Four51, Inc.

Four51 Integration Guide

Selling, Implementing, and Supporting Four51 Integrations

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Overview: Integration Solutions

In order to help our customers and their constituents maximize the value of our services, Four51 has developed several integration strategies that extend the use of the platform and help streamline workflows within and between companies.

As a supply-chain enabling application, Four51 has multiple audiences to support. Buyers may require integration into native procurement systems that manage multiple vendors, or they may require the ability to sign into Four51 from an internal system. Selling entities require integration to their customer systems, their back-office systems, and their supplier systems. Suppliers require integration of orders into their production systems as well as ways to integrate their product catalogs into upstream sales channels.

Four51 has developed integration strategies and solutions to address these challenges:

Back Office Integration

Four51 has completed several integrations with external systems to pass data to and from Four51. In most cases, this integration is used to pass order, product, and inventory data between Four51's e-commerce technology and ERP or production systems.

Available solutions for Back Office systems include:

- SAP Business One
- Demand Bridge
- Quantum

Custom Integration

Custom integration is used in scenarios where experienced developers desire to build custom or "one-off" integrations to unique applications. Four51's suite of web services are delivered natively so development teams can write custom integrations using these web services to support custom workflows. Should the development team wish to use Four51's Open Connector, the integration process is simplified with a set of tools that manage the transactions between systems while parsing and serializing the data. The Four51 Web Services Developers Guide includes web services to enable the management of:

- Addresses
- Catalogs
- Category
- Cost Centers
- Custom Order Fields
- Groups
- Inventory
- cXML Order Request
- Order Validation
- Order Pull
- Products
- Projects
- cXML Ship Notice
- Spending Account
- Users

Punch-out from a procurement system into Four51

This form of integration is designed to allow access to the Four51 application from within another purchasing or procurement system. Procurement systems like Ariba, Oracle and SAP that adhere to industry standard punchout specifications can utilize this functionality to quickly and efficiently integrate Four51's catalog functionality into their existing procurement system or ERP workflows. This type of

integration is primarily used in large organizations that require their vendors to comply with workflows driven by the customer's procurement systems. Punch-outs to Four51 include:

- Ariba
- ACES
- Birchstreet
- Coupa
- eMesa
- HubWoo

- JD Edwards
- Ketera
- Lawson
- Lonesource
- Oracle
- PeopleSoft

- Puridiom
- Perfect Commerce
- SAP OCI
- SciQuest
- Telarus
- Verian ProcureIT

Punch-out from Four51 into a supplier system

In many cases, Four51 is used as the purchasing or procurement catalog system in a buyer-seller relationship. In these cases, the integration requirement is to allow outside catalogs to be used within the Four51 system. This capability allows selling organizations to expand the product mix they offer (through compliant supply catalogs, while simplifying the catalog management process. It is also used by buying organizations to consolidate supplier technologies under a single umbrella and user experience

Single Sign On

Four51's single sign-on (SSO) service allows companies with users on internal systems to seamlessly log them into their Four51 buyer site. In addition to logging in a user, the service supports data encryption and new user creation.

3rd Party Integrations

Four51 has integrated with additional 3rd party solutions to increase the functionality of the Four51 application. These integrations often require a relationship between a Four51 subscriber and the third party. Available solutions include:

- Pageflex – Variable Data products allow the production of database-driven, one-to-one business collateral materials and other personalized documents including direct-mail postcards and mailers, business cards, event-related collateral, marketing brochures, travel itineraries, personalized booklets and much more.
- PayPal - With PayPal you are able to accept online payments from major credit cards.
- Silverpop –This marketing automation solution allows you to offer your customers sophisticated marketing campaigns for email, websites, landing pages, RSS, mobile and social media. With Four51 and Silverpop, it is possible to schedule the send of a customized and targeted email.
- USADATA – The leads module allows an end-user to configure and purchase customized consumer and business prospect lists using demographic, lifestyle, company size, industry and revenue filters.

Four51 Back Office Integrations - Standard Order Integration

What is it?

Four51 provides external systems a platform to pass data to and from Four51. The standard integration includes passing order data between Four51's e-commerce technology and ERP or production systems. There are customizations that can be completed on the ERP system that would allow product, inventory, and shipping data to also be part of the integration.   Common goals of this type of integration are:

- Automate the manual steps of data entry between customer facing (Four51) systems and back-office production systems.
- Reduce the risk of bad order data in the back-office systems
- Scalability

How does it Work?

Standard integrations typically contain four fundamental steps: Receive the Data, Parse the Data, Connect the Data, and Perform Operations against the Data. In a standard order integration scenario, data is passed in the cXML Order Request from Four51 when an order is submitted to a supported back-office that places it into their system for processing.

Four51's Standard Back Office Integrations include:
- Demand Bridge
- Quantum
- SAP Business One (http://supportone.us)

Getting Started

1. Send this document to your integrator or back-office provider and let them know that integration to Four51 is important for you.

2. Have them contact a Four51 integration specialist at info@four51.com.   We will help them become familiar with the various integration choices to determine which method of integration works best.

How Much does it Cost?

Once the integration is available, it can be activated with a subscription to Four51's standard web services, which consist of a monthly subscription. For more information on Four51's web services, please contact your Account Representative or email info@four51.com.

Four51 Custom Integrations

In response to the demand for interoperability and integration between back and front-end systems, Four51 offers a comprehensive set of tools and features that provide for near end-to-end integration between Four51 and our customer's systems. The web services suite allows the ability to receive order data and send back shipment data, manage catalog/user data, and build custom handling of the checkout process.

What Web Services are Available?

Order Request (for Sellers and Suppliers)

As orders are placed against a Seller's catalog or Sellers pass Purchase Orders to their product Suppliers, the Four51 Order Request Service can export all the data associated with and generated by the ordering process. This data is passed real-time in a cXML-encapsulated format to a Seller/Supplier-hosted "listener page." From there, the organization can assimilate the data into their supporting business systems at will.

Order Pull (for Sellers)

Allows Four51 sellers to automatically pull their Four51 orders into their back-office systems and business management applications at any time. A web service call to Four51 can be performed to obtain a list of orders that have not yet been downloaded. The cXML Order Request for each order can be accessed using a URL provided in the list of orders. The cXML Order Request contains all details of the order and line items, including a URL to variable document PDF files. After downloading and entering into the back-office system, the order on Four51 can be given a status, indicating it has been received in the seller's system.

Ship Notice (for Sellers and Suppliers)

Leveraging cXML standards, Sellers and Suppliers can get the most out of their logistics supporting systems and Four51 by using the Ship Notice feature. Most often, Distribution and Supply-based organization maintain their own systems which generate and track shipping data. Using Ship Notice, the logistical data can be extended to Four51 and more importantly, the customer.   By sending encapsulated shipping data to Four51, orders can be easily marked complete and tracking information is instantly recorded and sent to the customer.

Create PO (for Sellers)

Sellers that subscribe to the Four51 cXML Order Request Service can extend their interoperability even further by automatically converting the orders received via Order Request into outgoing purchase orders to their Four51-connected Suppliers.

Order Validation (for Catalog Managers)

Allowing for near seamless integration between the checkout process and a Seller's supporting business systems, the Order Validation Web Services can validate each step of the checkout process. Beginning

with a click of a button during the checkout process, items such as inventory levels, billing information, shipping information, tax values can be validated against supporting business systems hosted by the Seller.

Order Field Management (for Sellers)

The Four51 application's order-level fields feature is a useful tool in helping Sellers to capture pieces of Buyer specific information that may lie outside the scope of normal order data. The Order Field Web Service provides a Seller the ability to create and update these fields as necessary from their back-end systems.

Product Web Service (for Sellers)

It is common for Sellers new to Four51 to already have a product tracking solution that their employees understand and managing another iteration of that catalog becomes counter-productive. The Product Web Service enables a robust mechanism to update and save product information on Four51 in real-time as required. Features and data available for update include variant management, add/edit/delete price schedules; static and variable spec management, and Buyer associations.

Product Inventory Update (for Sellers)

Inventory management systems that are used by Sellers today are typically hosted in-house to facilitate ease of use and inventory accuracy. Four51's Product Inventory Update Web Service ensures product and variant counts are accurate on Four51 by offering an avenue of integration into inventory systems.

User Management (for Sellers)

Conveniently manages the users on Four51 from backend supporting systems. Features include: create, delete, update, address assignment, cost center assignment, and group assignment.

Category, Group, Cost Center, and Address Management (for Sellers)

Sellers can easily create, edit, delete and associate their Buyer's information on Four51 with information held in CRMs and other supporting applications.

Project File Upload (for Catalog Managers)

Management of the assets for a variable data project can be automated via the Project File Update Service. Managing a large number of project files for many Buyers is made more efficient by being able to add or update the files held on the Four51 application server.

File Access (for Sellers and Suppliers)

In Four51 accounts handling large order volume of variable text products, managing the artwork can be time-consuming. The Four51 File Access Service offers a convenient and batch method of collecting artwork and printable files via FTP services. The production PDF of the variable product is placed on a Four51 FTP server when an order is submitted that the seller/supplier can access.

Are there tools to help with integrating?

The Four51 Open Connector is a framework for accessing the Four51 API that makes developing and implementing an integration between Four51 and a back office system more simple. It consists of several freely available C#/.NET classes that can be altered - and when compiled, DLLs are created that can be used

by the included Open Connector service. All objects represented in the Four51 order cXML are de-serialized and strongly typed for ease of use.

Open Connector Repository: https://bitbucket.org/Four51/commercetoolssdk

How Much Does it Cost?

Web services are available from Four51 for a monthly fee. The fee includes access to the web services and technology and other support services. The Four51 Open Connector is free to use and develop against, and can be easily re-deployed at multiple locations.

Several additional web services, designed to enable even greater application interoperability, are constantly being developed and deployed. For more information on Four51's web services, please contact either the Four51 Sales or Advanced Support departments.

Getting Started

1. Become familiar with the Four51 Web Services Developer's Guide
2. Contact Four51 to begin the typical 3-6 week implementation process.

Four51 Batch Upload Solution

What is it?

The Four51 Batch Upload solution allows admin users to upload tab-delimited data files directly into the Four51 application for the purposes of creating or updating fields of data. The list of available templates include:

- **Address** - Inserts or updates admin user created addresses.
- **Approval Rules** - Uploads parallel or sequential approval rules.
- **Assign Coupon** - Assigns users/groups/products/categories with coupons.
- **Associate Address** - Assigns and address as a billing or shipping address to a company, user, or group.
- **Associate Category** – Assigns/Un-assigns groups, users, or company to categories.
- **Associate Cost Center** - Assigns a cost center to a user, group, or the company.
- **Associate Price** – Assigns/Un-assigns a price schedule to a user, group, or company.
- **Associate User Field** – Assigns/Un-assigns groups, users, or company to user fields.
- **Category** - Uploads a hierarchal list of categories and associates them to a user group or deletes the category.
- **Cost Center** - Inserts or updates or deletes cost centers.
- **Coupon** - Inserts and updates coupons.
- **Gift Card** - Inserts and updates gift cards.
- **Group** - Inserts or updates or deletes groups.
- **Images** - Uploads images to existing product or categories.
- **Inventory Notification Users** - Sets or removes user from being the inventory notification user for a product.
- **Inventory Update** - Updates available inventory at the product or variant level.
- **Pricing** - Clears existing price schedule and creates a new price schedule.
- **Pricing Sync** - Inserts/Updates/Deletes price schedules of products under a buyer.
- **Product** - Uploads products that do not currently exist.
- **Product Group** - Inserts and updates product groups.
- **Product Sync** - Uploads and updates products.
- **Product To Product Group** - Assigns products to product groups.
- **Product Variant** - Uploads variants for a product.
- **Product/Category** - Associates product to a category or removes the association.
- **Selection Specs** - Uploads variable selection specs to a product.
- **Spec Option** - Uploads or deletes options for a selection spec.
- **Spending Account** - Inserts and updates spending accounts.
- **Static Specs** - Uploads static specs for a product.
- **Supplier Cost Sync** - Inserts or updates supplier cost of a product-supplier relationship.
- **User** - Inserts or updates users based on the username.
- **User Field** - Inserts or updates or deletes user fields.
- **User Field Option** - Uploads or updates or deletes options for selection user fields.
- **User Field Value** - Sets/updates or removes the value of a user field for a buyer user.
- **User/Group** - Associates or removes the association from a buyer user to a group.
- **VBOSS** - Inserts or updates variants based on selections specs.

How Does it Work?

Batch upload jobs are submitted through the Four51 administrator interface in both the Test and production environments. To prevent errors, it is required that all uploads are processed and reviewed in the Test environment before submitting them to Four51 services for deployment to the production environment.

How Much Does it Cost?

In addition to your Four51 subscription, there is a one-time implementation fee, and a recurring monthly maintenance charge.

Getting Started

Contact Four51 to begin the typical 1-3 week implementation process.

Four51 PunchOut Solution

PunchOut is the name that Ariba (a leading procurement system) has given its round-trip order process. It's now used as a general term for a type of integration between a procurement system and a vendor's e-commerce site (Four51). **OCI** is SAP's version of this integration that is slightly different in behavior, but accomplishes the same goal. Four51 is not limited to, but has successfully completed implementations with Ariba, ACES, Birchstreet, Coupa, CommerceOne/PerfectCommerce, eMesa, HubWoo, JD Edwards, Ketera, Lawson, Lonesource, Oracle iProcurement, PeopleSoft, Puridiom, SAP, SciQuest, Thelarus, and Verian ProcureIT.

Four51 supports Procurement PunchOut, which specifically supports interactions between a procurement application and the Four51 application. Procurement PunchOut describes the traditional PunchOut scenarios that use the regular PunchOut Setup Request and PunchOut Setup Response. The PunchOut session is initiated with a "PunchOutSetupRequest" and terminates with a posting of a "PunchOutOrderMessage," which contains the initiating transaction's cookie and a shopping cart or "quote." The final purchase order is delivered from the procurement application to Four51 in a cXML PunchOut Order Request document.

How Does it Work?

A PunchOut session is composed of several distinct steps:

1. Users logon to their procurement application and open a new purchase order.
2. Users click a link to shop in your Four51 website, which opens a web browser and logs them into your Four51 website automatically.
3. Users shop on Four51 and place items in their shopping carts.
4. When finished, they click "Submit" in the shopping cart.
5. Four51 sends the order back to the procurement application in cXML format. The user is simultaneously redirected back to the procurement application.
6. The order is routed through the procurement application's established requisition and approval process.
7. The procurement application confirms the order with Four51 via a cXML transaction. You receive the customer's order in your Four51 administrative interface.

How Much Does it Cost?

In addition to your Four51 subscription, there is a one-time implementation fee, and a recurring monthly maintenance charge.

Getting Started

1. Become familiar with the Four51 PunchOut Seller Implementation Guide
2. Become familiar with the Four51 PunchOut cXML Buyer Implemenation Guide
3. Contact Four51 to begin the typical 3-6 week implementation process.

Four51 OCI Roundtrip Solution

What is it?

SAP Open Catalog Interface (OCI) connects Four51 buyer catalogs to customer SAP systems. It allows users of SAP to access and purchase products that reside on Four51 and transfer product data back to the customer's SAP system.

How Does it Work?

OCI is a SAP standard for interactive sessions managed across the internet between an SAP system and a supplier's web-based catalog (Four51). It uses standard HTTP protocol, allowing product data to be transferred directly from the supplier's catalog to SAP.

1. User initiates session in SAP.
2. Users click a link to shop in your Four51 website, which opens a web browser and logs them into your Four51 website automatically.
3. Users shop on Four51 and place items in their shopping carts.
4. When finished, they click "Submit" in the shopping cart.
5. Four51 sends the order back to the procurement application as a form post. The user is simultaneously redirected back to SAP.
6. The order is routed through the procurement application's established requisition and approval process.
7. The procurement application confirms the order with Four51 via a xCBL document, but may be delivered in other formats. You receive the customer's order in your Four51 administrative interface.

How Much Does it Cost?

In addition to your Four51 subscription, there is a one-time implementation fee, and a recurring monthly maintenance charge.

Getting Started

1. Become familiar with the Four51 OCI Round-Trip Implementation Guide
2. Contact Four51 to begin the typical 3-6 week implementation process.

Four51 Single Sign-on Solution

What is it?

Four51's single sign-on (SSO) service allows users that are authenticated on internal systems to log into Four51 seamlessly, without retyping their username and password. In addition to logging in a user, the service supports data encryption and new user creation.

How Does it Work?

- When Four51 receives a logon request from the SSO service, it will log the user into their Four51 Buyer catalog. If the user does not exist, the user will get created with the parameters established from a template user that exists for that buyer catalog.
- The service cannot be used to update existing user information. It is recommended to use a custom integration consuming Four51 web services to perform user management.

How Much Does it Cost?

In addition to your Four51 subscription, there is a one-time implementation fee, and a recurring monthly maintenance charge.

Getting Started

- Contact Four51 to begin the 1-3 week implementation process, and to enable Auto Profile Logon for the admin interface.
- Become familiar with the Four51 Auto Profile Logon Guide.
- APL is configured for a buyer site and a template URL with buyer-specific ID is given to the buyer customer.
- The buyer customer develops code for their web site that dynamically populates the APL template URL with username, password, etc. information for the current user on their system, and then redirects the user on their system to that URL.
- (Optional) pre-profiling of users on Four51 if for some reason users should not be created on the fly.

Four51 Supplier Punchout

What is it?

PunchOut enables Four51 as a procurement application and allows Four51 users to seamlessly leave the Four51 buyer experience and go out to an external vendor's PunchOut-enabled catalog, configure a product, and then bring the product back into the Four51 cart for shipping, billing, approval, and order fulfillment just like any other product in a standard Four51 work flow.

How Does it Work?

A PunchOut session is composed of several distinct steps:

1. Users logon to Four51 and navigate to a punchout category or a punchout product.
2. Users click on the product or category and are directed to a third party site, which may be hosted in the existing browser window, or it may be hosted in an "iframe" making the 3rd party application transparent to the user.
3. Users shop or configure a product on the punchout site and place items back into their Four51 shopping carts.
4. When finished, they click "Submit" in the shopping cart.
5. Four51 sends the order back to the punchout partner application in cXML format.

How Much Does it Cost?

In addition to your Four51 subscription, there is a one-time implementation fee, and a recurring monthly maintenance charge. There might also be a relationship established between the punchout partner and a Four51 seller which would require business contracts between those entities.

Getting Started

1. Become familiar with the Four51 Supplier PunchOut Implementation Guide
2. Contact Four51 to begin the typical 3-6 week implementation process.

3rd Party Integration - Introduction

What is it?

Four51 has integrated with additional 3rd party solutions to increase the functionality of the Four51 application. These integrations often require a relationship between a Four51 subscriber and the third party.

How Does it Work?

A business development project is created to understand the costs and benefits of the integrated solution into the Four51 network.

How Much Does it Cost?

Each solution typically requires an investment in product marketing, technology development and support.

Getting Started

Contact Four51 to introduce us to the proposed solution.

Pageflex Persona Solution

What is it?

Pageflex Persona software allows Four51 catalog administrators the ability to create database-driven, one-to-one business collateral materials and other personalized documents including direct-mail postcards and mailers, business cards, event-related collateral, marketing brochures, travel itineraries, personalized booklets and much more.

Pageflex Persona includes a user-friendly, drag-n-drop interface with familiar graphic design tools, including standard layout, typography, image, and color controls. It also includes advanced tools for copyfitting variable text, creating variables and if/then/else rules, producing variable-length documents, and configuring job output settings.

How Does it Work?

1. A Four51 catalog administrator is trained to create variable data products
2. Pageflex Persona software is installed on their personal computer.
3. Pageflex "Project File" is created.
4. Using Four51's custom tool, the project file is uploaded and the product is created on Four51.
5. Buyer completes web form for personalization and the data is merged against the template.
6. Buyer is presented with a bitmap preview, a pdf proof, and the supplier downloads a production pdf.

How Much Does it Cost?

In addition to your Four51 subscription, there is a charge for the Pageflex Persona software, training and support along with a monthly subscription fee.

Getting Started

Contact Four51 to begin the typical 1-3 week implementation process.

PayPal Solution

What is it?

The PayPal solution provides a PCI compliant service to capture credit cards as a payment method in Four51 catalogs.

How Does it Work?

There are two options for accepting credit cards on the Four51 application: PayPal's "Payments Pro" and PayPal's "Payflow Pro."

- Both will accept all major cards
- Both allow for delivery of funds to your bank account
- Both will function as a virtual terminal, allowing you to collect funds outside of the Four51 system
- Payments Pro does not support reference transactions, so approval rules and saved credit cards are not supported with this option

While one type isn't "better" than the other, there are some key differences to consider. In general, Payflow is thought of as the industrial-strength option; Payments Pro is the "lighter" choice.

How Much Does it Cost?

In addition to your Four51 subscription and the cost of PayPal, there is a one-time implementation fee.

Getting Started

- Contact Four51 to become familiar with credit card processing options.
- Establish a PayPal account
    - Payments Pro
    - Payflow Pro
- Contact Four51 to configure your PayPal account on your Four51 account
- Configure your Four51 catalogs for credit card processing

Silverpop Solution

What is it?

Four51 has integrated with Silverpop's marketing automation solution to allow Four51 buyer user's the ability to order the send of a targeted email. In addition, Silverpop allows the ability to create sophisticated marketing campaigns for email, websites, landing pages, RSS, mobile and social media.

How Does it Work?

A Silverpop administrator builds marketing templates and customer lists on that application. Once the marketing campaign is designed, it can be ordered as a product on Four51. The product setup requires:

1. Silverpop API Credentials
2. Data Mapping
3. Template ID
4. List ID
5. List type
    o Managed or User Upload

How Much Does it Cost?

In addition to your Four51 subscription, there is a subscription required with Silverpop.

Getting Started

1. Contact Four51 to learn more about the solution.
2. Subscribe to Silverpop's solution.
3. Learn how to use Silverpop
4. Learn how to build products on Four51 that are integrated with Silverpop.

USADATA Solution

What is it?

Four51 catalog administrators can set up products to be accompanied by the Four51 Leads Module, a feature that allows buyer users to purchase a mailing list from USADATA from inside their Four51 catalog.

How Does it Work?

When a buyer user chooses a product setup with a USADATA list, and adds the item to his shopping cart, they will see an option to purchase a list and be directed to the Four51 Leads Module screen where search criteria is selected for the list.

After the list has been generated in the Four51 Leads Module, it is pulled back into the user's Four51 shopping cart. Once the order is completed and the list is paid for, the actual data is acquired and attached to the order. Both the buyer user and the administrative user can access the list by logging into their respective Four51 environments and opening the order that included the list.

The configuration of a product for a USADATA list is performed by the site administrator via Four51's Variable Spec feature. A catalog administrator can enable customers to purchase a list in conjunction with a printed item (for example, a direct mail postcard) and there is no limit to the number of products that can be enabled.

How Much Does it Cost?

There are two different versions of the leads module that can be setup as part of your Four51 subscription.

The Four51 Leads Module powered by USADATA, also known as the "lite" version, is free to setup and is not accompanied by any monthly fees other than usage fees that occur when a list is purchased. This version of the module does not offer customizable features (such as branding).

The USADATA Leads Module, or the "full" version, offers many more options such as branding and user control.

Getting Started

To get started using the Four51 Leads Module, contact Four51 to begin the typical 1-2 day implementation process.

For specific details or more information about the USADATA Leads Module, please contact:

Beth Leffel
USADATA, Inc - Sales Leads On Demand
bleffel@usadata.com
http://www.usadata.com