

Field Ticket Best Practices

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Introduction: Field Ticket Business Process Guideline (BPG)

Our goal for the Field Ticket project is to gain adoption of the PIDX Field Ticket Schema by providing a best practice overview of the field ticket process for operators and suppliers in the upstream oil and gas industry. This would allow the ability for Operators, Suppliers, and Marketplaces to successfully integrate field ticket data points into the PIDX Field Ticket Schema, along with driving mobile technology in the industry.

We have identified the following value proposition areas for improvements with this project:

- Our industry is faced with manual, paper-based and legacy processes
- Massive amounts of transactional volumes between supplier/operator activities
- Supplier spends excessive time driving to/from field offices for signatures
- Overpayment/coding errors (joint venture audit issues, and adjustments)
- Lack of real-time knowledge of activities or expenditures

This best practice documentation would drive operational efficiency in these areas for our industry:

- Increase real time visibility of field data in supplier/operator systems
 - ❖ Planning and Scheduling
 - ❖ Project Cost Control – (Budget/Forecasting/Tracking Commitments)
- Decrease invoice coding errors by capturing the correct information in the field
- Decrease Days Sales Outstanding (DSO) and Invoicing Processing Costs
- Decrease Operator Invoice processing costs by standardizing the format and protocol by which the data is exchanged
- Increase contract compliance and supplier cash flow
- Decrease Operator's Standby Charges by integrating field ticket data points in planning and scheduling software
- Drive mobile technology in the industry. This would eliminate re-typing data from a spreadsheet or paper into another system
- Allow Operators, Suppliers, and Marketplaces to exchange field data beyond just billing, i.e. operational, safety, job logs, and tool performance into a drilling software program

Process Model – Operator requests for service from the Supplier. Supplier assesses, provides the scope of work and creates a Field Ticket. Supplier completes the work at Operator's site. An on-site Field Ticket is given to the Operator for approval. The Operator indicates any changes that might be necessary on the Field Ticket and approves the field ticket with coding on-site. This approved Field Ticket indicates the work is done on-site, not approving any pricing at this point.

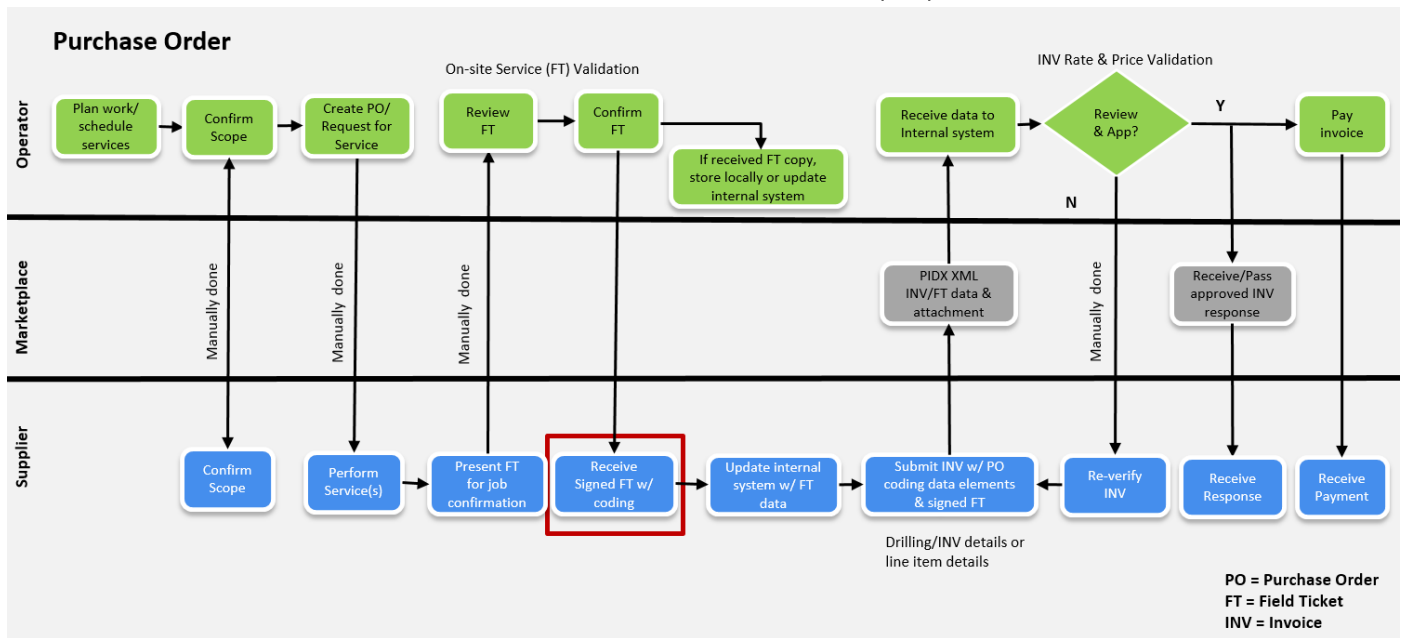
If a Field Ticket is in paper format, Supplier scans and uses the approved Field Ticket information; then submit it with invoice as supporting document and send to Operator. If a Field Ticket is electronically created or submitted in XML format, then Supplier uses the approved Field Ticket information to submit it with invoice as supporting document and send to Operator. Any disputes are handled by phone, email, etc. If necessary, once disputes are resolved, a corrected field ticket is revised and sent to the Operator for approval.

1. Field Ticket Process Challenges

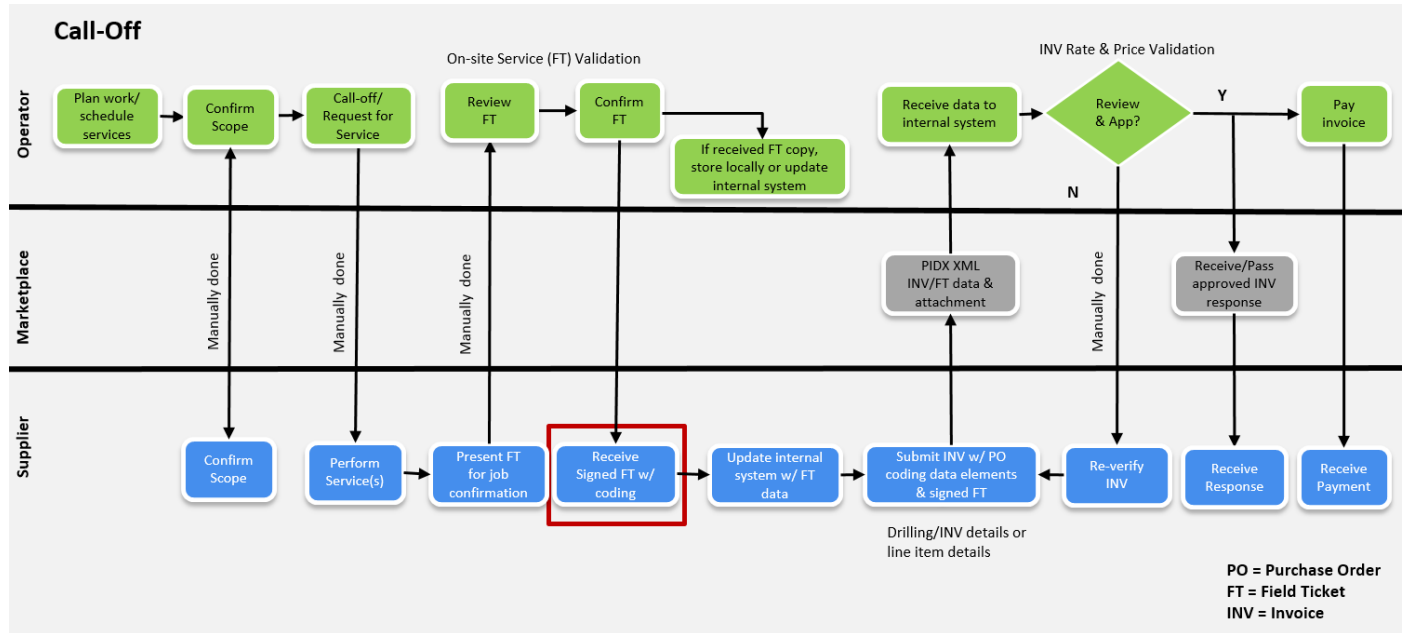
- Invoice Coding Errors
- Field Ticket Integration with Drilling Software
- Unmanned Location Field Tickets
- Supplier Price Issues and Complex Services

2. Field Ticket Best Practices Scope

2.1. End to End Procurement Process Flow via Purchase Order (PO)



2.2. End to End Procurement Process Via Call Off



3. Field Ticket Best Practice Processes Efficiency Opportunities

3.1. Invoice Coding Errors

3.1.1. Overview of Process Challenges

Use Case	Invoice Coding Errors
Identifier	Email; Intermediary
Actors	Operator, Supplier, Solution Provider
Description	Invoice is rejected due to the incorrect or illegible/ billing codes provided from the Operator
Pre-conditions	Field ticket captured & Field ticket approved
Post-conditions	Invoice approved with no errors
Scenario	Suppliers receive the coding from the Operator after the job completion & Operator confirmation. Codes provided from the Operator’s stamp or handwritten on the Field Ticket. Later, these types of codes are re-entered into the Supplier’s system for billing the Operator
Recommended Best Practices	<p>Avoid Invoice Coding Errors, recommended best practices include the following:</p> <ul style="list-style-type: none"> • Operator <u>corrects</u> the billing codes and approves the invoice if Operator provides the incorrect codes from a stamp/handwritten on Field Ticket at the time of job completion (this gives Operator clear insight to point of failure and where to address root cause) • Operator <u>rejects</u> the invoice if codes were provided correctly at time of job completion and supplier has miss-keyed or incorrectly presented the codes on the invoice (this give Supplier clear insight to point of failure and where to address root cause) • Operator provides <u>minimal</u> coding such as Well ID, Asset ID, etc. on Field Ticket. Additional data can be derived at invoice receipt and systematically eliminate errors • Better Operator provides <u>one</u> attribute. The Operator can cross reference internally (such as AFE or Project ID) and the Supplier can invoice with this attribute
Reference Documentation	

3.1.2. Efficiency Opportunities

An in-depth study by one large oilfield supplier found that 30% of invoice disputes originate from missing or incorrect coding information. Invoices not disputed for these reasons typically get processed 15 days faster and without additional re-work (often by at least two Operator employees and at least two Supplier employees.) The top three incorrect data elements were found to be 1) Cost Element, 2) Approver/Routing Code, and 3) Invalid/Under-funded Purchase Order. Many operators have acknowledged that due to challenging environments, incorrect information is often provided at time of work and not discovered until invoice presentment. In order to increase efficiency buyers, suppliers and intermediaries need to address this problem area.

Some opportunities include the below:

- Improved cost & budget management timeliness through integration of field ticket approval into cost management applications
 - ❖ e.g. Peloton, Site View, Rig View, AFE Navigator, Primavera Project Management
 - ❖ 3-way match, Committed cost tracking
- Capture information and approve immediately once the service/goods are delivered
- Utilize Operator Portal to find/confirm coding information
- Avoid time spent looking for an approver to physically stamp a work order
- Use templated forms to avoid data entry errors and reconciliation problems with invoices
- Enhanced liability & accrual management
- Reduced financing costs for receivables
- Streamlined processing - tie the approved field ticket into the PO, Service Receipt and invoicing processes
- Move toward a one-code solution for invoice coding

3.2. Field Ticket Integration with Drilling Software

3.2.1. Overview of Process Challenges

Use Case	<i>Field Ticket Integration with Drilling Software</i>
Actors	Operator, Supplier, Solution/Software Providers
Description	Field Ticket data is manually keyed into Drilling Software by Operator Company Reps from paper field tickets provided by Suppliers. This is an inefficient and error prone process which introduces delays in Operational, Safety, Cost, and Performance metrics management
Pre-conditions	Field Ticket is reviewed and approved by Operator Rep
Post-Conditions	Field Ticket is imported into Drilling Software and associated with correct Well, AFE, GL for cost tracking and operational insights
Scenario	eField Ticketing data should be integrated with Drilling Software in near real-time through a PIDX standards based schema. This will facility the exchange of ticketing data between Suppliers and Operators
Recommended Best Practices	Supplier eField Ticketing mobility applications should have the ability to send PIDX field tickets to a standard interface for approval and processing. These tickets would contain the correct pricing, catalog, coding, and reference data needed for importing into Drilling Software
Reference Documentation	

3.2.2. Efficiency Opportunities

- Reduced costs of manual keying of field ticketing data by Company Reps through data integration
- Near real-time visibility into Field Spend and AFE management
- Better insights into drilling activities
- Operational performance improvements as result of real-time data
- Ability to proactively monitor and manage supplier Operational, Safety, Cost, and Performance metrics
- Reduced Supplier manual reporting
- Stronger Operator and Supplier business relationship
- PIDX standard ticketing interfaces supporting all 3rd parties

3.3. Unmanned Location Field Tickets

3.3.1. Overview of Process Challenges

Use Case	<i>Unmanned Location Field Tickets</i>
Identifier	Email; Intermediary
Actors	Operator, Supplier, sometime third party
Description	Supplier services a well or a group of wells where no company man is present - this is typical of so call non-complex services like fluid hauling, water management or chemical treatment- this type of activities creates a very high volume, low dollar of field tickets- by default, the coding and approval of the field ticket is even more challenging than for manned locations
Pre-conditions	<p>Either the service is delivered based on a pre-defined schedule or a service order is communicated to the service provider by fax, phone, email, very seldom electronically.</p> <p>For some operators a stop at a local office is required before reaching the site and after leaving the site</p> <p>Field ticket approval is obtained either by having dedicated resources chasing the company man or by dropping a “bucket “of field ticket in so call field mailbox; in this latter case the service provider will collect approved and coded field ticket after few days from the same spot</p>
Post-conditions	<p>Unmanned locations field ticket process can be improved by leveraging 3 different technologies:</p> <ul style="list-style-type: none"> • Service requests <ul style="list-style-type: none"> ❖ adhoc service request orders or predefined scheduled orders are electronically generated and push to the field personnel mobile device ❖ IoT based sensors send a service request based • Coding <ul style="list-style-type: none"> ❖ asset based automatic e-field ticket coding: based on geolocation or asset tags (NFC, bar code) captured electronically onsite, the e-field ticket is automatically coded • Approval <ul style="list-style-type: none"> ❖ e-field tickets are available for approval via a portal by the company man ❖ approval is completely bypassed in case of sensor driven service request (quantities : volume and time are automatically captured)

<p>Scenario</p>	<p style="text-align: center;">e-fiel ticket for unmanned locations</p> <p>Process: 1/ Service request (IoT sensors) 2/ Field ticket (mobile) 3/ Invoice 4/ Payment</p>
<p>Recommended Best Practices</p>	<p>Phase 1: Tag all assets (wells, tanks, etc.) Provide simple devices to field personnel to identify asset and capture light field ticket data (quantities, time) Leverage cloud based technology for coding (asset based tag) and approval (portal)</p> <p>Phase 2: Leverage IoT sensors to automate the process end-to end</p>
<p>Reference Documentation</p>	



3.3.2. Efficiency Opportunities

No info provided

3.4. Supplier Price Issues and Complex Services

3.4.1. Overview of Process Challenges

Use Case	<i>Supplier Price Issues and Complex Services</i>
Identifier	Email; Intermediary
Actors	Operator, Supplier, Intermediary was involved as an agent for the operator and supplier
Description	<p>Supplier Pricing issue has two folds...</p> <ol style="list-style-type: none"> 1. Supplier is not syndicating current price sheet at least 2 weeks before effective date 2. Operator is not approving price sheet work flow within 2 weeks <p>Complex Services pricing issue includes multiple prices for the same part number, which causes issue to the Supplier on the zero-pricing items in the price sheet (PS). (For example: Drilling service with different pricings depending the depth of drilling job)</p>
Pre-conditions	Both Supplier and Operator have executed contract pricing on products & services
Post-conditions	Supplier's invoice to the Operator with accurate pricing
Scenario	<p>As we started to document the process, our finding is pricing mismatch as an issue where Supplier and Operator pricing sheets are not aligned. Thus, it creates an issue when it is time for Supplier to invoice the Operator.</p> <p>In addition, it is time consuming and inefficient when Suppliers send invoices and get invoice rejected due to incorrect pricing. Suppliers need to validate pricing and re-work the invoice, which require time and resources.</p>

<p>Recommended Best Practices</p>	<p>For Supplier Pricing Issue and Complex Services, recommended best practices include the following:</p> <ul style="list-style-type: none"> • After contract signed, Sales to communicate with internal team to provide price sheet (PS) to Operator for validation within first two weeks of contract signed • Allot time between Supplier & Operator for pricing validation. Price Sheet Readiness should be < two (2) weeks • Ensure to have updated/approved price sheet before invoicing process • Price Sheet (PS) and its response should be transmitted via the same communication channel • Review all line items for errors before rejecting • Have the tolerance at ± 0.50 for extended line items • Supplier invoice system can support any price attributes that are used in catalog • Implement enhanced PS standard on both Operator and Supplier systems for price sheet and invoice to reduce number of zero price items and increase automatic rate validation • Please refer to attached documents for additional references under Reference Documentation
<p>Reference Documentation</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  251_Price_Sheet_Sy ndication_Business_ </div> <div style="text-align: center;">  417_BPG_Enhanced _Price_SheetV6.pdf </div> </div>

3.4.2. Efficiency Opportunities

- Operators can view their spending with Suppliers
- Decrease Days Sales Outstanding (DSO) and Invoicing Processing Costs
- Suppliers receive payments faster

4. Field Ticket Process Definitions

Below is a list of terms and its definition.

Term	Definition
Best Practice	A method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark. In addition, a "best" practice can evolve to become better as improvements are discovered. Best practice is considered by some as a business buzzword, used to describe the process of developing and following a standard way of doing things that multiple organizations can use.
Blanket (Spend Limit) Purchase Order; Limit Order	A purchase order for services, the customer makes with its supplier which contains multiple delivery dates over a period of time, often negotiated to take advantage of predetermined pricing. It is normally used when there is a recurring need for expendable goods.
Call-Off	Verbal or written communication by operator to the supplier to request the performance of services or delivery of materials for a scope of work. This also referred to as non-purchase order procurement.
eCommerce	Electronic commerce, commonly written as e-commerce, is the trading or facilitation of trading in products or services using computer networks, such as the Internet. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI) , inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle, although it may also use other technologies such as e-mail.
Electronic Data Interchange (EDI)	An electronic communication method that provides standards for exchanging data via any electronic means. By adhering to the same standard, two different companies or organizations, even in two different countries, can electronically exchange documents (such as purchase orders, invoices, shipping notices, field ticket , and many others). EDI has existed for more than 30 years, and there are many EDI standards (including X12, EDIFACT, ODETTE, etc.), some of which address the needs of specific industries or regions.

<p>Enterprise Resource Planning (ERP)</p>	<p>A category of business-management software—typically a suite of integrated applications—that an organization can use to collect, store, manage and interpret data from many business activities, i.e. procurement, inventory management, shipping and payment. ERP provides an integrated view of core business processes, often in real-time, using common databases maintained by a database management system. ERP systems track business resources—cash, raw materials, production capacity—and the status of business commitments: orders, purchase orders, and payroll. The applications that make up the system share data across various departments (manufacturing, purchasing, sales, accounting, etc.) that provide the data. ERP facilitates information flow between all business functions, and manages connections to outside stakeholders.</p>
<p>Field Ticket (FT)</p>	<p>A term used to describe a document that contains operational data that the supplier provides to the operator’s authorize personnel when services are completed, or materials were delivered to a job site. The supplier would typical require acknowledgement via signature by operator’s authorized personnel when services were performed or materials delivered. The document could be paper, or in the electronic format. The electronic version of the data document is sometimes referred to as “eField Ticket, or Digital Field Ticket.”</p>
<p>Digital Field Ticket</p>	<p>An electronic version of the Field Ticket. It would contain operational data that the supplier provides to the operator’s authorize personnel when services are completed, or materials were delivered to a job site. The supplier would typical require acknowledgement via electronic signature by the operator’s authorized personnel when services were performed or materials delivered. This is required to allow payment from operator to supplier.</p>
<p>eField Ticket (eFT)</p>	<p>An electronic version of the Field Ticket. It would contain operational data that the supplier provides to the operator’s authorize personnel when services are completed, or materials were delivered to a job site. This is required to allow payment from operator to supplier. The supplier would typical require acknowledgement via electronic signature by the operator’s authorized personnel when services were performed or materials delivered.</p>

Intermediary (Marketplace)	Organization between Trading Partners that may handle routing and/or act on behalf of Trading Partner at different stages in the business process workflow.
Invoice	A bill sent by a supplier for services perform or materials delivered to the operator. The invoice establishes an obligation on the part of the operator to pay, creating an account receivable. Other definition for the invoice is called eInvoice when is submitted electronically from the supplier to operator invoice system.
eInvoice	Electronic submission of invoice by supplier to operator invoice system. This streamline and automate Invoice handling, payment and data capture for both supplier and operator. Sometimes referred to as Electronic Invoice.
Pro Forma Invoice	Pro Forma invoices are also sometimes referred to as an estimate or quote for materials or services. A pro forma invoice can be provided to the operator would outline how much a certain number of goods or services will cost. The Operator may not yet have agreed to, or even seen, these numbers a pro forma invoice is designed to give them an estimate of what the goods or services the supplier they're asking for will cost them.
Mobile Technology (Mobility)	The delivery of exchanging electronic commerce directly between supplier/operator anywhere, via wireless technology.
Network	Intermediary that acts on behalf of Operator or Supplier and is a participant in the business process workflow.
Online Transaction Processing (OLTP)	A class of information systems that facilitate and manage transaction-oriented applications, typically for data entry and retrieval transaction processing. The term is somewhat ambiguous; some understand a "transaction" in the context of computer or database transactions, while others (such as the Transaction Processing Performance Council) define it in terms of business or commercial transactions. OLTP has also been used to refer to processing in which the system responds immediately to user requests. On line transaction processing applications are high throughput and insert or update-intensive in database management. These applications are used concurrently by hundreds of users. The key goals of OLTP applications are availability, speed, concurrency and recoverability. Reduced paper trails and the faster, more

	accurate forecast for revenues and expenses are both examples of how OLTP makes things simpler for businesses.
Order-to-cash (O2C)	Refers to the business process for receiving and processing customer sales. It follows "Opportunity to Order" and covers business-to-business (B2B) and business-to-consumer (B2C) sales. The term is most prominent in the design and improvement of Enterprise Resource Planning (ERP) systems such as SAP, Oracle and NetSuite.
Procurement	The act of acquiring, buying goods, services or works from an external source. It is favorable that the goods, services or works are appropriate and that they are procured at the best possible cost to meet the needs of the acquirer in terms of quality and quantity, time, and location.
Procure-to-pay	A term used in the software industry to designate a specific subdivision of the procurement process. Procure-to-pay systems are designed to provide organizations with control and visibility over the entire life-cycle of a transaction – from the way an item is ordered to the way that the final invoice is processed – providing full insight into cash-flow and financial commitments. Most of the companies using these systems look for a centralization of their procurement department, or to set up a shared services organization for the same purpose.
Purchase-to-pay (P2P) or Requisition-to-pay (R2P)	Often abbreviated to P2P and also referred to requisition-to-payment " R2P ." - refers to the business processes that cover activities of requesting (requisitioning), purchasing, receiving, paying for and accounting for goods and services. Key benefits are increased financial and procurement visibility, efficiency, cost savings and control. Automation allows for reduced processing times and straight-through processing where the incoming invoices are handled without any manual intervention.
Purchase Order (PO)	A commercial document and first official offer issued by an operator to a supplier, indicating types, quantities, and agreed prices for products or services. It is used to control the purchasing of products and services from external suppliers. Acceptance of a purchase order by a supplier forms a contract between the operator and supplier, and no contract exists until the purchase order is accepted. Although a typical Purchase Order may not contain contract language (in fact most contain little more than a list of the goods or services the operator desires to purchase, along with price, payment


	<p>terms, and shipping instructions), the Purchase Order is a specially regarded instrument regulated by the Uniform Commercial Code or other similar law which establishes a Purchase Order as a contract by its nature. Yet despite the nature of the Purchase Order as a contract, it is common to accompany the acceptance of a Purchase Order with a legal document such as the Terms & Conditions of Sale, which establish specific or additional legal conditions of the contract. Creating a purchase order is typically the first step of the purchase to pay process in an ERP system.</p>
Detailed Purchase Order	<p>Planned Service Order with Limits, a type or purchase order for services order for unplanned and/or planned services with or without referencing to a supplier contract. Sometimes referred to as a detail plan of services based on scope, and service contract price.</p>
Planned Services	<p>Services whose nature and scope is known to an operator planner at the start of a procurement project or transaction. At the time the services are requested, the individual specifications are entered directly on line items on a service purchase order as short and long texts. Price and quantity are specified in both cases.</p>
Unplanned Services	<p>Services that cannot be specified in detail because their precise nature and scope are not initially known, or services which - for various reasons – the operator do not wish to plan in detail. You would have agreed pricing on a paper contract. Unplanned services therefore have no descriptions. They are entered in the form of maximum values in the relevant currency via a Limit Service Order. Services may be performed up to a value not exceeding these value limits. This ensures an element of cost control. At the time the services are requested, the supplier would provide a detail list of quantities and long text description on the field ticket and invoice. Price and quantity are specified in both cases on the invoice. Unplanned services are often process on a “Limit Service Purchase Order” or via “Call-Offs” process.</p>
Straight-through processing (STP)	<p>Enables the entire trade process for capital market and payment transactions to be conducted electronically without the need for re-keying or manual intervention, subject to legal and regulatory restrictions. The process was developed by James Karat in the early 90's and the concept has also been transferred into other sectors including energy (oil, gas) trading and banking, and financial planning.</p>

Supply Chain Management (SCM)	The management of the flow of goods and services. Supply chain management has been defined as the "design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally. SCM draws heavily from the areas of operations management, logistics, procurement, and information technology, and strives for an integrated approach.
Trading Partner	The Operator or Supplier

5. Field Ticket Data Elements List

The following reference documentation provides a list of data elements that could be capture on the field ticket beyond invoicing. The reference document contains the following three tabs:

- **Best Practice Field List** – list of field ticket general service data elements
 - Planning and scheduling exchange
 - Alerts of modification to plan or schedule for services
 - Performance of Service
- **Oil Hauler Field List** - list of field ticket crude oil hauling service data elements
- **Water Hauler Field List**- list of field ticket water disposal service data elements

Reference Documentation	 Best-Practice-Field-Ticket-Data-
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