



EIDX Business Models

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INTRODUCTION

The purpose of this document is to describe the activities in the Design Win (DW) business process, including the flow of documents and high level data requirements.

Any implementation method should be agreed upon by trading partners. It is the intent of this document to make interpretation of the models used for orders more consistent, so that implementations are based upon common practices.

Hyperlinks in this document

This document contains hyperlinks to pages on the EIDX web site as well as hyperlinks to off-site web pages.

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Abbreviations and Notations

The navigation menu in the EIDX web site **Publications** area includes links to [Methodology and Legends for EIDX Models](#), the [EIDX Glossary](#) and the [EIDX Acronyms and Abbreviations](#)¹ collection.

Abbreviations Frequently Used in this Document

ASC X12	ANSI Accredited Standards Committee, responsible for X12 standards for EDI
BPO	Blanket Purchase Order
CM	Contract Manufacturer (Sub-contractor)
CS	Component Supplier
EDIFACT	EDI For Administration, Commerce and Transportation
OAGI	Open Applications Group
OEM	Original Equipment Manufacturer, buys, adds value, resells
PC	Prime Contractor (End-Customer, OEM)
PO	Purchase Order, usually refers to Discrete (Stand-alone) Purchase Order
RN or RNet	RosettaNet
SMI	Supplier Managed Inventory

General Recommendations and Best Practices

Recommendations and best practices that apply to all business processes, including recommendations for product identification and partner identification, are found in [EIDX Business Models – General Support](#)

¹ <http://www.eidx.org/publications/abbrev/>

DEFINITIONS

OVERVIEW

Design Win is a process whereby ...

Assumptions: The buyer and seller have a pre-established relationship. Product information has been exchanged previously. The following types of information have been exchanged in advance:

- Partner Identification information
 - Sender/Receiver IDs
 - Addresses cross-referenced to address codes
- Product identification information and specifications
- Global Terms and Conditions (between Trading Partners) – terms that apply to all transactions. See [Terms and Conditions Agreement](#) in Best Practices.

Scope: This scenario includes the "routine public" components of the Design Win scenario. Models are created for "**common**" exceptions that are **good candidates for automation**. Not every possible exception situation is modeled, because there are events that are too rare to justify the cost of automation, or too complex to be automated – they require the intelligence of human beings for resolution.

All business processes touch, or are adjacent to other business processes. Design Win has the potential for connecting to the complex processes involved in product design and financial adjustments. In order to keep focused on the events that are unique to Design Win, only models dealing with registrations and incentive claims are in scope for modeling this scenario.

The current draft of the [Design Win Scenario](#) doesn't cover the details of exchange and/or access to product technical data. Collaborative engineering applications are still in an evolving state and EIDX will monitor developments and add to this documentation as appropriate. Product design data is discussed at a high level as part of the supporting documentation; see [Design Win Considerations](#).

Overview (Use Case) Diagram

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Narration

Step	Description
1.	Pre-Order Model 9 : The component supplier sends a list of products eligible for Design Win incentives. These are components that the supplier would like to see its customers or its distributor's customers design into their products.
2.	Pre-Order Model 10 : When a distributor's customer has agreed to design-in a component eligible for Design Win incentives, the distributor sends a Design Win Registration request to the component supplier. The request may include a request for Ship-from-Stock and Debit Authorization so that the distributor can submit debit claims for stock shipped at a non-discounted price as soon as the distributor has met all the criteria for Design Win incentive awards. The component supplier responds with either an approval or a denial. The component supplier may deny the registration if another registration for the same product and same end-customer has already been approved.
3.	(Optional). Pre-Order Model 11 : At any time, the distributor may request the status of some or all open Design Win registrations. The component supplier sends the report back in response. The component supplier may also send the report unsolicited, as agreed with the distributor, when status changes are made or per a pre-agreed schedule.
4.	Distributor Scenario 1 and component Financial Model 5 :: When the distributor ships a product that has an approved Design Win registration, and the goods shipped are goods that the distributor purchased at the non-discounted price, then upon satisfying the criteria for Design Win incentive awards, the distributor submits one or more debit claims to the component supplier, and the component supplier sends back a response . The response may approve or deny a debit claim.
5.	Financial Model 8 : When the distributor has satisfied the criteria for Design Win incentive awards, the distributor sends a Design Win claim to the component supplier, and the component supplier sends back a response . The response may approve or deny a claim.

ACTIVITY DIAGRAM

This is a "technology-independent" view of the activities. At this stage, no assumptions are made about which activities occur in the [private process](#) and which occur in the [public process](#). For example, an order can be generated by a buyer's private process, and be transmitted to a seller's private process, or an request can be entered on the seller's web site (the request is a "public" process), and the seller could log onto that web site to generate a response, or pull the request into its private process to generate the response.

Few companies automate an entire business process all at once. A Ship-from-Stock and Debit business process may be implemented in multiple steps, as represented by the component business models contained in the scenario. Some companies may decide not to automate some parts of the process if an [ROI](#) analysis indicates that automating that part is not cost-effective.

Getting the Complete View – Due to the complexity of the diagram, not all activities in the component models are shown in scenario diagrams. The component models should be viewed to get a more complete picture. The component models on the web also link to detail views of different [technology options](#) and to detail views of [transmission tracking and error handling](#). Those details include the process of tracking the receipt of response documents.

Transmission Tracking and Error Handling – Due to the complexity of the diagrams, transmission tracking, including tracking the receipt of response documents, and error handling activities, such as translation errors, are not shown. Error handling all by itself is a complex set of activities, and these activities are common to most business processes and the business documents exchanged. An implementation is not complete without the transmission tracking and error handling activities. See [General Model 1 – Generic Request/Response Transmission Tracking and Error Handling](#).

Three-Party Interactions – Many three-party interactions are really serial two-party interactions, e.g. Partner A interacts with Partner B, and Partner B interacts with Partner C. Many business processes involving [agents](#), [intermediaries](#), or [service providers](#), such as [distributors](#) and [contract manufacturers](#), are 3-party models conceptually, but in reality, the interactions are a series of 2-party interactions. Due to the complexity it would add to the model, the crucial two-party interactions are shown. In reality, however, each of the two parties may depend on interactions with other parties in order to complete the two-party interaction shown. See this illustrated in [General Model 2 – Generic Three-Party Request/Response Serial Interactions](#).

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Narrative

Step	Description
A.	Start state A occurs when a supplier of electronic components products wants to send out a new or modified list of products eligible for Design Win incentives. The list may be published to several distributors. The product is eligible for the incentives only for a specified time period, then that product is removed from the eligible products list. Updated lists are published periodically.
1.	Eligible Parts List. This is usually a separate list but could be incorporated into a price catalog.
C.	Start state C occurs when distributor's field engineer starts working with a customer on providing components for a new product design.
2.	The distributor and its customer begin the process of sourcing components needed for the customer's new product design.
3.	As part of the design process, components eligible for Design Win incentives will be reviewed to see if any are suitable candidates for the design of the customer's product.
D	At end state D, it is determined that none of the eligible components are suitable or that suitable components are not eligible for Design Win incentives (no Design Win Opportunity). The distributor may still wish to pursue Ship-from-Stock and Debit authorization for the components designed into the customer's product (Distributor Scenario 1).
E	Start state E occurs when the distributor wants to request a change to a Design Win Registration.
4.	When a distributor's customer has agreed to design-in a component eligible for Design Win incentives, the distributor sends a Design Win Registration request to the component supplier. The request may include a request for Ship-from-Stock and Debit Authorization so that the distributor can submit debit claims for stock shipped at a non-discounted price as soon as the distributor has met all the criteria for Design Win incentive awards. The component supplier responds with either an approval or a denial. The component supplier may deny the registration if another registration for the same product and same end-customer has already been approved.
F	At end-state F, the distributor may not have been awarded a Design Win, but may have received Ship-from-Stock and Debit authorization. Refer to Distributor Scenario 1. The distributor and its customer may still continue to work together on the new design even if no win was obtained; the component product in question may still be the best one for the customer's new product.
5.	When new products are developed, the process is the same whether or not a Design Win opportunity exists. However, when there is a Design Win opportunity, there may be a greater urgency to complete the design rapidly so that a market opportunity is not lost. The design process can take weeks to months, so a significant period of time may elapse between successfully registering a design and the first event that qualifies for an

	incentive award.
6.	The distributor processes purchase orders from its customer. There may be orders for samples, for a prototype run, and eventually, for production orders.
7.	When processing an order from its customer, the distributor may request that the component supplier provide an updated status of Design Win registrations. The component supplier responds with a status report.
G	Start state G indicates that the registration status report may be requested at any time that the distributor wants to do an audit or perform data base synchronization with the supplier.
8.	(Optional) The distributor reports point-of-sales transactions to the component supplier, per the appropriate Sales Model . Sales may be matched to Design Win claims. Timing important to reconcile claims with POS data. This step is optional because the timing of claims and POS reporting are often different. For example, claims may be sent weekly and the POS report monthly, or the POS reporting could be daily and the claims done monthly.
9.	In the back-end application, the distributor does extensive, iterative analyses of relevant data to see if the criteria for Design Win incentives have been met. This is complicated by the fact that different component suppliers set different criteria for eligibility. This process is iterative, since there may be more than one level of incentives that the distributor can qualify for.
10.	In the back-end application, the component distributor does extensive, iterative analyses of relevant data to see if criteria for incentives are being met and to see if estimates for market performance are up to expectations.
H.	At end state H, the distributor has determined that it's not yet eligible for Design Win claims. The distributor may not be eligible for a discount and/or a bonus until a sales quota or other condition has been satisfied within a specified time frame. Other conditions include the achievement of various milestones in the NPI process, including but not limited to: 1) distributor's customer has designed in the supplier's component, 2) customer has placed initial order for prototype, 3) customer is using the supplier's component in production. The distributor will continue to perform ongoing analyses (step 9) until it is determined that criteria have been met.
I.	At end state I, the supplier has performed an iteration of data analysis for Design Win component products. If sales are meeting expectations, the supplier will wait for the distributor to submit claims for incentives. If sales are not meeting expectations, the supplier may treat this as an exception requiring follow-up action. Such action requires complex human interaction and is handled manually.
J	At start state J the Debit Claim process may be invoked if the distributor's re-evaluation of data indicates that criteria for eligibility have been met.

11.	If eligible, the distributor may submit a debit claim upon reselling the component supplier's product. The component supplier will send a response that confirms or denies the claim. If the debit claim is approved, the distributor debits the appropriate amount from what the distributor owes the component supplier for other transactions. See the component model (Financial Model 5) for details.
K.	At end state K, the distributor has determined that it's not yet eligible for Design Win bonus awards/rebate claims. The distributor will continue to perform ongoing analyses (step 9) until it is determined that criteria have been met.
L.	At start state L, Design Win Claim process may be invoked if distributor's re-evaluation of data indicates that criteria for eligibility have been met.
12.	If eligible, the distributor may submit a Design claim upon meeting the criteria for Design Win incentives. The component supplier will send a response that confirms or denies the claim. See component model Financial Model 9 for details.
M.	The process ends when the eligibility period for Design Win incentives has ended. This may be a specified date, or may be when the threshold for maximum amount of incentive awards as been reached.

CONTEXT DIAGRAM

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TECHNOLOGY (IMPLEMENTATION) RECOMMENDATIONS

When technology options for Design Win are discussed, the conversation quickly moves to a discussion about all the design and statistical data that is needed for making important design decisions. The exchanges unique to Design Win, such as Design Win Registrations and Design Win Claims, almost seem trivial by comparison. This probably explains why there are no legacy EDI messages for these activities. There are some legacy EDI messages for design data, but historically, they have been problematic. In particular, the volumes of design data and sizes of CAD/CAM files were very expensive to transfer electronically prior to the proliferation of the internet. In the legacy environment, a single CAD/CAM file took 2 hours to transmit at the then revolutionary rate of 19200 baud, at a cost of \$200 or more.

Many of the [basic technology options](#) apply theoretically for the Design Registrations and Design Win Claims, but for design data, practical application has turned out to be difficult because of the amount of information that must be synchronized between distributor and component supplier. Currently, there is no one technology that can be declared as robust.

Assessment of Technology Options for Design Win				
	Technology Option		Design Win Registrations/Claims	Product Design and Statistical Data
1.0	"Traditional" EDI via a VAN		Don't exist	Not practical
2.0	Client EDI application with a VAN		Don't exist	Not practical
3.0	EDI over the Internet – Point-to-Point (EDIINT)		Don't exist	Not practical
4.0	Integrated B2B via the Internet, no VAN			
	4.1	Legacy EDI formats – ASC X12 and EDIFACT	Don't exist	Not practical
	4.2	RosettaNet XML	Recommended Option	Recommended Option – see notes
	4.3	OAGIS XML	Don't exist	Recommended Option – see notes
	4.4	Other XML	Don't exist	Unknown
5.0	Integrated B2B via 3rd Party (VANs and ISPs)			
	5.1	Legacy EDI formats – ASC X12 and EDIFACT	Don't exist	Not practical
	5.2	RosettaNet XML	Recommended Option	Recommended Option – see notes
	5.3	OAGIS XML	Don't exist	Recommended Option – see notes
	5.4	Other XML	Don't exist	Unknown

Assessment of Technology Options for Design Win (continued)			
6.0 Buyer's Web Application (using Web Forms), with or without back-end integration			
	6.1	Buyer manages own web application in own extranet	Not a best practice; if web application used, its usually the supplier's. Recommended Option - see notes
	6.1	Third-party web application used, with buyer-specific forms/templates	Not a best practice Recommended Option - see notes
7.0 Seller's Web Application (using Web Forms), with or without back-end integration			
	7.1	Seller manages own web application in own extranet	Recommended Option Recommended Option - see notes
	7.1	Third-party web application used, with seller-specific forms/templates	Recommended Option Recommended Option - see notes
Emerging Technologies			
8.0	Trading Communities - Exchanges, Hubs, etc.		Not applicable - see notes Not practical
9.0	Collaborative (shared) web application, with or without back-end integration		Still emerging Still emerging
10.0	Web services		Still emerging Still emerging

SUPPORTING DOCUMENTATION

BUSINESS DOCUMENTS USED IN DESIGN WIN

Note: Transactions and Messages *in italics* are based on a high-level evaluation transactions and messages available in the standard that are already being used for order processes. The recommendations are subject to revision when the EIDX Guidelines and Standards Subcommittee evaluates the transactions/messages in detail or as the relevant standards bodies make revisions.

Model/ Document	Description	Scenario Usage	X12 Txn	UN EDIFACT Msg	Rosetta Net XML	OAG XML
QT9 – Design Win Eligible Products List	To publish a list of products eligible for a Design Win	DIST2	832	PRICAT	5C1	None
Model/ Document	Description	Scenario Usage	X12 Txn	UN EDIFACT Msg	Rosetta Net XML	OAG XML
QT10 – Design Win Registration Request	To request the registration of a design that is a design win opportunity with the component supplier	DIST2	None	None	5C2	None
QT10 – Response to Design Win Registration Request	Response to a request to register a design.	DIST2	None	None	5C2 for original response; 5C4 for updated registration status	None