

EDI and the Oracle Application



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Overview

- What is EDI?
- Communicating with your customers
- Communicating with 3rd party/Outsourced warehouses
- Putting it all together – technology and process

What Is EDI?

- **Electronic data interchange**
 - Computer-to-computer exchange of business data in standard formats
 - Data is organized according to a specified format set by both parties
 - In most cases, provides for much more detailed information as the “conventional” printed document

Advantages of EDI

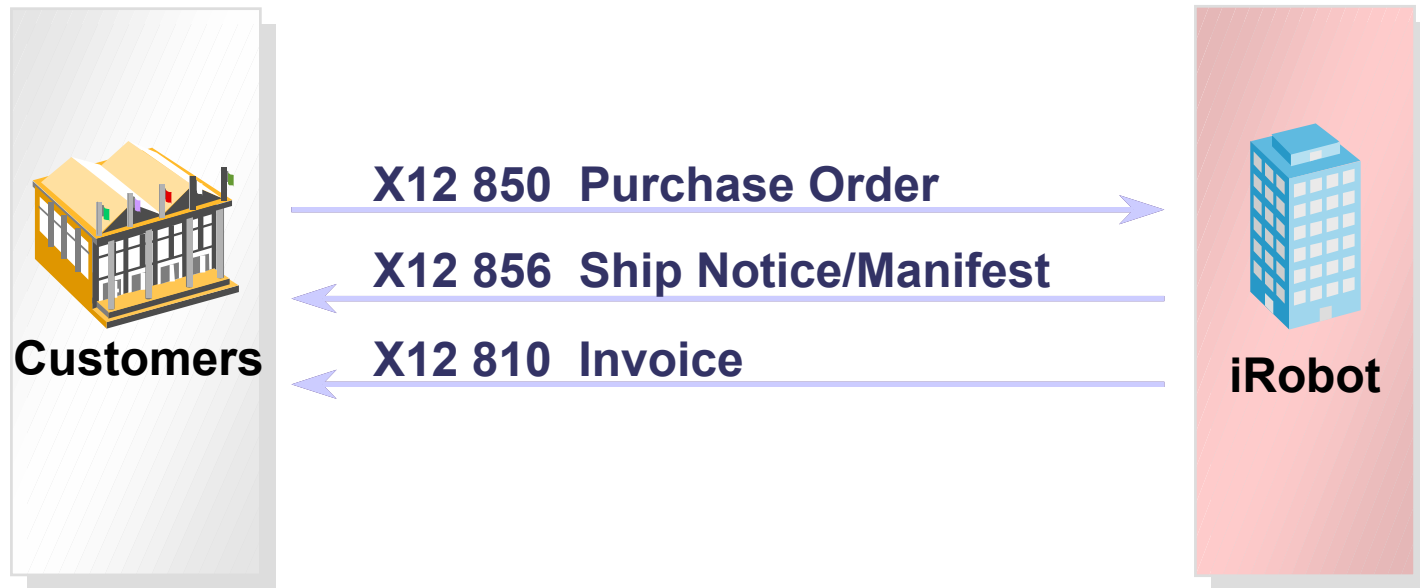
- One-time data entry
- Reduced errors
- On-line data storage
- Faster management reporting
- Automatic data reconciliation

EDI Standards

- Developed under the guidelines of various INDEPENDENT standards institutes:
- Accredited Standards Committee X12 (ASC X12) – United States
- EDIFACT – European Union

Customer EDI Business Flow

- Common Transactions that a Customer might request from a Supplier:



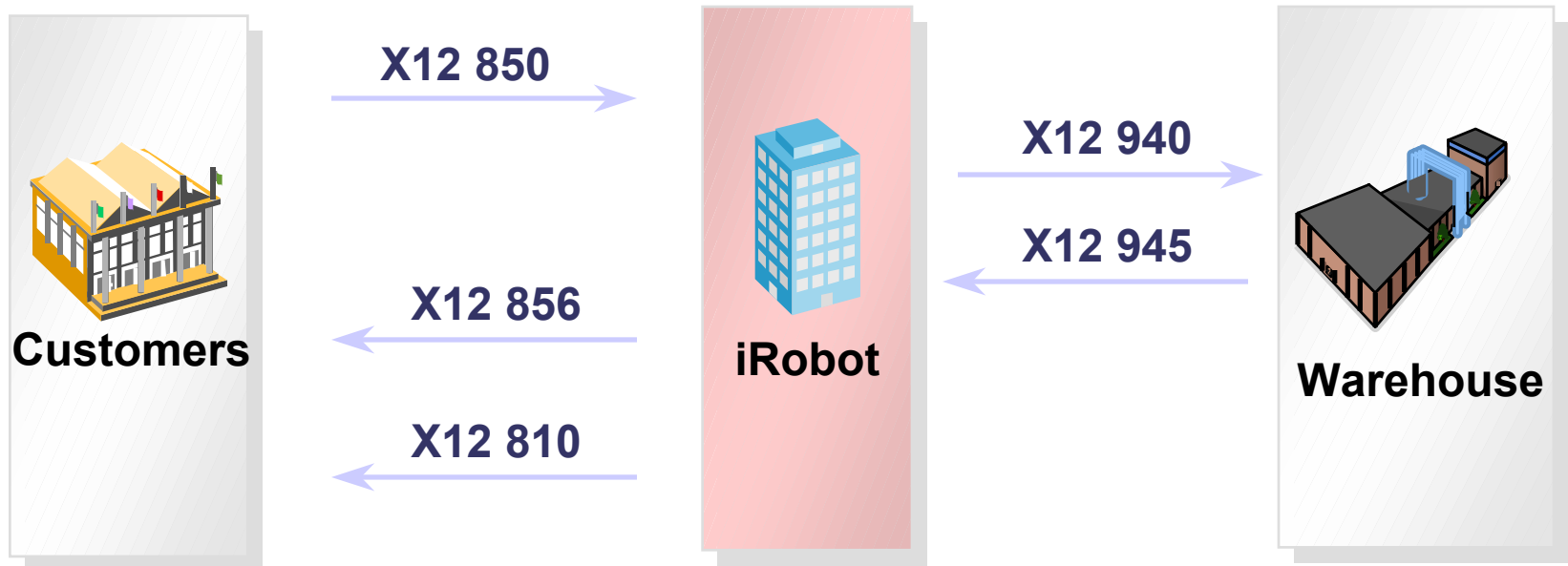
Outsourced Warehouse Business Flow

- Large Volumes make these transactions extremely important:



“Fully Automated” EDI Flow

- Implementing ALL transactions seamlessly ties the supplier with their CUSTOMERS and WAREHOUSE...



EDI Components

- In addition to supplier's ERP System:
 - Components to import/extract data from ERP
 - EDI Translation Software:
 - Flat File ↔ X12 document
 - ASP or In-House
 - Communication Methods:
 - VANs: Value Added Networks
 - Direct: Modem-to-Modem
 - Internet: e-mail or FTP (utilizing VPN connections)

iRobot: CHALLENGES

- Magnified For the Supplier:
 - Complex EDI Standards can vary across different customers
 - New Communication and Software Technologies need to be implemented
 - Production Support requirements are multiplied

iRobot: Business Requirements

- Customers REQUIRED:
 - 850 Sales Orders
 - 810 Invoices
 - 856 Shipment Notices
- Volumes Required Integration to 3rd Party Warehouse:
 - 940 Ship Orders (Larger Volumes)
 - 945 Warehouse Advices (UCC Codes)
- “Cartonization” of Shipping Transactions:
 - New Shipping Setup Required: Items/Carton

iRobot: Import/Extract from Oracle

- Process to import/extract data from ERP:
 - Manual Entry:
 - 850 Sales Orders from Printed Report
 - Programmatic Customizations:
 - Automatic extract of 940 Ship Orders
 - Automatic import of 945 Warehouse Advices
 - Oracle eCommerce Gateway:
 - Automatic extract of 856 Ship Notices
 - Automatic extract of 810 Invoices

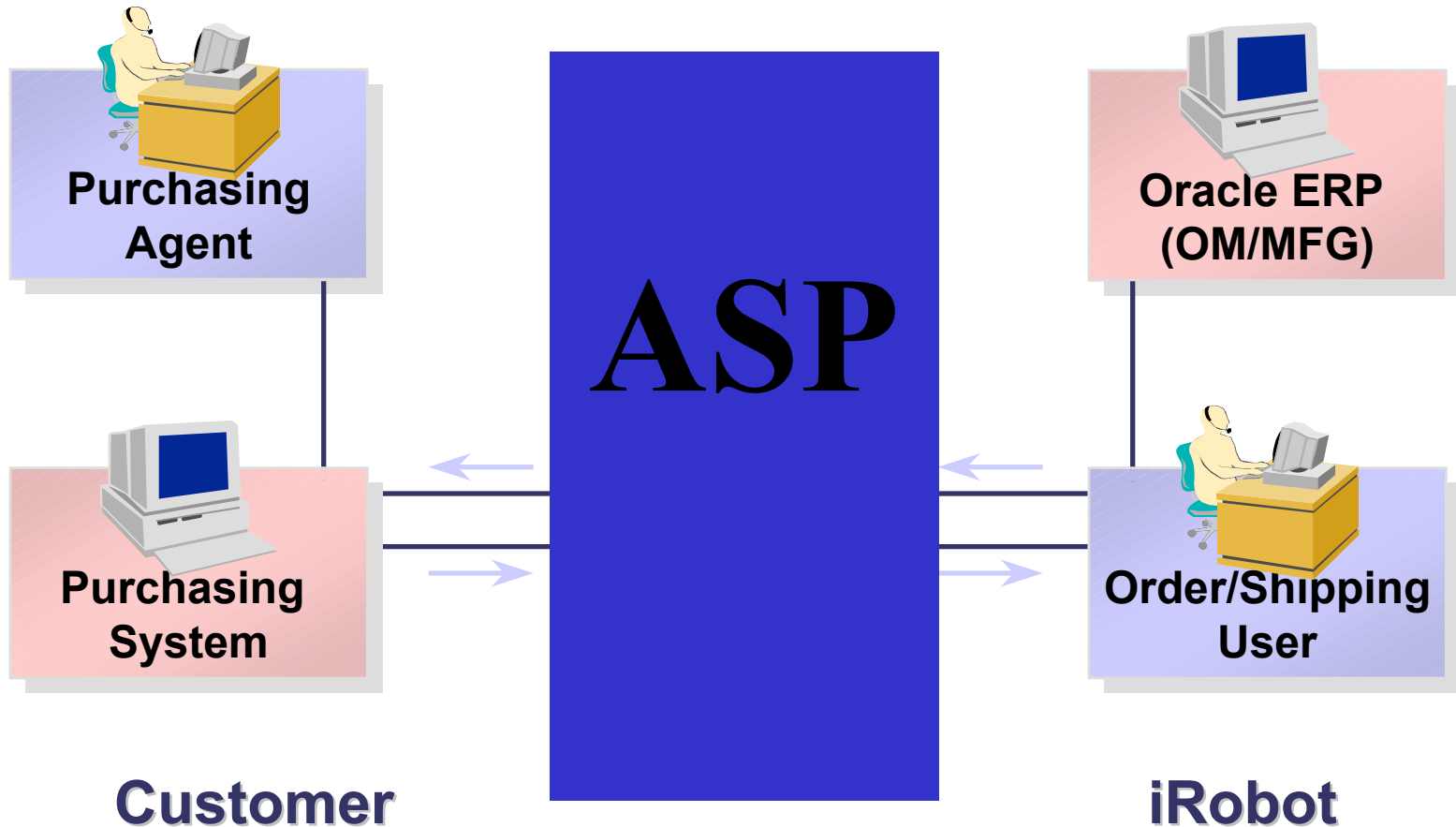
iRobot: EDI Translation Software

- Outsourced all EDI Translation functions to EDI ASP:
 - Translation Software Installation/Maintenance
 - Coding of translation Maps based on iRobot's specifications
 - VAN Connectivity
 - VAN Private Mailbox Setup/Maintenance
 - Transmission of TEST and PRODUCTION files to/from iRobot's EDI Trading Partners

iRobot: Communication Method

- Outsourced all EDI communications functions to EDI ASP:
 - VAN Connectivity
 - VAN Private Mailbox Setup/Maintenance
 - Transmission of TEST and PRODUCTION files to/from iRobot's EDI Trading Partners
 - Management Reporting

iRobot: Customer-facing EDI



Project Phase: MAPPING

- Each transaction, version, and trading partner **MUST** be MAPPED between Oracle AND X12:
 - BOTH Oracle Technical Resources AND Translator Technical Resources need to be very familiar with X12
 - COMMON communication mechanism between Technical Resources
 - Frequent use of sample files DURING this phase ensures success

Project Phase: MAPPING

Microsoft Excel - XSCP_ECE_OWO_Mapping.xls													Trading Partner:	Regal
Map Code: EC_OWO_FF													X12 Transactions:	940 Ver. 4010
Level	Record	Record Layout	Record Qualifier	Code Category	Ext Stage Field	Interface Column Name	Interface Table name	Format	Posits on	Width	Start	Segment	Processing Notes	Sample Data
SHIPMENT ORDER RECORDS 0010-1010. Repeated for every OWO. ST-SE segment LOOP														
17	1 0010	CT	CTL			TP_LOCATION_CODE_EXT	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	00	35	102			
18	1 0010	CT	CTL			TP_DESCRIPTION	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	80	74	217			
19	1 0010	CT	CTL			TP_REFERENCE_EXT1	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	100	80	291			
20	1 0010	CT	CTL			TP_REFERENCE_EXT2	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	110	80	371			
21	1 0010	CT	CTL			TRANSACTION_DATE	XSCP_ECE_OWO_HEADERS_V	DATE	120	15	451			2003015 14829
22	1 0010	CT	CTL			TRANSACTION_DATE	XSCP_ECE_OWO_HEADERS_V	NUMBER	130	15	466			
23	1 0010	CT	CTL			DOCUMENT_STANDARD	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	160	10	481			ASC X12
Record '1000'														
									1	91	1		(See section: Entity Mapping->Common Key)	
									2	4	52		Constant '1000'	1000
									3	2	56		Constant 'SH'	SH
									4	3	98		Constant 'W05'	W05
29	1 1000	SH	W05	SHIP_ORDER_STATUS		ORDER_STATUS_CODE_INT	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	10	20	101			OP
30	1 1000	SH	W05			ORDER_STATUS_CODE_EXT1	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	20	20	121	W0501	IF value IS NULL: set W0501 = 'N'	N
31	1 1000	SH	W05			SHIPPED_DATE	XSCP_ECE_OWO_HEADERS_V	DATE	30	15	141			2003015
32	1 1000	SH	W05			SHIPMENT_ID	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	40	0	156	W0502		44241
33	1 1000	SH	W05			WAYBILL_NUMBER	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	10	50	164	N802	set N802 ID Code N801 = 'BT'	41411
Record '1010'														
									1	91	1		(See section: Entity Mapping->Common Key)	
									2	4	52		Constant '1010'	1010
									3	2	56		Constant 'AD'	AD
									4	3	98		Constant 'BT1'	BT1
39	1 1010	AD	BT1			BILL_TO_CODE_INT	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	10	20	101			
40	1 1010	AD	BT1			BILL_TO_CODE_EXT	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	10	20	121	N104	When Loop N101 = 'BT': set N104 ID Code Qualifier N103 = 'S2'	96
41	1 1010	AD	BT1			BILL_TO_NAME	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	20	50	141	N102	When Loop N101 = 'BT': set N102 ID Code Qualifier N103 = 'S2'	Bed Bath & Beyond
42	1 1010	AD	BT1			BILL_TO_ADDRESS1	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	40	35	191	N301	concatenate with BILL_TO_ADDRESS2, comma separator When Loop N101 = 'BT': concatenate with BILL_TO_ADDRESS1	TrafficPort Department
43	1 1010	AD	BT1			BILL_TO_ADDRESS2	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	50	35	220	N301	concatenate with BILL_TO_ADDRESS1, comma separator When Loop N101 = 'BT': concatenate with BILL_TO_ADDRESS2	650 Liberty Avenue
44	1 1010	AD	BT1			BILL_TO_ADDRESS3	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	60	35	251	N302	concatenate with BILL_TO_ADDRESS3, comma separator When Loop N101 = 'BT': concatenate with BILL_TO_ADDRESS2	Suite 100
45	1 1010	AD	BT1			BILL_TO_ADDRESS4	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	70	35	296	N302	concatenate with BILL_TO_ADDRESS3, comma separator When Loop N101 = 'BT': concatenate with BILL_TO_ADDRESS4	Megan Smith
46	1 1010	AD	BT1			BILL_TO_CITY	XSCP_ECE_OWO_HEADERS_V	VARCHAR2	80	30	331	N401	When Loop N101 = 'BT': concatenate with BILL_TO_ADDRESS4, comma separator	Union



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Project Phase: BUILD

- eCommerce Gateway Setup/Configuration:
 - Trading Partner Configuration
 - “Extensible Architecture” (856, 810 Outbound)
 - Code Conversion Setup (“Each” ↔ “EA”)
- Custom Program EXTRACT (940, 945)
 - Flat Files are designed like eCommerce Gateway Files
 - Common Standards for PL/SQL Packages (GET, MAP, FORMAT)

Project Phase: TEST

- UNIT Test:
 - Test Oracle Application EXTRACT/IMPORT Process
 - Oracle and EDI Translation TECHNICAL Resources
 - Each Transaction TESTED Individually
- SYSTEM Test:
 - Test ALL processes, including new BUSINESS processes
 - Test team expanded to INCLUDE:
 - Trading Partners
 - Oracle Application Users

Shipping: Release Order

- After Sales Order is BOOKED, Release using Standard Functionality:

Release Sales Orders For Picking

Batch

Document Set **iROBOT PICK RELEAS** []

Based On Rule **Roomba REG Release**

Release Criteria

Order **Shipping** Inventory

Orders **All**

Order Type **Roomba Standard Ord**

Order Number **1252**

Ship Set

Item

Customer **Bed Bath & Beyond**

Ship To

Prior Reservations Only

Scheduled Ship Dates

From

To

Requested Dates

From

To

Online Concurrent

Shipping: AutoPack Deliveries

- Run Custom Program that automatically PACKS the delivery into CARTONS using WSH API:

The screenshot shows a software interface titled "Shipping Interfaces" with a sub-dialog "Parameters". The main dialog has a "Run this Request..." section with a "Copy..." button. The "Name" field is set to "XSCP WSH Autopack Delivery Lines", "Parameters" is empty, and "Language" is "American English" with a "Languages..." button. The "Parameters" sub-dialog shows "Delivery Name From" and "Delivery Name To" both set to "4056", with a dropdown menu showing "Swedesboro2575, Swedesboro". The "Debug Level" is set to "0" with a "Summary/Basic Logging" button. At the bottom of the sub-dialog are "OK", "Cancel", "Clear", and "Help" buttons. The main dialog also has "Help (B)", "Submit", and "Cancel" buttons at the bottom.

Shipping: 940 Shipping Order

- Run Custom Program that automatically creates 940 Shipping Order Extract:
 - File is manually/automatically delivered to EDI ASP for translation and delivery

The screenshot shows a software dialog box titled "Shipping Interfaces" with two main sections: "Run this Request..." and "Parameters".

Run this Request...

- Name: XSCP OUT: Shipping Order (940)
- Parameters: (empty)
- Language: American English

Parameters

- Create Extract: Yes
- Output File Path: /u01/app/apprbtt/RBTTST/common/temp/outbound
- Output File Name: OWO3081.dat
- Debug Level: 0 (Summary/Basic Logging)
- Delivery Status: Open (Delivery is Open, has not been)
- Warehouse Ship Status: AUTOPACKED (Delivery Created and Autopack)
- Delivery Name From: 4056 (Swedesboro2575, Swedesbor)
- Delivery Name To: 4056 (Swedesboro2575, Swedesbor)

Buttons at the bottom: OK, Cancel, Clear, Help.

Shipping: 945 Warehouse Advice

- Run Custom Program that automatically imports 945 Warehouse Advice:
 - File is manually/automatically delivered from EDI ASP
 - Program updates DELIVERIES and SHIP CONFIRMS delivery

The screenshot shows a software interface for configuring shipping interfaces. The main window is titled "Shipping Interfaces" and contains a section "Run this Request..." with the following fields:

- Name: XSCP IN: Warehouse Shipping Advice (SWI 945)
- Parameters: (empty)
- Language: American English

Below this section is a "Parameters" dialog box with the following fields:

- Import File Path: /u01/app/apprbtt/RBTST/common/temp/inbound
- Import File Name: SWI09919.dat
- Debug Mode: 0 OFF

Buttons for "Copy...", "Languages...", "OK", "Cancel", "Clear", and "Help" are visible. At the bottom of the main window, there are buttons for "Help (B)", "Submit", and "Cancel".

Shipping: 856 Ship Notice

- Standard Ship Set Automatically Runs 856 Departure Based Ship Notice Extract:
 - All “EDI-enabled” Customers
 - File is manually/automatically delivered to EDI ASP for translation and delivery

The screenshot shows a software window titled "Shipping Interfaces" with a close button (X) in the top right corner. The window is divided into several sections:

- Run this Request...**: Contains a "Name" field with the value "Departure Ship Notice Outbound", a "Parameters" field, and a "Language" dropdown menu set to "American English". There are "Copy..." and "Languages..." buttons.
- At these Times...**: Contains a "Schedule..." button.
- Upon Completion**: Contains a "Print to" field with the value "finance" and an "Options..." button.
- Trip Stop**: A dropdown menu is open, showing the selected value "3387-Roomba Warehouse at Regal-1401". Below the dropdown are "OK", "Cancel", "Clear", and "Help" buttons.

At the bottom of the window, there are "Help (B)", "Submit", and "Cancel" buttons.

Shipping: 810 Invoice

- Schedule 810 Invoice Extract:
 - All “EDI-enabled” Customers with OPTIONAL parameters
 - File is manually/automatically delivered to EDI ASP for translation and delivery

The screenshot shows a software interface for running an e-commerce outbound process. It consists of two main panels: 'Run this Request...' and 'Parameters'.

Run this Request...

- Name:** OUT: Invoice (810/INVOIC)
- Parameters:** (Empty text field)
- Language:** American English

Parameters

- Output File Name:** INO3082.dat
- Creation Date From:** (Empty text field)
- Creation Date To:** (Empty text field)
- Customer Name:** Bed Bath & Beyond
- Customer Site Name:** (Empty text field)
- Document Type:** Invoice
- Transaction Number:** (Empty text field)
- Debug Mode for INO:** 0 OFF

Buttons: Copy..., Languages..., OK, Cancel, Clear, Help

Lessons Learned

- Outsource NON-CRITICAL, highly complex functions:
 - VAN Services
 - X12 Translations
 - Oracle Application **EDI** Mapping
 - Oracle Application **EDI** Technical Development

Thank You

Presented By

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