Retail & CPG - SDM:

Time to Deploy the Administrative Batch Jobs to be reduced by 75% before 31-May-2015

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Project Mentor: **Sachin Kapur (MBB)**

XLNC™
Process Improvement@TCS

Project Selection

#	Parameters	Considered	Remark
1	Is there a Customer impact / benefit?	✓	Tangible & intangible
2	Does this project help realize Customer's business goals?	✓	Cost reduction
3	Do you know the business objective?	✓	Customer Satisfaction
4	Is the Sponsor willing to provide resources?	✓	Key SME identified by sponsor
5	Can the project be done in 6~9 months?	✓	Rigor to complete the project
6	Is the project scope within control of the Project Team?	✓	Onsite & offshore team collaboration
7	Can the benefits be quantified in money value?	✓	Saving in $
8	Is there a benefit to stakeholders?	✓	Customer & delivery team

Project Charter

Business Case

Functional Administrative Batch jobs are routine maintenance jobs which Updates , Clean up and process the Health check Jobs on daily basis.

These Administrative Batch Job's run at back-end and the total time taken to deploy these Job's over a single Store during SIT is approximately 111 minutes.

The same is deployed over huge number of Store's which are approximately 1300 in count, in 7-8 provinces. This entire process involves herculean manual process.

This project aims to reduce the manual effort involved in the process , enhancing performance and accuracy.

In Scope

Administrative Batch Jobs run at SIT stage

Out of Scope

All other jobs apart from administrative batch jobs in SIT

Specific Goal Statement

Time to Deploy the Administrative Batch Jobs to be reduced by 75% before 31 May 2015

Specific Problem Statement

The total time of Administrative Batch Job's deployment process takes 111 minutes of manual efforts.

All the Configuration Settings, Environment Setup required for Administrative Job's are done manually, which certainly takes more time.

Execution Strategy

1. Identification of problem statement based efforts been taken to Deploy the Administrative Batch Jobs

2. AS-IS process activities analysis & analysis of VE/NVA activities.

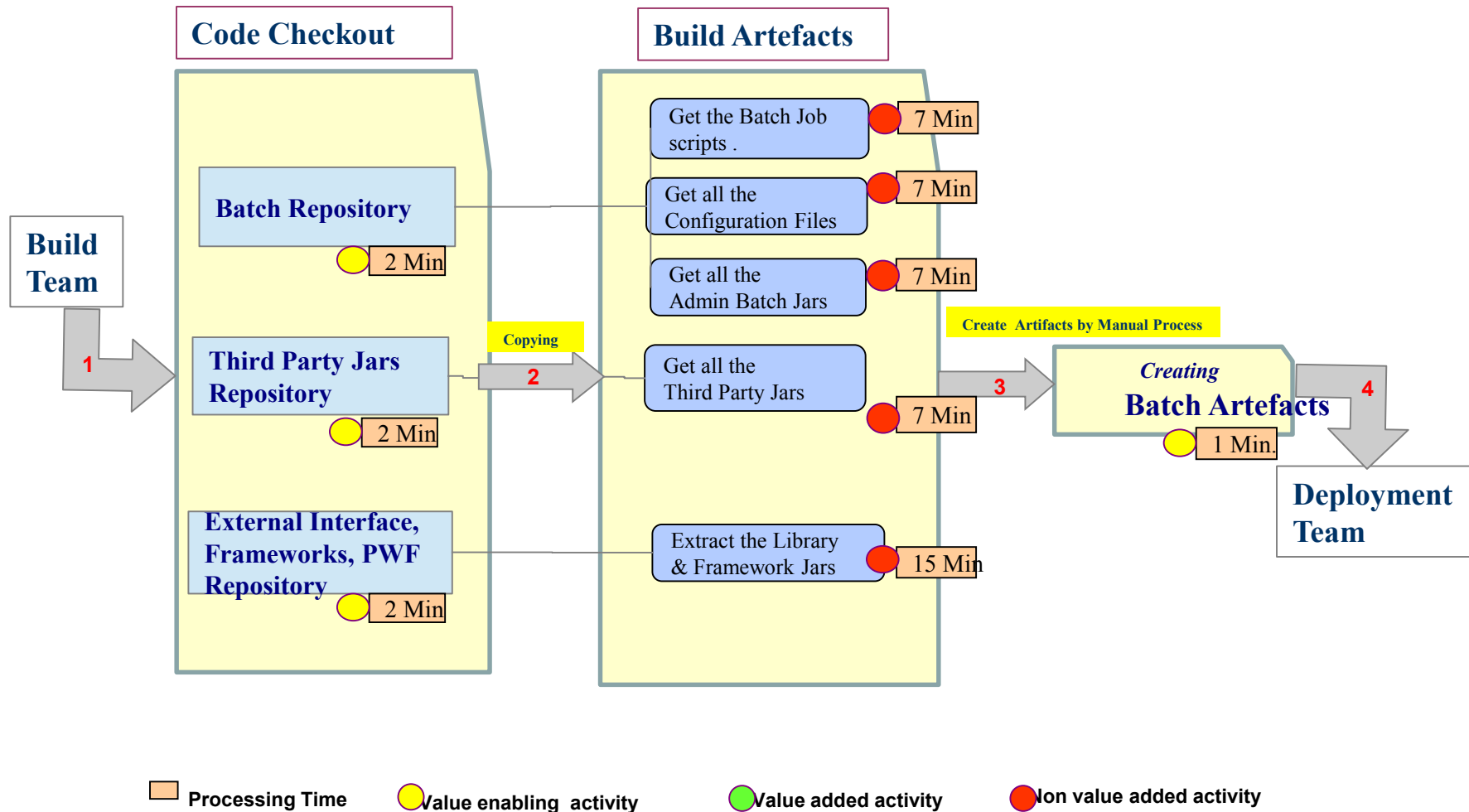3. Deliberation & identification on proposed improvement idea.

4. Implemented idea implementation

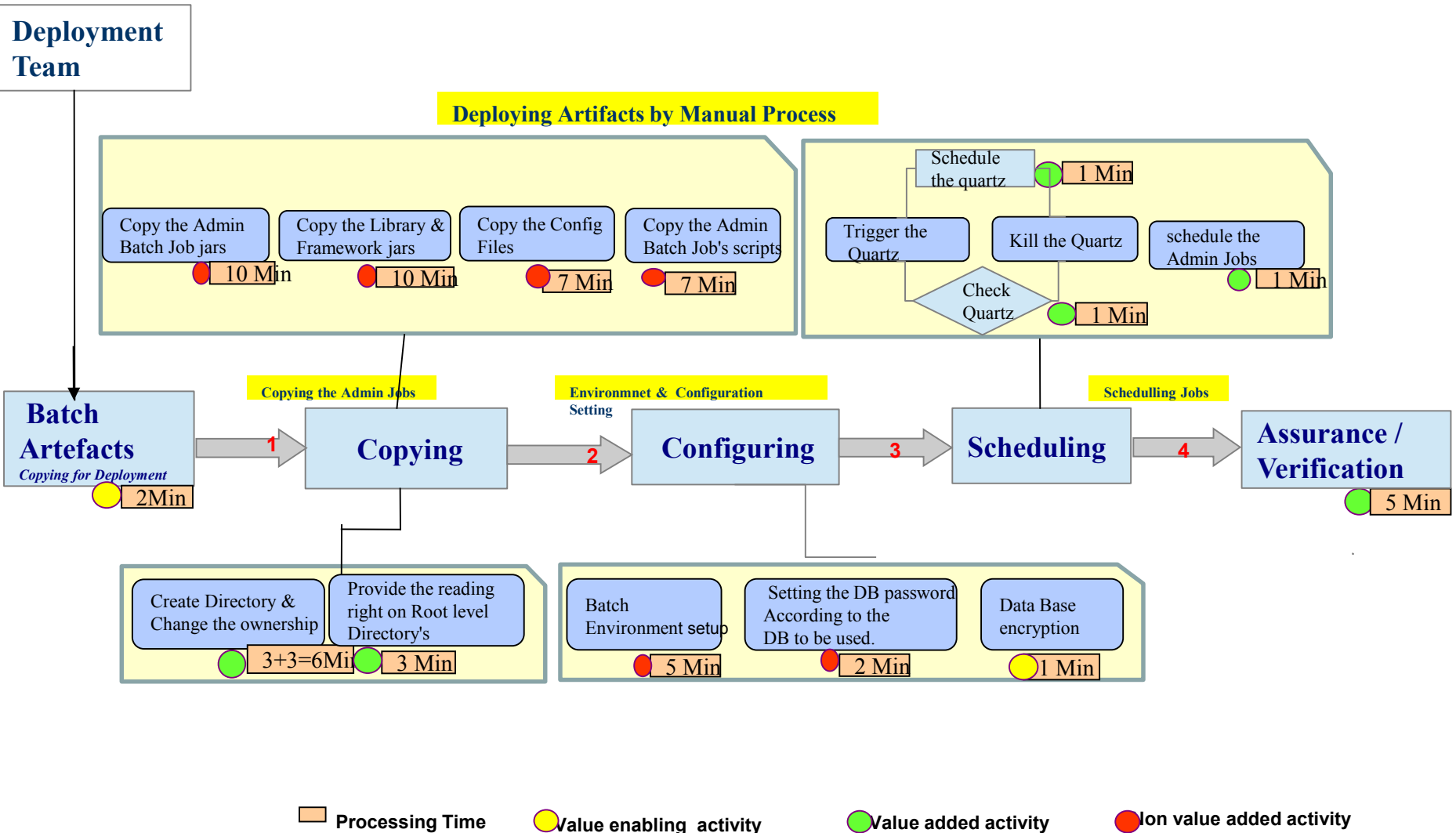5. TO-BE process activities analysis

6. Savings evaluation post implementation of improvement ideas

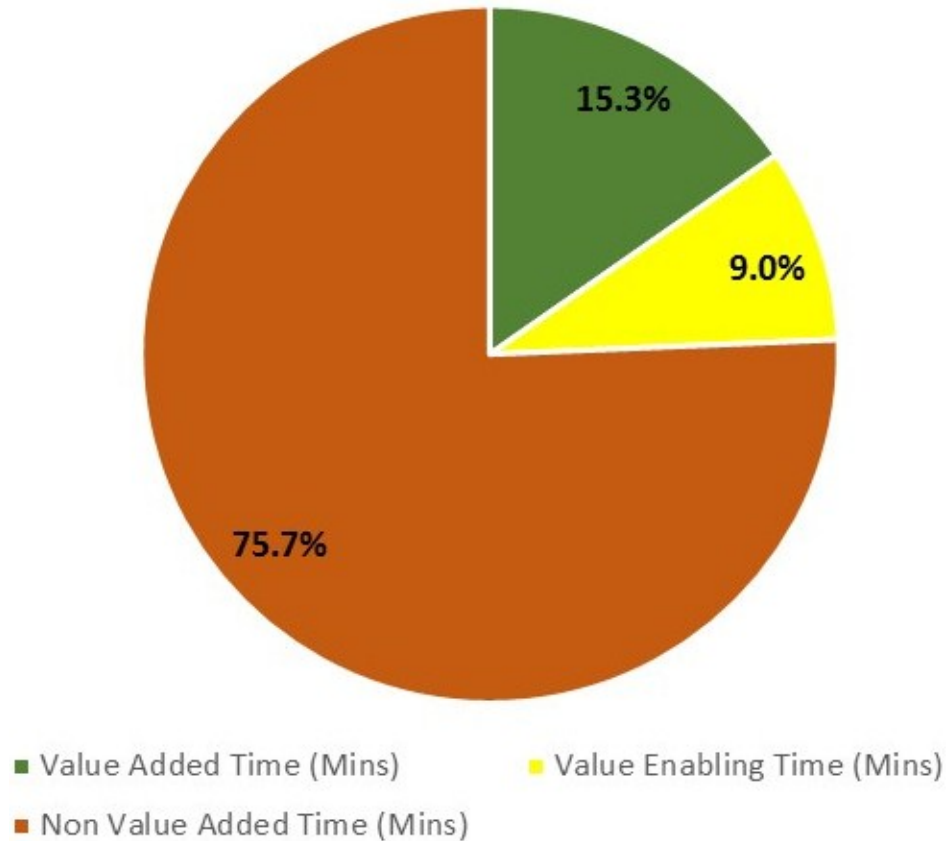# AS-IS Value Stream Map - Creating Administrative Batch Artefacts

Code Checkout

Build Artefacts

Build Team

1

Batch Repository

2 Min

Third Party Jars Repository

2 Min

External Interface, Frameworks, PWF Repository

2 Min

Copying

2

Get the Batch Job scripts . — 7 Min

Get all the Configuration Files — 7 Min

Get all the Admin Batch Jars — 7 Min

Get all the Third Party Jars — 7 Min

Extract the Library & Framework Jars — 15 Min

Create Artifacts by Manual Process

3

Creating **Batch Artefacts**

1 Min.

4

Deployment Team

Legend

☐ Processing Time 🟡 Value enabling activity 🟢 Value added activity 🔴 Non value added activity

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AS-IS Value Stream Map - Deploying Administrative Batch Artefacts

Deployment Team

Deploying Artifacts by Manual Process

Copy the Admin Batch Job jars	Copy the Library & Framework jars	Copy the Config Files	Copy the Admin Batch Job's scripts
● 10 Min	● 10 Min	● 7 Min	● 7 Min

Schedule the quartz ● 1 Min

Trigger the Quartz	Kill the Quartz	schedule the Admin Jobs

Check Quartz ● 1 Min

schedule the Admin Jobs ● 1 Min

Batch Artefacts
Copying for Deployment
○ 2Min

Copying the Admin Jobs

1 → **Copying** → 2

Environmnet & Configuration Setting

Configuring → 3

Scheduling → 4

Scheduling Jobs

Assurance / Verification
● 5 Min

Create Directory & Change the ownership	Provide the reading right on Root level Directory's
● 3+3=6Min	● 3 Min

Batch Environment setup	Setting the DB password According to the DB to be used.	Data Base encryption
● 5 Min	● 2 Min	○ 1 Min

☐ **Processing Time**   ○ **Value enabling activity**   ● **Value added activity**   ● **Non value added activity**

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AS-IS Process Analysis

Process Step	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Avg time	Total %
Get the Code of Batches (Repository)	2.30	2.10	1.90	1.90	1.80	2.00	1.8%
Get the Code of the Third Party Jars	1.80	1.90	2.10	2.20	2.00	2.00	1.8%
Get the Code of External Interface, Frameworks, PWF (Repository)	1.80	2.20	2.10	1.90	2.00	2.00	1.8%
Copy the Batch Job scripts Copy the Batch Job scripts Copy the Batch Job scripts	7.20	6.80	6.90	7.00	7.10	7.00	6.3%
Copy the Batch Configuration files Copy the Batch Configuration files Copy the Batch Configuration files	7.00	6.90	7.00	7.10	7.00	7.00	6.3%
Copy the Admin Batch Job Jar's Copy the Admin Batch Job Jar's Copy the Admin Batch Job Jar's	7.10	6.90	6.90	7.10	7.00	7.00	6.3%
Copy the Third Party Jar's Copy the Third Party Jar's Copy the Third Party Jar's	7.20	6.80	6.90	7.00	7.10	7.00	6.3%
Extract the different Framework & Library Jars	15.20	14.90	15.00	15.00	14.90	15.00	13.5%
Creating the Batch Artefacts	1.00	1.00	1.00	1.10	0.90	1.00	0.9%
Coping the Batch Artefacts for Deploying	2.30	2.10	1.80	2.00	1.80	2.00	1.8%
Create the Directory Structure Required & Change the	3.20	2.90	3.00	2.90	3.00	3.00	2.7%
ownerdhip of the Directory's	3.00	2.90	2.90	3.10	3.10	3.00	2.7%
Providing rights on the root level directory's	3.10	3.10	2.90	2.90	3.00	3.00	2.7%
Copying the Admin Batch Job Jar's	9.90	9.90	10.00	10.20	10.00	10.00	9.0%
Copying the Framework and Library Jar's	10.20	10.00	10.00	9.90	9.90	10.00	9.0%
Copying the Configuration Files.	7.00	7.00	6.90	7.10	7.00	7.00	6.3%
Copying the Admin Batch Job Scripts	7.20	6.80	6.90	7.00	7.10	7.00	6.3%
Batch Environment Setup	5.10	4.90	4.90	5.10	5.00	5.00	4.5%
Setting the DB password	2.10	1.80	2.10	2.00	2.00	2.00	1.8%
Data Base Encryption	1.10	1.10	1.00	0.90	0.90	1.00	0.9%
check the instance of Scheduleller	1.00	1.10	0.90	1.00	1.00	1.00	0.9%
Schedule the Quartz Scheduller	1.10	1.10	0.90	0.90	1.00	1.00	0.9%
Schedulling the Admin Batch Jobs	1.00	1.00	1.00	1.00	1.00	1.00	0.9%
Asurance and Verification	5.20	4.90	4.80	5.00	5.10	5.00	4.5%
Avg Total Time (Process + Wait) (Mins)	113.10	110.10	109.80	111.30	110.70	111.00	100.00%
Value Added Time (Mins)	17.60	17.00	16.40	16.80	17.20	17.00	15.3%
Value Enabling Time (Mins)	10.30	10.40	9.90	10.00	9.40	10.00	9.0%
Non Value Added Time (Mins)	85	83	84	85	84	84	75.7%

AS-IS Process Value Analysis

- ■ Value Added Time (Mins)
- ■ Value Enabling Time (Mins)
- ■ Non Value Added Time (Mins)

AS-IS Process
Value Analysis

Lean Analysis

Operation	Problem	Proposed Action	Results	Waste Reduction
Pharmacy Administrative Batch Jobs	The total time of Administrative Batch Job's deployment process takes 111.33 minutes of manual efforts. All the Configuration Settings , Environment Setup required for Admin Job's are done manually, which certainly take more time.	There is a need to develop a Automated way of deploying the Admin Batch Job's to reduce the overall manual effort and discrepancies	Reduced the overall effort in Deploying the Admin Batch Jobs with accuracy , minimum time and efforts. Also it is fully automated , entire process is deployed at one go without any manual intervention	Over Processing

Before Kaizen

Deployment has to be done manually which take 111.33 minutes of manual efforts and time

After Kaizen

After the automation of the Deployment process, entire Admin Batch jobs deploy in 22.11 minutes, which had reduced manual effort and chances of error and discrepancies

Why-Why Analysis

Job Name	WHY 1	WHY 2
Time to Deploy the Administrative Batch Jobs	Deploying the entire Admin Batch Jobs in Store is a ponderous and inefficient process, requiring Substantial efforts. There is around over 1300 Store's, single Store takes approximately 1.85 Effort (in PHrs) for deployment.	High efforts taken as it is a manual activity.

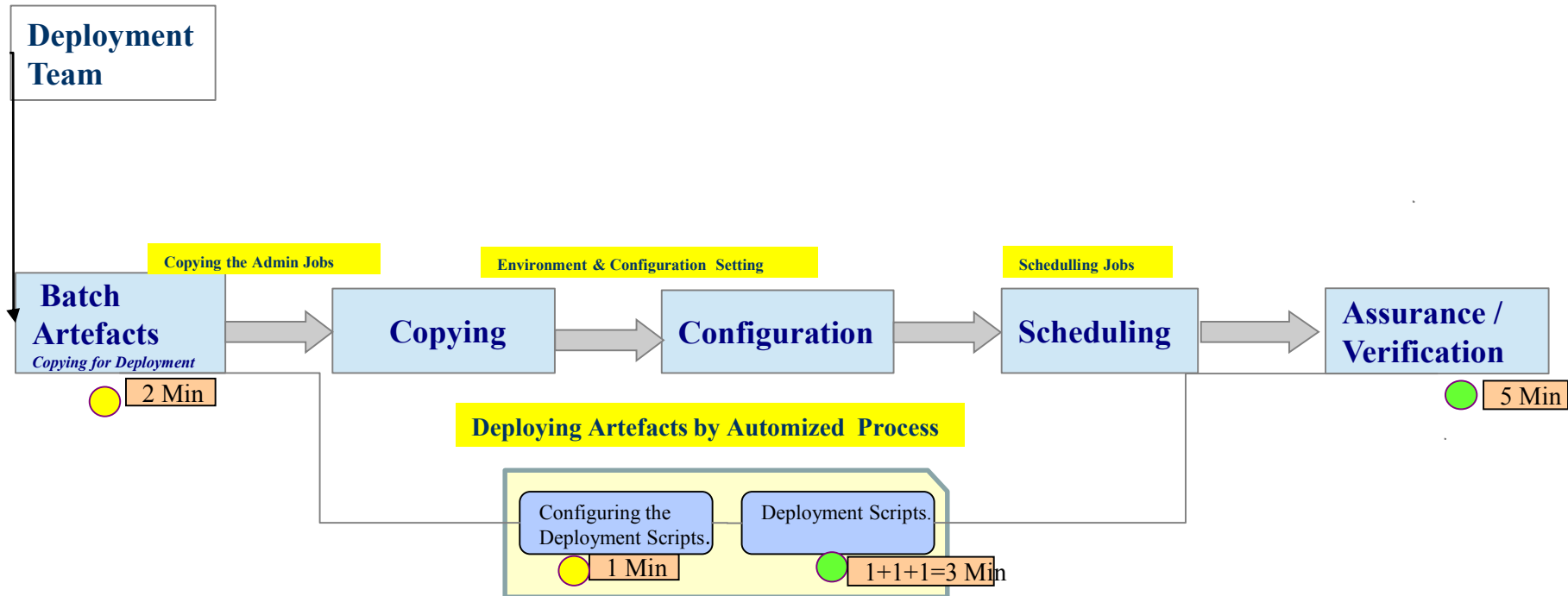# TO-BE Value Stream Map - Creating Administrative Batch Artefacts

Code Checkout

Batch Repository

2 Min **2**

Build Team

1

External Interface, Frameworks, PWF Repository

2 Min

Copying

Build Artefacts

CopyConfigFils

2 Min.

Deployment Script

2 Min. **3**

Third Party Jars Repository

2 Min

Create Artefacts by Automized Process

creating **Batch Artefacts**

1 Min.

4 **Deployment Team**

Processing Time   Value enabling activity   Value added activity   Non value added activity

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Deployment Team

Batch Artefacts
Copying for Deployment

Copying the Admin Jobs

Copying

Environment & Configuration Setting

Configuration

Schedulling Jobs

Scheduling

Assurance / Verification

2 Min

5 Min

Deploying Artefacts by Automized Process

Configuring the Deployment Scripts.

Deployment Scripts.

1 Min

1+1+1=3 Min

Processing Time

Value enabling activity

Value added activity

Non value added activity

12

TO-BE Process Analysis

Process Step	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Avg time	Total %
Get the Code of Batches (Repository)	2.10	2.00	1.90	2.10	1.90	2.03	9.2%
Get the Code of the Third Party Jars	2.10	1.90	2.00	2.00	2.00	2.00	9.1%
Get the Code of External Interface, Frameworks, PWF (Repository)Get the Code of External Interface, Frameworks, PWF (Repository)	2.00	1.90	2.00	2.10	2.00	2.00	9.1%
CopyConfig files	2.20	1.90	1.90	1.80	2.20	1.95	8.9%
Copy the Deployment scripts	2.10	2.10	1.80	2.10	1.90	2.03	9.2%
Creating the Batch Artefacts	0.90	1.00	1.10	0.90	1.10	0.98	4.4%
Coping the Batch Artefacts for Deploying	2.20	1.90	2.00	1.90	2.00	2.00	9.1%
Configuring the Deployment Scripts	1.00	0.90	1.10	1.10	0.90	1.03	4.7%
Automized Copying of Admin Batch Jobs	0.80	1.10	1.10	1.10	0.90	1.03	4.7%
Automized Configuring	1.00	1.00	1.00	1.00	1.00	1.00	4.5%
Automized Schedulling	0.90	1.00	1.10	1.00	1.00	1.00	4.5%
Asurance and Verification	5.10	4.90	4.80	5.10	5.10	4.98	22.6%
Avg Total Time (Process + Wait) (Mins)	22.40	21.60	21.80	22.20	22.00	22.00	100.00%
Value Added Time (Mins)	12.10	12.00	11.70	12.10	12.10	11.98	54.4%
Value Enabling Time (Mins)	10.30	9.60	10.10	10.10	9.90	10.03	45.6%
Non Value Added Time (Mins)	0.00	0.00	0.00	0.00	0.00	0.00	0.0%

TO-BE Process Value Analysis

- ■ Value Added Time (Mins)
- ■ Value Enabling Time (Mins)
- ■ Non Value Added Time (Mins)
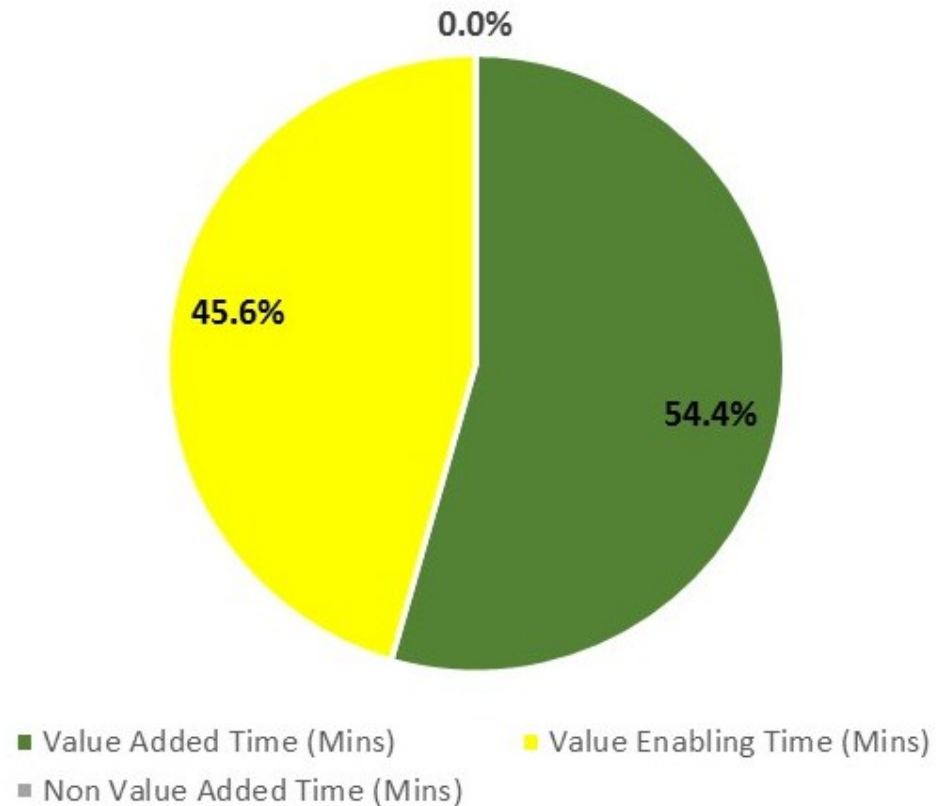
TO-BE Process Value Analysis
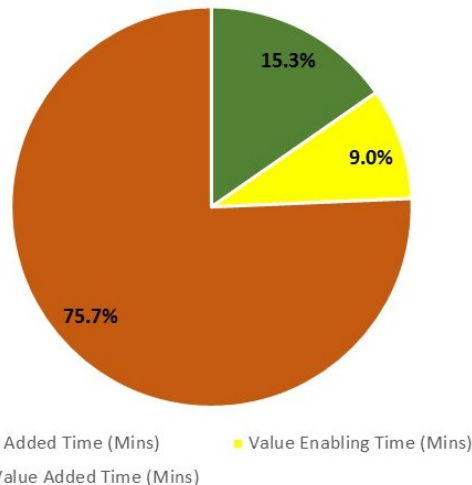
Before Automation Process

✓After the components are identified, lot of time is consumed in below tasks

- ▪Configuration & Environment Setup
- ▪Batch Artifacts deployment
- ▪Scheduling the Batch Job manually

✓There is possibility for error and discrepancies in Batch Processing by manual Deployment process & leading to

- ▪Wastage of time
- ▪Cost and resources
- ▪Demands more manual intervention after each stage of Deployment Process
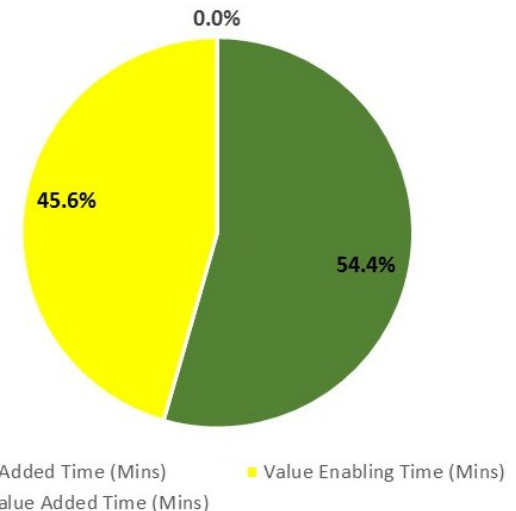
After Automation Process

✓Non Value Add activities removed

✓Entire process is automated & gets completed in a very short duration of time

Total reduction of 1.49 *PHs (from 1.85 hours to 0.36 hour) i*n the overall process which transforms to 80.18% effort saving

AS-IS vs TO-BE Effort Trend

Month	Process time (min)		
Mar-14	113.1	111	AS-IS (Mar-14 to Jul-14)
Apr-14	110.1		
May-14	109.8		
Jun-14	111.3		
Jul-14	110.7		
Nov-14	22.4	22	TO-BE (Nov-14 to Mar-15)
Dec-14	21.6		
Jan-15	21.8		
Feb-15	22.2		
Mar-15	22.0		
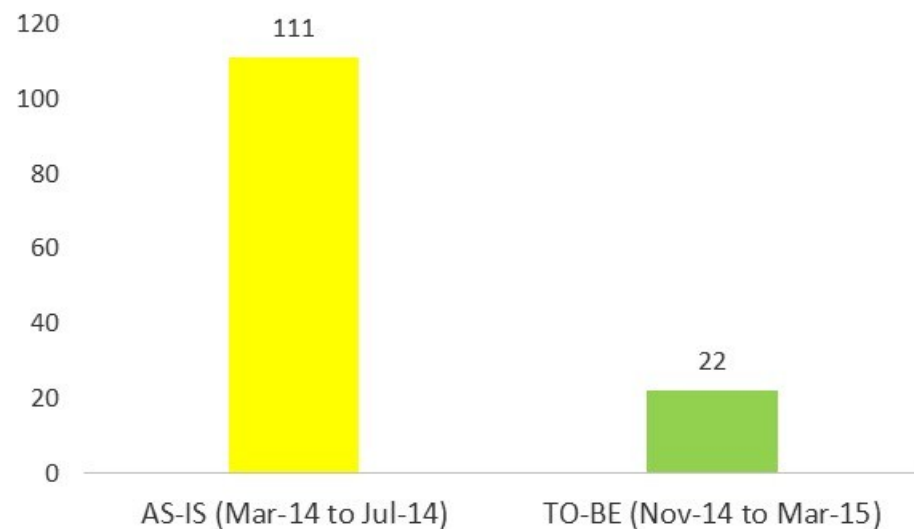
Achieved 80.18% effort reduction against target of 75%

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Benefit Analysis

AS-IS

	Artefacts Creation	Deployment	Configuration Setting	Scheduling	Total
Manual Admin Batch Job's Deployment (As per Manual Effort in minutes)	50	45	8	8	111.00
Manual Admin Batch Job's Deployment (As per Manual Effort in PHrs)	0.83	0.75	0.13	0.13	1.85
Total Manual Effort (in PHrs) (Total Stores (1300))	1083.33	975.00	173.33	173.33	2405.00

TO-BE

	Artefacts Creation	Deployment	Configuration Setting	Scheduling	Total
Automized Admin Batch Job's Deployment (As per Manual Effort in minutes)	10	5	1	6	22.00
Automized Admin Batch Job's Deployment (As per Manual Effort in PHrs)	0.17	0.08	0.02	0.10	0.37
Total Manual Effort (in PHrs) (Total Stores (1300))	216.67	108.33	21.67	130.00	476.67

Saving

Effort Saved (in PHrs)	1928.33 (2405 – 476.67)
Per Hr Billing Rate (in USD)	$ 22.14
USD Savings	$42,693 (1928.22 x $22.14)

Notes: Baseline is 1300 Stores. Effort is saving is in Person Hours

Thank You