Accolade® Innovation Governance Solution:
Integration to SAP®
Abstract
This Brief introduces the advantages and benefits of integrating Sopheon’s Accolade innovation governance solution to SAP. Since the needs and requirements for data exchange between the two systems will vary from organization to organization, we allow for multiple technical approaches to integrating the solutions. This paper provides a high-level overview of the various approaches, as well as a deeper-dive description of the API-based approaches.

Why Accolade and SAP Together?
Accolade is used very early in the product lifecycle, long before SAP solutions enter the picture. Sopheon’s software collects and manages new product concepts and supports business decisions related to those concepts. It is specifically designed to optimize the adopting organization’s financial return on investments in new products. Once the product development cycle begins, Accolade serves as a process management and decision-support application that ensures best practices are followed throughout the product’s lifecycle. The software’s principal functions include collecting the attributes of each new product, as well as the decisions associated with the product’s selection as a business opportunity worthy of investment, its subsequent development, its commercialization and finally its retirement.

In a typical scenario, SAP solutions operate in the later stages of the development process as product designs are created and costs need to be identified and tracked. SAP technology is used to generate items such as material requirements, cost estimates, and production plans. Some of this information is relevant to the business decision-making that is supported by Accolade. After a product is launched into the market, SAP solutions record its financial performance by collecting post-commercialization product information, such as sales volume. This information is also relevant to the advanced business decision-making that is enabled by Accolade.

Integration of Accolade and SAP solutions makes good sense if the data recorded and stored in either system would be useful in supporting portfolio management decisions or improving lower-level design and development activities. The complementary functional relationship between Accolade and SAP solutions is depicted to the right.

The principal focus of Sopheon’s Accolade solution is to support...
strategic innovation planning, product portfolio management, idea development and innovation process execution. These process areas are represented in the blue boxes at the top of Figure 1. In contrast, SAP solutions focus primarily on supporting tactical, transactional activities related to ERP and CRM as noted in the orange area at the bottom-right of Figure 1. The diagram highlights the way in which SAP can serve as a source for some of the data – e.g., sales actuals, manufacturing costs – that are incorporated into a portfolio or Stage-Gate® decision-making process.

Integration enables the data created “downstream” by SAP tools to be linked to decisions that were made earlier in the development process and stored in Accolade. The Accolade-enabled decision-making that continually occurs throughout the product lifecycle can be made visible and accessible to those working within SAP’s software. Likewise, the subset of data created in SAP applications that is relevant to the business decision-making that Accolade supports can be accessed, utilized and enhanced for product portfolio decision-making purposes.

When considering the prospect of integration, there are two fundamental questions: “What data needs to be exchanged, and when?” Identifying the information that must be passed between the solutions is a critical part of the integration planning process. Sopheon has developed a software-independent Innovation Master File that contains a master scope of attributes which are part of the innovation and product lifecycle processes, and Sopheon has experts who can assist in mapping the definitions contained within the Master File to your business.

Examples of data that are generated in SAP applications that may be useful in Accolade-supported decision-making include:

- Cost data such as material, equipment, plant, or production costs;
- Schedule data, such as product volumes and dates;
- Timesheet data;
- Sales / volume data; and
- Product market-performance indices.

Examples of data that are generated in Accolade that may be useful in SAP applications include:

- Product overviews and requirements;
- Market data;
- Schedule dates (gate dates); and
- Key innovation assumptions and frameworks.

**Integration Alternatives**

The needs and requirements for exchanging data between Accolade and SAP solutions will vary from organization to organization. As a result, we have provided for a number of approaches to carrying out the integration.

**Manual Integration (bi-directional)**

Manual integration of data is the easiest and most commonly-used approach. While this approach is sometimes discounted, it is often the case that the amount of data to be transferred and the frequency of transfer are such that the complexity of automating integration simply doesn't make good business sense. In these instances, cut-and-paste goes a long way toward achieving a cost-effective, easy-to-implement integration.
If only a few data items are to be transferred a few times per month for each project, then manual integration should be considered. However, one requirement of this approach is that the user be able to access both Accolade and SAP, and that he/she be trained in both. When it is not possible or practical for a user to have access to both systems, a report from one system can be used to generate required information. That information is then keyed into the other system.

**Microsoft® Excel®-based Integration (SAP to Accolade)**

Accolade has the ability to read information from an Excel spreadsheet and to update project-related data elements (i.e., metrics) via its “smart” Excel functionality. This is an ideal approach when the volume and frequency of data transfer between Accolade and SAP applications are low to moderate and the manual approach is considered undesirable.

An Excel-based report containing required information for a single Accolade project can be generated by a SAP application and then loaded into Accolade as a gate deliverable. The built-in capability of Accolade to extract data from an Excel document completes the data transfer.

This is the simplest form of automated data integration, and the easiest for single project integration. It requires no programming. Frequently one user runs a report to extract the data from a SAP application into a pre-defined Excel template, and a second user stores this template into Accolade. One advantage of this approach is that it allows the Accolade team to view and validate the data before it is made available to the broader Accolade community.

**Dropbox Integration (SAP to Accolade)**

Accolade has the ability to load data into reference tables. Reference tables can be used in Accolade Portfolio Center™ for advanced business analytics and decision-making. This data can also be used to update project information (metrics or metadata) en masse.

Accolade can be configured to observe a network file share, called a “dropbox”, and automatically load into reference tables any data files – Microsoft Excel or Comma-Separated Value (.csv) files – that are placed in the dropbox. A SAP application can be configured to produce .csv or Microsoft Excel export files on a scheduled or on-demand basis and to drop those into the dropbox. In this way, data can be imported automatically into Accolade.

This automated integration approach is the easiest for batch integration for multiple projects as well as for non-project related data. An advantage of this approach is its ability to handle large amounts of data.

**SAP NetWeaver® Process Integration (SAP PI) (bi-directional)**

This approach makes the most sense when the use of enterprise application integration (EAI) software is desired. SAP PI serves as an integration broker. Sopheon provides a set of Simple Object Access Protocol (SOAP) web service interfaces and Web Service Definition Language (WSDL) files which can be hooked up to SAP PI, as well as a framework for extension of the SOAP interfaces as desired.

The advantages of this approach are the ability to configure unattended automation and data transformations via SAP NetWeaver and its capacity to support other non-SAP systems. The disadvantage is the need for IT staff to implement and maintain the integration on an ongoing basis.

Organizations that are implementing an enterprise services bus (ESB) should consider this integration approach.
Secure Database Views (Accolade to SAP)
Accolade provides secure database views that can be accessed by SAP systems to extract key data from Accolade. This approach allows an SAP programmer to extract information via an SQL query against the Accolade database. This approach is recommended for an SAP programmer who wishes to extract information from Accolade via an SQL query as opposed to calling the Accolade Application Program Interface (API) directly.

API-based Integration (bi-directional)
This is the most advanced form of automated data integration, and the most complex. It requires programming to the Accolade and/or SAP API. This approach makes the most sense when the objective is a completely transparent integration that simply runs in the background. Advantages of this approach are its high degree of unattended automation and its ability to handle large amounts of data. Disadvantages include the need for IT staff to implement and maintain the approach.

API-based Integration Approaches

Linking Identifiers
Linking identifiers are used to establish a relationship between a project in Accolade and one or more projects residing in an SAP application. When a project is created inside an SAP tool, its project identifier code can be easily entered into Accolade via an online form. Once this is done, Accolade has everything it needs for a more sophisticated level of integration with an SAP system.

Accolade-centric
This approach pulls data from inside SAP technology into Accolade. In this scenario, an event prompts Accolade to request and manage the transfer of data to or from the SAP system. An Accolade event is used to initiate a pull mechanism that uses the SAP NetWeaver API to extract data from an SAP application. The Linking Identifier is used to indicate which projects inside the SAP system should be accessed. The data transferred using this mechanism varies from organization to organization, depending on the way in which Accolade and the SAP technology are configured. The Accolade event could be project-related (e.g., a “Go” decision entered at a gate or entry of a “completed” status for a deliverable or task). It could also be generated by a user (e.g., pushing a button in the Accolade user interface or double clicking an icon on the Microsoft Windows® desktop).

SAP-centric
In this approach, the SAP system initiates and manages the data exchange with Accolade. The SAP applications can use Accolade’s web service API to request data from Accolade and/or to store data inside the Sopheon solution.

Timed Task
In the previous examples, it was assumed that a particular user or system event triggered the integration mechanism. To completely automate the integration in both directions, a timed task could also be used. The task could be set to run at any interval from less than a minute to more than a week, depending on the specific needs of the organization.

Blended Approach
A combination of the preceding approaches can also be used. For example, Accolade can automatically create a project in an SAP application when a project in Accolade passes a certain gate. In this approach, the Linking Identifier can be set automatically. Once this is done, the data exchange mechanism can be Excel-based. This setup precludes the need to establish and maintain a more sophisticated API-based integration.
The Accolade API

The figure below illustrates the various forms of the Accolade API that are used to establish programmatic integration to SAP and other systems.

![Figure 2: Schematic of the Accolade API.](image)

Below is an example of code that enables use of this API to set Accolade project metrics.

```vba
Dim oSMBELL As SMBELL.Application
Dim sProjectMetricsXML as String

sProjectMetricsXML = "" 
<sgxml xmlns="">
  <rs:row
    ProjectID="5"
    MetricID="1"
    CustomName="Sales Volume to Date"
    SystemName="SalesVolume"
    Value="102496.00"
  />
</sgxml>"

Set oSMBELL = CreateObject("SMBELL:Application")
oSMBELL.UpdateProjectMetrics 10, 11, sProjectMetricsXML
Set oSMBELL = Nothing
```

![Figure 3: Sample API code.](image)

How Sopheon Can Help

Since the solution was first launched in 2001, Sopheon’s solutions have been successfully integrated with a variety of SAP systems, enabling our customers to incorporate up-to-date sales and cost data directly into the product innovation process. In addition, Sopheon’s software expert implementation team can support you in defining, configuring, and integrating your SAP system with our Accolade solution set. The result will be a single source of truth for more effective product development and portfolio decision-making, ensuring that you derive the maximum value from the use of our software. Contact us at info@sopheon.com to learn more.