



SAP Ariba 

SAP Business Network Supplier Integration options

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THE BEST RUN 

Agenda

- ❖ What is integration?
- ❖ What are the added values?
- ❖ Technical options to integrate
- ❖ Supplier integration methodology

What is integration?

What is it?

Connecting a seller's ERP to the SAP Business Network (SBN) via an electronic method (cXML, EDI, PIDX, CSV,) to transact PO, Invoices, OC, ASNs via a touchless process.

How is it different from PO flip?

PO Flip is a manual invoicing option in the Business Network user interface where suppliers log in to their Business Network account, select a PO, and manually flip it into an invoice.

Who Integrates?

Suppliers with:

- High Annual Doc Volume: SAP recommends integration for sellers with > 500 docs/year per relationship
- Supplier who have an internal policy of integrating regardless of document count
- cXML/EDI capabilities
- An eCommerce or IT team

Integration Value and Benefits

Integration means that more activities happen behind the scenes, there is less chance for errors, transactions occur faster, and fewer people are required for tactical processes.

1. Reduces Procure-to Pay cycle time

- Faster processing of documents, real-time system-to-system
 - 75% order processing productivity gains via Integration
 - Minimize delays in securing payment

2. Increased transaction accuracy

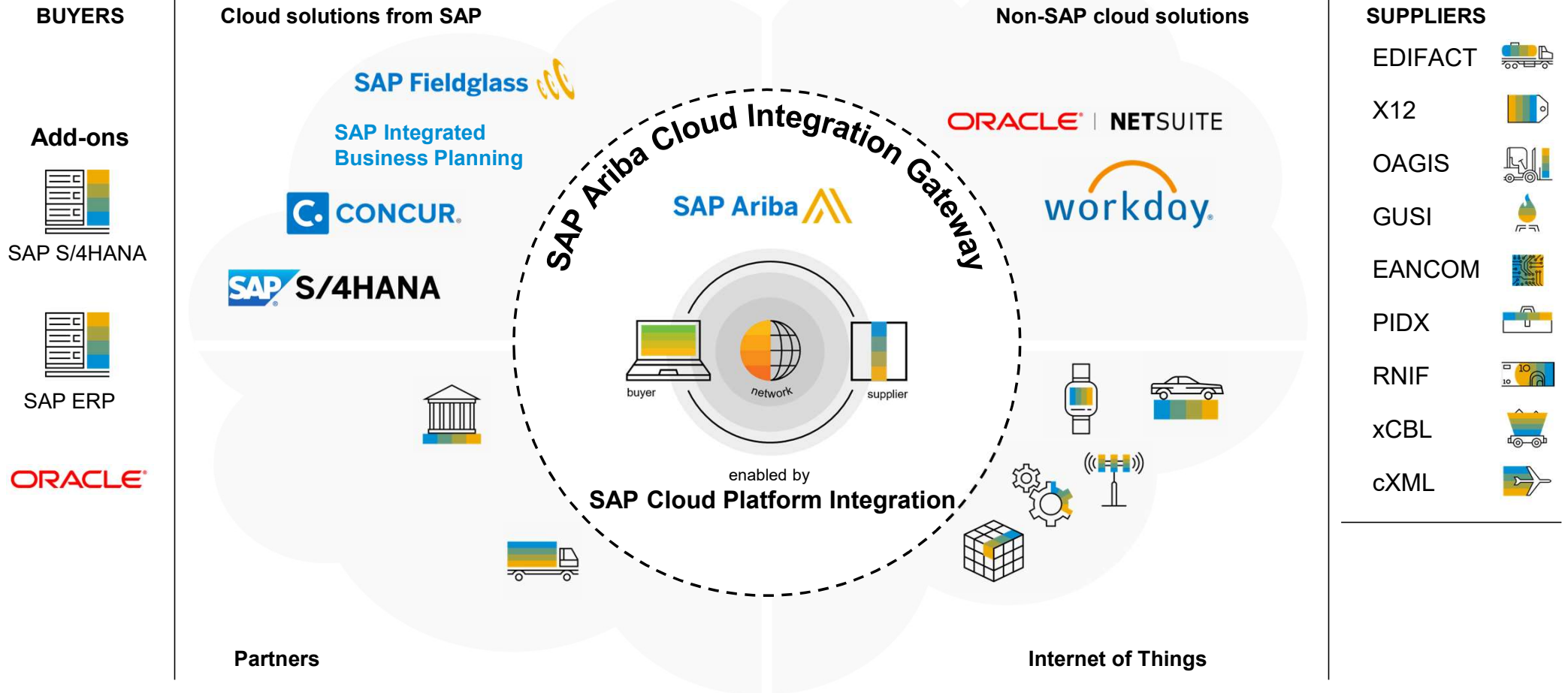
- No human entry errors results in reduction of disputes
- Increased accuracy by 45-60%

3. Efficient management of business transactions

- reduced cost for resources to PO Flip at high volumes
- Reduced Invoice inquiry by exchanging real-time Invoice status via Business Network

4. Improve customer retention

SAP Ariba Cloud Integration Strategy and Vision



Integration Methods

SBN Integration method	Recommended volume and infrastructure	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
CSV (Customer Specific Template)	>300 (INV)/year <ul style="list-style-type: none"> lack of infrastructure for cXML/EDI 	<ul style="list-style-type: none"> Order Confirmation Advanced Ship Notice Invoice 	Manual upload via AN	Enterprise	<ul style="list-style-type: none"> Only if buyer enabled this functionality. Supplier must check with Onboarding Specialist if this is available for the project CSV Format/template specific to a Buyer and cannot be used generically for another Buyer Attachments can be uploaded against each invoice via a UI when loading the CSV Not supported for Mexican invoice
cXML Via Cloud Integration Gateway (CIG)	> 500 (PO <u>or</u> INV)/year <ul style="list-style-type: none"> existing integration capability 	<ul style="list-style-type: none"> All (Business Network supported) 	HTTPS	Enterprise	<ul style="list-style-type: none"> Business Network Standard Must adhere to SBN cXML guides Attachments are supported Supported for Mexican tax invoice
EDI - ANSI X.12 Via Cloud Integration Gateway (CIG)	> 500 (PO <u>or</u> INV)/year <ul style="list-style-type: none"> existing EDI infrastructure 	<ul style="list-style-type: none"> 204 (Motor Carrier Load Tender) 214 (Transportation Carrier Message / In & Out) 810 (Invoice) 820 (Remittance Advice) 824 (Application Advice / In & Out) 830 (Forecast) 830 (Commit) 832 (Price / Sales Catalog) 842 (In & Out) 846 (Inventory Inquiry / Advice) 846 Inventory Inquiry / Advice (MO/PO) 850 (Purchase Order) 855 (Order Confirmation) 856 (Ship Notice) 860 (Purchase Order Change) 861 (Receiving Advice / Acceptance Certificate) 862 (Shipping Schedule) 864 (Test message, text message) 866 (Production Sequence) 997 (Functional Acknowledgement) 	AS2 or VAN	Enterprise	<ul style="list-style-type: none"> Industry Standard Must adhere to the relevant SBN EDI guide Attachments are supported 214, 824, 830, 846, 861, 862 & 866, only supported with SCC buyer Not supported for Mexican invoice Upon request VAN also supported as connection

**** Cf Appendix 1 for details on Subscription packages**

Integration Methods (cont'd)

SBN Integration method	Recommended volume and infrastructure	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
EDI - EDIFACT (version D96A) Via Cloud Integration Gateway (CIG)	> 500 (PO or INV)/year • existing EDI infrastructure	<ul style="list-style-type: none"> • ORDERS (Purchase Order) • ORDCHG (Change Order) • ORDRSP (Order Confirmation) • INVOIC (Invoice) • DESADV (Ship Notice) • CONTRL (Status Update / In & Out) • REMADV (Remittance advice) • RECADV (Receiving Advice message) • INVRPT (Inventory report) • APERAK (Application error and acknowledgement message / In & Out) • IFTMIN (Instruction message) • IFTSTA (International multimodal status report message) • DELFOR(Scheduling Agreement Release/Delivery Schedule) • DELJIT(Scheduling Agreement Release/Delivery Schedule - JIT) 	AS2 or VAN	Enterprise	<ul style="list-style-type: none"> • Industry Standard • Must adhere to the relevant SBN EDI guide • Attachments are supported • Not supported for Mexican invoice • Upon request VAN also supported as connection
EDI – D01B Via Cloud Integration Gateway (CIG)	> 500 (INV)/year • existing EDI infrastructure	* INVOIC (Invoice Detail)	AS2 or VAN	Enterprise	<ul style="list-style-type: none"> • Industry Standard • Must adhere to the relevant SBN EDI guide • Attachment are supported • Not supported for Mexican invoice • Upon request VAN also supported as connection

** Cf Appendix 1 for details on Subscription packages

Integration Methods (cont'd)

SBN Integration method	Recommended volume and infrastructure	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
GS1 EDIFACT EANCOM 97 Via Cloud Integration Gateway (CIG)		<ul style="list-style-type: none"> • INVOIC (Invoice) 	AS2 or VAN	Enterprise	
GS1 EANCOM 2002 Via Cloud Integration Gateway (CIG)		<ul style="list-style-type: none"> • ORDERS • ORDRSP • ORDCHG • INVOIC • DESADV • REMADV 	AS2 or VAN	Enterprise	
OAGIS / v9.2 Via Cloud Integration Gateway (CIG)		<ul style="list-style-type: none"> • ProcessPurchaseOrder • AcknowledgePurchaseOrder • NotifyShipment • ConfirmBOD • ProcessReceiveDelivery (inbound) • NotifyInventoryConsumption • NotifyProductionOrder • NotifyInventoryBalance • ConfirmBOD 	AS2 / HTTPS / RNIF	Enterprise	
PIDX v1.61 Via Cloud Integration Gateway (CIG)		<ul style="list-style-type: none"> • OrderCreate / Order Change • Order Response • Invoice • Invoice Response • GoodsReceipt • Receipt • ReceiptAcknowledgement • Exception • InvoiceResponseSESR 	RNIF	Enterprise	

**** Cf Appendix 1 for details on Subscription packages**

Integration Methods (cont'd)

SBN Integration method	Recommended volume, infrastructure or version	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
GS1 GUSI Via Cloud Integration Gateway (CIG)		<ul style="list-style-type: none"> • MultiShipmentOrder • DespatchAdvice • ReplenishmentProposal • ReplenishmentRequest • ProductForecast • GoodsRequirement • ReceiptAdvice • ConsumptionReport • InventoryActivityorInventoryStat us 	AS2 / HTTPS	Enterprise	

**** Cf Appendix 1 for details on Subscription packages**

Integration Methods (cont'd)

SBN Integration method	Recommended volume infrastructure or version	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
S4 via Cloud Integration Gateway (CIG) - 4A1 Part 1	Version : S4HANA OnPremise - 2022 and above Note that generally as Cloud comes first, if a feature is available on On Premise it means it's available on Cloud version.	* Sales Order (Standard Material order only with limitation see comments) * Order Confirmation (with limitation see comments) * Advance Ship Notice (with limitation, see comments) * Invoice (with limitation, see comments)	HTTPs Minimum Transport Layer Security version required: TLS 1.2 Specific setup to have different inbound and outbound technology format	Enterprise	<ul style="list-style-type: none"> General limitation <ul style="list-style-type: none"> Connection to a buyer with SAP Business Network Supply Chain collaboration is not covered No engine to do customization on the supplier side No Buyer Specific Extrinsic No Unit Of Measure Conversion Can only connect to one unique supplier SAP Business Network ID (this will be a problem for supplier with multiple Network ID) no monitoring of CIG transactions on CRUN/Solution manager For Sales Order: below can't be supported, no enhancement possible <ul style="list-style-type: none"> Batch id attachement at line level Consumption of price conversion factor in PO (price basis quantity) Determination of customer material when supplier material is invalid in supplier system Order Confirmation: below can't be supported, no enhancement possible <ul style="list-style-type: none"> Order Confirmation BADI Comment at header and line Technical confirmation message for OC Advance Ship Notice: below can't be supported, no enhancement possible <ul style="list-style-type: none"> ASN BADI header attachement Technical confirmation message for ASN Update/Cancel of ASN

**** Cf Appendix 1 for details on Subscription packages**

Integration Methods (cont'd)

SBN Integration method	Recommended volume infrastructure or version	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
S4 via Cloud Integration Gateway (CIG) - 4A1 Part 2	See previous page	See previous page	See previous page	See previous page	<p>See previous page for additional details</p> <ul style="list-style-type: none"> • Invoice: below can't be supported, no enhancement possible <ul style="list-style-type: none"> • tax at line • bank data • Ship-from address information on item level • As a consequence no invoice integration was ever tested with SD • Documentation: <ul style="list-style-type: none"> • Restrictions :here • S4 setup: https://rapid.sap.com/bp/#/scopeitems/4A1 • CIG setup :Automation of Order-to-Invoice with Ariba Network (4A1) SAP Help Portal. ! Not to be used as it is out of date. Use S4 Setup instead from the best practices explorer • Best practises: SAP Best Practices Explorer • Demo: Final_2NV_4A1.mp4 (sharepoint.com) • Need assistance to implement this self service adaptor: <ul style="list-style-type: none"> • Request quote via email to support your implementation. • Two (2) SAP Partner are currently supporting and can cover any area of the globe remotely: Brainbox and Ap-solut. <ul style="list-style-type: none"> • Use email title <Supplier S4 integration to Ariba Network> • Ap-solut EMAIL: info@ap-solut.com • Brainbox EMAIL: jai@brainbox.consulting

**** Cf Appendix 1 for details on Subscription packages**

Integration Methods (cont'd)

SBN Integration method	Recommended volume and infrastructure	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
<p>ECC via Cloud Integration Gateway (CIG) – SDADDON</p> <p>Part 1</p>	<p>No upper or lower recommended volume SAP EHP4 for SAP ERP 6.0 onwards Mediated connectivity not supported</p>	<p>* Sales Order (Standard Material order only with limitation see comments) * Order Confirmation (with limitation see comments) * Advance Ship Notice (with limitation, see comments) * Invoice (with limitation, see comments) * Credit Memo (with limitation, see comments)</p>	<p>HTTPS</p> <p>Minimum Transport Layer Security version required: TLS 1.2</p> <p>Specific setup to have different inbound and outbound technology format</p>	Enterprise	<ul style="list-style-type: none"> General limitation <ul style="list-style-type: none"> Connection to a buyer with SAP Business Network Supply Chain collaboration is not covered End of life planned for 2027 with end of life of ECC No engine to do customization on the supplier side No Buyer Specific Extrinsic No Unit Of Measure Conversion Can only connect to one unique supplier SAP Business Network ID (this will be a problem for supplier with multiple Network ID) no monitoring of CIG transactions on CRUN/Solution manager For Sales Order some enhancement are possible via BADI by implementing SAP Note 3142904 <ul style="list-style-type: none"> Change material # sent by buyer setup Partner determination date format mismatch between Ariba and ERP for exchange rate Order Confirmation: can add the following using BADI <ul style="list-style-type: none"> material description Standard Id field removed as it is passed blank otherwise and causes Ariba validation issues Advance Ship Notice: can add the following using BADI <ul style="list-style-type: none"> Stop 30 CAR truncation of ASN payload id Send Order date Invoice: the below will come in future release. <ul style="list-style-type: none"> SoldTo can't be mapped Item level tax details can't be mapped As a consequence no invoice integration was ever tested with SD Credit Memo: Same limitation as invoice. As a result never tested with any supplier Documentation: <ul style="list-style-type: none"> CIG SDADDON setup: here

**** Cf Appendix 1 for details on Subscription packages**

Integration Methods (cont'd)

SBN Integration method	Recommended volume and infrastructure	SBN Transaction Types Supported	Communication Protocol / Connection Type	Account type	Comments
ECC via Cloud Integration Gateway (CIG) – SDADDON Part 2					<ul style="list-style-type: none"> • Need assistance to implement this self service adaptor: <ul style="list-style-type: none"> • Request quote via email to support your implementation. • Two (2) SAP Partner are currently supporting and can cover any area of the globe remotely: Brainbox and Ap-solut. <ul style="list-style-type: none"> • Use email title <Supplier ECC integration to Ariba Network> • Ap-solut EMAIL: info@ap-solut.com • Brainbox EMAIL: jai@brainbox.consulting

**** Cf Appendix 1 for details on Subscription packages**

HTTPS Connection

What is an HTTPS connection?

- SAP Business Network (SBN) is a service available on the public Internet. All cXML documents it receives or sends travel on the Internet. To ensure secure document transmission through the Internet, SBN requires all incoming and outgoing connections to be established through HTTPS.
- HTTPS connections allow web servers and clients to encrypt cXML documents for safe transmission over the Internet.
- SBN does not initiate or accept plain HTTP connection requests. Therefore, buying organizations, cXML-enabled suppliers, and service providers must support HTTPS.
- HTTPS relies on encryption provided by a cryptographic protocol called Transport Layer Security (TLS). TLS adds crypto-logical enhancements to TCP/IP (Transmission Control Protocol/Internet Protocol), the communications protocol of the Internet. To receive cXML documents from SBN, external Web servers (including the SAP Ariba Buyer 8.1 or later PunchIn site) must accept HTTPS connection requests and create HTTPS connections. You must install an TLS Web server certificate from an SBN trusted certificate authority on your Web server.

HTTPS Connection (cont'd)

How To configure supplier HTTPS Server?

- Enable on your web server by installing the certificate you created in step Create a Digital Certificate. Consult your web server instructions for installing the certificate and enabling HTTPS communication. All communication with CIG must go through HTTPS.
- Configure your HTTPS server to use CIG's URL and its protocols.
- Configure your firewall to support two-way communication over Transmission Control Protocol (TCP) port 443, which is the default port used by HTTPS. You can restrict your firewall to allow incoming connections only from SBN.
- After you receive a document from SBN, send a functional acknowledgement (status 200) document as described in Requirements for Functional Acknowledgments. Be sure your HTTPS server is available all the time. If it is down, SBN resends the document every half hour for ten hours (20 times). At the end of ten hours, SBN marks the document as "Failed." SBN requires a functional acknowledgement (status 200) document, otherwise it marks the document as "failed".
- Outbound IP(s): 155.56.128.1 to 155.56.255.254 and 157.133.45.0 to 157.133.45.24 for the US Data Center (SAP has over 20k servers). Please whitelist this IPs from your firewall.
- To send cXML documents to SBN, all cXML-enabled applications must be able to initiate HTTPS connection requests.

AS2 Connection

What is an AS2 connection?

- AS2 is a communication protocol for transferring files from one system to another. While it was developed with EDI in mind, it can be used to transport data of any type from system to system.
 - To send and receive AS2 one must have AS2 software, which acts as both a client (for sending) and a server (for receiving). There are multiple AS2 software packages on the market (some even free) and a number of hosted offerings. Each offers different levels of automation, integration and licensing requirements; but what they all have in common is interoperability: any AS2 package should be able to exchange data with any other AS2 package.
- When all configured properly, this is what happens in the typical AS2 file transfer:
 1. The file is received locally by the sender's AS2 system;
 2. The receiver system is identified;
 3. The sender encrypts the file with the receiver's public key;
 4. The sender signs the file with the sender's private key;
 5. The sender transmits the whole message to the receiver's AS2 server;
 6. The receiver identifies the sender by AS2 ID;
 7. The receiver validates the file with the sender's public key;
 8. The receiver decrypts the file with the receiver's private key;
 9. The receiver sends an MDN (message disposition notices) back to the sender, encrypted and signed (reverse of the keys above), acknowledging the successful receipt of the file;
 10. The sender verifies the MDN and the transfer is complete.

AS2 Connection (cont'd)

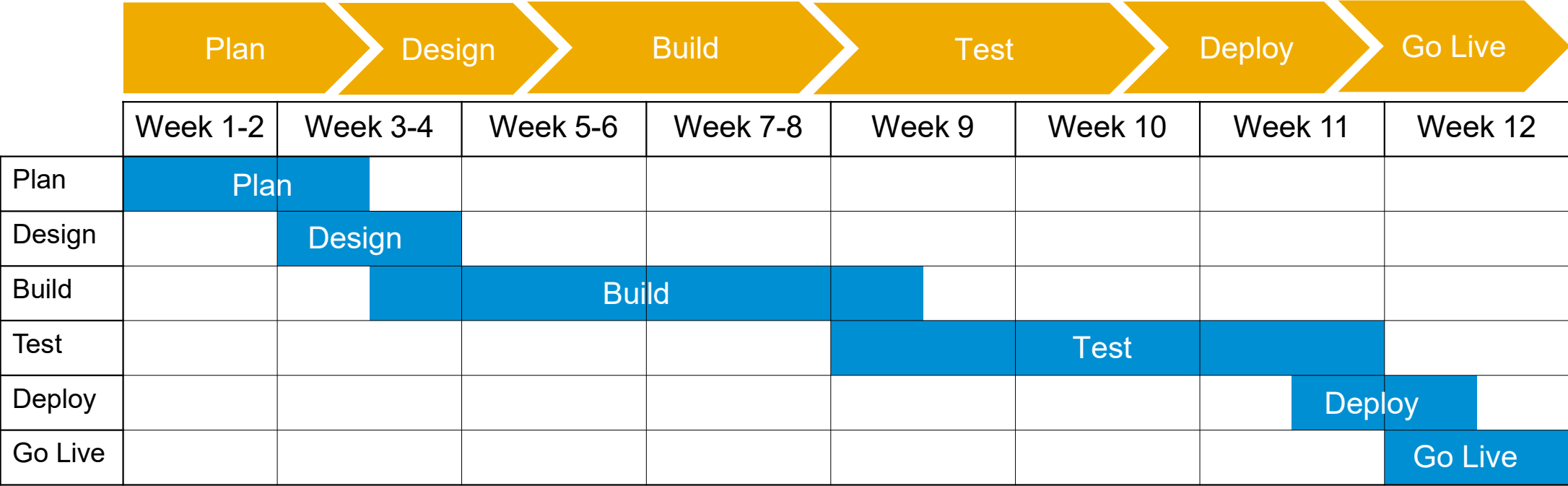
How To configure supplier EDIINT Server?

- Enable SSL on your web server by installing the certificate you created in step Create a Digital Certificate. Consult your web server instructions for installing the certificate and enabling HTTPS communication. All communication with CIG must go through HTTPS.
- For SSL authentication to work, please install our CA certificates (Root and Intermediate Certificates) in AS2 application. You can extract our Root/Intermediate certs from our public certs. (rename certs file extension to .cer , open the cert and go to Certification Path, Open our root cert , then go to Details tab and click Copy to File and follow the export wizard)
- Configure your EDIINT server to use CIG's URL and its protocols as provided above.
- Configure your firewall to support two-way communication over Transmission Control Protocol (TCP) port 443, which is the default port used by HTTPS. You can restrict your firewall to allow incoming connections only from SAP Business Network (SBN).
- After you receive a document from SBN, send both an MDN receipt message and a functional acknowledgement document as described in Requirements for Functional Acknowledgments. Be sure your EDIINT server is available all the time. If it is down, SBN resends the document every half hour for ten hours (20 times). At the end of ten hours, SBN marks the document as "Failed." SBN requires both an MDN receipt and a functional acknowledgment document, otherwise it marks the document as "failed".
- Outbound IP(s): 155.56.128.1 to 155.56.255.254 and 157.133.45.0 to 157.133.45.24 for the US Data Center (SAP has over 20k servers). Please whitelist these IPs from your firewall.

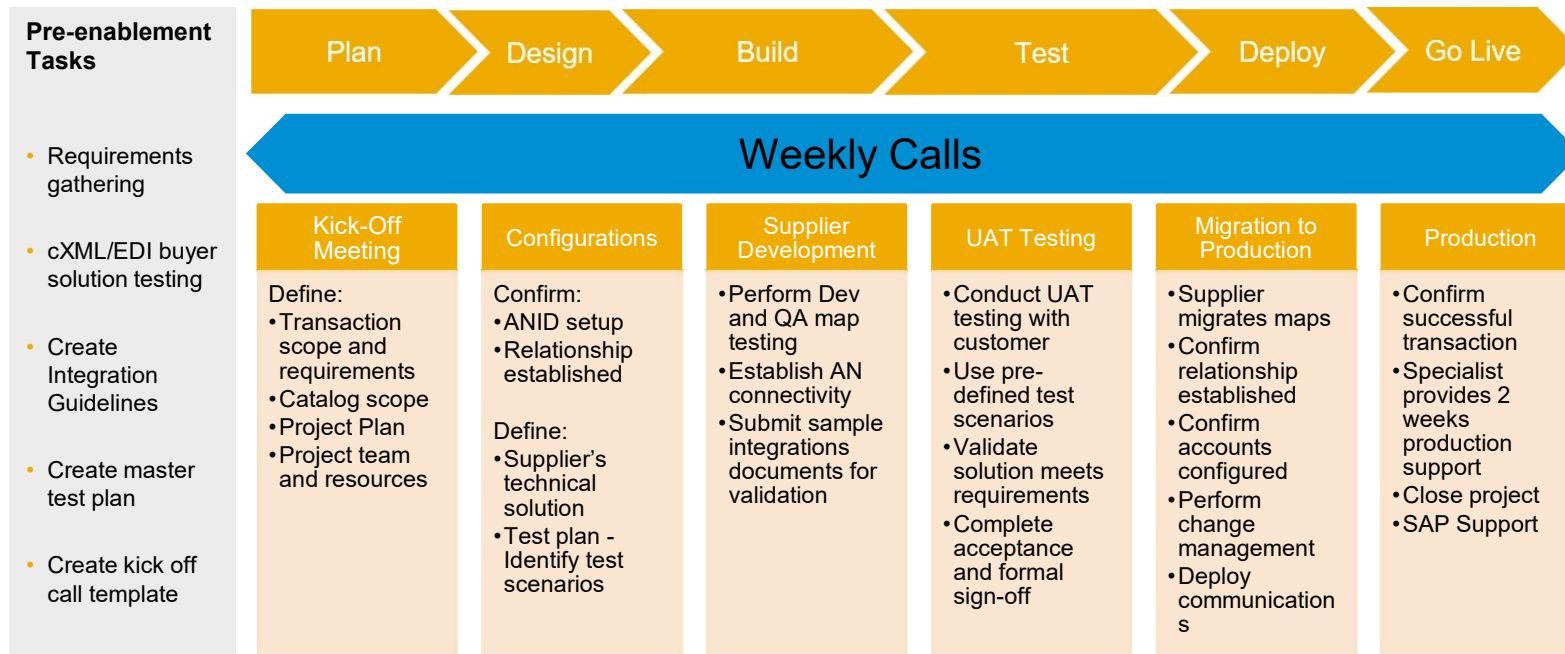
Supplier Integration timeline and methodology

Six phase integration project methodology

- Business processes and milestone dates to be determined at kick-off meeting
- Focus on requirements in up-front design and build phase
- Timeline based on transactions in scope

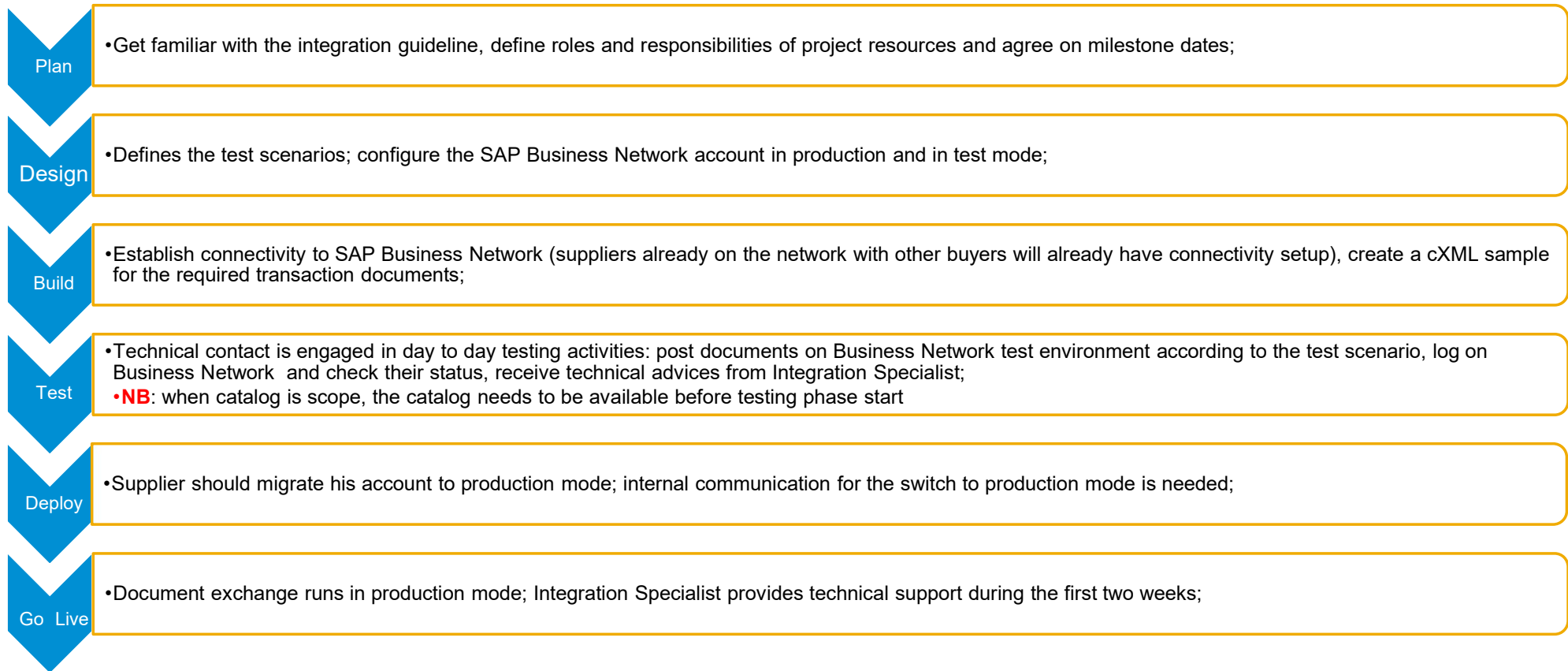


Supplier Integration Project Planning Key Tasks



Best Practices for supplier

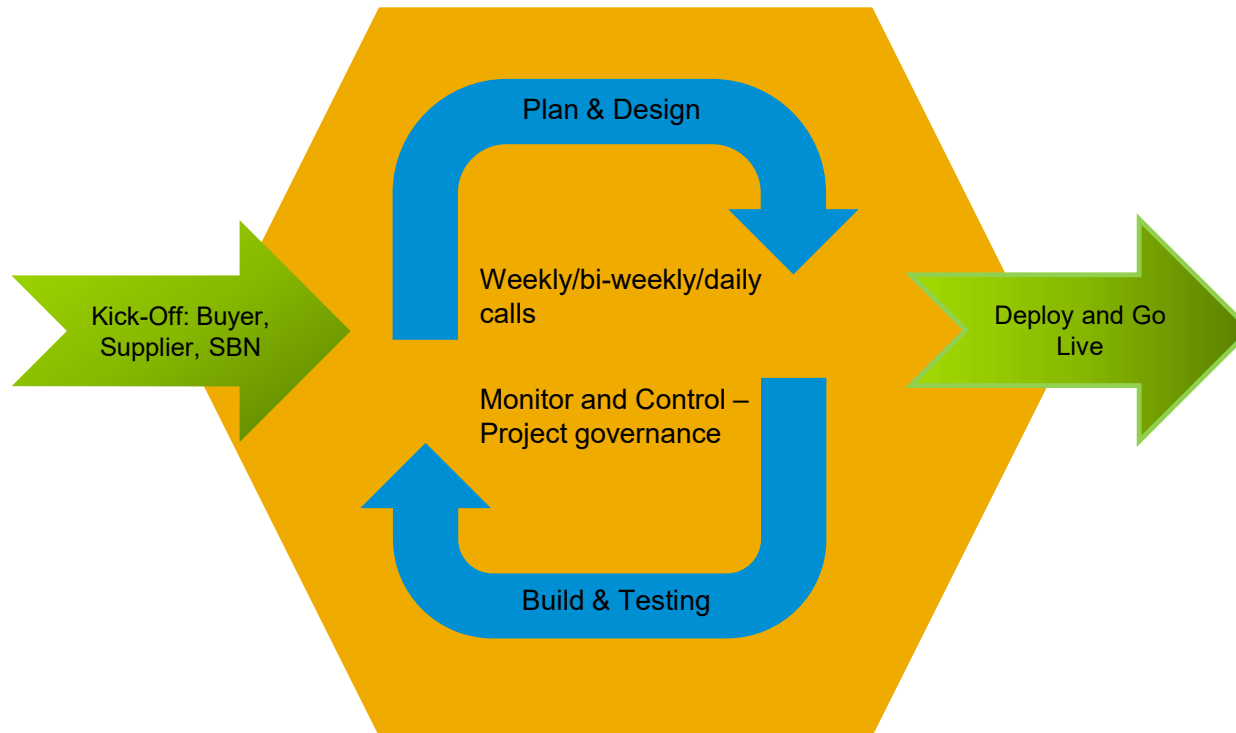
Participate on weekly project follow up meetings (30 Minutes) with Integration Specialist during the whole integration process



Supplier Integration Methodology - RACI Matrix



Microsoft Excel
Worksheet



Integration Methodology

RACI Matrix (Supplier roles)

Project Lead

- Main contact for project coordination
 - Provide commitment to project timeline
 - Understand buyer's transaction validation rules
 - Participate in status meetings
-

Technical Developer

- Provide technical details for integration to back-end systems
 - Perform data mapping
 - Assist in troubleshooting document failure
-

Testing Contact

- Review and confirm test plan
- Download & validate applicable test transactions; load & process through ERP
- Assist in other testing activities, coordinate go-live

Integration Methodology

After Go Live Transition To Support

Post Go-Live Support

- Integration Specialists provide 2 weeks support post Go-Live during Live transactions starting with the first transaction in Production.
- After the two week period - a Service Request should be created for any request via Help Section in the Supplier's account
- Full list of support numbers per country are also listed in the Help Section of each suppliers account

Appendix 1 - Subscription offerings for Business Network suppliers

There are two components to the Supplier Membership Program: the Network Transaction Service subscription and the package subscriptions.

More details about accounts and pricing: <https://www.ariba.com/ariba-network/ariba-network-for-suppliers/accounts-and-pricing>



Thank you.