Inside Electronic Signature APIs

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Executive Summary

The idea of electronic signatures has existed for well over a decade. In the United States, the ESIGN Act (2000) declares e-signatures legal, valid and enforceable. Though most industries rely largely or entirely upon paper signatures for transactions, this is changing. As Forrester pointed out in its 2010 e-signature market overview[1], the change is occurring "particularly as part of overall business process automation initiatives."

One important factor for businesses to be able to fit e-signatures into their processes is using an e-signature provider and its e-signature API. An API helps to integrate the data or functionality of an e-signature provider within business workflows. For example, one can engineer a system to send a document to a recipient from within an internal dashboard, and then query the e-signature system for whether the document has been signed. Further, independent developers can create applications built on an e-signature API, perhaps as a plug-in for popular office applications. The ability for an API to reach various developers is important in its ability to help foster a vibrant developer ecosystem; thus evaluation of the API capability of e-signature vendors is an important step in choosing an e-signature provider.

This report primarily looks at three e-signature providers with public APIs: DocuSign, EchoSign (recently acquired by Adobe) and RightSignature. Our research also included AssureSign, but the company only makes its API available to pre-approved partners. We used documentation and other publicly available information to assess each provider in the features available and the overall approachability of their developer programs. AssureSign is not included in much of the document because our research was unable to uncover enough information to make a fair comparison.

Among the providers, we observed different approaches to both API features and developer programs. EchoSign and RightSignature each focus on automating retrieval of document status and sending. DocuSign attempts to cover any functionality of its own site as an API call. AssureSign, as we mentioned above, takes a business development approach, making details of its program available to only select partners.

Methodology

To complete our assessment of e-signature providers, we looked over publicly available information. Much of our focus was on developer documentation, as the aim of this report is to look inside e-signature APIs.

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[1] http://www.forrester.com/rb/Research/market_overview_e-signatures_in_2010/q/id/48329/t/2

When researching the available features of each API, we used API function lists and other documentation to determine a super-set of features any provider makes available. Next we organized the features into categories and consolidated similar features.

For our overview of developer programs, we used *ProgrammableWeb's* internal developer program criteria. Based on the "three Cs" of clarity, cost and community, we considered how each program approaches topics of importance to developers. For each criterion, we make a qualitative assessment to assign a rating.

Our complete matrices for features and developer program criteria are available in the appendix.

Provider Profiles

DocuSign

Website: http://www.docusign.com/
Developer site: www.docusign.com/devcenter
Documentation: http://www.docusign.com/developers-center/documentation

EchoSign (acquired by Adobe)

Website: http://www.echosign.com/
Developer site: http://www.echosign.com/public/static/api.jsp
Documentation: https://secure.echosign.com/static/apiv11/apiMethods11.jsp

RightSignature

Website: https://rightsignature.com/
Documentation: https://rightsignature.com/apidocs/overview

AssureSign

Website: http://www.assuresign.com/
Partnership information: http://www.assuresign.com/assuresign-partners.html

E-Signature API Features

The features of e-signature providers are segmented into eight categories:

- **Signing Options** - define and handle signing locations and signing process
- **Transaction Verification** - access status updates, view audit logs and verify transaction steps
- **Template Support** - apply pre-defined templates to documents in order to facilitate document sending
- **Document Support & Functionality** - create and send documents
- **Form & Form Field Support** - create dynamic documents to define the transaction workflow
- **Workflow Support** - define the signing process in a way that best fits the parameters of the transaction

- **Security & Fraud Prevention** - secure transaction documents and authenticate document recipients
- **Data Management** - administer accounts and retrieve data from documents

A full snapshot of features is available in the API Comparison Matrix section. Then, each category is explored in its own section.

It's important to make a distinction between what an e-signature provider can do and what is made available via its API. This report is focused on the API, because we believe this is how the e-signature industry will continue to expand, through both internal and developer usage of provider APIs to help automate and integrate e-signatures into business workflow.

By looking at the features available via the API, one can get a view of how each provider approaches its interaction with developers and other integrators. Because AssureSign only makes its documentation available to approved partners, its API is not included in much of the discussion.

API Comparison Matrix

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
SIGNING OPTIONS			
Number of signing modes	4	2	1
Sender can choose signing option (electronic/paper)	✓	✓	
Custom Options	Three signature location options	Specify signing page/email language	
TRANSACTION VERIFICATION			
Receive event driven status updates	✓	✓	✓
Event Failure Notification	✓	✓	
Send remind/expire notices	✓	✓	✓
Retrieve the audit log of the transaction	✓	✓	
Access certificate of completion and authoritative copy	✓		
TEMPLATE SUPPORT			
Apply template to documents	✓		✓
DOCUMENT SUPPORT & FUNCTIONALITY			
Send document to multiple recipients	✓	✓	✓
Create/Send batches	From Documents, templates and PDF forms	From Documents	From Documents and templates
Define document visibility	✓	✓	
Submit complete and partially finished batches for delivery	✓		
Void Batches	✓	✓	
Edit recipient info or transfer ownership of an existing batch	✓		
Turn on or off the batch ID stamp	✓		
Specify electronic vaulting for batches	✓		
FORM SUPPORT			
Create forms, distribute forms via multiple methods	✓		
FORM FIELD SUPPORT			
Create/place form fields	✓		
Multiple form field types	✓		
Define field locations and field options	✓		
Assign specific signing tasks or data fields to specific individuals	✓		
WORKFLOW SUPPORT			
Routing type for signatures	Serial, Parallel & combination	Serial	Serial
Assign agent (3rd party management) or editor roles for recipient	✓		✓
Correct/reassign workflow for batches already submitted	✓		
SECURITY & FRAUD PREVENTION			
Number of methods of receipient authentication	6	1	
Password protection for documents	✓	✓	
Public key infrastructure (PKI) digital certificates to seal exported documents	✓		
Define authentication requirements for signing/accessing batches	✓		
DATA MANAGEMENT			
Create and manage	Accounts, Users and Address Books	Accounts, Users	Accounts, Users
Bulk upload users to accounts	✓		
Reporting	Map data to Salesforce		Reporting for analysis
Retrieve status of	Single document and Document batch	Single document	Single Document
Retrieve data from	Fields and Document batches	Fields	Fields and Document batches
Retrieve completed PDF of every document in a batch	✓	✓	✓
Retrieve the e-sign status of a recipient.	✓		

Figure 1: API comparison matrix

Signing Options

One of the basic features of any e-signature solution is the signing functionality. One component of the signing functionality is the method in which the signing process is handled. Another major component is defining signature locations within a document. This becomes important based on whether a document changes often or remains the same.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
SIGNING OPTIONS			
Number of signing modes	4	2	1
Sender can choose signing option (electronic/paper)	✓	✓	
Custom Options	Three signature location options	Specify signing page/email language	

Figure 2: Signing Options

All of the providers have APIs that allow for an embedded signing method. Embedded signing gives the document sender the ability to host the signing process from within their application. Here, the sender can manage interactions with the signers in the manner that they choose. DocuSign and EchoSign also provide options for paper/fax signing where the sender allows the recipient to print out the document, sign and then fax back. Additionally, the EchoSign and Docusign APIs provide an option whereby the sender can specify whether the recipient should sign electronically or on paper. A third method for signing, supported by EchoSign and DocuSign, is remote signing. Recipients are sent an email invitation including a link within the email to visit the provider's site and sign the documents there, as opposed to a page hosted by the sender. EchoSign offers the ability to specify the language of the signing page and emails for recipients in non English speaking countries through its API. This feature is offered by DocuSign but must be done through the browser. DocuSign provides methods to allow for in-person signing.

Signature locations and the ability to define them is a feature offered through the the DocuSign API. For documents that remain the same, such as tax forms, static signature locations work well. For documents, such as contracts, where the language may change depending on the location of the recipient, relative signature locations based on text strings make more sense. DocuSign also allows freeform signing, where the recipient is allowed to place signatures wherever they see fit within a document.

Transaction Verification

An important part of the e-signature process is the ability to verify the signing transactions that users take part in. This includes reporting on the transaction through each step, sending reminders and expiration notices to recipients and viewing the audit trail and authoritative copy of the electronic record.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
TRANSACTION VERIFICATION			
Receive event driven status updates	✓	✓	✓
Event Failure Notification	✓	✓	
Send remind/expire notices	✓	✓	✓
Retrieve the audit log of the transaction	✓	✓	
Access certificate of completion and authoritative copy	✓		

Figure 3: Transaction Verification

All three providers have API calls that let users receive event driven status updates. These include notices that let users know when document batches are sent, delivered, signed and completed as well as when recipients sent, delivered, signed and completed their transactions. The DocuSign and EchoSign APIs provide event failure notification. This is a way to track any notification calls that fail to reach the user. The ability to send and track notices to recipients reminding them to sign their documents as well as expiration notices is a feature common to all three APIs.

Both EchoSign and DocuSign give the user the ability to retrieve the audit log of a transaction. DocuSign also gives access to a certification of completion and an authoritative copy. The certification of completion shows the authentication checks for each recipient as well as the events that occurred during the signing transaction. The authoritative copy acts as the electronic “original.”

Template Support

Templates provide the user a way to speed up the process of sending documents while also helping to reduce errors. They can save information such as recipient and field attributes and apply them to documents prior to sending. RightSignature and DocuSign offer this functionality through their APIs.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
TEMPLATE SUPPORT			
Apply template to documents	✓		✓

Figure 4: Template Support

Document Support and Functionality

Document level functionality gives users the ability to create and send documents as well as access administrative features for working with recipients. All providers allow users to send documents to multiple recipients and create batches of documents. RightSignature and DocuSign allow batches to be created from templates. DocuSign also allows batches to be created from PDF forms to help speed up the process of batch creation and reduce the amount of user error.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
DOCUMENT SUPPORT & FUNCTIONALITY			
Send document to multiple recipients	✓	✓	✓
Create/Send batches	From Documents, templates and PDF forms	From Documents	From Documents and templates
Define document visibility	✓	✓	
Submit complete and partially finished batches for delivery	✓		
Void Batches	✓	✓	
Edit recipient info or transfer ownership of an existing batch	✓		
Turn on or off the batch ID stamp	✓		
Specify electronic vaulting for batches	✓		

Figure 5: Document Support & Functionality

The APIs for both DocuSign and EchoSign allow document visibility to be defined, but go about it in different ways. In DocuSign if the signer has an action to take on a document they are able to view the document; otherwise the document is not made visible. EchoSign allows users to specify on a per-document basis which recipients are allowed to view the document.

The DocuSign and RightSignature APIs allow users to submit both complete and partially finished batches. Complete batches are processed immediately for delivery, while partially finished batches are sent to clients for later completion. This situation arises when the sender needs the recipient to add a signature location or form field to the document before being sent for signature. This is described in more detail in the *Workflow Support* section of the report. RightSignature assigns a 30 minute limit during which the recipient can complete the batch.

DocuSign provides multiple options for storing and administering batches via its API including: Edit recipient info or transfer ownership of an existing batch, turn on or off the batch ID stamp, specify electronic vaulting for batches.

Form and Form Field Support

Form creation and form field control give the sender the ability to take ordinary PDF forms and convert them from their static state into a dynamic document that can be used to help define a transaction workflow. DocuSign offers this functionality via its API. Applications can create forms from PDFs and access a number of options for working with form fields. The form field options provided by DocuSign allow for customization of forms and the workflows supported by them.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
FORM SUPPORT			
Create forms, distribute forms via multiple methods	✓		
FORM FIELD SUPPORT			
Create/place form fields	✓		
Multiple form field types	✓		
Define field locations and field options	✓		
Assign specific signing tasks or data fields to specific individuals	✓		

Figure 6: Form Support and Form Field Support

With the DocuSign API, users can create forms and then distribute them via email, web or other document management tools. Senders can create forms that dynamically update based on signer input. Additionally, fields can be made to appear based on the recipient's permissions.

The full list of form field functionality includes:

- Create form fields;
- Define field locations, visibility and data masks;
- Define field options including locked/editable, optional/required;
- Multiple form field types including signature/initials, information (dates, names, titles), securefield (dropdown, checkbox, radio button, text), conditional/dynamic;
- Assign specific signing tasks or data fields to specific individuals

Workflow Support

Workflow as discussed here refers to the routing order in which the sender designates the order in which individuals receive the documents for signature. The simplest and most common workflow happens as an "I sign, you sign" process or vice versa. This is a serial workflow where recipients are sent the document sequentially based on a defined order. All of the providers APIs support this workflow.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
WORKFLOW SUPPORT			
Routing type for signatures	Serial, Parallel & combination	Serial	Serial
Assign agent (3rd party management) or editor roles for recipient	✓		✓
Correct/reassign workflow for batches already submitted	✓		

Figure 7: Workflow Support

Another common workflow is to send a document at the same time to multiple recipients to have them sign without regard to the order in which signatures are applied. DocuSign supports this parallel workflow, as well as a combination of serial and parallel workflows.

Both DocuSign and RightSignature allow the sender to assign agent (3rd party management) or editor roles for the recipient. This defines a collaborative workflow and is used in situations where the sender may not have contact information for everyone that will be involved in the workflow. An example of this workflow would be a real estate agent originating a document and then sending it to another agent who then fills in the necessary contact information of the buyers. The second agent can then mange the collection of signatures, add additional documents to the agreement and add new recipients if needed. With the DocuSign API, users can also correct or reassign the workflow for batches that have already been submitted.

Customized workflows allow senders to define the signing process in a manner that fits the current transaction instead of forcing them to use a one size fits all solution.

Security and Fraud Prevention

Two keys to any e-signature solution are the assurance that the transaction documents are secure and the ability to authenticate recipients. DocuSign and EchoSign provide access to multiple security measures through their APIs as shown in Figure 8 below. RightSignature does authenticate recipients, however this functionality is not offered through its API.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
SECURITY & FRAUD PREVENTION			
Number of methods of receipient authentication	6	1	
Password protection for documents	✓	✓	
Public key infrastructure (PKI) digital certificates to seal exported documents	✓		
Define authentication requirements for signing/accessing batches	✓		

Figure 8: Security & Fraud Prevention

EchoSign and DocuSign both provide password protection for documents. This requires a user to provide a password to access any stored documents. DocuSign also offers a tamper seal on exported documents that requires a Public key infrastructure (PKI) digital certificate to open.

There are several methods by which to authenticate recipients with the most common being an email address. DocuSign and EchoSign APIs allow for authentication by this method. DocuSign's API provides five additional methods of recipient authentication. These include password per recipient, phone verfication, signer history, geo-location, and a knowledge based authentication method called "ID Check". To go along with the multiple authentication methods, the DocuSign API gives users the ability to define the authentication requirements for signing and accessing batches.

Data Management

Data Management refers to any methods centered on account administration and data retrieval. This is one area where all providers focus their API functionality. Common functionality across all APIs include: creating and managing both accounts and users; retrieving data from fields and retrieving completed PDFs of documents.

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
DATA MANAGEMENT			
Create and manage	Accounts, Users and Address Books	Accounts, Users	Accounts, Users
Bulk upload users to accounts	✓		
Reporting	Map data to Salesforce		Reporting for analysis
Retrieve status of	Single document and Document batch	Single document	Single Document
Retrieve data from	Fields and Document batches	Fields	Fields and Document batches
Retrieve completed PDF of every document in a batch	✓	✓	✓
Retrieve the e-sign status of a recipient.	✓		

Figure 9: Data Management

All providers can retrieve data from single documents. RightSignature and DocuSign also allow the user to retrieve data from a batch of documents, as well as retrieve the status from a single document or batch.

RightSignature's API provides a method for users to view a report that returns usage information on a user's account and any reseller accounts associated with that account. The other providers don't explicitly offer this ability through their APIs, but reports can be produced using the data retrieved from documents.

For users who have integrated DocuSign into Salesforce, the DocuSign API provides the ability to map their data to Salesforce in order to perform updates.

DocuSign can also determine if an E-sign agreement already exists between the sender and recipient.

E-Signature Developer Programs

Though developer programs are often free to join, developers make a purchase in terms of their time. Most developers will use publicly available information to determine whether a particular API is worth the investment. This section attempts to capture that process with ProgrammableWeb's developer program criteria, some of the elements a developer will look for when evaluating an API.

A developer program includes all information and interaction a provider has with a developer and other integrators. The ProgrammableWeb criteria are separated into three categories: Clarity, Cost and Community Support. Within each category are individual offerings that are important to developers.

A full snapshot of developer program criteria is available in the Program Criteria Matrix section. Then, each category is explored in its own section. Our full explanation of all criteria is available in the appendix.

Program Criteria Matrix

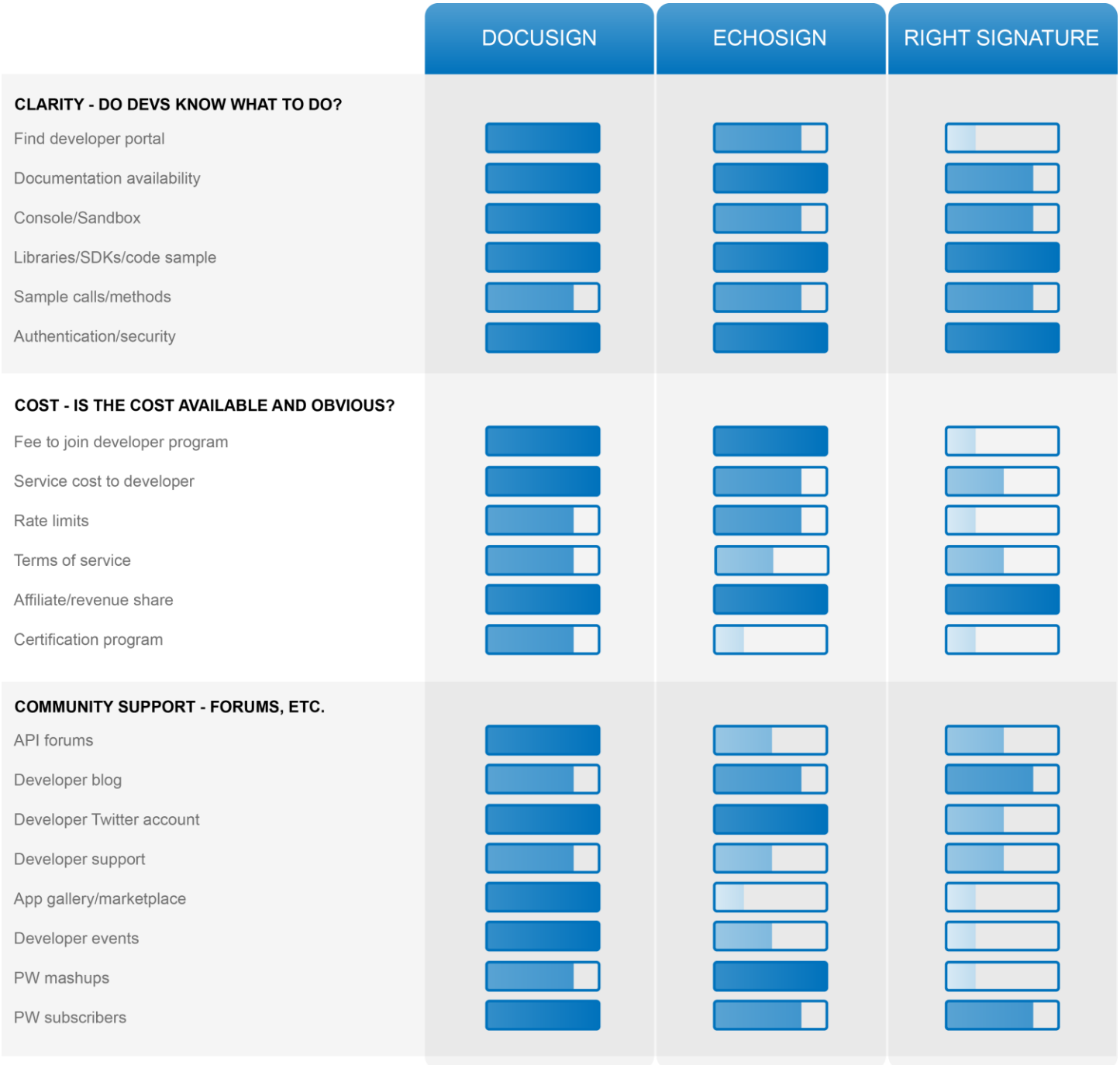

Figure 10: Program Criteria Matrix

Clarity: Do Developers Know What to Do?

The criteria in this category are based on how easy it is for a developer upon visiting the site to find the necessary documentation that they would need to begin using the API in their own applications. DocuSign and EchoSign both performed well in this category with DocuSign receiving the highest possible score for virtually every criterion. Documentation included a listing of methods and sample calls, code samples and SDKs. Each site made five or more SDKs available including popular languages such as Java, PHP, Ruby and C#.

With mobile computing becoming increasingly important, e-signature providers are looking for ways to enable customers to sign documents while on the go. RightSignature and DocuSign provide API functionality that can integrate their solutions with mobile devices such as the iPhone and iPad.

RightSignature placed third in this category. The biggest drawback was that its developer portal cannot be accessed unless a user registers for an account. The account is free and signup is relatively quick, but the need to give an email address in order to view documentation could turn away some developers.

EchoSign and RightSignature both offer full functionality in their staging environments. RightSignature limits free trial users to five documents. EchoSign allows five documents per month.

Cost: Is it Available and Obvious?

The criteria within this category look at the costs that a developer will incur should they choose to use an API. Also considered in this category are restrictions on and terms of use, revenue sharing opportunities and certification programs.

DocuSign and EchoSign scored high marks in this category. Neither charge to join their developer programs and both offer affiliate partner programs where developers can earn money for each successful referral.

DocuSign also offers a certification program. This program, available for a fee, takes developers through a process where their system is reviewed by the DocuSign support team and a certification checklist must be passed.

RightSignature received low scores because many of the criteria were not listed on the web site, including the developer program fee and rate limits. Like DocuSign and EchoSign, RightSignature provides an affiliate program.

Community: How Are Developers Supported?

The criteria in this category try to look at all forms of support that are available to developers from the providers, other members of the community and various rankings on *ProgrammableWeb*.

DocuSign has an active API forum with posts and comments from both community members and provider representatives. It also offers an app gallery/marketplace. The marketplace is an area where certified developers can list their applications, tools and services that connect with DocuSign. DocuSign also hosts its own developer events, in addition to co-hosting and sponsoring other developer events.

Lack of API forums and app galleries brought down the scores for EchoSign and RightSignature in the community category.

EchoSign did get high marks for its active Twitter account, which contained many recent posts and mentions. EchoSign also had the most mashups on *ProgrammableWeb* compared to its competitors. Support issues aside, EchoSign maintains an enthusiastic developer base.

Overall Developer Program Results

Rankings in a developer program point to the “developer friendliness” of a platform. The factors within the Clarity, Cost and Community categories aim to assess how prepared and accepted developers will feel.

Taken as a whole, DocuSign’s developer program ranked as the strongest of all the providers researched. The API received uniformly high scores in the Clarity category for the depth of its documentation and the ease in which it can be accessed. DocuSign offers a low barrier of entry to developers by making its API freely available and letting developers join the developer program at no cost. The developer community for DocuSign is the most active and provider support is the most readily available of all e-signature providers.

EchoSign also provides a good developer program, earning high marks for its online documentation. EchoSign also allows developers to join its developer program at no cost and has a strong revenue sharing system. A lack of a certification program and a non-API-specific terms of service bring its score down a bit. EchoSign is noted for its developer base, as seen in its strong scores for Twitter account and *ProgrammableWeb* mashups. However, the lack of an active API forum and app gallery would seem to make it harder for developers to connect.

RightSignature’s program suffers in comparison to the previous two. Its biggest weaknesses include the lack of access of the developer portal, unspecified cost to join the developer program and overall lack of active community support.

Conclusion

As more enterprises streamline their processes, moving important aspects of their businesses to the cloud, the e-signature industry is bound to expand. Contracts and other documents requiring signatures are a driver of business. We believe that e-signature APIs will be an accelerator of the e-signature industry because the platforms allow automation and integration of document processes. This report looked at four leaders in the e-signature industry with an emphasis on the features available via the APIs and how the programs cater to developers.

We found different approaches to both features and developers within the four APIs. Each of these strategies will place the companies on different paths and, as such, the companies may cater to different types of developers.

EchoSign and RightSignature appear to approach the API as an automation tool for customers building on top of their own accounts. Much of the functionality is left to the console, where users must interact with EchoSign or RightSignature's workflow. Sending pre-defined documents and retrieving information about those documents are the common use cases for using EchoSign or RightSignature APIs.

DocuSign's API aims to reproduce functionality of the console. For example, developers can create document templates and set form fields via the API. Due to the features of its API, DocuSign is approachable for independent software vendors and system integrators, the sort of external developers who might create tools anyone can use. Perhaps out of necessity, DocuSign's developer program is more welcoming to all types of developers.

The last approach, the one taken by AssureSign, is based on business development and partnerships. There is little information publicly available about AssureSign's API and developer program. This is a business strategy we've seen in other industries. A developer is unlikely to choose AssureSign over the other providers, as we believe developers usually make decisions on easily accessible information. Using other sales channels, AssureSign may be fine in ignoring independent developers.

Among these different approaches to e-signature APIs, we can see how each provider approaches one area of its business. The features of an API and how the developer program is structured, help determine the type of developer a provider will attract. The more types of functionality within an API, the more developers can use a platform. Further, the more open with documentation and support, the more approachable developers will find the program.

Appendix

Full API Feature Comparison Matrix

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
SIGNING OPTIONS			
Embedded signing within a host application	✓	✓	✓
Remote and Paper signing, return through fax	✓	✓	
In Person signing	✓		
Allow sender to choose signing option (electronic vs paper)	✓	✓	
Signature location based on static position,relative position or placement by recipient	✓		
Specify language of signing page and emails		✓	
TRANSACTION VERIFICATION			
Receive event driven status updates, send remind/expire notices	✓	✓	✓
Event failure notification	✓	✓	
Retrieve the audit log of the transaction	✓	✓	
Access certificate of completion and authoritative copy	✓		
TEMPLATE SUPPORT			
Upload/retrive templates	✓		✓
Apply template to documents	✓		✓
DOCUMENT SUPPORT & FUNCTIONALITY			
Send document to multipe recipients	✓	✓	✓
Define document visibility	✓	✓	
create/send batches from documents	✓	✓	✓
create/send batches from templates	✓		✓
create/send batches from PDF forms	✓		
Submit complete and partially finished batches for delivery	✓		
Void a batch that has been submitted but not yet completed.	✓	✓	
Edit recipient info or transfer ownership of an existing batch	✓		
Turn on or off the batch ID stamp	✓		
Specify electronic vaulting for batches	✓		
FORM SUPPORT			
Create forms	✓		
Distribute forms via email, web or other document management tools	✓		
FORM FIELD SUPPORT			
Create/place form fields	✓		
Multiple form field types including signature/initials, information (dates, names, titles), securefield (drop, check , radio, text), conditional/dynamic	✓		
Define field locations, visibility and data masks	✓		
Define field options including locked/editable, optional/required	✓		
Assign specific signing tasks or data fields to specific individuals	✓		
WORKFLOW SUPPORT			
Serial routing for signatures	✓	✓	✓
Parallel and Combination routing for signatures	✓		
Assign agent role (3rd party management) for recipient	✓		✓
Assign editor role for recipient	✓		✓
Correct/reassign workflow for envelopes already submitted	✓		
SECURITY & FRAUD PREVENTION			
Authenticate recipient by email address	✓	✓	
Additional recipient authentication (password per recipient, phone verfication, signer history, geo-location support, id check via knowledge based authentication)	✓		
Password protection for documents	✓	✓	
Public key infrastructure (PKI) digital certificates to seal exported documents	✓		
Define authentication requirements for signing/accessing envelopes	✓		
DATA MANAGEMENT			
Create and manage accounts and users	✓	✓	✓
Bulk upload of users to accounts	✓		
Data delivery/mapping to Salesforce	✓		
Manage address books	✓		
Reports for analysis			✓
Retrieve the status of a single document	✓	✓	✓
Retrieve the status of an envelope	✓		✓
Retrieve completed PDF of every document in an envelope.	✓	✓	✓
Retrieve the e-sign status of a recipient.	✓		
Retrieve data from fields	✓	✓	✓
Retrieve data from a document batch	✓		✓

Figure 11: Full API Feature Comparison Matrix

Developer Program Criteria Matrix Ranking Tiers

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
FIND DEVELOPER PORTAL	Home page link	One level down	Effectively hidden
DOCUMENTATION AVAILABILITY	Publicly Available	Publicly available	Available with login
CONSOLE/SANDBOX	Full staging environment	Basic staging environment	Basic staging environment
LIBRARIES/SDKS/CODE SAMPLE	3+ in popular languages	3+ in popular languages	3+ in popular languages
SAMPLE CALLS/METHODS	Request/response documented	Request/response documented	Request/response documented
AUTHENTICATION/SECURITY	Standard methods implemented	Standard methods implemented	Standard methods implemented

Figure 12: Clarity scoring tiers

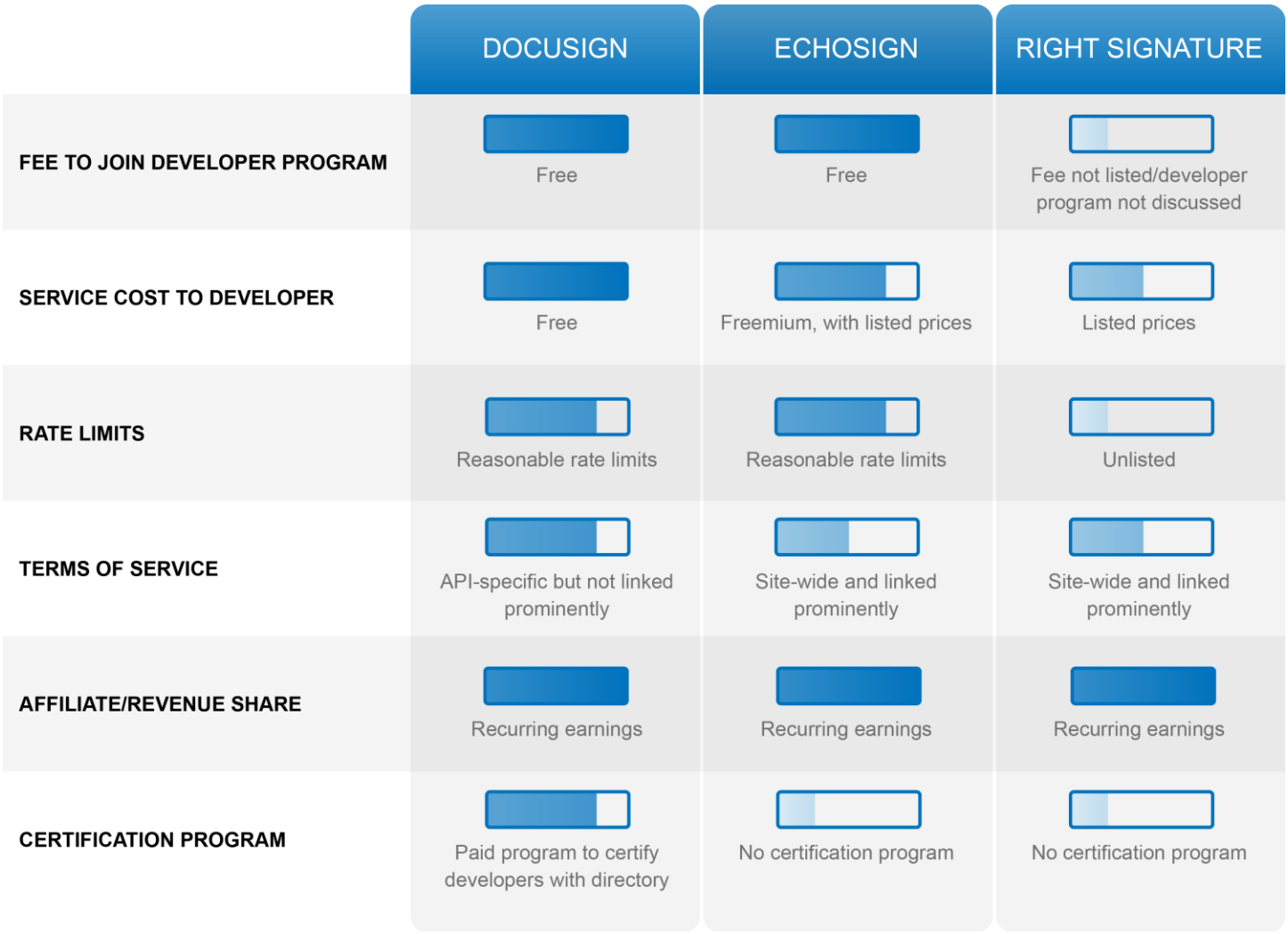

Figure 13: Cost scoring tiers

	DOCUSIGN	ECHOSIGN	RIGHT SIGNATURE
API FORUMS	Many recent posts with company replies	Few or no recent posts	Few or no recent posts
DEVELOPER BLOG	Category/tag on main blog with a post in last two months	Main blog, no category/tag, recent content	Main blog, no category/tag, recent content
DEVELOPER TWITTER ACCOUNT	Many posts and mentions	Many posts and mentions	Few posts and mentions
DEVELOPER SUPPORT	Multiple representatives	Available	Available
APP GALLERY/MARKETPLACE	Marketplace with obvious entrance criteria	No marketplace or gallery	No marketplace or gallery
DEVELOPER EVENTS	Hosts own developer events	Co-hosts/sponsors other developer events	No developer event participation
PW MASHUPS	At or above median count compared to competitors	Most mashups compared to competitors	Zero mashups
PW SUBSCRIBERS	Most subscribers compared to competitors	At or above median count compared to competitors	At or above median count compared to competitors

Figure 14: Community scoring tiers


programmableweb