

Safefood 360° Integration Framework

Enterprise application integration (EAI) deployments simplified

What is Safefood 360°?

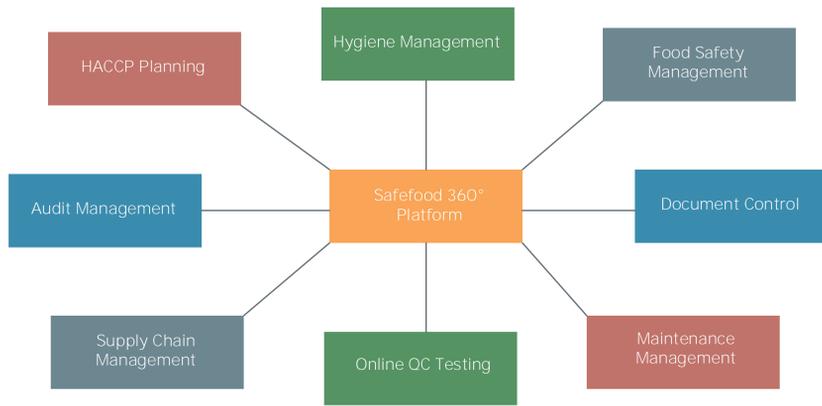
Safefood 360° is a food safety management software platform that allows food businesses to set up, plan, schedule, record and report on all elements of their food safety system. This includes HACCP planning, management processes, prerequisite programs, CCP and operational monitoring, and reporting.

It is a pure software as a service application hosted within the Microsoft Azure network of data centers. The software is accessed using any web browser and from desktop, tablet and mobile devices. It can be deployed across multiple sites within the same organization, across multiple geographies and supports all of the most common world languages.

There are more than 30 modules covering the recording and reporting requirements of the Global Food Safety Initiative (GFSI) as well as national regulations such as the Food Safety Modernization Act (FSMA). It is also aligned towards the intricate requirements of the Retailer Technical Standards.

The software is used by food processing, food service and food packaging operations globally. Its users include CEO's, Production Managers, Quality Managers, Food Safety Managers, Food Technologists, Line Operators, Hygiene Staff and most other positions within a food business.

Safefood 360° food industry solutions



Integration Framework key focus areas

Area	Current Capabilities	Future Capabilities
Utility Data	<p>In Safefood 360° "Utility Data" represents all of the underlying static data which serve as the foundation of the food safety system. You can build and maintain registers of employees, suppliers, customers, products, ingredients, equipment and categories and ensure consistency throughout. As new employees or suppliers are added they can be risk assessed to meet compliance needs. The utility data drives the entire application in terms of consistency and robust reporting.</p> <p>The current method of entry is manual through desktop or mobile devices. New entities are keyed directly into the application as required. One off CSV imports of data is provided as a service by the customer support team. This greatly accelerates the time it takes to get the foundation data in place and a new site up and running.</p> <p>However many companies will already maintain registers of employees in their HR system, suppliers in their Purchasing/ERP system and Customers in their CRM. Data entered into Safefood 360° is not currently synchronised with these other systems. This can quickly result in unwanted inconsistencies surfacing across these disparate systems.</p>	<p>With the Integration Framework Web API a synchronisation bridge can be built between Safefood 360° and Sage Line 500, for example. This bridge will open a communications channel allowing data to flow between both systems when certain events take place.</p> <p>The events can include the addition of a new supplier, change of supplier contact details or the suspension of that supplier. Changes of data in Safefood 360° can be notified to Sage Line 500 through the use of Webhooks to a predefined URI or by querying the API at a set frequency.</p> <p>Data only needs to be entered once, on either side and the other system will be updated automatically without any further manual intervention. This can save time, reduce inconsistencies and errors and ensure that all systems are working off the latest and most up-to-date dataset.</p>
Monitoring Data	<p>Variation in a food manufacturing process must be controlled otherwise it will lead to product failures, waste and food safety issues. Therefore every food safety system must collect a large volume of data in the form of measurements, checks and records and then have the capability to quickly collate and report on that data. The Monitoring & Receiving modules in Safefood 360° provide the user with almost unlimited flexibility when it comes to developing local and site specific monitoring and inspection programs.</p> <p>The monitoring module is designed to allow food companies set up, plan, record and monitor their specific CCP's, operational PRP's, processing parameters and product testing. It is flexible enough to cope with almost any specific monitoring program no matter how simple or complex it may be. The receiving module is designed specifically for the set up and recording of incoming inspection and release of ingredients and materials. Incoming or receiving programs can be designed for single or multiple deliveries and for bespoke inspection of individual suppliers.</p> <p>Currently data is entered manually by the operator directly into Safefood 360° through desktop, tablet or inline industrial terminals. This manual entry of monitoring data can lead to operator error and is not always efficient.</p>	<p>With the Integration Framework Web API data that is already collected by computerized systems can be pushed to Safefood 360° through a custom web service. This can include temperature loggers, online weight checking, metal detection results, handheld scanners / barcode readers and virtually any other device or system capable of sending structured data to a HTTP endpoint.</p> <p>In the example above the data produced by a facility temperature logging system is automatically pushed through a custom/proprietary web service to the Safefood 360° API. A preconfigured Monitoring Program is receiving and checking this data against rules and in the event of a deviation an alert is sent by email/sms to the manager and a Webhook tells the web service to trigger the alarm on a signal tower.</p> <p>By automating the collection of data in Safefood 360° it will save time and dramatically reduce the likelihood of operator error in rekeying information.</p>
Mobile Audits	<p>Auditing is a major part of a food safety program and requires continuous Internal, External and Supplier audits. Field audits are conducted through Safefood 360° using the default web browser on tablets and smartphones such as the iPad, Samsung Galaxy and Microsoft Surface.</p> <p>Although the software is perfectly useable on mobile browsers with smaller screens, it is not fully optimised for touch screen devices. Furthermore, it requires a constant and stable internet connection which is not always available during an audit.</p>	<p>Optimized for touch screens</p> <p>With the Integration Framework Web API a mobile app can be built which can be installed on tablet and smartphone devices through the relevant Apple, Android and Windows app stores. The application will be designed specifically for smaller screens with touch functionality. It will provide an offline capability which will allow audits to be completed without any wireless internet connection, and then synchronised at a later time when internet access becomes available.</p>

How the Integration Framework works

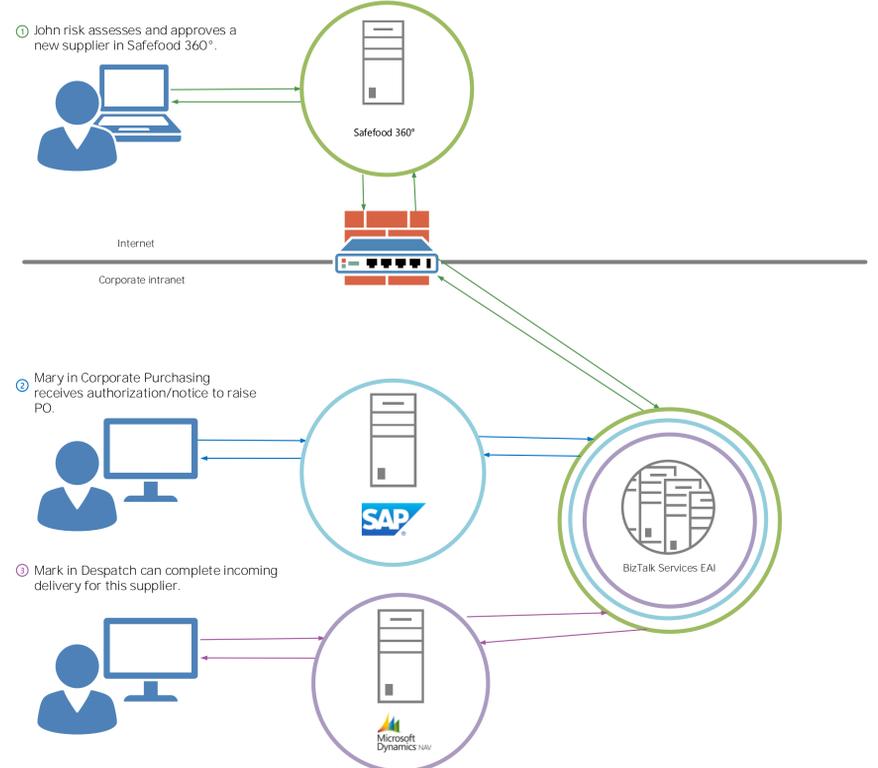
Safefood 360° employs a Web API framework making it easy to build HTTP services that reach a broad range of clients, including browsers and mobile devices. The RESTful API supports the standard HTTP methods GET, POST, PUT and DELETE.

Here's a simple example of the data flow between a Line of Business (LoB) client and the Safefood 360° Web API.



Webhooks can be triggered to call back to preconfigured URI's when certain event based conditions have been met.

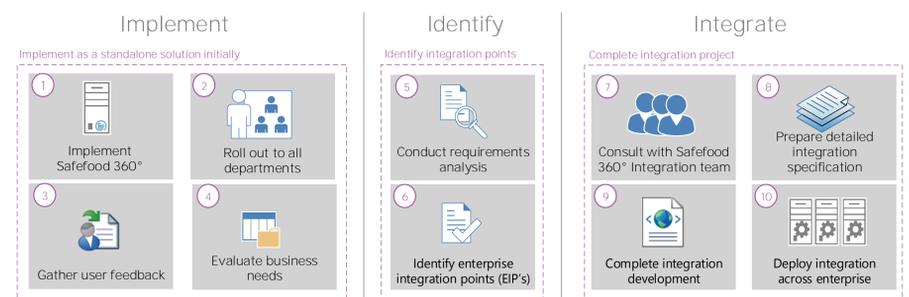
Integration usage scenario



How the above Integration scenario works:

- The user creates a new supplier entity in Safefood 360° which is sent as a JSON/XML payload to a Biztalk Services endpoint behind the corporate firewall.
- Using a WCF-WebHttp adapter BizTalk can consume this payload and parse it for further operation. Note that Biztalk Services can also be securely provided within Microsoft Azure.
- Using predefined mappings the data received from Safefood 360° is sent through the Biztalk connector for SAP to the Purchasing system at the corporate office.
- At the same time the relevant data is sent to Dynamics NAV/GP at the plant to allow Incoming deliveries to be accepted.

Integration process



Integration opportunities & benefits

Many organizations and companies purchase separate applications for each different type of business process required to run their enterprise. Each of these systems as important as they are can no longer standalone without integrating with one another.

Safefood 360°'s integration framework opens up a world of opportunities to connect your food safety management program with other line of business systems. The benefits are significant and can include:

- Increased information sharing
- Process automation
- Reduced IT complexity
- Improved customer/supplier relationships
- Increased agility
- Faster time to market
- Competitive advantage
- Improved internal processes
- Effective standardization across IT landscape
- Extended life of legacy applications

