open Bid Estimate C&I- 09130002

Manually create/edit/update line item OR --select different action--

Bid Items | Force Accounts | Specifications | **Special Provisions**

Place Holder
 Special Provision Type: Required

Bid/Reference Item #: Select...
 Special Provision:
 Description: Usage:

[Add Special Provisions](#)

Special Provisions

Required Special Provisions

Bid Item/Reference Spec #	Special Provisions #	Description	Usage	
0100	100-002	Preparing Right of Way	Statewide	Delete Edit

Optional Special Provisions

No items

Removed Required Special Provisions

No items

Project Special Provisions

Non-Pay Reference Spec #	Special Provisions #	Description	Usage	
0000	000-002	Partnering	Statewide	Delete Edit
0000	000-003	Notice to All Bidders	Statewide	Delete Edit
0000	000-004	Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)	Statewide	Delete Edit
0000	000-006	Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)	Statewide	Delete Edit
0000	000-009	Certification of Nondiscrimination in Employment	Statewide	Delete Edit
0000	000-011	Department Division Mailing and Physical Address	Statewide	Delete Edit
0000	000-1001	On-the-Job Training Program	Statewide	Delete Edit
0000	000-1002	Schedule of Liquidated Damages	Statewide	Delete Edit
0000	000-461	Disadvantaged Business Enterprise in Federal-Aid Construction	Statewide	Delete Edit
0001	001-005	Definition of Terms	Statewide	Delete Edit
0003	003-023	Award and Execution of Contract	Statewide	Delete Edit
0003	003-026	Award and Execution of Contract	Statewide	Delete Edit

User - Windows Internet Explorer
http://pega-tst:9080/prweb/PRServlet/i2gbxDG26zbT3CFoHFjcUNPNwC7o0rej*/IDeveloper?

File Edit View Favorites Tools Help

User

Texas Department of Transportation New Search Log off

My Work P-091320082 E-091320082

Estimate Status Pending-ProposalBuild Urgency 10 ID PFW-109

CCSJ	091320082	CSJ	091320082
Estimate Created	4/25/12 8:50 AM		
Last Updated	4/25/12 10:27 AM	Last Updated By	M-DES-USER
Estimate Description	REPLACE BRIDGE AND APPROACHES		

Financial Information

		Total Calculated ELS Data	
Initial DCIS Estimate	\$210,201.30	Total Base	\$115.00
Estimated Add Alternate Budget	\$225,292.70	Total Add Alternate	\$0.00
Total Authorized	\$225,407.70	Total Estimate	\$

Contract Summary

CCSJ	091320082	Contract Num	
Contract Owner	Design	Working Days	
Responsible District		Letting Date	
Project Stage	Awarded	Total Contract Cost	

Confirmation

Thank you for your input.

Parent Flow: StartProjectCSJ - Waiting At: CSJReviewApprove
Process: ReviewAndApprove - Assigned To: PendingProposalBuildWB - Task: Include this estimate in a proposal

You Are Here - Windows Internet Explorer

StartProjectCSJ > ReviewAndApprove

TXDOT-FW-ELS-FW-Work-Contract-CSJ-Project-CSJ
ReviewAndApprove

```

graph TD
    A[ReviewAndApprove] --> B([Status Pending-ReviewApprove])
    B --> C[BasicLineItemEntryEdR,80%]
    C --> D[ApproveForProposal,20%]
    D --> E([Status Pending-ProposalBuild])
    E --> F[BasicLineItemEntryEdR,80%]
    F --> G[ResolveCompleted,20%]
    G --> H(( ))
    H --- I[Status-Resolved]
    H --- J[SkipFlowStep]
  
```

1. Status Pending-ReviewApprove

Initiated

Date/Time	4/25/12 9:55 AM
User	J-DIST-USER
Audit Note	

2. Approve Estimate For Proposal Bu

Initiated

Date/Time	4/25/12 9:55 AM
User	J-DIST-USER
Routed To	DesignDivisionWB

Completed

Date/Time	4/25/12 10:27 AM
User	M-DES-USER
Processed By	Michelle Flores
Action Taken	ApproveForProposal

3. Status Pending-ProposalBuild

Initiated

Date/Time	4/25/12 10:27 AM
User	M-DES-USER

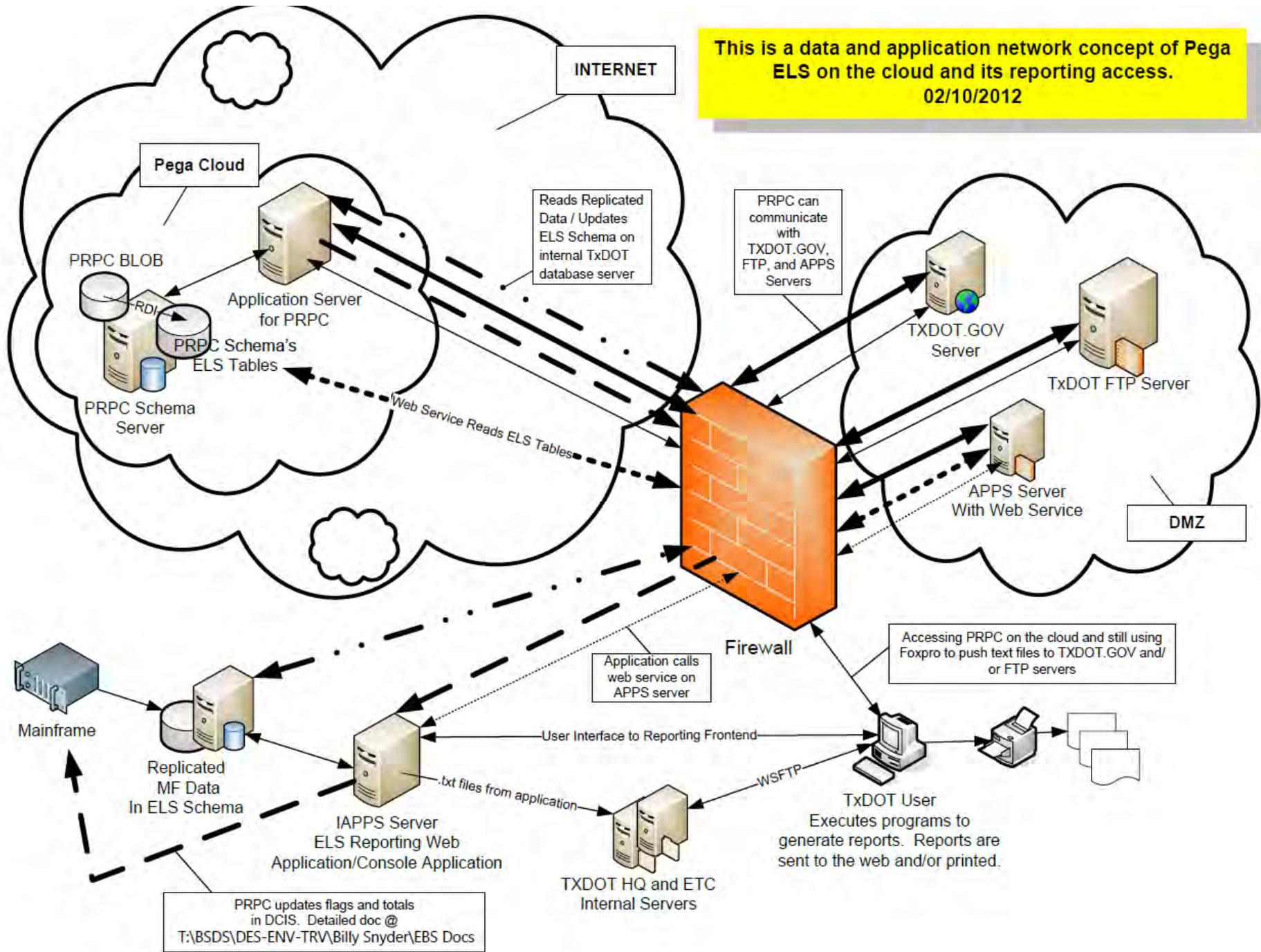
Current Location/ Status

Local intranet | Protected Mode: Off 100%

The Future

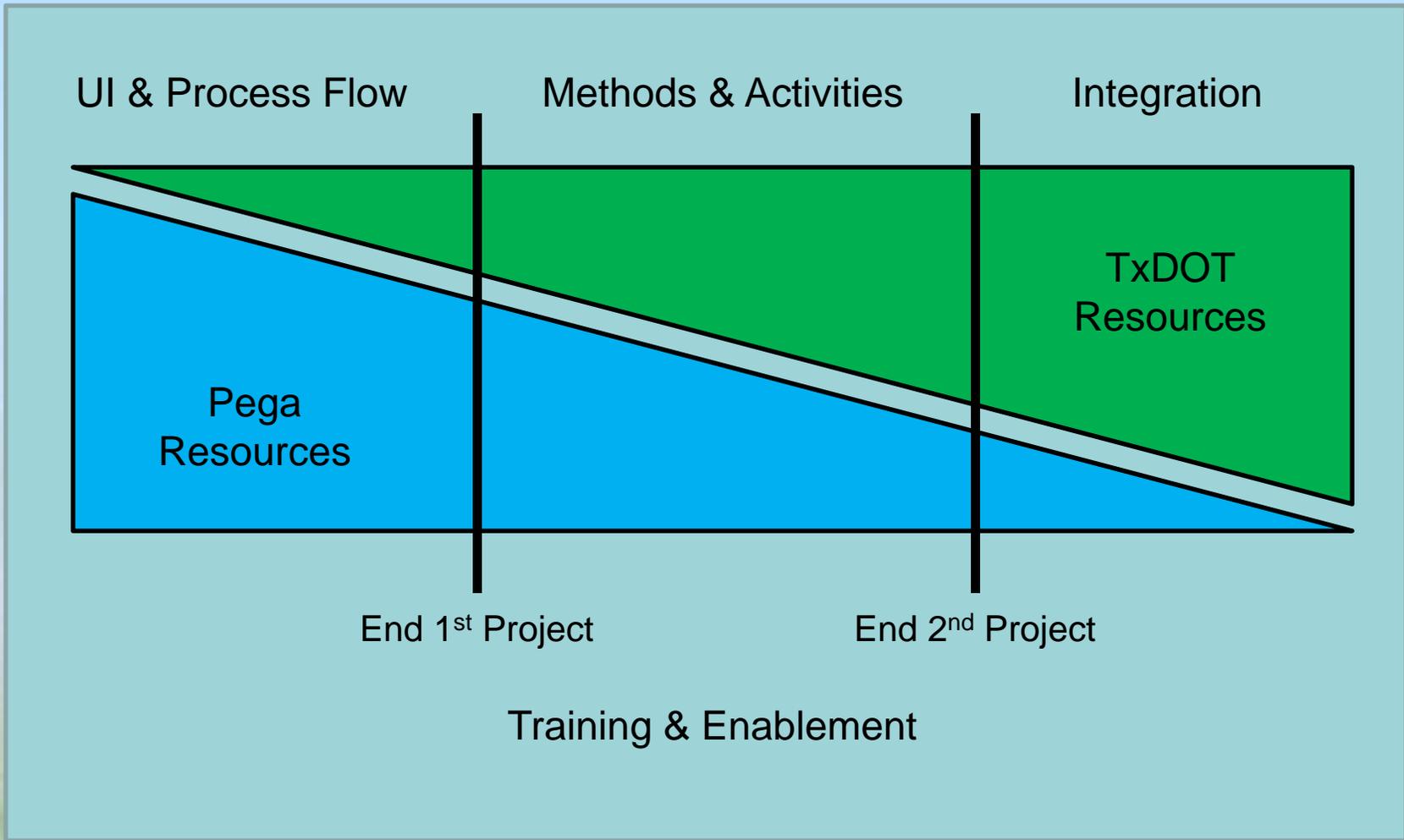


This is a data and application network concept of Pega ELS on the cloud and its reporting access.
02/10/2012



Lessons learned...

- Switching to BPM is a journey
- Establish centers of excellence (change, configuration, release, & test management)
- Be prepared to deal with increased customer requests
- The tool is complicated
- The process supports following standards
- Facilitates collaboration



Pasted from the standard subscription email:

The Pega Developer Network, PegaSupport, and Pegasystems Education sites are available 24x7 to support you with the education and information you need to install, develop, and support your Pegasystems solutions. All sites are available from the PDN home page: <http://pdn.pega.com>.

Here are some quick pointers for you:

Education: If you have registered on the PDN in order to register for authorized Pegasystems training, please complete your registration at <http://pdn.pega.com/education>.

Pega Community Forums: Discussion forums are available as a virtual gathering place for Pegasystems customers and partners to share ideas, questions, and insight with other members of the developer community. This service is provided to help you learn from subject matter experts about the full range of Pegasystems products and supporting technologies. This vehicle is NOT meant to be used as a vehicle for formal customer support. Please take some time to review the Forums FAQ before posting <http://pdn.pega.com/forums>.



Modernizing Transportation with Technology



-- Continued --

Knowledgebase (KB): The Pega Knowledgebase has answers to hundreds of the most common questions you are likely to have as you learn about Pegasystems products and begin to develop or support Pegasystems applications. The Knowledgebase is broken into multiple categories to help you find your way through the KB articles on the PDN.

Newsletter: The PDN Developer Newsletter is sent out semi-monthly and highlights recent information and announcements on the PDN including upcoming and archived webinars. You will automatically receive this newsletter and can “opt-out” when you receive your first edition if you so choose. A sample of the current newsletter can be found on-line here:

http://pdn.pegasystems.com/DevNet/Announcements/PDN_Current_Newsletter.asp

Documentation: All formal documentation (including release notes, installation guides, and upgrade guides) are available in the “Our Products” section of the PDN.

Search: The PDN has a robust search engine and the best results are sometimes found when using the Advanced Search capabilities. For search tips, look here:

<http://pdn.pegasystems.com/Tools/Search/HelpSearchHints.asp>

Webinars: Live developer webinars are held monthly and are archived on the site. As a PDN member, you will receive invites for upcoming events as they are scheduled. A list of past webinars can be found on the webinar archive page

<http://pdn.pegasystems.com/DevNet/Webinar/WebinarIndex.asp>.



Modernizing Transportation with Technology





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Modernizing Transportation with Technology

