eService Multi-day Job High Level Design

# Current Status

eService was originally designed for Cementing service line, the job package is designed per job regardless how long the job lasts. Job Header, Service Ticket and Service Report are packed in one package and sent to HO at one time.

For multiple days fracturing job with daily invoice, field supervisors create job package every day and send to Head Office.

Problem:

* Loss of overview for whole job
* Duplicated effort on data entry while creating new job in eService

For multiple days fracturing job with summary invoice, field supervisors are using following workarounds:

1. Use one single job for multiple days.

Problem:

* + Loss of visibility of daily activities.
  + Cannot divide revenue by daily basis for bonus calculation purpose.
  + Cannot send part of job information separately in timely manner.

1. Create one job package per day, use 2999 code with negative total amount or use negative travel base charge to zero out daily ticket. Re-enter all price items in last day service ticket as summary ticket.

Problem:

* Fake data is created and makes inaccuracy for reporting and BI.

# Business Requirements

1. Fracturing Service Line Job may last more than one day.
2. Customer may request to be invoiced per day or per job.
3. HSE requests operational quality data within 48 hours after incident occurs.
4. HR needs to pay bonus based on daily revenue.
5. Summary invoice needs to be approved by DSLM at the end.
6. Daily invoice needs to be approved by DSLM per ticket.

Typical Business Scenarios for Fracturing Job

1. Single Day Job
2. Multiple Days Job with Summary Invoice
3. Multiple Days Job with Daily Invoice

# Proposed Solution

## Domain Entity Definition

To overcome the challenges and utilize current eService mechanism, we need to clarify some definitions and introduce new domain entities to eService to help.

1. Program

Program is the term client solution and operation are using to refer to the work on one well for one single time period. Program will be initiated in Job Design and referred for Call Sheet creation.

1. Call Sheet

Call Sheet contains work instruction for a job. Call Sheet indicate invoicing method, summary invoice or daily invoice.

1. Job

One Job is per Well per Day per service line.

For multiple days scenario, first day job must be created from Call Sheet, following days job must be created from previous day job.

All jobs under one program can be grouped by program reference and a virtual summary job view provides general structure of all jobs under one program.

1. Service Ticket

Service Ticket carries billing information and only comes with lead service line job. For daily invoice program, each service ticket is flagged as “To Be Invoiced”. For summary invoice program, each service ticket is flagged as “Not to Be Invoiced”, last day service ticket number is used to as summary ticket number which contains all items for whole job.

1. Journal

Journal is virtual the container for all information being captured during a job, information are packed in Information Package.

1. Information Package

Information Package contains information for one purpose, e.g. Fracturing Events, Incident Events, Treatment Events, etc. Information package can be send to server on its own with reference to job and program. It can be managed under current Service Report structure and can be viewed in summary method.

## Business Process

1. Client Solution creates fracturing program for a well, assign unique identifier for the program as Program Id.
2. Coordinator creates fracturing call sheet by following program, type in Program Id and job information, flags “Invoice Daily” or “Invoice by Program”.
3. Field Supervisor creates job package from call sheet, pick ticket number from ticket book.
4. Field Supervisor enters job information in Service Ticket, Service Report and Journals.
5. If Job is completed, Field Supervisor flag “Job Complete” in Job header, then go to step 8.
6. If Job is not completed, Field Supervisor executes DAY END process to export next day job package, export it and hand it over to Next Day Field Supervisor, then go to step 8.
7. Next Day Field Supervisor imports the job package then go to step 4.
8. Field Supervisor sends job package server.
9. Operation Manger approves To-Be-Invoiced job package from server.
10. BizTalk move approved service ticket to Invoice application for invoicing.

## Business Impact

1. As the application architecture change, business process needs to be consolidated as one. Each crew needs to complete and send own job for the period of operation.
2. Job approval can happen on daily/shift basis or program basis. Application UI will be updated to implement the new process.

## Technical Architecture Impact

1. Downstream invoice process need to ignore the “Not to be Invoiced” ticket.
2. Reporting needs to honor the “Not to be invoiced” flag and internal logic for summary invoice.
3. Information package needs to be managed under both of Daily Job view and Summary Job view.

## Pros

1. Utilize current eService framework to avoid major refactoring.
2. Minor change for current business process and practices.
3. Preventing junk data from un-invoiced tickets.
4. Field information can be transferred to Head Office in better timely manner.

## Cons

1. Complexity of eService domain model is increased.