Digital Interoperability and Data Stewardship

Best Practices for Commercial Transactions

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

Chris Welsh

CEO

April 2023

Digital Integration between Operator's P2P & Supplier's O2C

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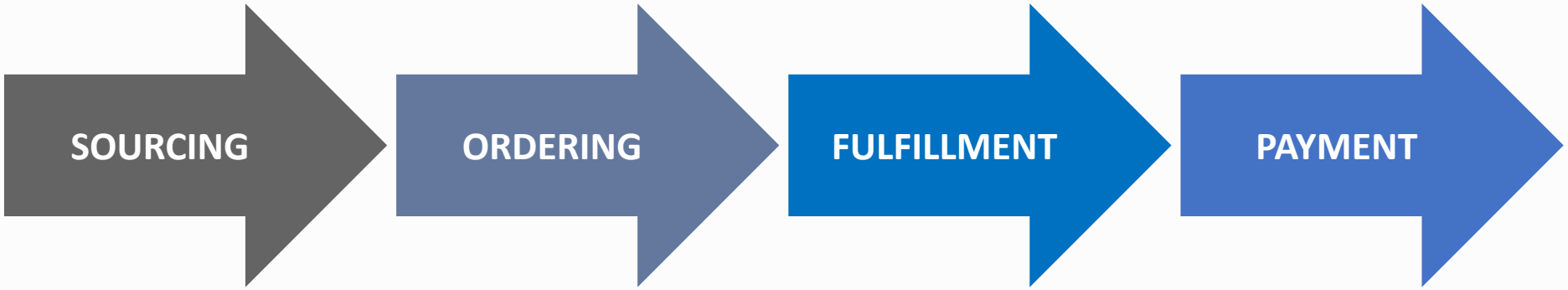
TRUSTED ENERGY SUPPLY CHAIN NETWORK



Digital Integration between Operator's P2P & Supplier's O2C

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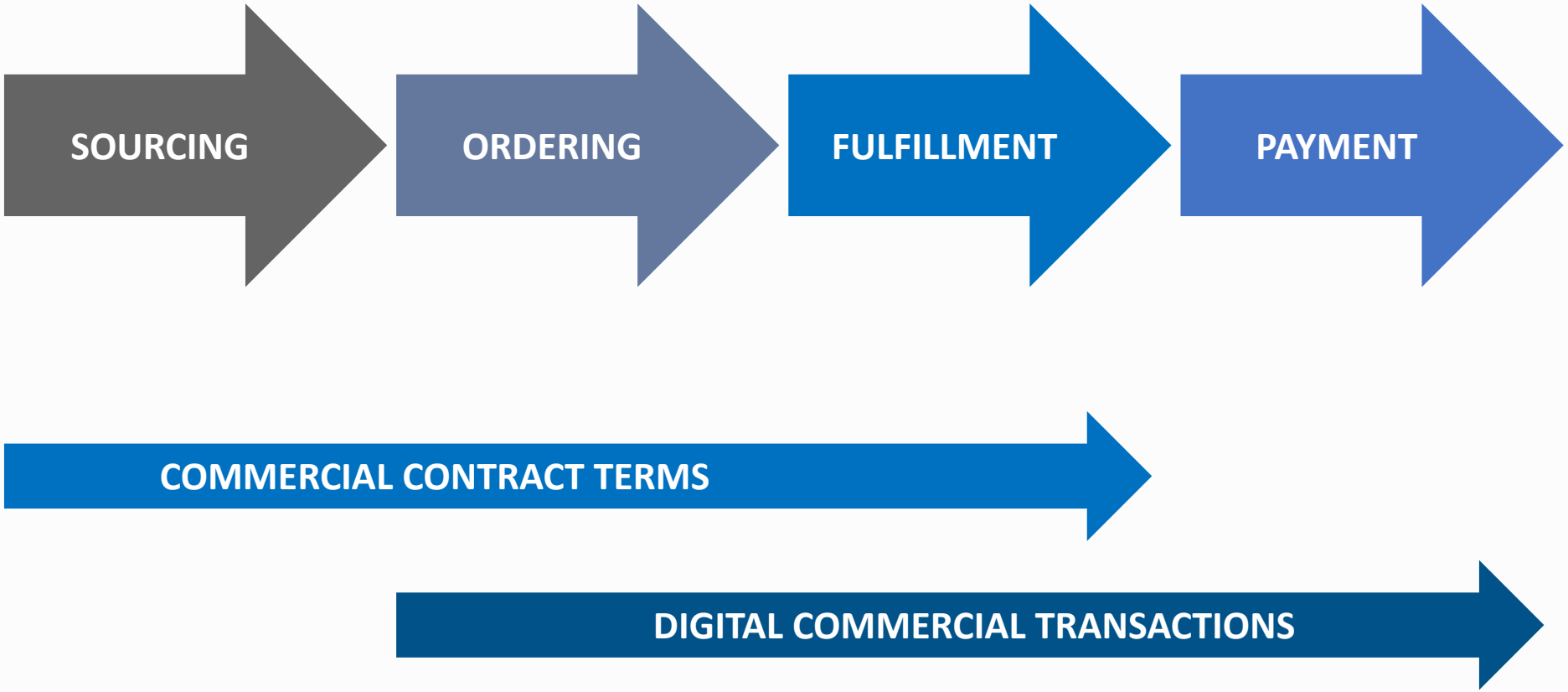

End-to-End Digital B2B Data & Document Exchange

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

P2P		O2C
Sourcing RFI/RFP	←	Bid Response
Master Data Management		
Contract Management		
Catalogs	←	Catalog Data
Request for Quote	⇄	Quote Provided
Purchase Requisition		
Purchase Order	⇄	PO Change/Confirmation
Goods Receipt/Service Entry Field Ticket Response	⇄	Field Ticket/Delivery
Invoice Response	⇄	Invoice
Payment Remittance Advice	→	Payment Received

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End-to-End Digital B2B Data & Document Exchange

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

P2P		O2C
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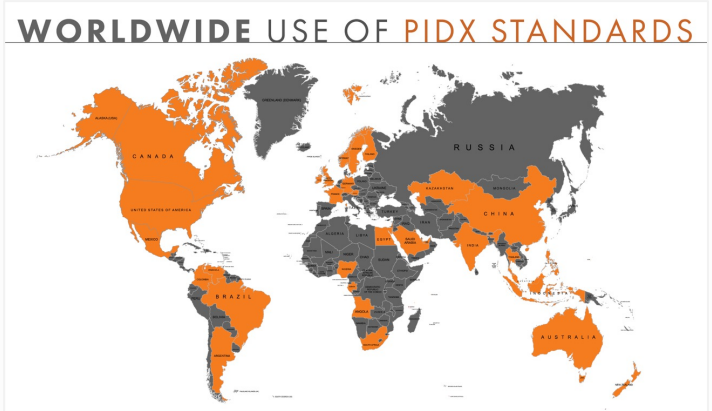

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What is a Trade Secret?

What is a Trade Secret?

Trade secrets are intellectual property (IP) rights on confidential information which may be sold or licensed.

What qualifies as a trade secret?

In general, to qualify as a trade secret, the information must be:

> **commercially valuable** because it is secret,
>
> be known only to a **limited group of persons**, and
>
> be subject to reasonable steps taken by the rightful holder of the information to keep it secret, including the **use of confidentiality agreements for business partners** and employees.

The **unauthorized acquisition, use or disclosure of such secret information** in a manner contrary to honest commercial practices by others is regarded as an **unfair practice and a violation of the trade secret protection**.

* Source: World Intellectual Property Organization [https://www.wipo.int/tradesecrets/en/]

Digital Integration between Operator's P2P & Supplier's O2C

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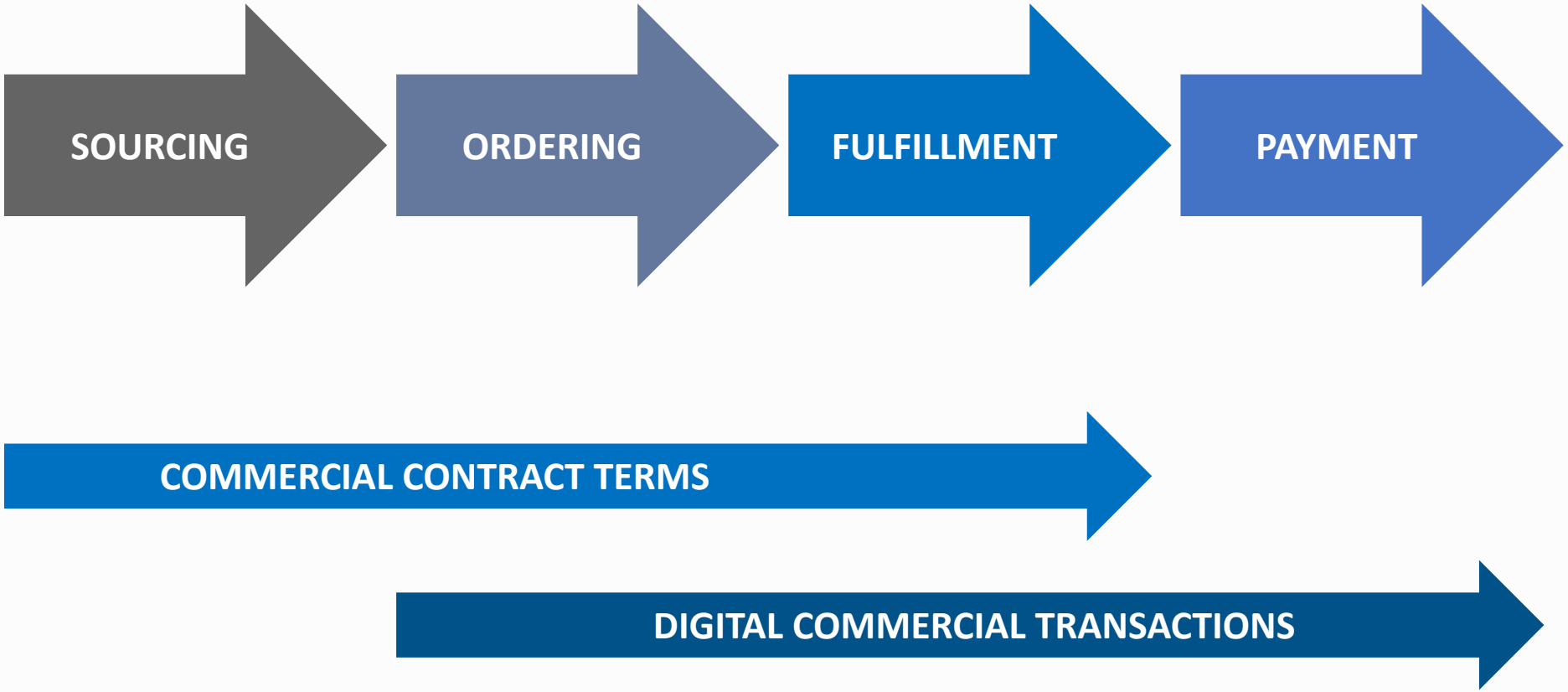

Digital Integration between Operator's P2P & Supplier's O2C

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PIDX POINT-POINT AND THE 3-CORNER MODEL

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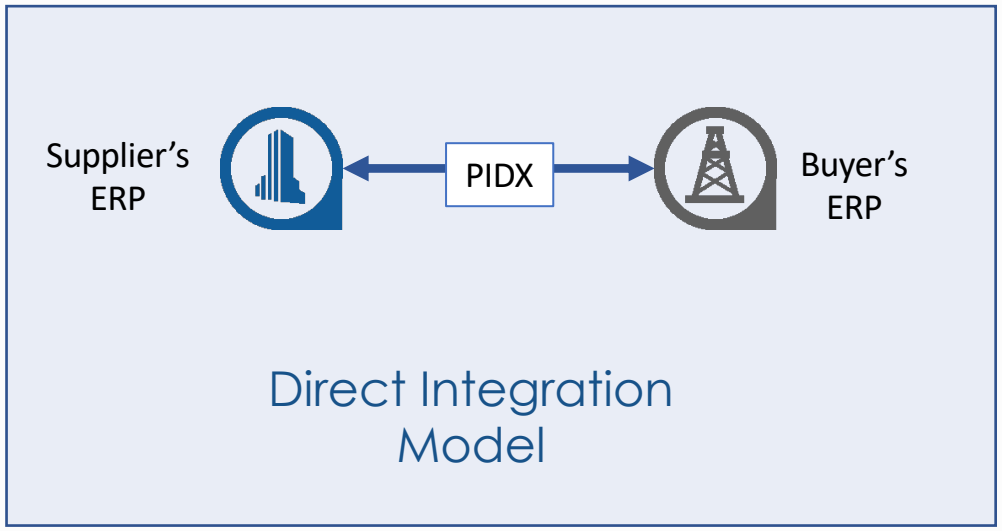
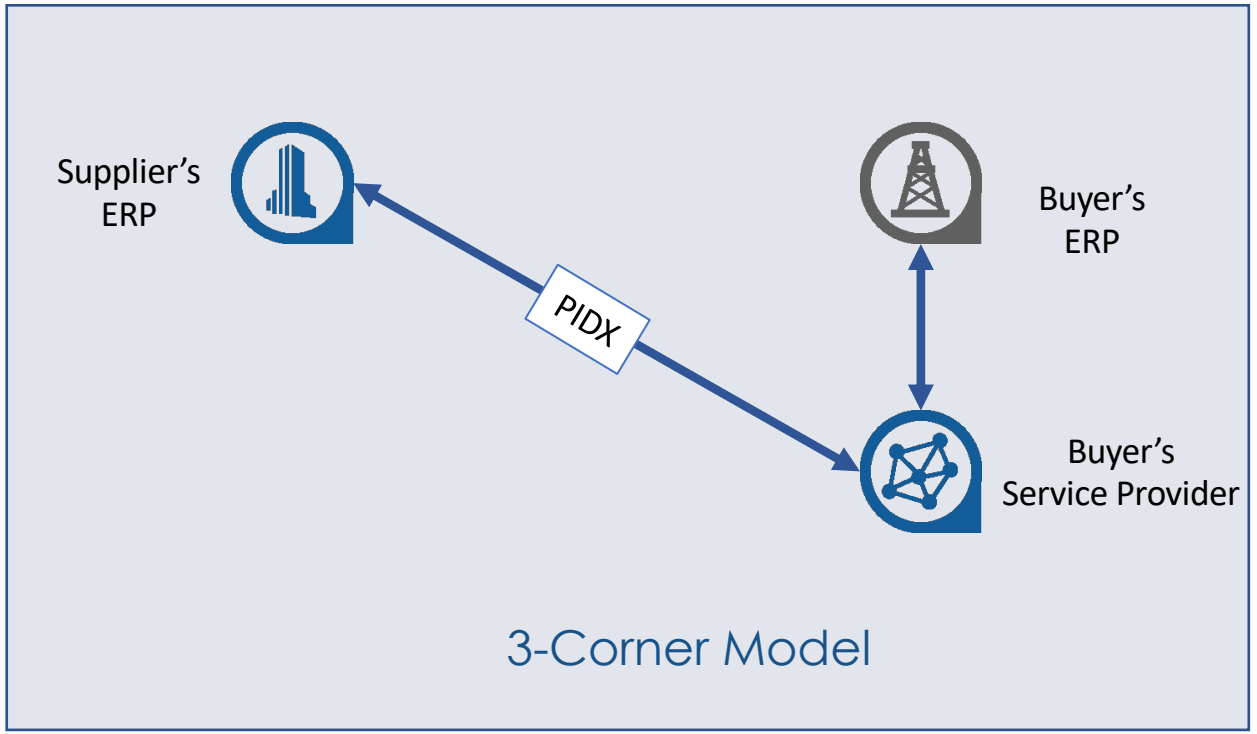
Operators and Suppliers transact using PIDX standards in a point-point manner (Direct Integration Model).

The data transacted is co-owned by the parties to the transaction, Operator and Supplier.

This could be a direct integration, Operator to Supplier or through an Operator's Service Provider to aggregate the Supplier integration (3-Corner Model).





PROTECTING TRADE SECRET DATA

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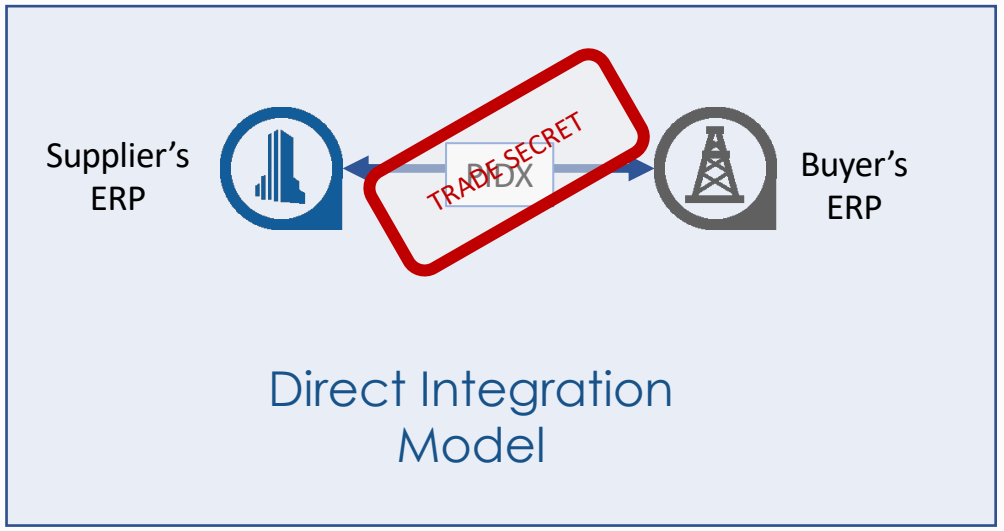
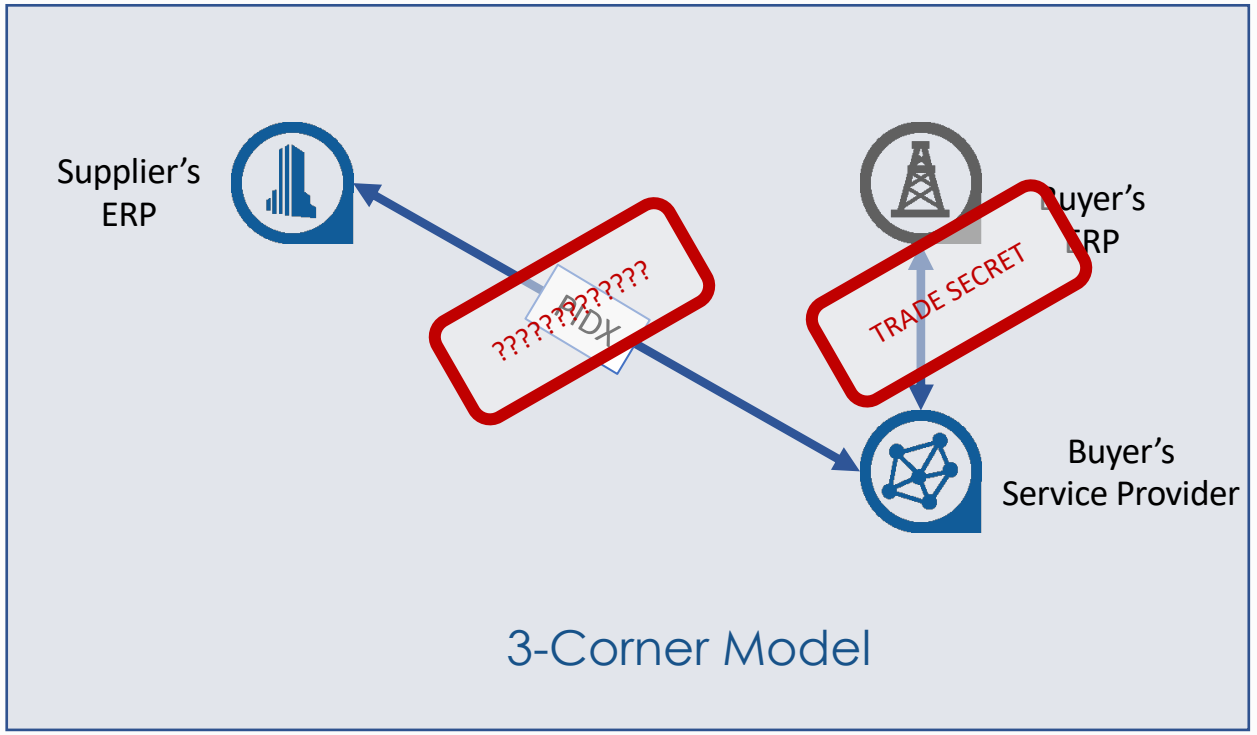
Use of confidentiality agreements for business partners

Direct Integration – Commercial Agreement with Data Stewardship Cover

3-Corner Model – Commercial Agreement between Operator and Service Provider





COMPLEX WEB OF DIGITAL TRADING PARTNERS

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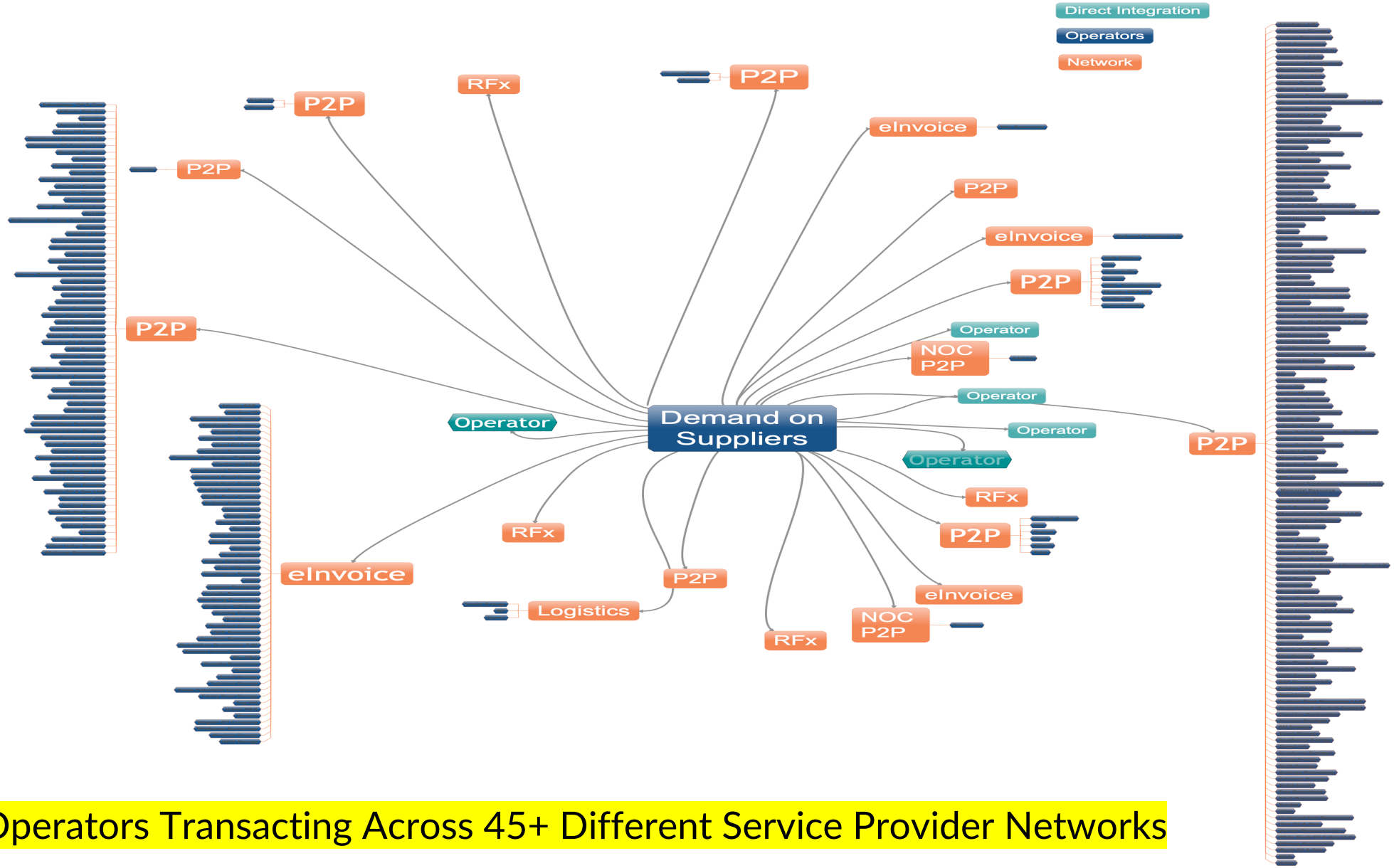

650+ Operators Transacting Across 45+ Different Service Provider Networks

Digital Integration between Operator's P2P & Supplier's O2C

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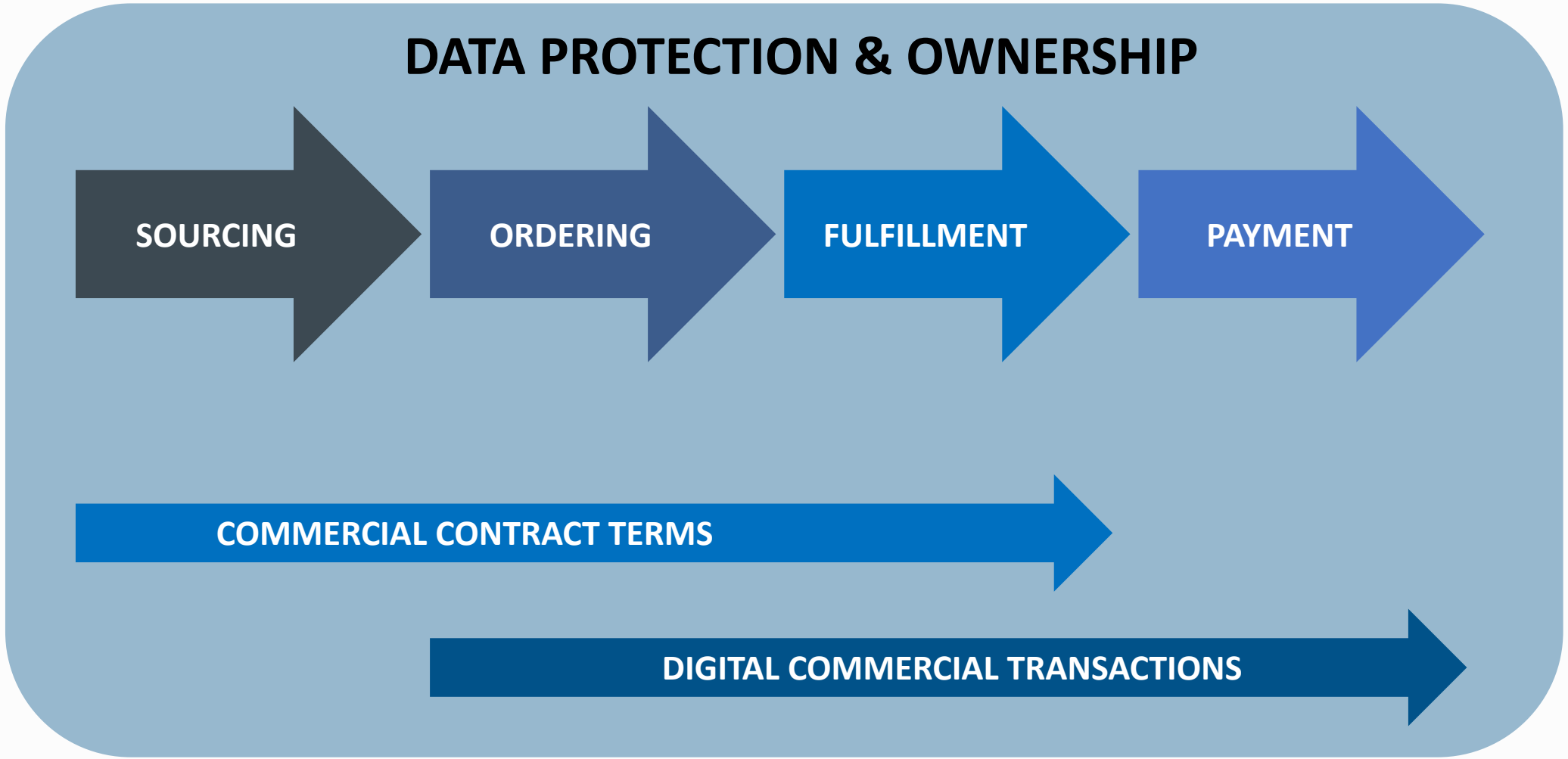

Digital B2B Transactions and Data Stewardship

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

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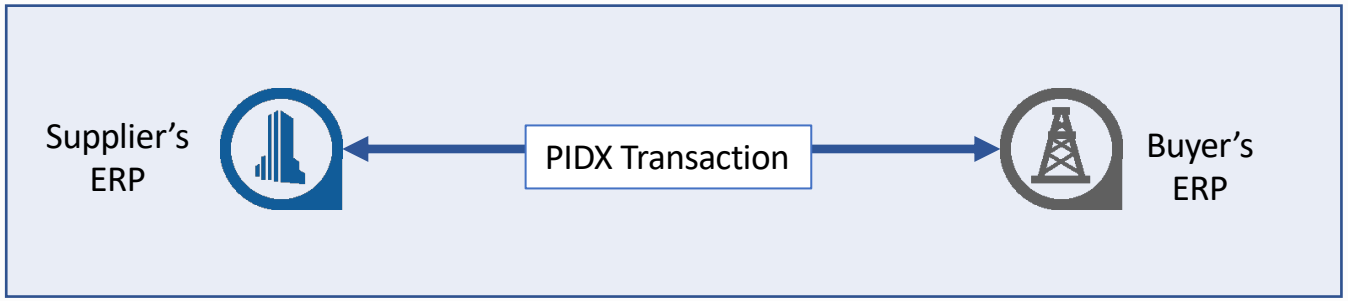

	RNIF	AS2
Security		
• Authenticate Caller	✔	✔
• Sign Message	✔	✔
• Encryption	✔	✔
• Non-Repudiation	✔	✔
Multi-Host Support		
• Message Routing	✔	✔
• Payload Encryption	✔	
Attachment Support	✔	✔
Business Processes		
• Pass Through		✔
• Per Document Type	✔	
• Implementation Method	PIP	

Digital B2B Data Stewardship

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

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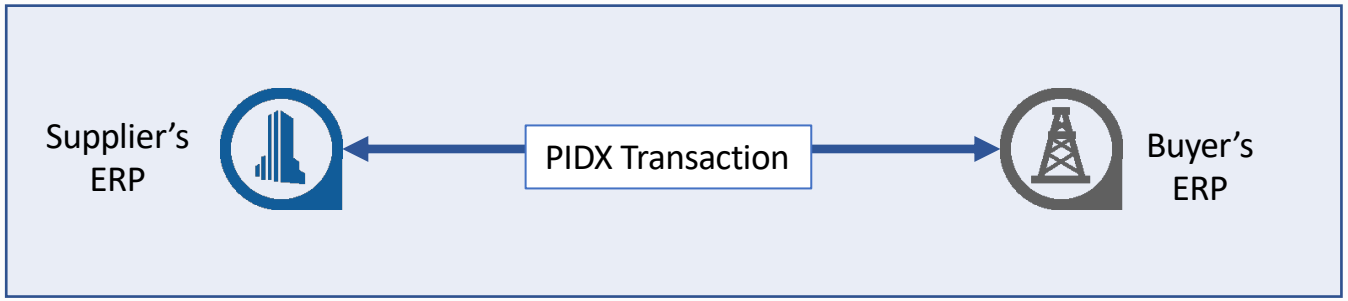

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• Payload Encryption	✔	
Attachment Support	✔	✔
Business Processes		
• Pass Through		✔
• Per Document Type	✔	
• Implementation Method	PIP	

SWIFT

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DIGITAL BUSINESS NETWORKS ALLIANCE

OASIS OPEN

The 4-Corner B2B Network

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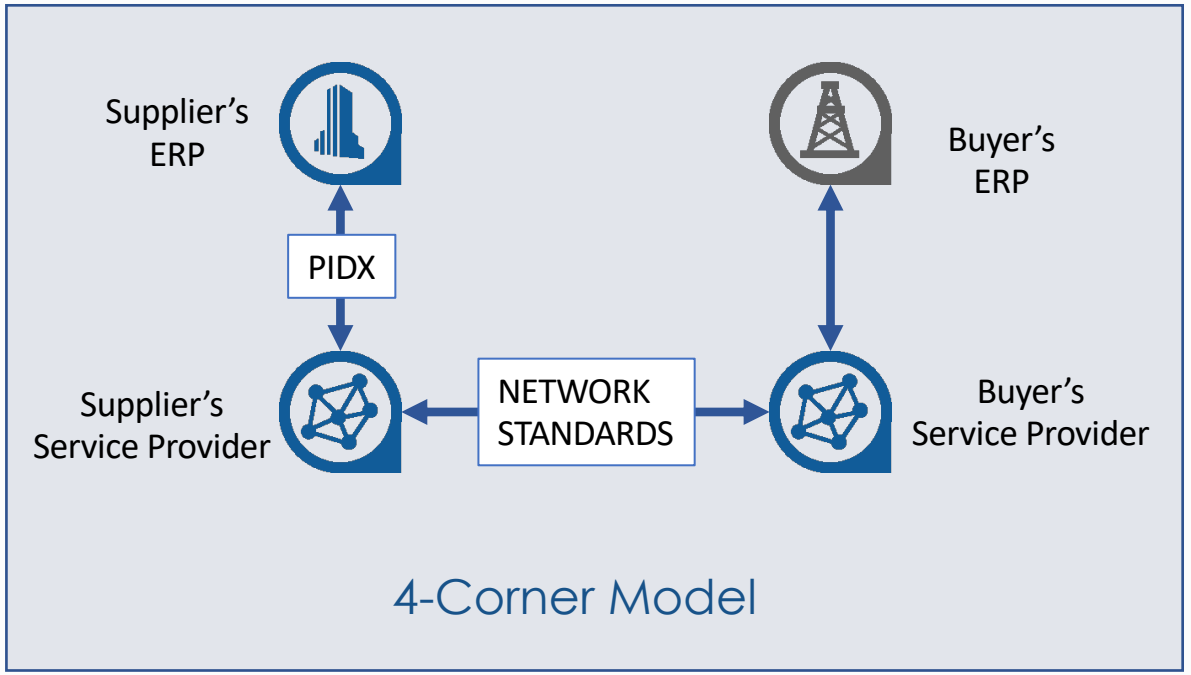
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Suppliers connect to their Access Point or Service Provider, Buyers are connected to their Access Point or Service Provider.

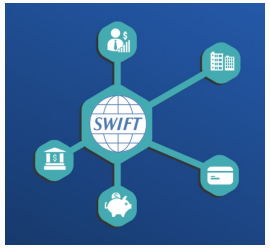
The data transacted is co-owned by the parties to the transaction, Operator (Buyer) and Supplier. All data owners connect to their own Service Provider once to reach all other trading partners irrespective of Access Point.

The network usage policy governs the data stewardship, all parties agree to the policies of the network, data stewardship and data aggregation is baked into the use of the network.

All service providers are integrated with the same capabilities on the eDelivery Network.



4-Corner Model



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DIGITAL BUSINESS NETWORKS ALLIANCE

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The 4-Corner B2B Network

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

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AS4 is used for Secure Network Transport

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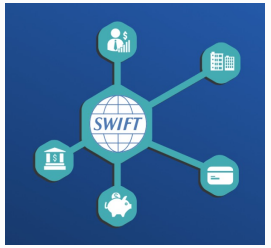
AS4 (Applicability Statement 4) is an open standard for the secure and payload-agnostic exchange of Business-to-business documents using Web services. Secure document exchange is governed by aspects of WS-Security, including XML Encryption and XML Digital Signatures. Payload agnosticism refers to the document type (e.g. purchase order, invoice, etc.) not being tied to any defined SOAP action or operation.



- Support for SOAP 1.1 and 1.2 enveloping structure
- Payload agnosticism
- Support for single or multiple payloads contained either within the SOAP body or as SOAP attachment(s)
- Support for payload compression
- Support for message-level security including various combinations of XML Digital Signature and/or XML Encryption
- Support for X.509 security tokens and username/password tokens
- Support for business receipt of non-repudiation similar to the Message Disposition Notification (MDN) used by AS2 and specified as an XML schema by the ebXML BPSS group
- Support for the ebMS 3.0 One-Way/Push message exchange pattern with support for either synchronous or asynchronous responses
- Support for the ebMS 3.0 One-Way/Pull message exchange pattern which is beneficial for exchanging documents with non-addressable endpoints

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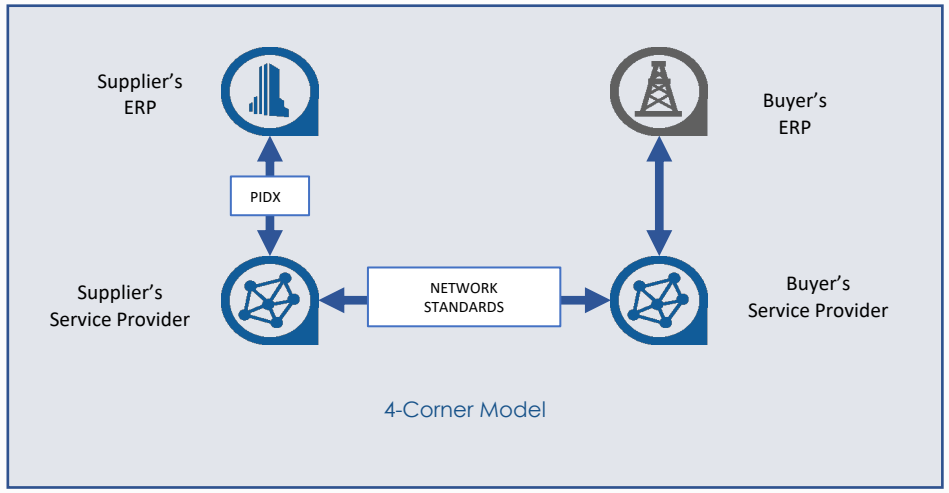

4-Corner Model

Call to Action for PIDX

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Look into adding AS4 as a secure transport mechanism to the PIDX Transports

Explore the viability of a 4-Corner Delivery Network for PIDX Transactions

	RNIF	AS2	AS4
Security			
• Authenticate Caller	✔	✔	✔
• Sign Message	✔	✔	✔
• Encryption	✔	✔	✔
• Non-Repudiation	✔	✔	✔
Multi-Host Support			
• Message Routing	✔	✔	✔
• Payload Encryption	✔		✔
Attachment Support	✔	✔	✔
Business Processes			
• Pass Through		✔	
• Per Document Type	✔		✔
• Implementation Method	PIP		