With OmniStudio’s drag-and-drop configuration capabilities, customers create guided brand experiences specific to their industry with clicks rather than custom code. They effortlessly meet the demands of omnichannel service by deploying and updating these interactions across multiple devices and channels, increasing user productivity and enabling greater self-sufficiency for employees, consumers, and partners. OmniStudio also includes tools for integrating with other enterprise applications and data.

OmniStudio is part of Einstein Automate, which integrates Salesforce automation capabilities across Platform, Einstein, MuleSoft, Industries, and AppExchange to deliver an efficient end-to-end workflow platform.

Let’s take a tour of the several layers of components OmniStudio offers.

* Digital Experience
* Service Management
* Developer Experience

Now let’s find out what makes each OmniStudio layer unique.

**The Digital Experience Layer**

The Digital Experience layer includes two primary user interface (UI) components.

* **OmniStudio FlexCards:** Cards that display contextual information and actions in an at-a-glance format for customer account data
* **OmniScripts:** A guided path to complete a business process

These declarative tools provide rich user interaction experiences that are easily understandable. They’re built on Salesforce Lightning web components (LWC), which run inside Salesforce and improve UI performance.

**The Service Management Layer**

The Service Management layer includes data services that read, write, transform, calculate, and track data within and outside of Salesforce.

* **OmniStudio DataRaptors:** Configurable services for retrieving, transforming, and updating data
* **OmniStudio Integration Procedures:** Declarative, server-side processes that execute multiple actions in a single server call

DataRaptors and Integration Procedures deliver data to and from UI components. They orchestrate calls to Apex classes, calculation engines, and external application programming interfaces (APIs) to execute whatever business logic is required by the process.

The layer also includes calculation tools to look up data and configure complex math on top of the Salesforce Platform.

**The Developer Experience Layer**

The Developer Experience layer is an application lifecycle layer of tools for developers to manage and move OmniStudio component changes between environments. These developer tools are:

* **IDX Build Tool:** Command-line automation tool that packages and migrates OmniStudio Datapacks in a source-control-friendly format
* **IDX Workbench:** Desktop application that enables developers to migrate Datapacks and Salesforce metadata from one org to another or from an org to a Git repository

For simple migrations, developers can export and import the component as a Datapack, a collection of OmniStudio components packaged together for exporting and importing purposes. For example, developers can export and import a FlexCard with a specific Integration Procedure.

For large or complex migrations, developers use either IDX Build Tool or IDX Workbench.

IDX Build Tool preserves dependencies, validates data, and verifies the success of migration.

IDX Workbench includes a Test Console where users can run Test Procedures and view Gantt charts of their step-by-step performance. A Test Procedure is an Integration Procedure that performs a unit test of almost anything an Integration Procedure can invoke, such as a DataRaptor, a Calculation Matrix, an Apex class, or even another Integration Procedure.

So how do all of these layers, components, and services work together? Wonderfully! But don’t just take our word for it… Behold!

**Enrich Interactions with the Digital Experience Layer**

The Digital Experience layer of OmniStudio offers rich user interaction experiences for users.

This layer includes two primary UI components built on Salesforce Lightning web components (LWC) that run inside Salesforce and improve the UI performance.

* **OmniStudio FlexCards:** Display contextual information and actions in an at-a-glance format for customer account data
* **OmniScripts:** Provide a guided path to complete a business process

Together, these components of the Digital Experience layer create compelling user interactions.

**Digital Experience Components and Capabilities**

**FlexCards**

FlexCards summarize basic information at a glance, display detailed information on demand, and provide quick access to common tasks that are context-relevant. For example, in a call center scenario, when a call center agent interacts with a customer over the phone, the agent views the customer's information and launches guided processes from the FlexCard during the call.

An OmniStudio Interaction Console shows a holistic view of a customer’s account and information. FlexCards are components of these 360° views. The console itself is a Salesforce Lightning Console.

**OmniScripts**

An OmniScript gives customers a guided path for completing a business process and serves as a configurable way of creating a seamless customer experience (which is always a good thing).

For example, consider if a customer wants to:

* View and update their contact information, which is stored in Salesforce.
* View their service plan, which is stored in a legacy database.
* View their bill, which is stored in a billing system; choose to pay it; and select a specific way to pay it.

How can customers accomplish these tasks easily and efficiently, without lots of complicated coding on the backend? Easy! With OmniScripts.

In a call center scenario, a call center agent launches these guided processes from FlexCards during the call. Users can also deploy OmniScripts for viewing on any device and via any channel, such as a mobile device or a consumer portal.

**Salesforce Lightning Web Components**

When activated, FlexCards and OmniScripts become Lightning web components. Thanks to this UI technology, users launch LWC-enabled OmniScripts as flyouts to display additional information when they click an action on a FlexCard.

It is also possible to embed FlexCards in LWC-enabled OmniScripts. An embedded FlexCard receives data from the LWC-enabled OmniScript and performs any action available in the FlexCard.

Lightning web components:

* Work inside of communities and portals.
* Resize themselves to render correctly in the browser on a phone.

Lightning web components also are configured once and then run anywhere, operating within every digital interface that supports the customer journey to provide a consistent multichannel experience.

## Dominate Data with the Service Management Layer

The Service Management layer of OmniStudio includes data services that read, write, transform, calculate, and track data within and outside of Salesforce.

* **OmniStudio DataRaptors:** Configurable services for retrieving, transforming, and updating data
* **OmniStudio Integration Procedures:** Declarative, server-side processes that execute multiple actions in a single server call

With these fantastic features of the Service Management layer, agents take command of their customer data and drive meaningful interactions. Let’s get a closer look at each component.

**Service Management Components and Capabilities**

**DataRaptors**

A DataRaptor is a mapping tool that enables you to read, transform, and write Salesforce data. There are four types of DataRaptor: Turbo Extract, Extract, Load, and Transform. Here are some guidelines for determining which DataRaptor to use.

| **Objective** | **DataRaptor Type** |
| --- | --- |
| Get data from a single Salesforce object | DataRaptor Turbo Extract |
| Get data from one or more Salesforce objects | DataRaptor Extract |
| Save data to one or more Salesforce objects | DataRaptor Load |
| Manipulate any data that comes from inside or outside Salesforce | DataRaptor Transform |

**Integration Procedures**

Integration Procedures are a way to retrieve, save, and manipulate data behind the scenes. An Integration Procedure is also recommended when you need fast processing of complex data from multiple sources. Why? Because:

* Server-side processing enables faster performance, since, in most cases, the server is faster than the client at processing data.
* Combining multiple actions in a single server call prevents round trips to the server.
* Minimizing client/server calls is beneficial, as more round trips mean slower performance.

In addition to our primary data tools, the Service Management layer of OmniStudio includes processes and tools for users to look up data and configure complex math on top of the Salesforce Platform. Let’s take a look at OmniStudio Calculation Procedures and OmniStudio Matrices before wrapping up this unit.

**Calculation Procedures and Matrices**

Use Calculation Procedures to run a detailed set of mathematical steps when more complex calculations are required. They are typically used for pricing. When there are a number of factors, values, and calculations, a Calculation Procedure can call one or more Calculation Matrices, which are lookup tables.

These components of the Service Management layer speed up development time and help users to more cost-effectively maintain updates over time. For example, let’s say that a user wants to expose a new field that's providing a new piece of information in a user interface (UI) or process. All they need to do is add it into the DataRaptor and Integration Procedure to expose it, then add the field in an OmniStudio FlexCard to show it to a customer. That’s good stuff!

With its three layers and high functionality, OmniStudio provides exactly the kind of digital engagement consumers and companies seek—personal, reliable, and efficient.