The Finance Leaders' Guide to

SaaS Billing Integration

20 Systems to Connect to your SaaS Billing Platform

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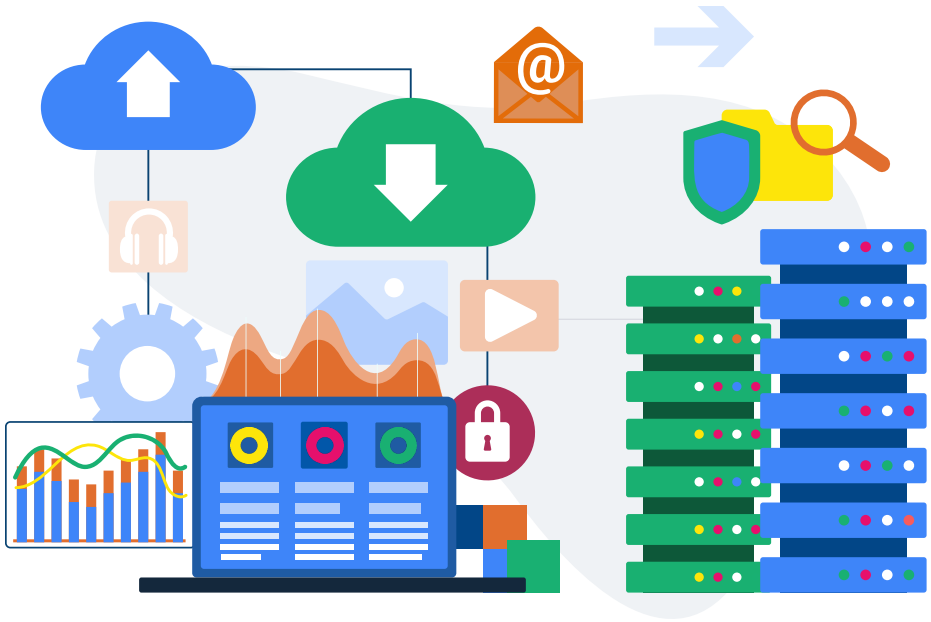
The Modern Billing System

Orchestrating Workflows across the Front, Middle, and Back Office

Historically, billing systems were relegated to the back office. Batch-oriented and monolithic in nature, billing was limited to the purview of finance. However, SaaS billing is making a paradigm shift.

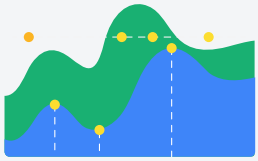


Modern SaaS billing applications are taking a center-stage role in the revenue lifecycle. In addition, modern billing plays a key role in the customer experience through tight integration with the product:

- **Triggering Provisioning Workflows** - Activating product functionality or expanding allowances once a payment is received.
- **Monitoring Real-time Spend** - Sending critical stakeholders notifications about usage spikes and budget thresholds.
- **Processing Upsell Transactions** - Offering customers self-service options to add seats, buy usage credits, or upgrade feature tiers.

Generating Insights from Billing Data

Modern billing systems are also a key source of data for:



Cash Flow Forecasting

Financial planning and analysis teams use future billing schedules, historical collections schedules, and real-time usage rating to model 30, 60, and 90-day cash flows.

Alternative Financing

CFOs are leveraging historical invoicing patterns and deferred revenue schedules to obtain alternate financing arrangements, such as lines of credit from recurring revenue platforms.

Predictive Churn Analysis

Customer success teams are leveraging usage patterns and collections activity to predict which customers are most likely to cancel their contracts in the near future.

A Middle Office Application

Modern SaaS billing platforms are a key part of the middle office, orchestrating workflows between the CRM and ERP. The value derived from the billing platform directly correlates with how interconnected it is with other systems. Most SaaS providers start by linking their billing to:

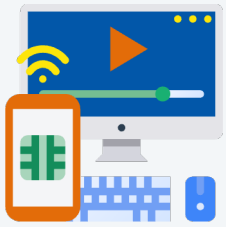
- Sales Force Automation (CRM)
- Accounting General Ledger (ERP)
- Payment Processing Gateway
- Sales Tax Automation

However, these are just a few of the potential connections.

Billing Integrations

Three Categories of Systems to Connect

In this guide, we will discuss the 20 most popular applications that SaaS providers are integrating with their billing systems. We'll start with those that provide inputs to the billing calculations (upstream systems), discuss the closely interrelated applications that assist with collections (parallel systems), and finish with those that depend upon outputs from the invoice-to-pay process (downstream systems).

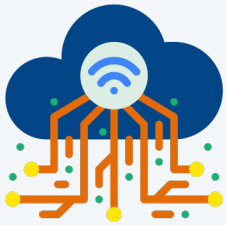


Upstream Systems

Source applications such as CRM/CPQ that provide inputs to the billing system needed to calculate charges such as pricing, consumption, start/end dates, and tax rates.

Parallel Systems

Are both source and targets of data, such as tax and payment gateways, having bidirectional integration to receive outputs from the billing system and then send inputs back.



Downstream Systems

Target applications like the GL/ERP that collect outputs from the billing system, such as invoices, statements, collections activity, or account balance.

Upstream Systems

Collect the inputs needed to calculate the charges and generate the invoice.

For each customer, a few key data fields are needed to generate the invoice, including:

- Contract start and end dates
- Products and pricing
- Discounts and promotions
- Billing schedule
- Payment terms

Depending on the go-to-market model, these inputs might be sourced from different systems.

Customer, Contract, Product, and Pricing Inputs

In a traditional sales-led model, the customer, product, pricing, and payment data is collected by the sales team and inputted into a sales force automation (SFA) module within the CRM. The sales team might also use a CPQ tightly integrated with the SFA for more complex product and pricing configurations.

In a product-led growth scenario, the customer might undertake a self-service experience. As the customer selects products and pricing tiers and enters payment details, the data is collected within the SaaS product's subscription management features.

Usage Data and Professional Services

Not all pricing is gathered during the sales process. While fixed "subscription" fees typically are established at the onset of a contract, variable fees from usage-based pricing and professional services are not. The exact amounts to charge will not be known until the end of a billing cycle. The billing system will need to collect the usage data from the product and billable from a professional services automation tool.

Parallel Systems

Support calculation of charges, processing of payments, and collections of receivables

Calculating Tax and Currency Rates

There may be a need to apply sales taxes or currency conversions to arrive at the total amount the customer owes. Due to the complexity of economic nexus laws in various states, most SaaS providers will rely on a specialized application to calculate sales taxes. Similarly, foreign exchanges for various countries are typically sourced from a specialized currency data provider.

Processing Payments and Collections

Many SaaS providers have customers enroll in auto-pay programs that charge credit cards or debit bank accounts as fees are owed.

The payment processing gateways that perform these automated collections need to be kept in sync with the billing system to ensure that both have an accurate, up-to-date account balance record. The same level of synchronization is required if there is a standalone accounts receivable application processing collections.

Sharing Visibility within the Product Experience

SaaS products themselves also benefit from regular interaction with the billing system. For example, the customer should be able to obtain the latest balance and invoice within the account profile section of the product.

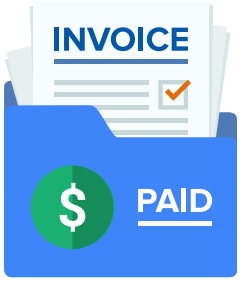
Downstream Systems

Sharing outputs from the billing or collections

As invoices are generated and payments are collected, there are several downstream systems that need to be informed. Some need complete copies of the invoices, but most require only summary details such as the total amount billed and due dates.

Invoice Delivery

The invoice must be delivered to the customer via email, EDI, XML, or uploaded to a supplier portal. A copy of the invoice may also need to be delivered to internal systems so that customer-facing teams have the latest account balance and due dates.



Payment-Triggered Workflows

Some SaaS providers use the billing system to trigger the provisioning of new customer accounts, granting product access once the invoice is paid. A collection event might also trigger commission payments to the sales team or business partners with revenue-sharing arrangements.

Accounting and Financial Reporting

Other financial systems need outputs from the billing system. For example, the general ledger will need journal entries for each period. Finance teams may want historical collection details and future billing schedules to model future cash flows.

External Financial Institutions

Some SaaS providers might have lines of credit based on their recurring revenue. Others might be factoring invoices to accelerate cash flows. Outputs from the billing system can be used to underwrite credit and/or collect receivables.

Part Two

Upstream Systems

Inputs to the Billing Calculations

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Customer Relationship Management

Most SaaS providers with a sales-led growth leverage the Sales Force Automation (SFA) module within the Customer Relationship Management (CRM) application to manage deal cycles. Even many product-led growth companies use a CRM to work opportunities with enterprise accounts.

However, changes to existing accounts, such as upgrades, downgrades, or renewals, may (or may not) be managed by the sales team and may (or may not be) recorded in the CRM. Instead, other organizations, such as customer success or finance, may own these changes.

To determine the best integration strategy for your billing system, you will need to understand which organization manages each process and what the system of record is for:

New Customers

Customers may start with a free trial of the product or a pay-as-you-go monthly plan. Others may commit to an annual contract.

Upgrades

During the contract term, the customer may want to purchase new products or additional units (seats or usage) of the same offerings.

Renewals

At the end of the contract, most customers will renew with the same products and pricing. Others may want to purchase additional services or negotiate better pricing.

1 Sales Force Automation (CRM)

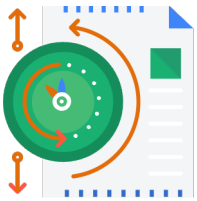
Do you want to automatically route sales contracts to your billing system?

As a new prospective customer moves through the sales cycle from discovery call and product demo to solution design and price negotiation, a great deal of account information is acquired. Much of the new account data populated into the CRM is also needed to generate the bills. Examples include:

Account and Contact Details

The billing system needs to know who the customer is and where to send the invoice. Data collected in the sales process include:

- Company legal name and address
- Billing contact name and title
- Billing contact email address



Payment Preferences and Schedule

The billing system must know when to send the invoices and where to collect payments. Data collected in the sales process include:

- Billing frequency and timing
- Payment terms and preferred method
- Contract start and end date

Products and Pricing

The billing system needs to know how to calculate the charges for each product. Data collected in the sales process include:

- Product SKUs and configurations
- Pricing formulas and rating tables
- Discount schedules and promotions

Upgrades, Renewals, and Cancellations

While most SaaS businesses manage new customer contracts in the CRM, the process for managing contract modifications, renewals, and cancellations can vary considerably.

At some SaaS companies, the sales team manages any changes to a customer's commercial agreements using the CRM system. At others, the sales team only works on new accounts, and the customer success team processes any upgrades or renewals for existing accounts. Customer success might use the same CRM as the sales team or a specialized application for their organization.

There are also scenarios where responsibility for changes to existing accounts is split between sales and customer success. For example, the delineation for ownership might be divided by a certain dollar threshold or the level of product knowledge required for sale.

At some SaaS companies, neither sales nor customer success processes upgrades, renewals, or cancellations. Instead, the customer interacts directly with the product in a self-service model. If exception processing is needed, responsibility goes to the finance team.

SaaS Upgrade Scenarios

Depending upon the types of products offered and the contract options available to customers, the number of possible permutations could range from just a few to several million. Some of the most common SaaS contract modifications include:

1 to N Products

From a single product to multiple products

X% to Y% Discount

From a 10% initial discount to increase of 20% off

Free to Paid

From a limited-time free trial or unrestricted freemium tier

Monthly to Annual

From pay-as-you go, monthly to annual contract

Feature Tier Upgrade

From lower tier “Business” plan to “Enterprise” plan

Contract Extension

Term extended from 12 months to 15 months

Step Up

At end of year 1, monthly price increases from $100 to $200

Price Increase

On contract anniversary date, price increases 10%

Billing Frequency

From annual, upfront billing to quarterly installments

Billing Cycle

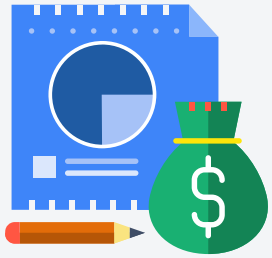
From billing on 1st of month to 15th of each month

Billing Adjustments

Many SaaS billing applications can only process a subset of the various contract modifications that can occur. Billing vendors invest in automating the most common types of changes. The less popular scenarios require hands-on, manual adjustments through finance.

Manual processes add costs as accounting staff must spend time each billing cycle to calculate the changes. Unautomated methods are also more likely to be configured incorrectly or not processed, resulting in potential revenue leakage. Understand the volume and velocity of each upgrade scenario to assess which ones need to be automated and which can be processed manually with relatively little cost and risk.

Finance-Led Upgrades and Renewals



A growing number of SaaS providers are enabling customers to process upgrades and renewals using the self-service functionality within the product. In these scenarios, the finance team may be responsible for tracking upgrades, renewals, and cancellations.

With finance-led upgrades and renewals, the CRM is typically not the system of record. Instead, all the product configurations, price schedules, and contract terms for customers are managed in the billing system. As a result, there is no need to worry about discrepancies between what has been sold and what is being billed.

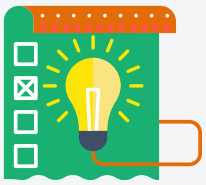
However, if upgrades, renewals, and cancellations are managed in the CRM, the details must be propagated to the billing application to ensure accurate invoicing.

2

Configure, Price, and Quote (CPQ)

Do you have complex pricing models and product configurations?

SaaS and cloud pricing models continue to grow more and more innovative. Today, most SaaS providers are using multi-dimensional pricing models such as:



Multi-Tiered, Per User

The most common SaaS packages have a monthly fee based on two dimensions: 1) the number of users and 2) the feature tier (pro-business-enterprise) selected.

Multi-Product Bundles

To increase share of wallet, some SaaS offer higher discounts for customers that buy bundles of products (e.g. sales + marketing + support) packaged into a single subscription.

Hardware/Software/Service

SaaS providers that support retail and warehouse operations offer configurable packages that include on-premise hardware, software, and support services.

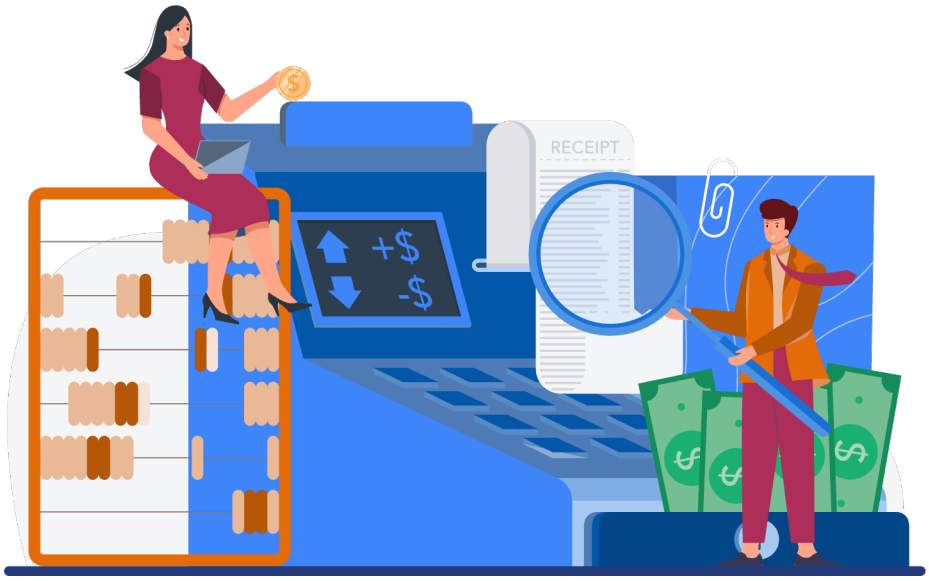
Usage-Based Pricing

Many cloud infrastructure providers that offer AI/ML, databases, or IoT services price on actual consumption using metrics like transactions processed or time used.

CRM Product Catalogs

The product catalog and price book features of leading CRM applications do not have the ability to model these complex subscription and usage-based models. Some SaaS and cloud providers circumvent the limitations in CRMs by creating a unique SKU with a specific price for each new customer contract. As the business grows, however, the number of SKUs becomes unmanageable.

An alternate approach is to implement a Configure, Price, and Quote (CPQ) application on top of the CRM, which can model the complex product bundles and pricing arrangements.



Configure, Price, and Quote Applications

The CPQ application can act as the system of record for product, pricing, and packaging information, publishing updates regularly to the billing system to ensure the two are in sync. When a new customer is acquired, the sales team configures the specific product mix and pricing structure in CPQ. Both the quote and sales order are generated based on the configuration in CPQ.

After the deal is closed, the details of the product configuration and pricing structure are published for the new customer to the billing system to generate the invoices.

Price and Product Complexity

Both CPQ applications and billing systems need to be able to model complex pricing and product configurations to generate an accurate invoice for the customer.

Subscription Pricing

- Single tier
- Per user per month
- Multiple tiers
- Multiple tiers + per user per month
- Fixed fee + usage

Usage-Based Pricing

- Volume + tiered pricing
- Prepaid usage with drawdowns
- Monthly minimums with overage fees
- Rollovers

New Customer Incentives

- Free trials
- First n months free
- Cash back
- Dollars in credits
- Step up/ramp pricing

Discount Incentives

- Multi-product bundle
- Upfront payment
- Multi-year commitment
- Groups (Student, Non-Profit, Startup)

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3

Subscription Management

Do you offer customers self-service options to purchase subscriptions or upgrade them online?

SaaS and cloud providers increasingly offer customers a self-service experience to sign up for new subscriptions. Self-service not only reduces the SaaS provider's customer acquisition costs, but it improves the customer experience as well. New customers do not need to talk to a sales rep. They can register online, enter a payment method, then start using the product immediately.

Self-Service Upgrades

SaaS providers don't limit self-service experiences to just new customers. Existing account holders can upgrade online as well. Typically, administrators can go to the account profile to view their current product set, subscription term, and pricing model. Customers can also upgrade their subscriptions – switching to a higher feature tier, purchasing more prepaid credits, or adding more user seats. There might also be options to downgrade or cancel the contract.

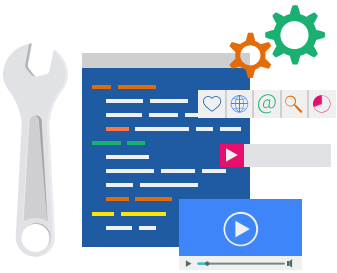
SaaS providers take different approaches to manage the subscription data collected through self-service experiences. Some may collect the data in the product and publish it to the CRM, which acts as the system of record. Others might use either a:

1) Subscription Billing Application

Many billing systems offer functionality to register new subscriptions and upgrades, renewals, and cancellations. These contracting features of the billing application can be embedded directly into a SaaS provider's website or product experience.

Embedding the billing functionality creates an elegant model that ensures that the customer's product mix and pricing levels are accurately updated in the system generating the invoices.

2) Custom Developed Subscription Features



Some SaaS providers elect to build their own custom registration and upgrade capabilities into their products rather than leverage the capabilities of subscription management and billing vendors.

In these scenarios, the details about new customer contracts, such as account name, billing address, product configuration, pricing model, and payment method, will need to be fed to the billing system to generate the invoices.

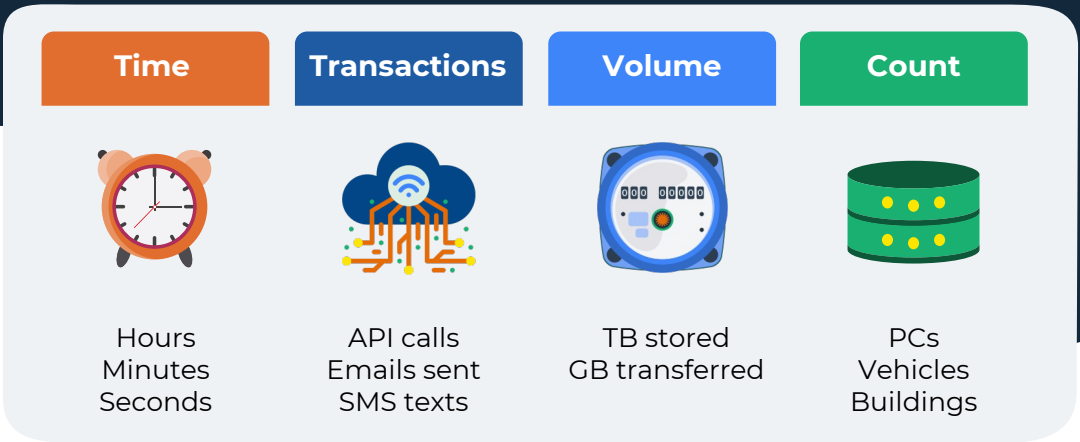
As the customer changes their account, such as upgrades or renewals, the details must be propagated to the billing application.

4

Usage Metering

Do you have products with usage-based pricing?

A growing number of SaaS and cloud providers are adopting a usage-based pricing model. The charges the customer pays monthly are based on the consumption activity during the billing period. There are a wide variety of usage-based pricing models, each with different value metrics. Some of the most common metrics include the time the product was utilized, the number of transactions processed, the volume of data consumed, or the count of objects being managed by the product.



Metering Consumption

Metering of consumption typically occurs within the product itself. For security and data privacy reasons, the SaaS or cloud provider typically will not want a third-party billing application tracking all the activity within the product.

Upload to Billing System

Before the monthly billing run, the metered consumption data must be uploaded to the billing application for rating and invoice generation. Some SaaS and cloud providers will upload the usage data in batches at the end of the month. Others will stream the data in real time to the billing application.

Pre-Processing of Data

In most cases, the raw metered consumption data from the product requires cleansing before sending it to the rating engine. Examples of pre-processing tasks include:

Duplicates	Sometimes transactions are captured more than once. These records need to be merged to avoid over-charging the customer.
Filtering	Some usage records may be incomplete or not associated with a specific customer. These cannot be billed for and should be deleted.
Block Aggregation	Some SaaS providers do not bill in units of one, but instead charge for larger blocks of consumption (e.g. $0.05 per 1M API calls). Multiplication or division will be needed to convert to the correct unit of measure.

Some SaaS providers may elect to perform the de-duplication, filtering, and block aggregation of consumption data before transmitting it to the billing application. Others may prefer to have the billing system cleanse the data before feeding it to the rating engine to calculate the charges.

5

Professional Services Automation

Do you offer professional services engagements with consolidated billing?

Many SaaS or cloud offerings require professional service engagements during the initial implementation or throughout the customer lifecycle. The charges from these consulting projects must be presented on the invoice alongside the software subscription fees.

Examples of the types of professional services offered by SaaS providers include:

Implementation Services
- Technical configuration
- Data upload
- Systems integration
- Functional testing
- End-user training

Post Lifecycle Services
- Major release upgrades
- Develop custom features
- Performance tuning
- Additional business units

Professional Services Contracts

Professional services arrangements come in all shapes and sizes. Some of the more popular contract structures include

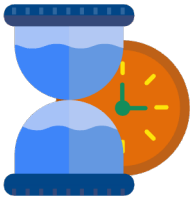
Fixed Price Projects

Clearly defined scope of work and timeframe

Monthly Retainer Models

Annual contract with fixed hours or scope

Time and Materials



Arrangement with open-ended scope and hours

Billing for Professional Services

The billing arrangements for each type of contract structure vary. For example, retainers, as well as time and materials contracts, would bill monthly. Fixed-price projects may bill upfront, monthly, or only upon the completion of certain milestones (e.g. a percentage completion threshold) or the fulfillment of a key phase of the project.

Many PSA automation applications have their own billing engines that can compute the charges for a given month and then pass on the amounts to the SaaS billing system for inclusion on the invoice.

Alternatively, the PSA automation tool could pass the raw data on to the billing system to perform the calculations.

Calculating Professional Services Fees

If the SaaS billing application is required to compute the charges, it will need all the inputs. These include:

- Rate Schedules - Negotiated daily/hourly rates for individual employees on each project (e.g., $150/hour for consultant level 1).
- Billable Hours - Quantity of billable hours for each project resource (e.g., 160 hours for Jane Smith).

Materials costs may also need to be billed. For example, the expenses incurred could be billed on a passthrough model, or a percentage markup could be charged to cover administrative fees.

Examples include reimbursable items include

- Travel expenses
- Shipping costs
- Printing fees
- Software subscription charges

Once the professional services fees are computed, the billing system can add them to the invoice along with subscription and usage-based fees. Some customers may want to see more details on the invoice, such as the hours billed for each resource and supporting documentation for reimbursable expenses.

Part Three

Parallel Systems

Calculating Charges, Processing Payments, or Enabling Collections

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6 Sales Tax Automation

Do you sell services in many different US states?

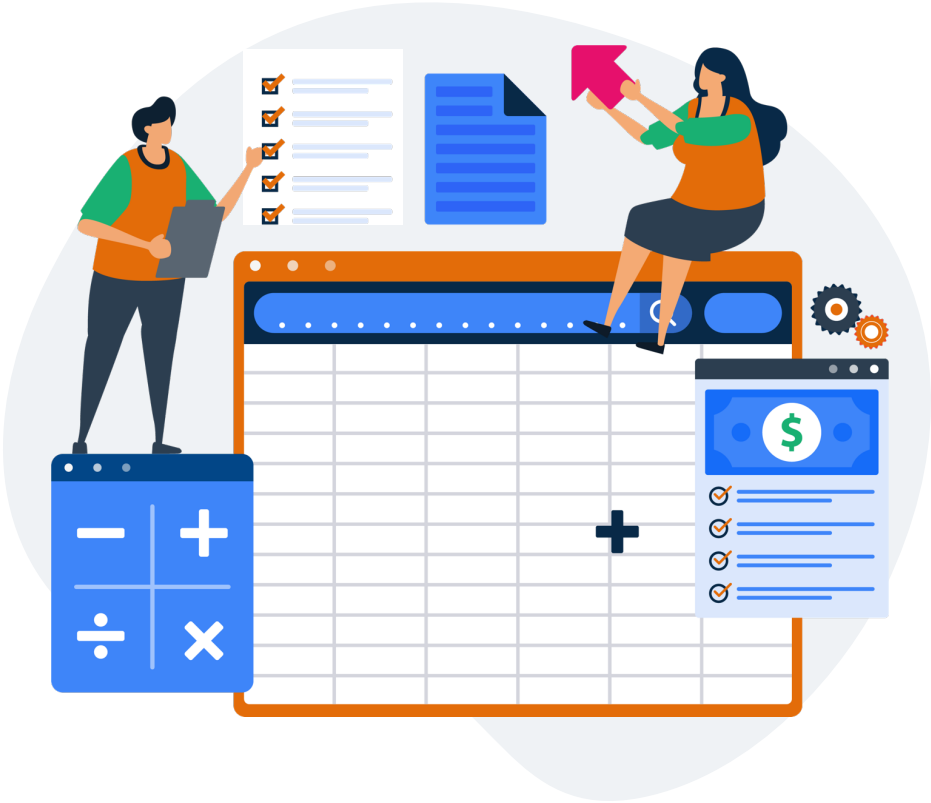
If you sell products in the US, you must comply with the sales tax laws in each state and local municipality. Even though a business does not have a physical presence in a state, it must pay sales taxes on digital goods such as software once it reaches an "economic nexus." The triggers vary by state but are based upon either:

1) Transactions - a minimum number of sales transactions occur
2) Value - a specific dollar value of sales is reached.

Most states have a threshold between $100K and $500K. Businesses that meet the thresholds must collect customer taxes and make the necessary payments to the appropriate agencies. Each local jurisdiction has different deadlines for filing tax returns with different frequencies.

Sales Tax Automation Software

Most SaaS and cloud providers elect to use a specialized software package to automate the administration of sales taxes rather than track the obligations in spreadsheets. For example, specialized apps can calculate the appropriate tax rates to display on the invoices, track customers with tax exemptions, report on collections by jurisdiction, and submit regulatory filings as required to each jurisdiction.



Calculating Taxes During a Bill Run

Tax software applications are typically integrated with the billing application to collect appropriate amounts from each customer. During a billing run, details will be sent to the tax software for each account, including customer name, product type, and tax exemption status.

Full address details, including the street name and number and city, state, and zip code, often are needed to determine the appropriate jurisdiction. The tax automation software will determine if tax needs to be collected and, if so, return the amount owed for each customer.

7

Foreign Exchange Rates

Do you invoice or collect payments in foreign currencies?

You may invoice in foreign currencies (GBP, EUR, JPY, CAD, AUD) if you do business internationally. Generating an invoice in a foreign currency requires the billing system to access the appropriate foreign exchange rates.

Some organizations prefer to set a fixed conversion rate upon contract signature that lasts the term. Others may want to pull the current market rates during the monthly bill run. For example, current rates may be an average of the past 30 days or the spot rate on a particular day.

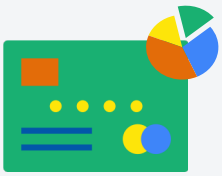
Several financial data providers can supply current spot rates, the rates on a particular date, or a time series of data between two specified dates. If the billing system needs to obtain FX rates from an external source, it must provide the date range, base currency, and desired foreign currency rates.

8

Payment Processing Gateways

Do you need to process recurring payments via credit card or bank transfer?

SaaS and cloud providers want to offer customers a variety of choices to make payments. By increasing convenience and reducing friction businesses can reduce the risk of collections being delayed.



Credit Cards

The most popular option for recurring payments is auto-payment via credit card. Convenient for both buyer and seller, cards come with a higher price for interchange fees.

ACH Credit/Debit Transfer

Another popular model for recurring payments is an ACH debit or credit. Depending on the country and processor, these bank transfers might settle in a few minutes or a few days.

Wire Transfer

Wires are more expensive but are settled in a few minutes. A popular option for high-value payments, wires are typically processed through the house bank's payment services.

Paper Checks

Many businesses prefer to use checks to remit funds due to the desire to gain a few extra days of float that occurs during the routing of the paper through the postal and banking system.

Payment Gateways

To accept card and ACH payments, most SaaS and cloud providers will connect their billing system directly to one or more payment gateways. Popular gateways in the US include Stripe, Authorize.net, First Data, or Vantiv.

Payment Runs

During a payment run, which might occur daily, weekly, or monthly, the billing system will interface with the payment gateway. For each transaction the gateway is sent a list of accounts to bill along with amounts and due dates. In some cases, additional details from the invoice known as Level 2 or Level 3 data is passed to the gateway such as product description, unit cost, quantity, discount, and tax amounts. The Level 2/3 data helps customers classify and analyze their spend.

As payments are processed, the details of each individual transaction are passed back to the billing system. The remittance information is applied to the appropriate customer's account so that the balance is update to reflect the payment.

The direct connection to the payment gateway enables the billing system to process on-demand payments through a customer portal or a payment link embedded in an email.

Payments through Alternate Channels

It is common for most businesses to process payments through multiple different financial providers. For example, a SaaS provider might accept credit card and ACH transfers through the payment gateway connected to their billing system, as described above. However, all of the incoming checks and wire transfers are processed through the cash management services offered by their house bank.

Alternate payment channels that are not directly connected to the billing system can create challenges with cash application. The amounts collected will need to be reconciled for each individual customer to ensure the account balance is accurate. Remittance details typically are captured from a bank and imported the general ledger then forwarded on to the billing system. Some billing systems offer automated cash application while others require a manual reconciliation.

9 Accounts Receivable

Do you have a separate accounts receivable system outside of the billing application?

Many billing systems come equipped with a core set of accounts receivable (AR) features such as aging reports, dunning communications, and a customer portal.

However, some organizations may elect to purchase a separate AR application if they need more specialized functionality than is available in the billing system.

Emerging Receivables Technology

For example, some AR systems offer advanced features such as:

- Predictive Analysis – To identify credit risks in the customer population based upon payment trends and external credit bureau data.
- Artificial Intelligence - To automatically route incoming customer emails and analyze the legitimacy of customer billing disputes.

In the dual-system approach, the AR and billing applications must be regularly synchronized.

Billing Runs

After each billing run, the invoice data must be published to the AR system. Sometimes, the billing application may deliver the invoice to the customer directly. In other cases, the AR application may take the billing data and convert it into a more customer-friendly format (e.g., EDI, XML, customized email) before delivering the invoice to the customer.

Payment Application

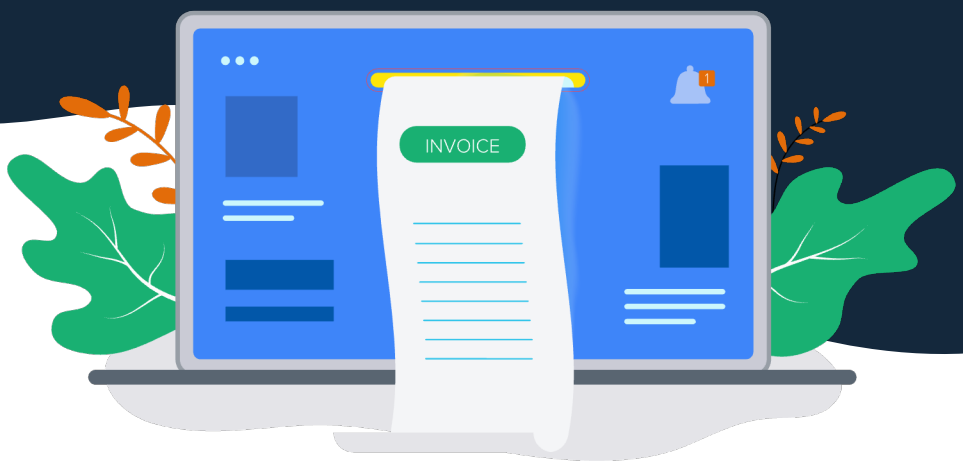
The billing and AR applications also need to stay synchronized regarding incoming payments. Sometimes, the billing application may be interfacing directly with a payment gateway to perform some or all of the collections. The AR application may only be involved in exception processing, such as collections of past-due accounts.

In other cases, the AR application may be the primary system interfacing with a payment gateway or house bank to process collections. Once payments are received from customers, the AR application should publish the amounts and dates so the billing system can calculate any late fees and present an accurate opening balance on the next month's invoice.

10 Your SaaS or Cloud Product

Does your product need to be aware of the financial status of customer's accounts?

Many SaaS and cloud applications offer user admins the ability to view contract/subscription details, check current account balances, download historical invoices, and update payment information. Including the financial details of the account within the product simplifies the customer experience, avoiding the need to log in to a separate billing portal.



Suspensions for Past Due Accounts

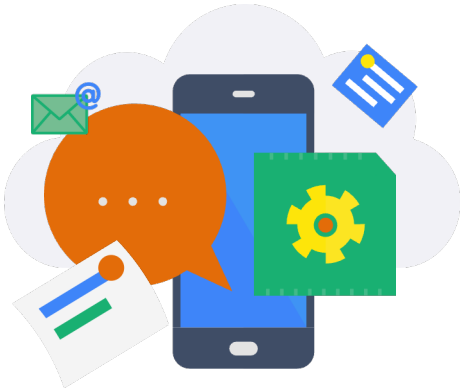
Integrating the billing system with the product can also help with collections. For example, if the customer is 30 days past due on their invoices, a notification could be sent to the product. For days 30-45, all end-users might be notified that their account is past due upon login. Once the account reaches 45 days past due, a notification from the billing system might trigger a workflow that restricts the user's access to a limited set of functionality. If the account reaches 60 days past due, a billing system notification might trigger an account suspension.

Customer Alerts & Notifications

Do you offer usage-based pricing? Do you need to alert customers to spikes in consumption?

SaaS and cloud providers with usage-based pricing models often want customers to see consumption data throughout the billing period. A customer surprised by an unexpectedly high invoice is more likely to dispute the charges or express frustration with a lower satisfaction rating.

There are several methods for alerting customers to changes in usage patterns. Some SaaS providers pop-up notifications within the product experience as administrators' login. Others send an email or text messages to budget holders once certain thresholds are achieved.



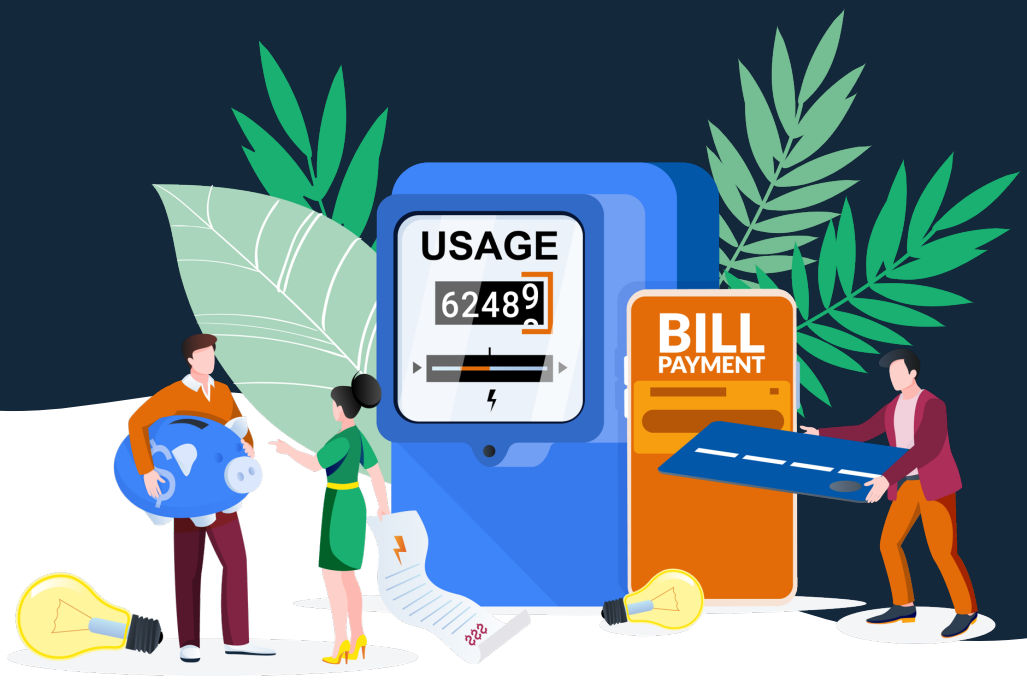
Spend Thresholds

Other types of alerts are not tied directly to consumption but instead to budget parameters. For example, a SaaS provider may want to alert customers if the charges accrued month-to-date exceed $2,000. Another cloud provider may want to notify administrators if an invoice is forecasted to be 20% higher than the trailing twelve-month average. These financial alerts do require computations to be performed by the billing system.

To gain real-time visibility into accrued charges requires the billing system to collect a continuous stream of metered usage data from the product. The usage data is fed into the rating engine, which keeps a running balance of the current period charges in real time. In these scenarios, the billing system would trigger the notification, which could be displayed in the product's alert center or sent via email/text to the administrator.

Prepaid Balances

Many SaaS and cloud providers with usage-based pricing models offer customers the option to purchase prepaid credits for a discounted price. For example, a customer may purchase 5M words for a cloud translation service for a 25% discount off the $0.01 per word list price. Each month the customer can draw down against the 5M word balance until it is depleted. The customer can then elect to prepay for more words or be charged the list price for each additional word.



SaaS providers want to proactively alert the customer if their prepaid balance has fallen below a certain minimum threshold to provide them time to purchase additional units.

Accounting for prepaid units is typically performed in the billing system rather than the product itself. The process for tracking prepaid credits is similar to the one used to monitor spend thresholds. The billing system will collect a continuous stream of metered usage data from the product and keep a running balance of the remaining prepaid credits. As low ratios are encountered, the customer is notified and prompted to replenish their account with more credits.

Part Four

Downstream Systems

Visibility to Financial Account Health

The SaaS Finance Leader's Guide to Billing Integration

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11

The Customer's Accounts Payable

Do you have large customers that have specific requirements for invoice delivery?

A large enterprise might receive millions of invoices each year from a community of hundreds of thousands of suppliers. Even mid-sized organizations struggle with invoice volume. For example, a $100M company might receive hundreds of thousands of invoices from tens of thousands of invoices. Each invoice must be captured in the accounts payable system, verified for accuracy, matched to the corresponding PO, and routed for approvals before payment.

Decentralized Invoice Capture

Capturing the invoice and ingesting the data into the accounts payable system is a key challenge, even for large organizations. Invoices are sent in all shapes and sizes to various different entry points in the business.

While some vendors enter the invoice details directly into a centralized supplier portal, others are distributed to various employees throughout the organization via email. The volume and variety of invoice delivery models create inefficiencies for AP organizations.

Portals, EDI, and XML

Most larger organizations have a preferred approach for receiving invoices. The most efficient model is to send the invoice in a machine-readable format, such as XML or EDI, that the AP system can directly ingest. While machine-readable formats are preferred, smaller suppliers often lack the resources and sophistication to send using these approaches. A popular alternative for the smaller vendor is to upload the invoice (or the key data fields) into a supplier portal.

AI-Powered Data Capture

As artificial intelligence technologies have grown in accuracy over recent years, invoices sent via email have become less of a challenge for AP departments. Computer vision features can read PDF invoices and extract the key data for routing into an accounts payable application.

SaaS providers are incentivized to send invoices to customers in their preferred format as it reduces the likelihood that the bill will be lost in transit and not paid on time. Particularly for enterprise accounts, SaaS providers should ensure that their billing system can either:

1) Integrate with supplier portals.
2) Directly with the customer's AP application. Integration is this context might mean the ability to send an email to an accountspayable@ alias.

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Product Activation

Do you want to limit access to your product until the first invoice is paid?

The billing system can be inserted into new account provisioning workflows. For example, if a customer is not paying via credit card but instead by traditional invoice, you may want to limit access to functionality until the first payment is received.

A payment-driven provisioning workflow requires the billing system to be integrated directly with your SaaS or a cloud product. As receivables come in from credit card gateways, bank statement downloads, or manual entry by accounting personnel, the balances of new accounts are monitored for an initial payment. Once the confirmation is received, the billing system notifies the product, triggering the user's account activation.

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Customer Success

Does your customer success team need visibility to invoice and payment data?

Customer success managers (CSMs) own the relationship with the customer after the initial sales process. The CSM is often the first point of contact to answer the day-to-day questions that customers have. With complex pricing models, one of the most common sources of inquiries relates to billing.

Common Questions

- Why did the quarterly invoice increase so significantly? What are the overage charges referenced?
- Why did the price increase automatically after last month's renewal?
- Why do the line items on the invoice not match those on the sales order?
- Why did the balance of prepaid credits drop precipitously?

To respond to these inquiries, CSMs will need visibility to financial information such as the current account balance, outstanding invoices, and recent payments. To resolve disputes, CSMs may need to explain the formulas, rating tables, or calculations behind more complex pricing models, such as usage-based pricing.

Collections of Delinquent Accounts

The customer success team must also know which accounts are past due on invoice payments. Responsibility for collection on delinquent accounts is often shared between the accounts receivable organization and the customer success team. As a result, CSMs need real-time access to account balances, payment transactions, and historical invoices to enable them to address customer concerns during QBRs or monthly status meetings.

Empowering CSMs with Financial Account Data

Some SaaS providers will offer CSMs limited access to the billing or accounts receivable application to monitor their customer's invoices and payments. Others will integrate the billing system with the application that the CSM uses to manage their accounts.

Some customer success teams work out of CRM applications such as Salesforce.com, Soho, or Microsoft Dynamics, along with the sales team. Others use specialized customer success software from Gainsight, Toting, or ChurnZero.

Typically, the billing and CRM applications are tightly integrated. If the CSMs work out of the CRM, sharing invoice and payment data will be relatively straightforward. However, if the CSMs use a specialized customer success application, a new billing system integration could be required.

14

Help/Service Desk

Does your help desk team need visibility to invoice and payment data?

Support representatives may interface with customers whose accounts are past due. For example, part of the support representatives' script might be gently reminding the customer of an outstanding balance and explaining the different payment options.

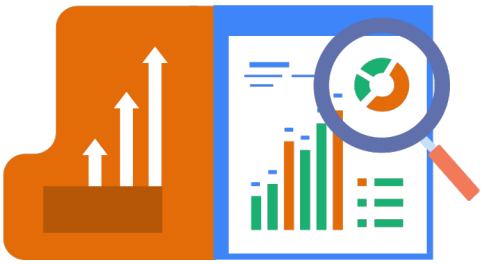
Account Suspensions

Alternatively, the customer may contact the support desk because their account is suspended. The support representative must understand the reason for the service suspension to help the customer resolve the issue. For example, it may be that the customer accidentally forgot to update the credit card on file before it expired. In other cases, the suspension may have resulted from a more deliberate action by the customer not to pay the bill.

The ideal time to collect an outstanding balance is when the help desk has a delinquent account engaged in a live conversation. Some SaaS providers enable service representatives to send the customer a link to make an online payment on-demand to resolve the issue.

Empowering with Financial Account Data

To notify customers of past-due invoices and to collect the associated payments, service desk professionals need visibility into the customer's financial account data. Customer service representatives need a few key data points such as current account balance, last invoice date and amount, and most recent payment.



Service desk teams likely will not have access to the billing or accounts receivable application. Instead, the data should be published from the billing system to the service desk applications that reps use when working on customer cases.

Integrating Service Desk and Billing Applications

Some help desk teams work out of CRM applications such as Salesforce.com, Soho, or Microsoft Dynamics, along with the sales team. Sharing the invoice and payment data will be relatively straightforward in these scenarios as the billing and CRM systems are typically closely synchronized.

However, if the CSMs use a specialized service desk application, a new billing system integration could be required. Others use specialized customer success software from Gainsight, Totango, or ChurnZero.

Revenue Recognition

Do you have a specialized application to recognize revenue under ASC 606 or IFRS 15?

Many billing systems also offer revenue recognition capabilities. However, some organizations take a best-of-breed approach with specialized applications for both. With a dual-system approach, the revenue recognition and billing applications must stay in close synchronization to ensure the revenue accounting is accurate and up-to-date.

Variable Fees

Much of the information needed to generate a deferred revenue schedule for annual subscription contracts are available from the CRM application sales contract. However, a growing number of SaaS and cloud offerings are being priced with variable fees that are not known at the onset of the agreement but only in arrears at the end of the billing cycle. Examples include:

- **Usage-based pricing** – Products with variable fees based upon a percentage of the dollar value of the transactions processed.
- **Professional services** - Arrangements with milestone-based or time and materials billing models are less predictable.

Monthly Revenue Recognition

Each month the billing system will need to publish the actual product-level line-item charges for each customer account to the revenue recognition system to perform the appropriate accounting. Then, the revenue accounting engine can use the billing data to recognize revenue for usage-based charges.

Additionally, contract assets and liabilities must be adjusted regularly based on how the actual billings compare to the recognized revenue.

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General Ledger(s)

Do you need to post journal entries from the billing system to your GL?

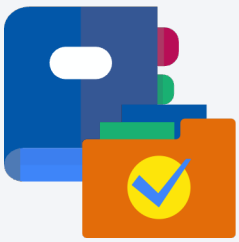
The general ledger (GL) needs to be updated regularly with details from the billing system. For example, the GL needs details about accounts receivable, payment transactions, sales taxes, contract assets, and liabilities to generate an accurate income statement, balance sheet, and cash flow statement.

To effectively share data, the chart of accounts will need to be configured in the billing system. In addition, products, customer accounts, and other business details will also need to be mapped.

Billing systems with large customer communities can generate millions, if not billions, of journal entries yearly. As a result, finance organizations have to choose what level of detail to publish from the billing system to the GL. There are three common options.

Options for General Ledger Integration

Summary Level Journal Entries

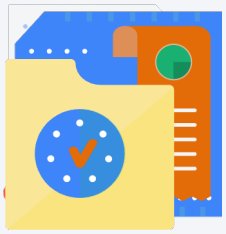


Some billing applications come with a full revenue sub-ledger. As a result, some finance organizations may elect to only publish summary account-level journal entries from the billing system up to the GL. Detailed transactions are housed in the sub-ledger to avoid cluttering the GL with thousands of new journal entries each month.

Detailed Journal Entries

Some finance leaders prefer not to deal with the complexity of a separate sub-ledger for billing and revenue. Instead, these organizations use the general ledger as the system of record for all billing, collections, and accounts receivable transactions. Since the debits and credits are being generated first in the billing system, there is a need for regular publication to the GL.

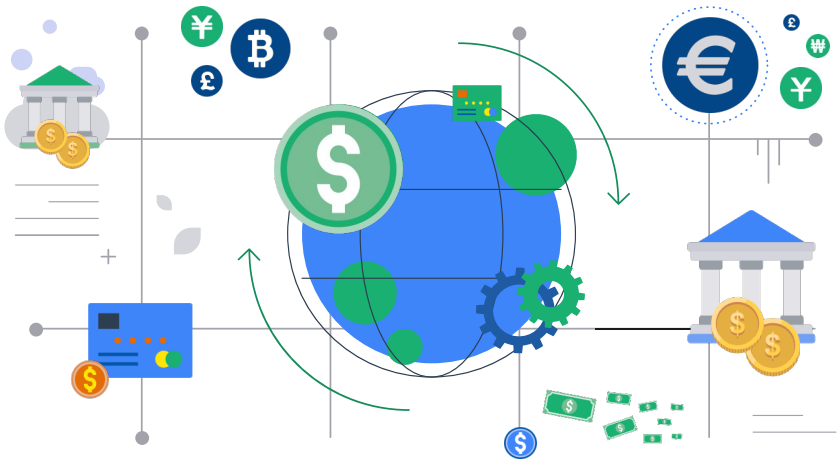
Journal Entries plus Transactions



Some organizations prefer that the billing system is not a data source for any reporting. Analysis is performed out of the primary accounting application with the GL. In these scenarios, not only is each individual journal entry posted to the general ledger, but the data fields for each invoice generated, payment received, and credit issued are also published.

Cash Application

Data can also flow from the GL into the billing system. A common use case is for cash application of payments received via alternate channels. For example, most SaaS billing applications integrate with payment gateways to charge credit cards or perform low-dollar value bank transfers. However, these gateways typically have limited abilities to support remittance via check or wire transfer. As a result, a percentage of the payments collected from customers will be processed by the customer's bank.



To keep the customer's account balances in the billing system accurate and up-to-date, finance teams must ensure details about collections deposited in bank accounts make their way into the billing system. As credits from bank statements are downloaded into the GL, the collections transactions must be published to the billing system.

17

Financial Planning & Analysis

Do you have a planning application that is used for budgeting and forecasting?

One of the critical responsibilities of Financial Planning and Analysis (FP&A) teams at SaaS providers is budgeting, forecasting, and planning. FP&A teams need to model revenue, expenses, and cash flows for the business to support the annual fiscal year planning process and for various other scenarios.

Sometimes the forecasting is short-term to provide a 90-day forward projection to the management team. In other instances, the planning is more long-term, for example, to offer potential outside investors a three-year business plan.

The Power of Billing Data

The billing system has a wealth of forward-looking data and historical trends that can be extremely useful to FP&A teams seeking to develop long-term forecast models. In addition, data from the billing system can be exported in batches or streamed in real-time into a business intelligence or financial planning application for analysis.

Forecasting Cash Flow and Revenues

Using the future billing schedules for all contracts, FP&A teams could understand the dollar value of contracted billings already locked in for six months, 12 months, and 18 months from now. The future billings could be combined with sales forecasts, contract renewal timelines, and anticipated churn rates to develop revenue projections.

Data from the billing system also enables cash flow forecasting. FP&A teams could gain insights into the expected incoming cash flows over the next 30, 60, and 90 days using the future billing schedules and historical collections trends. The expected collections could be combined with accounts payable and payroll system data to arrive at a 90-day cash forecast.

In-Period Visibility

The billing system also has access to in-period data that typically are not reported on until the month-end close process is completed. Two examples include:

- Variable Fees – Charges for products with usage-based pricing are only calculated in arrears. However, some billing systems have the ability to capture usage as it occurs and perform ratings in real-time.
- Customer Collections - The billing system receives a stream of data on payments processed via ACH and cards throughout the month

Using the latest information from the billing system on usage rating and customer collections enables FP&A leaders to more accurately forecast where this month's revenue will come in.

What If Scenarios

Exports from the billing system can also provide a baseline data set upon which FP&A teams can model hypothetical scenarios. Examples of the types of questions that billing and collections data could support include:

- What if we could speed up collections by two days on average? How would that impact cash flows?
- What if we raised prices on the base-level package by 10%? How would that impact revenues?
- Could we shift 10% of companies' quarterly billing to annual upfront? How would that impact cash flows?
- What if usage patterns increase naturally by 5% over the next 12 months? How will that impact revenues?
- What if we offered a 2% discount for payments received within ten days of issue? How would that impact cash flows?

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Sales Compensation

Do you have compensation schedules that are interdependent with billing and collections?

SaaS and cloud organizations have gotten increasingly innovative with compensation plans. Account Executives (AEs) and Solution Consultants (SCs) programs may be tied to ACV of bookings. Sales Development Representatives (SDRs) may be linked to dollars of the pipeline, and Customer Success Managers (CSMs) measured on expansion revenue. There is a time differential between the reporting that sales tracks and the metrics tracked by accounting. For example, a $120K ACV deal is counted as booked as soon as the contract is signed, but the revenue may be recognized over 12 months, and the cash may be collected in 4 quarterly installments.

Aligning Commissions with Collections

To better align the expenses incurred with variable compensation with the actual cash collected from the customer, some SaaS and cloud providers will withhold employee commissions until payments are received.
For example, suppose the customer pays their annual subscription fee upfront in Net 30. The sales commission payment will be held for 30 days until the receivables are collected.

Alternatively, the customer may pay in quarterly installments, in which case 25% of the commission would be paid out each quarter in conjunction with the billing process.

Commissions for Usage-Based Pricing

Compensation plans get even more complex with a usage-based pricing model. The amount of revenue to be generated from a usage-based arrangement is not fully known at the time of contract booking, and the calculation of the full sales commission amount may be deferred for several months. For example, the sales commission payout might be based upon the annualized run-rate of spend at a certain milestone (e.g., 90 days past contract signature).

Visibility to Collections Status

If commission payouts are tied to customer collections, the billing and sales compensation systems may need to be connected. When a collection event occurs in the billing system, it should trigger the disbursement of the sales commission. The data might flow from billing into the CRM to the commission system. Alternatively, the billing and sales compensation applications might be directly integrated.

Accounting teams will want to provide visibility to payments to the sales team. Ideally, each employee on a variable compensation plan should have visibility to the timing of invoices and payments and the customer's account balance.

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Partner Compensation

Do you have revenue sharing agreements or affiliate marketing programs?

A growing number of SaaS providers are introducing affiliate marketing programs with revenue-sharing arrangements. The goal is to reduce new customer acquisition costs (sales and marketing) by incentivizing a network of partners to promote and advertise on the SaaS application.

Affiliate Commissions

Affiliate partners are paid a commission in exchange for the leads they generate. Sometimes the commission is based upon a referred customer making a purchase, but in other cases, there may be a payment simply for getting a customer to click on an ad or to register for a free trial.

There are a wide variety of commission models in place. In the simplest model, the SaaS provider pays the affiliate partner a one-time, upfront fee (e.g., $100) for each new customer that signs up.

Other SaaS providers offer a more generous revenue-sharing arrangement in which the affiliate partner gets a percentage (e.g., 20%) of the monthly fees generated perpetually for the contract's life. Some SaaS providers offer both a one-time and a recurring fee.

Commission Calculations

SaaS providers with these affiliate programs must calculate the amounts owed to each partner every month and make the appropriate disbursements.

The billing system is the source for the amount invoiced to each new customer or recurring subscription. The billings for customers sourced by affiliates must be captured monthly and exported to a spreadsheet. Once the commission payments are calculated, the disbursement instructions can be entered into the accounts payable system.

Affiliate Networks

Sometimes, the partners may join affiliate networks, which track all referrals and calculate the commissions owed. The process is much easier in these scenarios as the SaaS provider receives a single invoice from the affiliate network that takes responsibility for distributing the funds to each partner once received.

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Receivables Factoring

Do you need accelerated payment of invoices from a third-party factor?

One strategy to accelerate cash flows is to factor receivables. Instead of waiting for a customer to pay an invoice in 30, 45, or 60 days, the cash can be obtained by factoring in just a few days. One or multiple invoices are effectively sold to a third-party factor such as a bank. The factor will pay the amount on the invoice immediately to the supplier (SaaS provider) and then assume responsibility for collecting the payment on the due date from the customer. Factors typically charge a small financing fee in exchange for their services.

Automated Invoice Uploads

SaaS and cloud providers that factor in a high volume of invoices will want to set up integration with the financial institutions or marketplaces that provide the services. The SaaS provider will upload invoices, and the factor will send back remittance details about the payment and their fees.

Part Five

Integration Options

Five Ways to Share Data

The SaaS Finance Leader's Guide to Billing Integration

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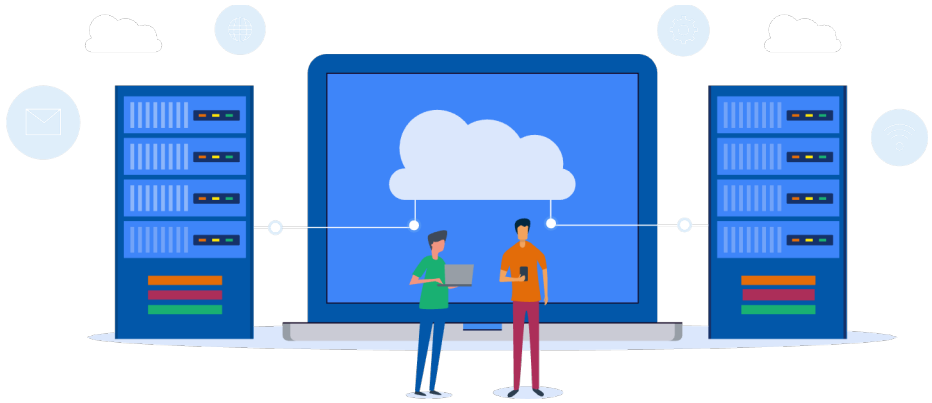
Automation Options

The optimal approach for each connection varies based upon volume and frequency

Fully Automated

A fully automated approach is ideal for integrations with a high volume of transactions or requiring frequent data updates. In these scenarios, introducing manual steps performed by a finance professional would raise high costs, unacceptable time delays, or a high risk of errors. For example, calculating sales taxes for 1,000 invoices per month is best achieved via an automated approach and would be impractical to perform manually. In the fully automated model, the billing system automatically publishes or ingests data without human involvement.



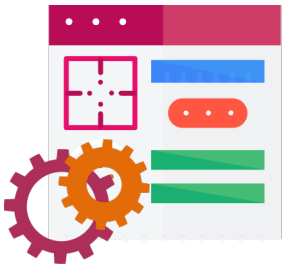
Semi-Automated

Most applications connecting to the billing system only require a partially automated approach. However, a semi-automated process is more appropriate for transactions and data sharing that is less time-sensitive. For example, posting journal entries from the billing system to the general ledger at month-end close may be a good candidate for a semi-automated approach. In these scenarios, a human is involved in the data transfer process. The most common model is to export data from one application into a comma-delimited format and then upload it into another application.

Which Type of Integration is Best?

The optimal approach for each connection varies based upon volume and frequency

There are five primary approaches to integrating your billing system with other applications.



Productized Integrations

Billing vendors develop “productized” integrations with the applications that customers most frequently share data with. With a productized integration, users can set up the connection within the billing application.

A few settings need to be configured, data fields must be mapped, and a secure connection must be established. The billing vendor is responsible for evolving and testing the integration as it deploys new releases and the external application upgrades its capabilities.

APIs and Webhooks

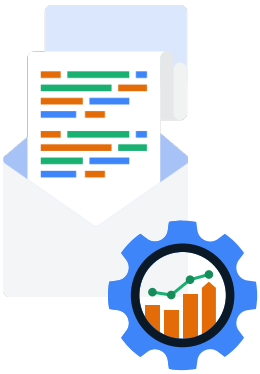
Almost every modern recurring billing platform has a suite of APIs that can extract information from the billing system or upload data into it. Developers can read the docs and write custom code to support whatever use case is required.

The APIs can be used to upload metered consumption data for usage-based billing, download deferred revenue schedules for forecasting, or call out external payment gateways for collections.

Integration Platform-as-a-Service

There are cloud platforms that a purpose-built for connecting different SaaS applications. Examples include Workato, Boomi, Celigo, and Tray.io. These platforms have productized integrations pre-built for all the major CRM and ERP applications. The billing system can be connected once to an iPaaS and then leverage its pre-built integrations to share data with other systems.

Computer Vision & AI



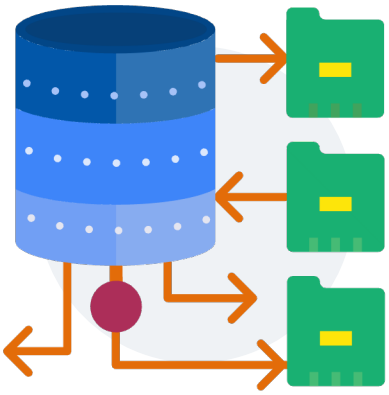
An email with text, image, or PDF attachment is sent. Computer vision technology reads the email, extracts the appropriate data, and inputs it into the application. For example, an enterprise customer may send PDF invoices to payables@bigcompany.com. All messages received are read by an AI-powered payables application that extracts the supplier name, line items, and due date and forwards it to an accounting analyst for review.

Robotic Process Automation

With RPA, bots emulating a human import or export data to/from the billing system. For example, an enterprise customer may post remittance advices about all of its payments on a supplier portal. RPA could log in to the supplier portal to extract the remittance details and enter the data into the billing system to facilitate cash application.

Advantages and Disadvantages of Various Integration Strategies

Productized integrations are the preferred approach for most SaaS providers. However, there are a few limitations. First, most billing vendors have only a limited set of pre-built connections. Second, as the number of links grows, it becomes challenging to manage a large number of bespoke integrations.



The iPaaS model offers a more elegant architecture. All data transfer is centralized through a single platform rather than creating a dozen bespoke integrations. However, iPaaS platforms typically boast thousands of different connections. The quality of the integration and data transfer will vary.

APIs and webhooks offer the greatest level of flexibility to developers. However, these custom integrations require an investment of time and resources to create and maintain to develop the surrounding code.

In practice, most will use a combination of all three integration approaches.

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Ordway is a billing and revenue automation platform specifically designed for today's innovative, technology-centric business models. With Ordway, you can automate billing, revenue recognition, and investor KPI reporting for recurring revenue models based on subscriptions or usage-based pricing.

To learn more, visit www.ordwaylabs.com.