

Insight Session: ODC-Ready Development

Vorsprung durch vorausschauendes
Entwickeln



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Insight Session: ODC-Ready Development



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Migration

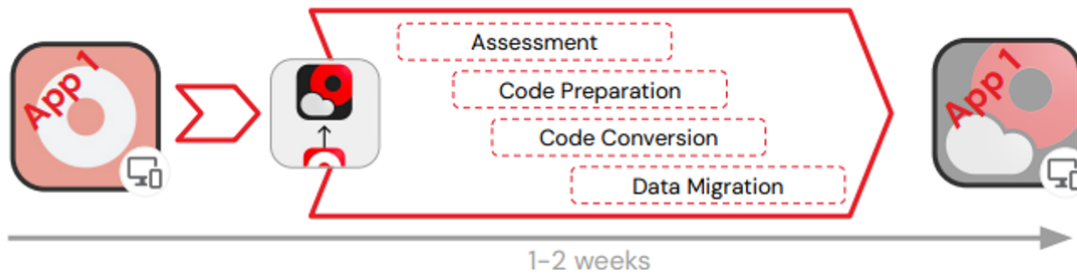


Available Migration Paths



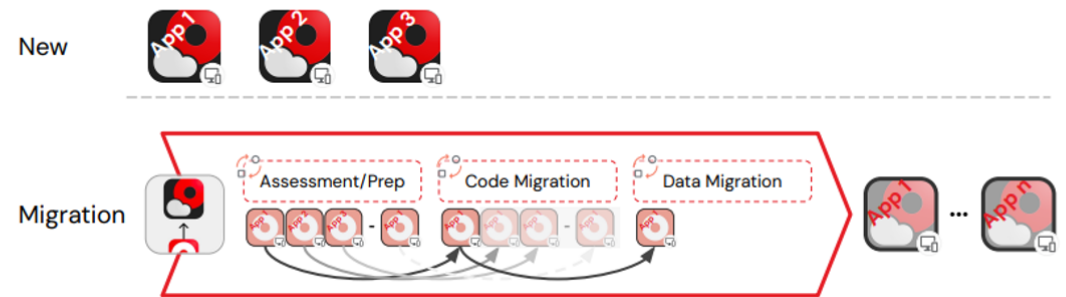
One Shot Approach

- ✔ Infrastructures with less than 2 business apps, with up to 300 AOs



Coexistence Approach

- ✔ Infrastructure with more than 2 apps



One Shot

Infrastructures with 1 or 2 Biz Apps (<300 AOs)

Short time migration

All O11 apps are migrated in one shot to ODC.

App Complexity	Elapsed Time
Small App, no prod data <150 AOs, No major refactoring, 1-2 O11 custom code (extensions), forge components available on ODC, 1-5 static entities	1-3 days
Small App, Live No major refactoring, 1-2 O11 custom code (extensions), forge components available on ODC, 1-5 static entities	3-5 days

Coexistence

Infrastructures with more than 2 Biz Apps (>300 AOs)

Independently migrate biz apps

New apps being done on ODC and progressively migrate O11 biz apps.

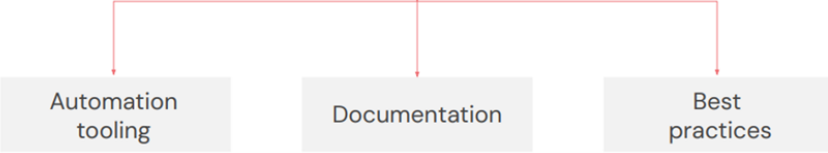
Greatly depends on the amount of refactoring required and development team expertise.

Numbers are being validated as we get more customers using the migration kit.

ODC Migration Kit



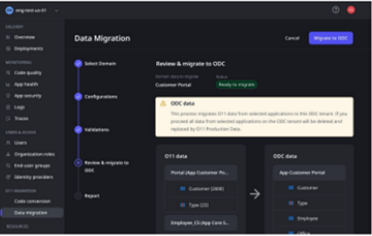
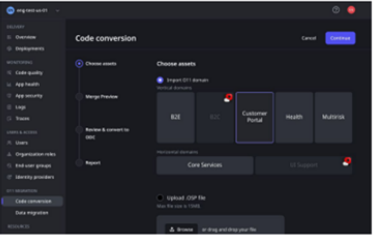
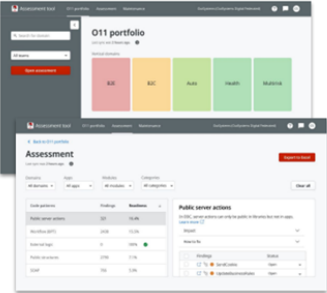
ODC Migration Kit



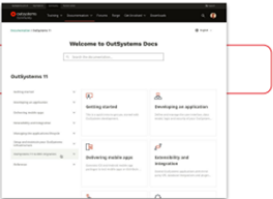
Assessment tool

Code conversion

Data migration

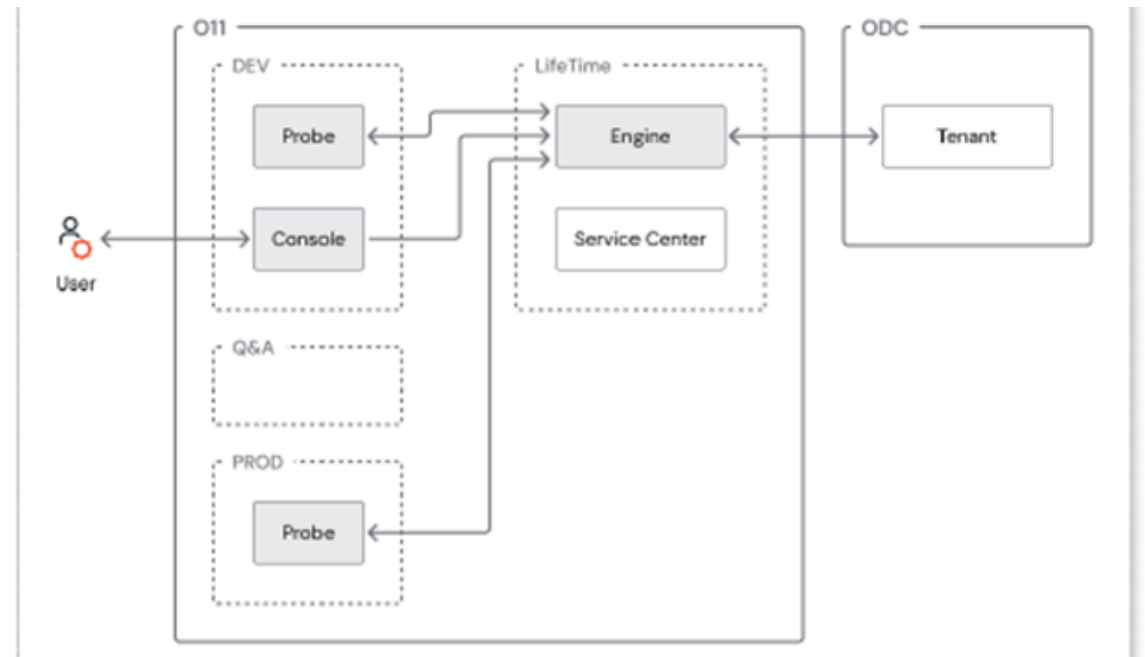


Documentation (how-tos, guidelines, playbooks)

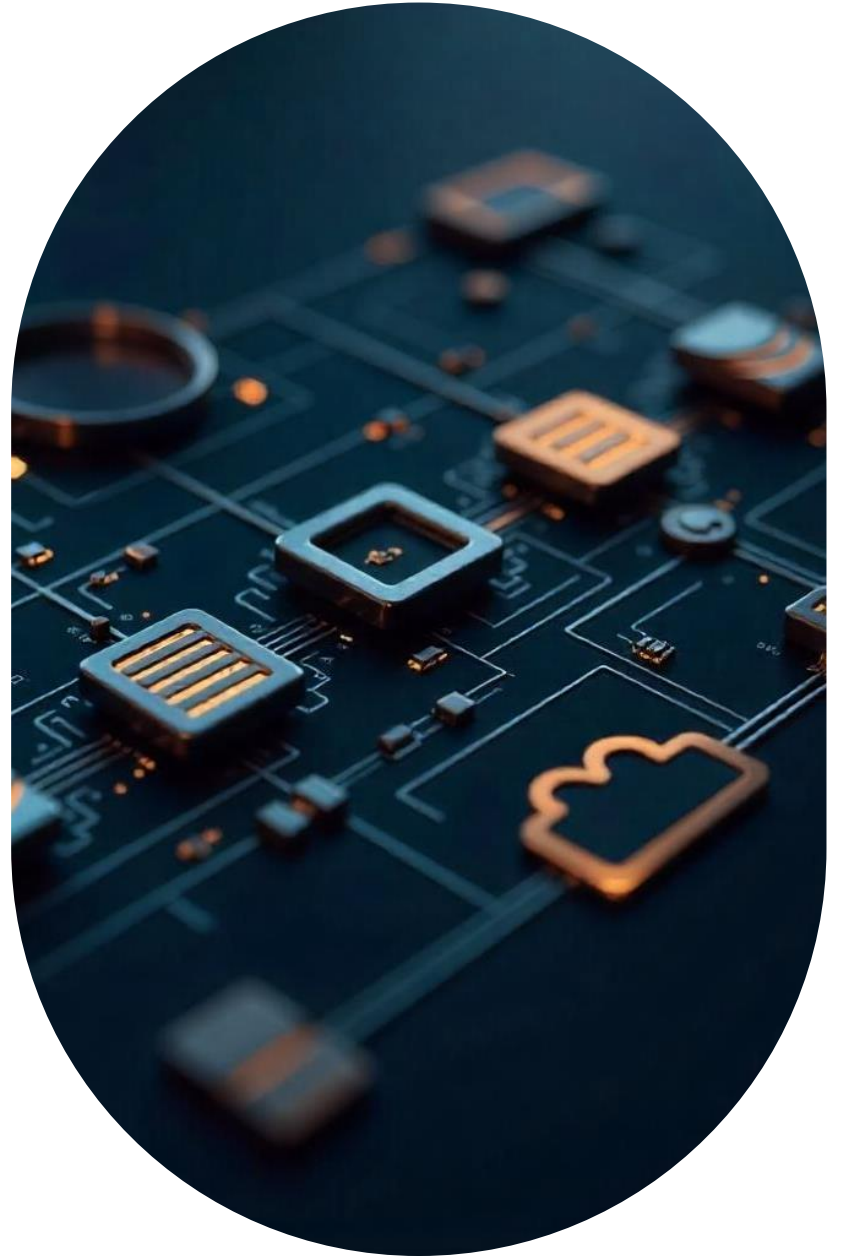


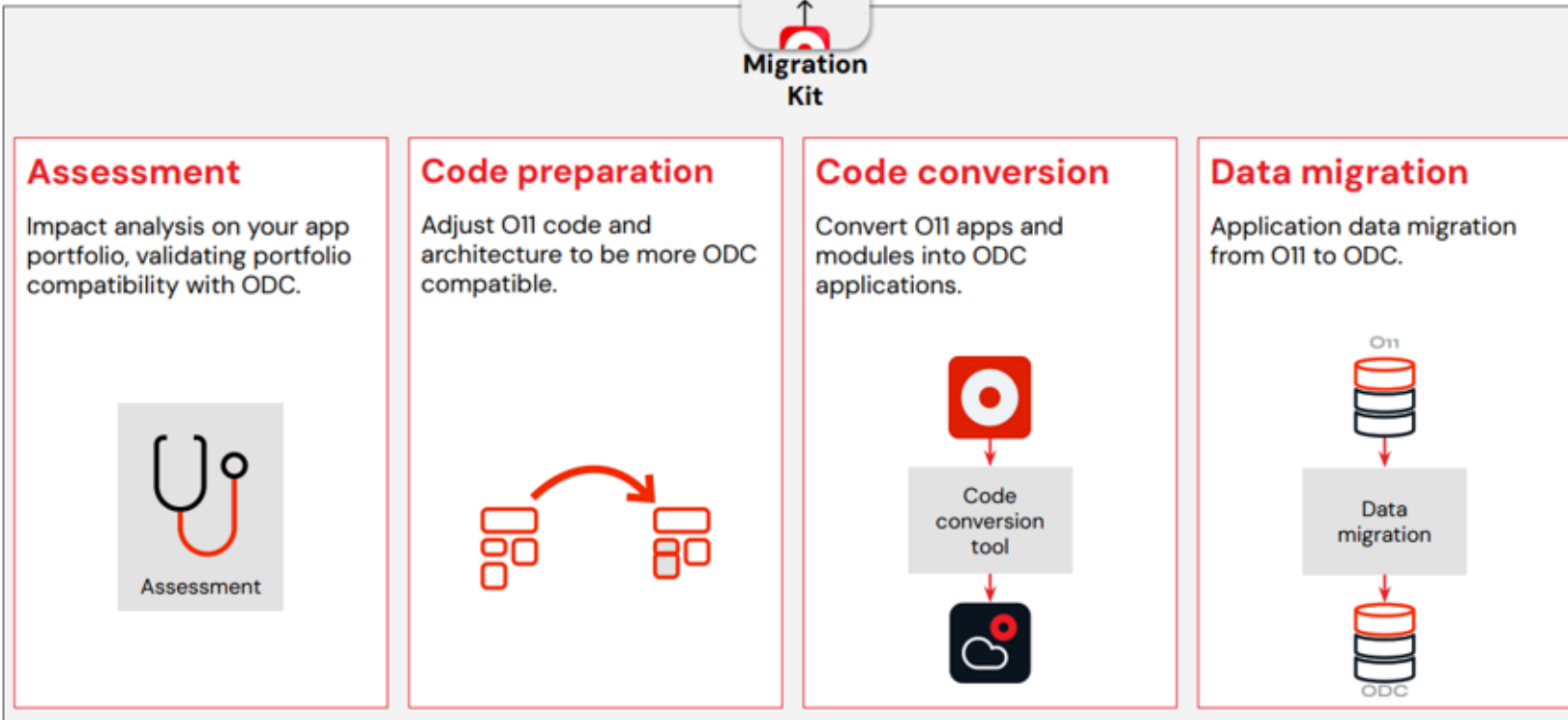
Assessment Tool

- Soll helfen „ODC-Readiness“ zu überprüfen
- Migrationspläne machen
- Komponenten
 - Console
 - Probe
 - Engine
- Assessment Report
 - Hinweis auf Architektur-Verbesserungen
 - Liste der Findings



Migration Stages

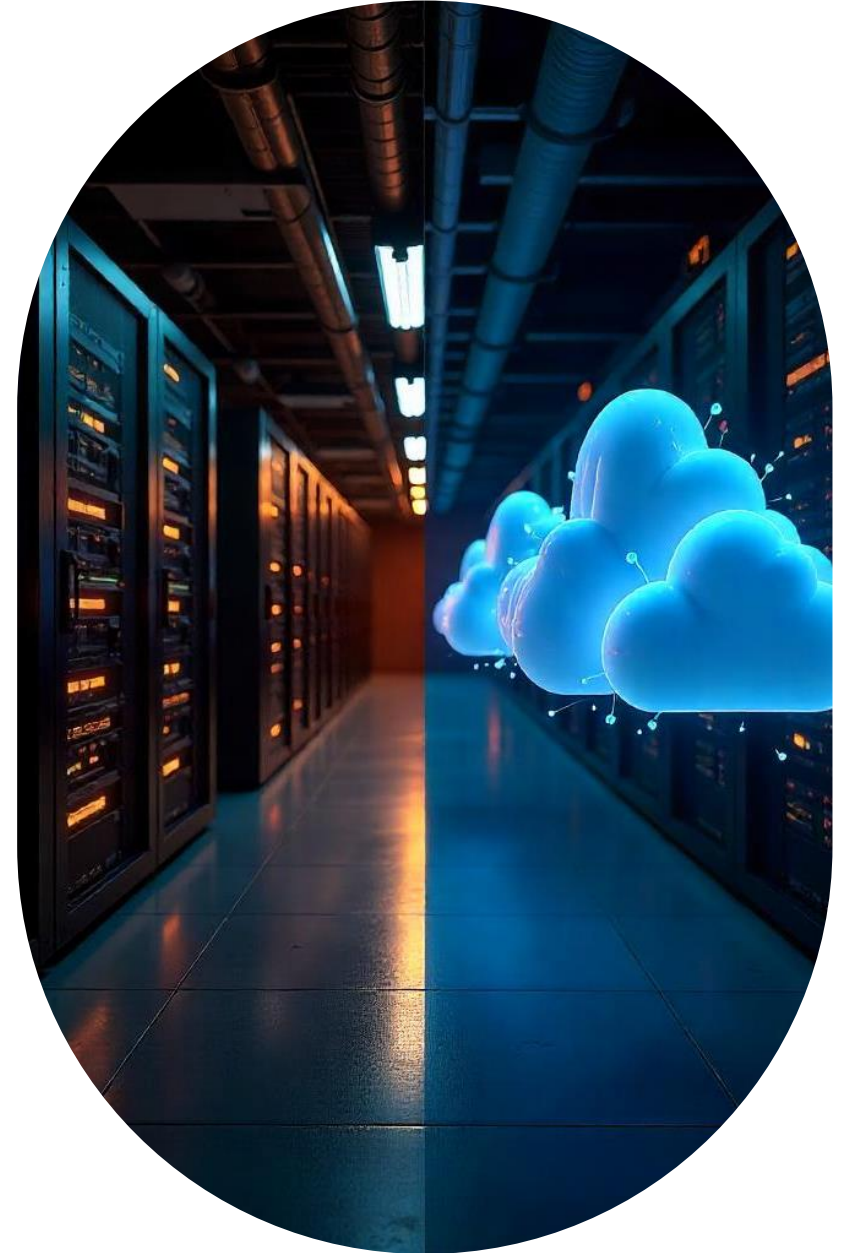




Migration Steps - Stage 2

- Step 1: Die architecture canvas best practices übernehmen
- Step 2: Die domain-driven Architektur adaptieren
- Step 3: Validierung der Applikations-Architektur
- Step 4: Die O11 Domains auf ODC-Apps und Libraries mappen
- Step 5: Überarbeiten der Architektur, um die architecture best practices ODC zu erfüllen
- Step 6: Überarbeiten der Applikationen, um sie ODC-Kompatibel zu machen
- Step 7: Überarbeiten der Code-Patterns

O11 vs. ODC



Architecture



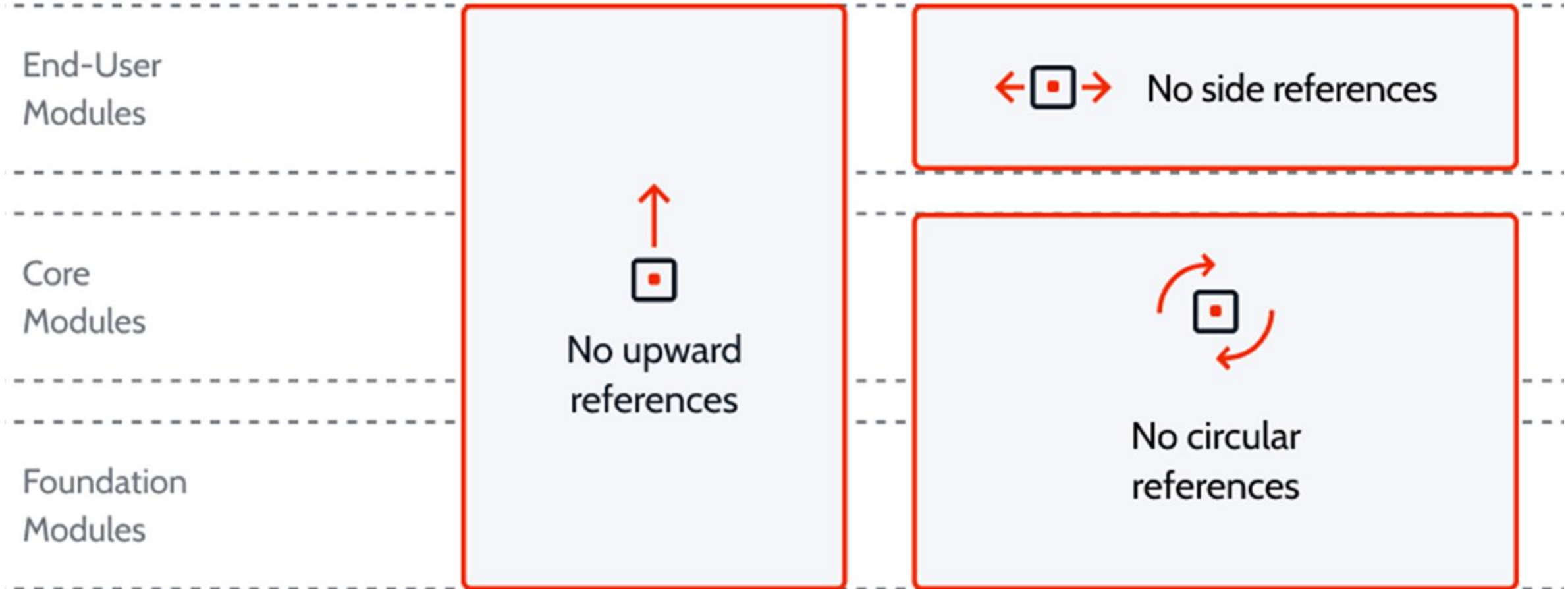
3 Layer Canvas

Layers

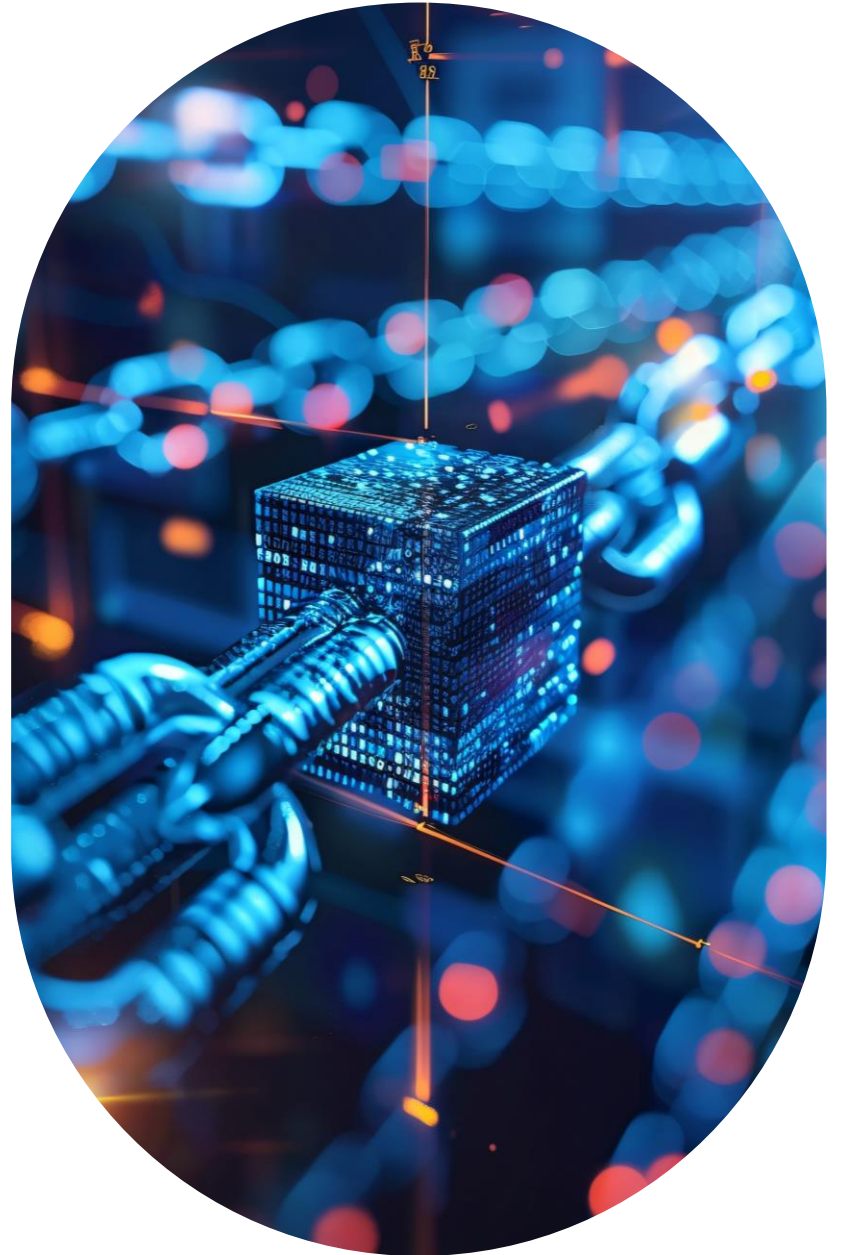
*Applicable to versions prior to OutSystems 11

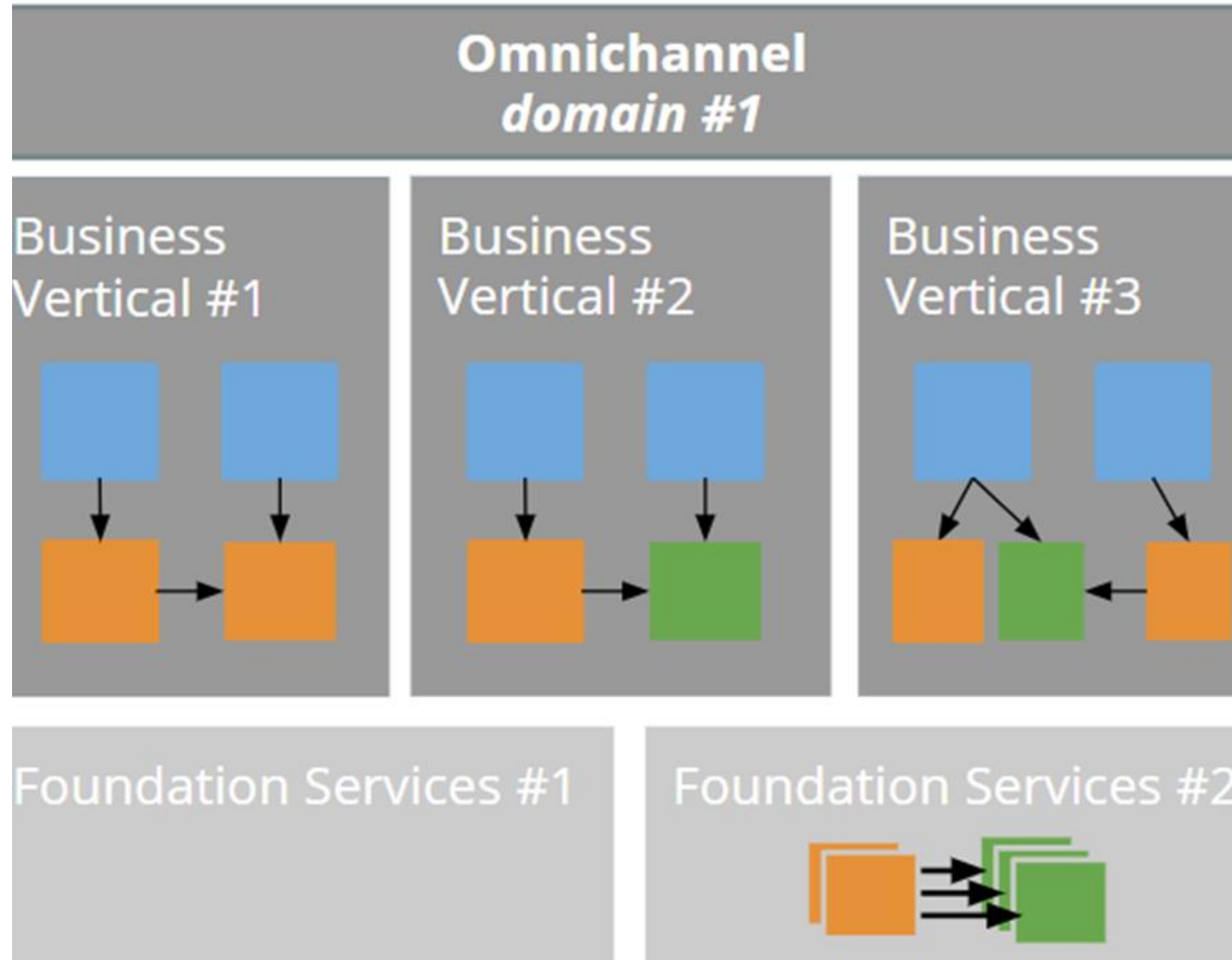
<i>Orchestration Modules*</i>	No	Access Portals Cross-application processes and dashboards
<i>End-user Modules</i>	Services	UI and processes That provide functionality to the end users
<i>Core Modules</i>	Reusable	Business services Services around business concepts
<i>Foundation Modules</i>	Services	Non-functional requirements Services to connect to external systems or to extend your framework

3 Layer Canvas



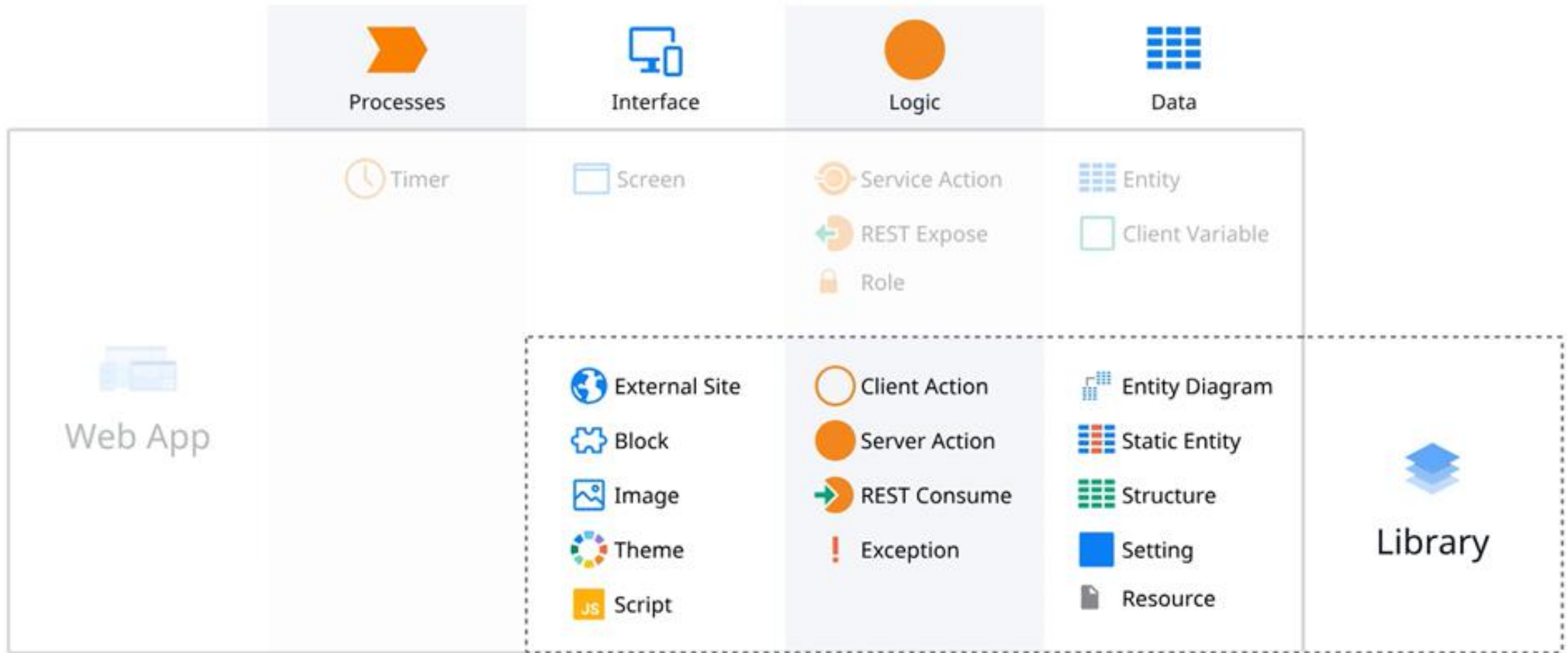
Domain Driven Architecture

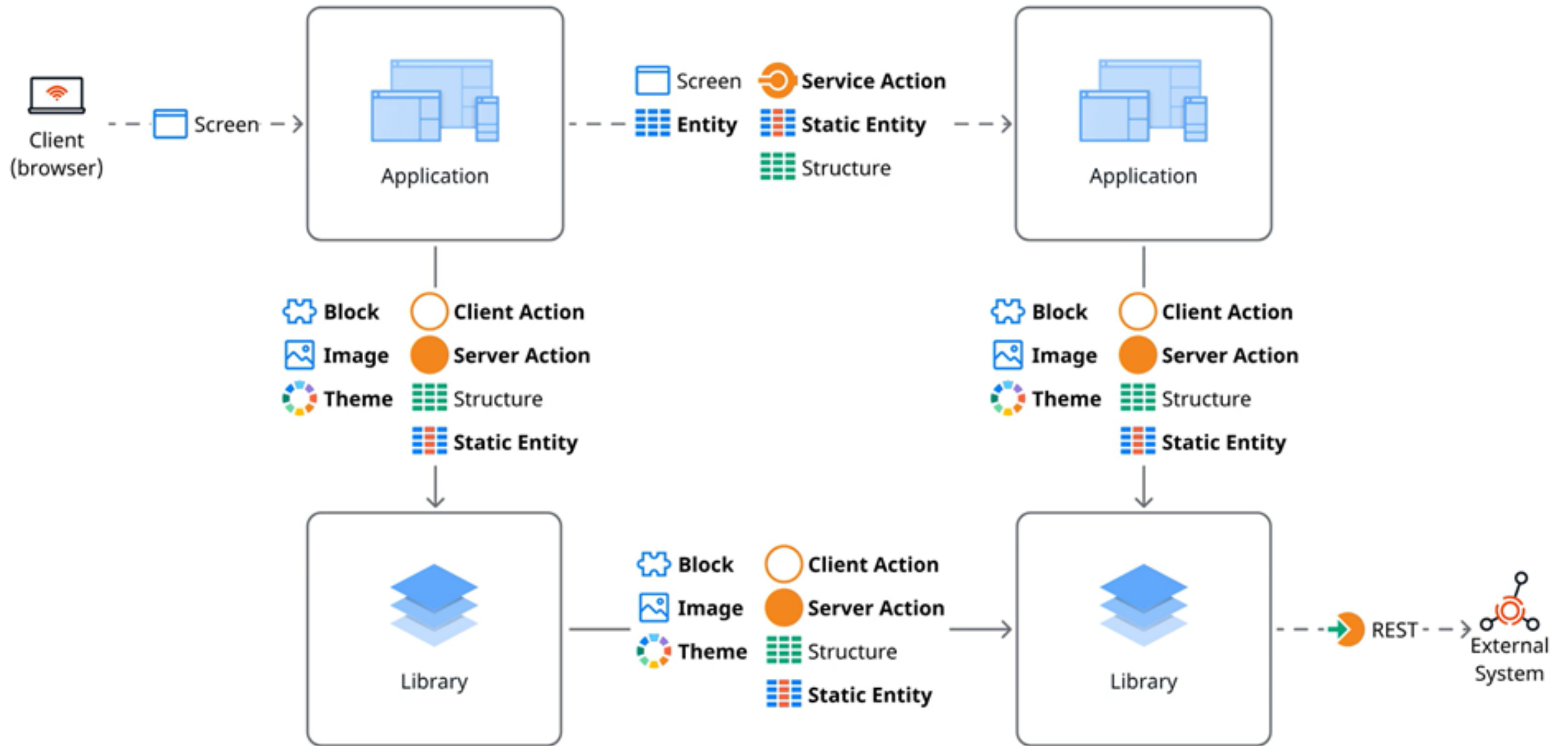




ODC Architecture







Deployment



O11



Search Applications

Search applications by name or team

Search

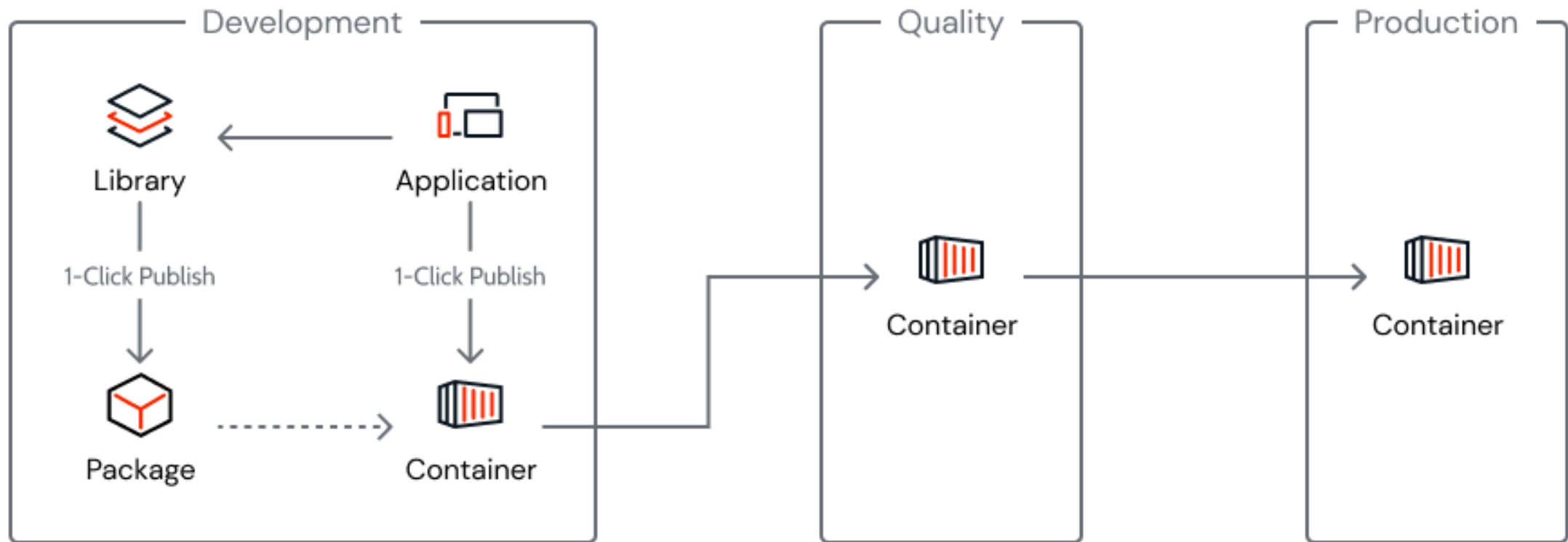
Reset

Show All

	Development	DEPLOY...	Testing	DEPLOY...	Production
ACME Core	0.2 Mar 13, 10:42 Citizen Dev		0.2 Today, 10:24 Pedro Oliveira		
Amazon Rekognition	0.2+ Mar 7, 13:58 Henrique Batista		0.2 Feb 26, 14:13 Administrator		0.2 Feb 26, 19:26 Administrator
ARPickerPlugin	0.2 Mar 7, 13:57 Henrique Batista		0.2 Mar 11, 12:18 Pedro Oliveira		
Azure Bot Framework Connector	0.1 Mar 7, 13:57 Henrique Batista		0.1 Mar 11, 11:48 Pedro Oliveira		
Azure Bot Framework Sample	0.1+ Mar 8, 16:04 Pedro Oliveira				
Azure Chatbot	0.2 Mar 11, 11:33 Pedro Oliveira		0.2 Mar 11, 11:48 Pedro Oliveira		
Azure Cognitive Services Connector	0.2 Mar 7, 13:57 Henrique Batista		0.2 Mar 11, 11:48 Pedro Oliveira		

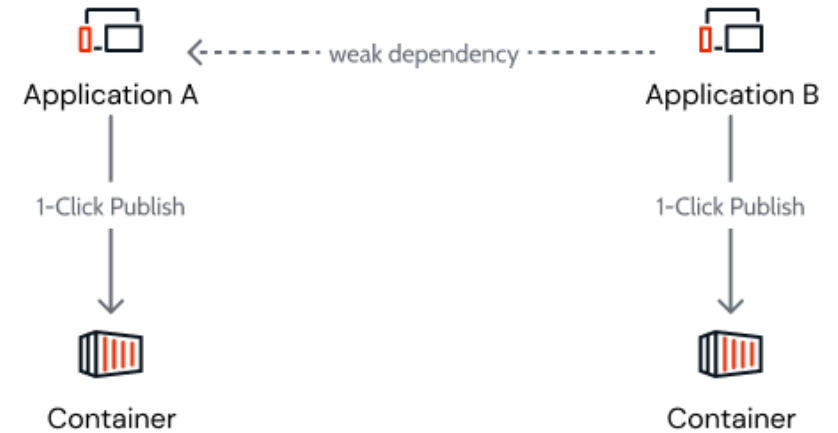
ODC - Containerisierung





Containerisierung

- Jede App ist verpackt in einem Container
- Eigenständige Bereiche
 - Enthalten Code, Dependencies und Konfigurationen
- Erleichtern Applicationsmanagement
- Unabhängiges Scaling der App
- Schnelles und zuverlässiges Deployment



Coding: Welche Elemente muss man beachten?



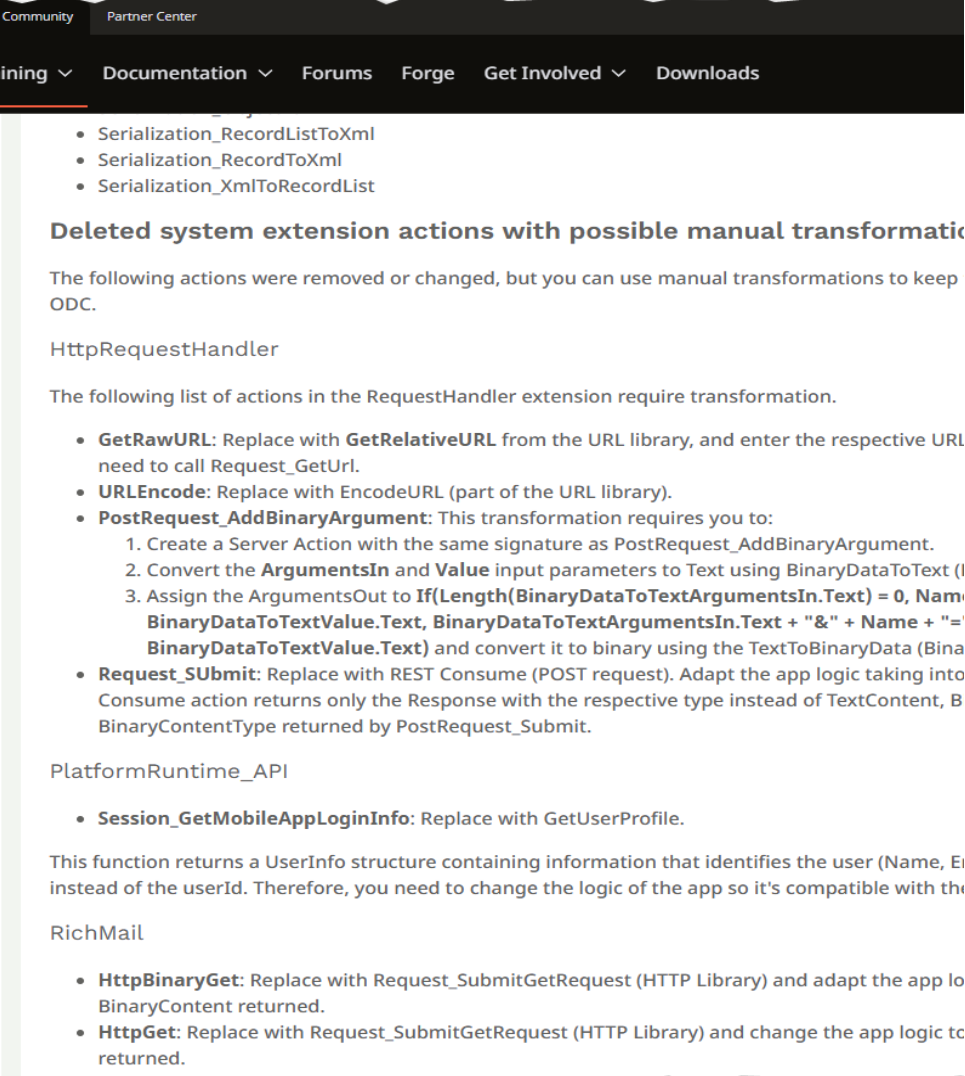
Welche Elemente muss man beachten?

- Traditional Web Applications
 - Erfordert eine Umstellung auf Reactive Applications
 - Auch Dependencies zu Traditional Apps prüfen !
 - Bei Traditional Web Apps ohne UI > Überführung in Service Modul ggf. möglich
- Überdenken der Forge Komponenten
 - → In ODC Forge Katalog blicken
- SOAP
 - → entfällt in ODC
- Site Properties
 - → Settings, aber ohne programmatische Änderungsmöglichkeit
- Geänderte SQL Syntax
 - Aurora PostgreSQL

Welche Elemente muss man beachten?

- System Entitäten
 - → gibt es nicht mehr oder vereinfacht (z. B. User Entität ReadOnly)
- Beispiele von System Actions
 - XML
 - HTTPRequests
 - HtmlRenderer
 - HttpRequestHandler
 - Richmail
 - ECT_Controller
 - AsynchronousLogging
 - PlatformRuntime_API
 - GetUserId → Text Id
 - GetEntryEspaceld
- Common PlugIn App
 - Ersetzen durch Common Plugin Library (bereits in O11)

<https://learn.outsystems.com/training/journeys/prepare-o11-apps-for-odc-2662/asset-consuming-o11-platform-system-elements/o11/6348>



The screenshot shows a web page with a dark header containing navigation links: Community, Partner Center, and a menu with options like Documentation, Forums, Forge, Get Involved, and Downloads. The main content area lists several actions that have been removed or changed, including Serialization_RecordListToXml, Serialization_RecordToXml, and Serialization_XmlToRecordList. Below this, there are sections for 'Deleted system extension actions with possible manual transformations' and 'The following actions were removed or changed, but you can use manual transformations to keep ODC.' This is followed by a section for 'HttpRequestHandler' and 'The following list of actions in the RequestHandler extension require transformation.' The list includes: 'GetRawURL' (replace with GetRelativeURL), 'URLEncode' (replace with EncodeURL), 'PostRequest_AddBinaryArgument' (requires creating a Server Action and converting parameters), and 'Request_Submit' (replace with REST Consume). Other sections include 'PlatformRuntime_API' with 'Session_GetMobileAppLoginInfo' (replace with GetUserProfile) and 'RichMail' with 'HttpBinaryGet' and 'HttpGet' (both replaced with Request_SubmitGetRequest).

Welche Elemente muss man beachten?


- Multi Tenancy
- Umstellung von BPT / CMF (O11) auf ODC Workflows
 - Umstellung auf Event-Driven Architecture. Migration BPT / CMF notwendig

i If you are only preparing your code for the migration, at present, OutSystems recommends not making any changes to O11 BPTs. OutSystems is working on migration automation capabilities to map existing O11 BPTs to ODC Workflows.

https://success.outsystems.com/documentation/11/outsystems_11_to_odc_migration/o11_to_odc_migration_code_patterns/asset_consuming_a_process/

Welche Elemente muss man beachten?

- Standard Rollen „Anonymous“ und „Registered“ fallen weg
- Public Server Actions funktionieren in ODC nur noch in Libraries
- Public Structures funktionieren in ODC nur noch in Libraries
- Direkte SAP BAPI Integration im Studio
- Extensions: Code muss .NET 8.0 Libraries kompatibel sein

 If you are only preparing your code for the migration, at present, OutSystems recommends not making any changes to O11 extensions. OutSystems is working on automating the conversion of O11 Custom Code to ODC Custom Code.

For Extensions with external database connections, in order to take full benefit of ODC data fabric it's highly recommended that all external database connections are reviewed.

For Extensions with Custom C# code, ODC custom code runs under different premises than O11 custom code, and we highly recommend that a deeper analysis is done to ensure that the code run as expected in ODC

<https://learn.outsystems.com/training/journeys/prepare-o11-apps-for-odc-2662/asset-consuming-an-extension/o11/5899>

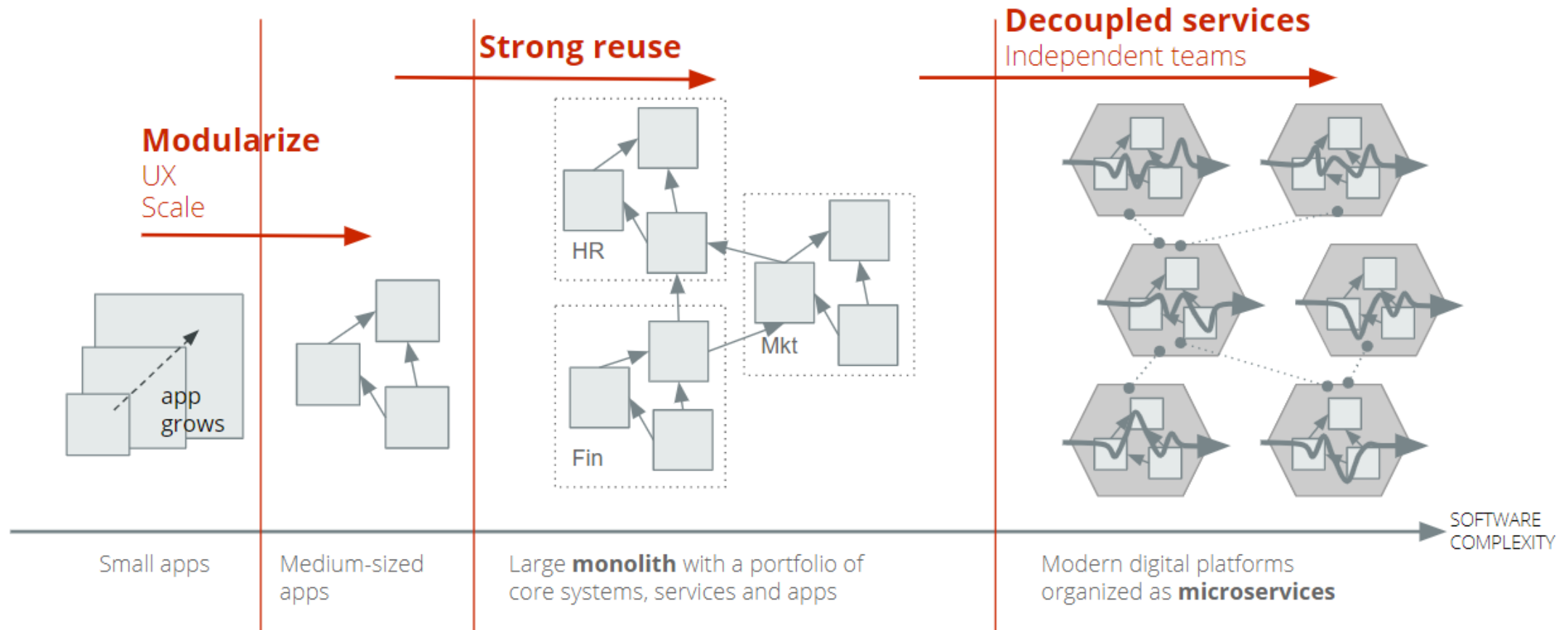
Welche Elemente muss man beachten?

- Server Actions
 - sind für Backend Logik modul-intern oder in eng-verbundenen Modulen ausgelegt
 - bieten Transaktionsklammer und einfaches Exception Handling
 - verursachen aber Schwierigkeiten bei komplexen Abhängigkeiten
- Service Actions
 - modul-interne Business Logik wird gekapselt
 - loose Kopplung erfordert kein Republish der Konsumenten

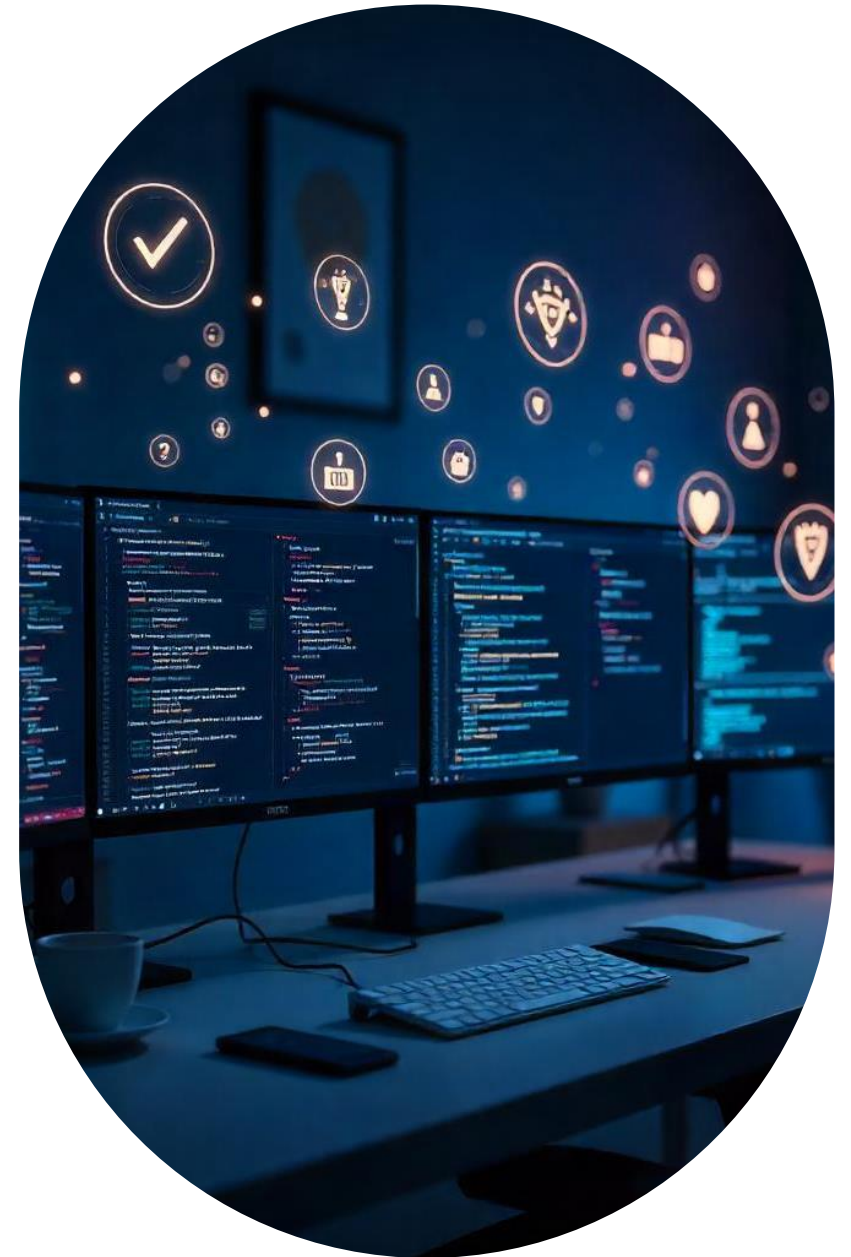
Welche Elemente muss man beachten?

Von wo konsumiert?	Was sollte verwendet werden?			
	REST API	Service Action	Public Server Action	Public Entität
Außerhalb von OutSystems	★			
Andere Domäne		★		
In der gleichen Domäne			★	★

Welche Elemente muss man beachten?



ODC-konformes Entwickeln unter O11




ODC-konformes Entwickeln unter O11

- Empfehlungen sind umfassend dokumentiert
- Was unter O11 umstellbar ist → machen, um spätere Migration möglichst schlank zu halten
- Vermeidung oder Änderung der o. g. Elemente
- Frühzeitig eine Idee entwickeln, wie die Anwendungen unter ODC in Domänen strukturiert sein werden
 - → Soll Architektur
- Rollenmodell auf Domänen Modell anpassen
 - Rolle in jeder Vertikalen Domain und sicherstellen, dass sie nur in dieser Domain genutzt wird
- Eine Kopie von bisher public Structures in jeder konsumierenden App
- Bewertung und ggf. Umstellung von Strong Dependencies:

Last updated: Jun 26, 2025

O11 to ODC migration code patterns

As you plan and prepare your existing O11 app architecture, there are code patterns that you should adapt or omit in your O11 apps to ensure a smooth migration to ODC.

 OutSystems is working on migration automation capabilities to support some of these patterns. Until then, you can use this information to help you [plan your migration](#).

If you have access to the Migration Kit, the Migration Assessment Tool identifies some of the code patterns that you need to handle to achieve a successful migration of your apps.

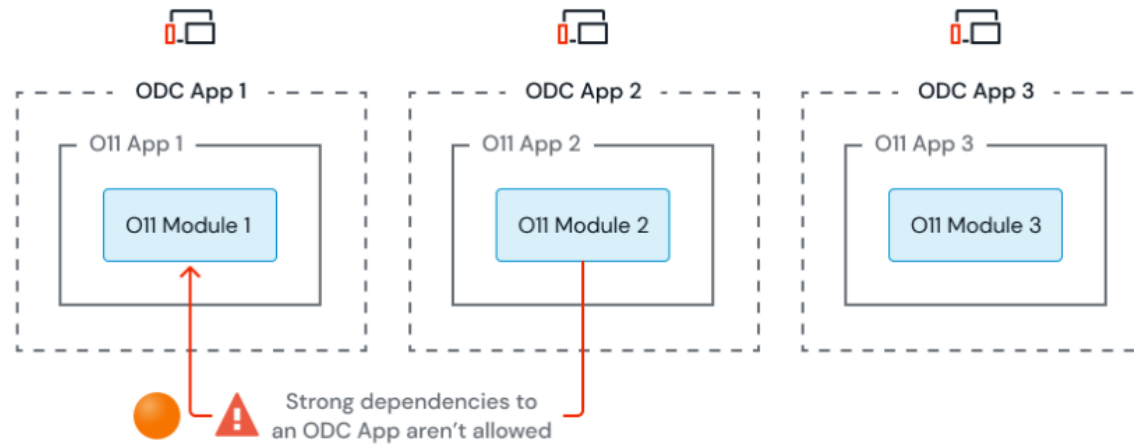
You have to follow different approaches, depending on the pattern:

- **Fix in O11** - Requires changes in the O11 app before proceeding with the migration to ODC.
- **Fix in ODC** - Requires changes in the ODC app after the migration.
- **Optional** - Requires changes in the O11 app or in the ODC app, depending on the approach you choose.
- **Not yet supported** - ODC doesn't yet support the functionality, or the Migration Kit doesn't yet support the code pattern.

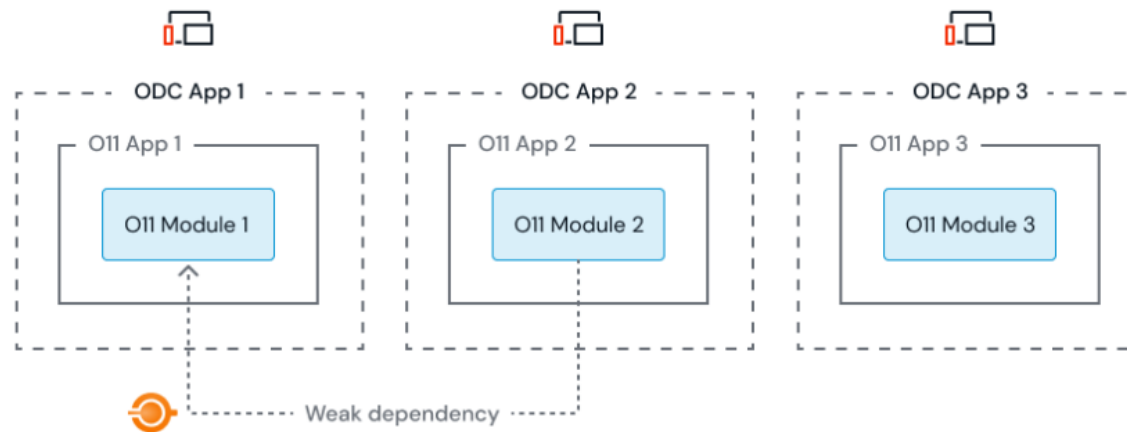
Fix in O11

Auflösen von Strong Dependencies 1

Before refactoring

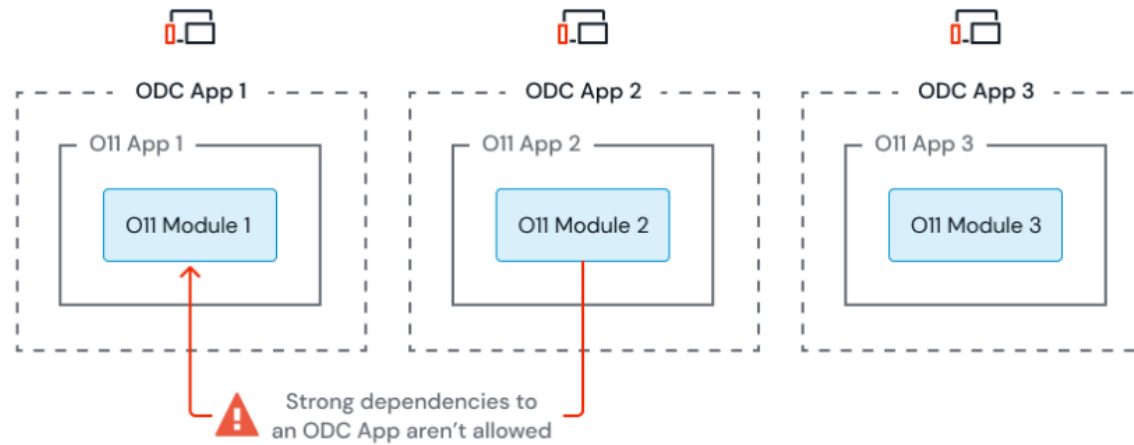


After refactoring

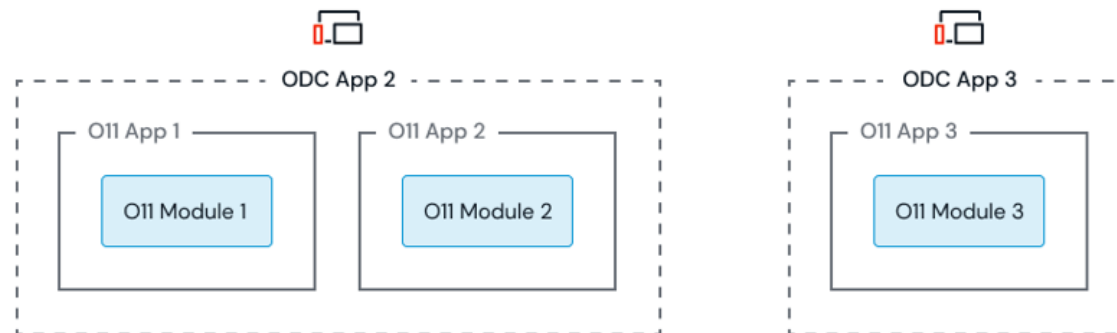


Auflösen von Strong Dependencies 2

Before refactoring

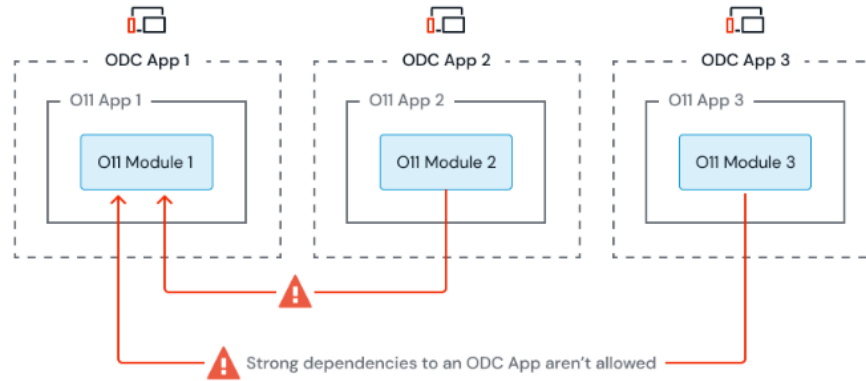


After architecture review

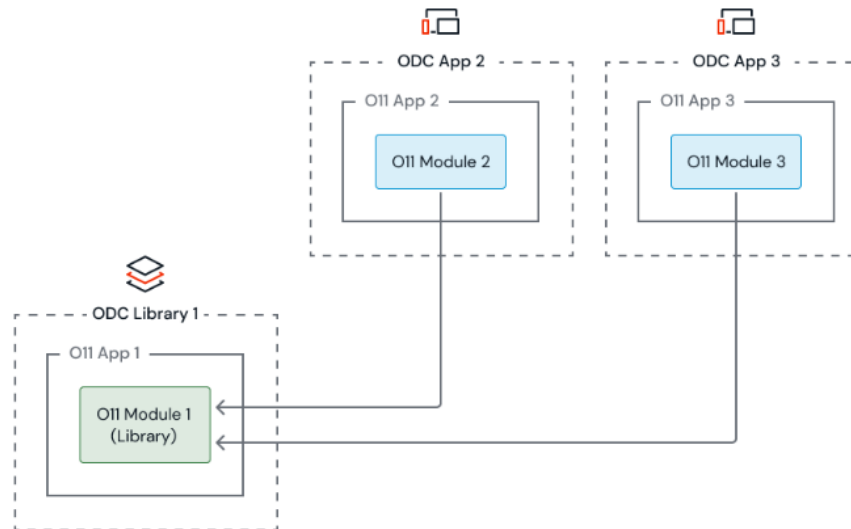


Auflösen von Strong Dependencies 3

Before architecture review



After architecture review



Detailvergleich O11 / ODC

Traditionell / Reactive / Service / ODC App



Detailvergleich O11 / ODC

Application code elements available in the Processes App layer tab

CODE ELEMENTS	O11 TRADITIONAL	O11 REACTIVE	O11 SERVICE	ODC APP
Timer	Yes	Yes	Yes	Yes
Processes (BPT)	Yes	Yes	Yes	N/A

Detailvergleich O11 / ODC

Application code elements available in the Interface App layer tab

CODE ELEMENTS	O11 TRADITIONAL	O11 REACTIVE	O11 SERVICE	ODC APP
Flow (Traditional)	Yes	N/A	N/A	N/A
Screen (Traditional)	Yes	N/A	N/A	N/A
External Site (Traditional)	Yes	N/A	N/A	N/A
Block (Traditional)	Yes	N/A	N/A	N/A
Theme (Traditional)	Yes	N/A	N/A	N/A
UI Flow	Yes	Yes	N/A	Yes
Screen	Yes	Yes	N/A	Yes
External Site	Yes	Yes	N/A	Yes
Block	Yes	Yes	N/A	Yes
Image	Yes	Yes	N/A	Yes
Theme	Yes	Yes	N/A	Yes
Script	Yes	Yes	N/A	Yes
Email	Yes	Yes	N/A	Yes

Detailvergleich O11 / ODC

Application code elements available in the Logic App layer tab

CODE ELEMENTS	O11 TRADITIONAL	O11 REACTIVE	O11 SERVICE	ODC APP
Server Action	Yes	Yes	Yes	Yes
Client Action	N/A	Yes	Yes	Yes
Service Action	N/A	N/A	Yes	Yes
Rest Expose	Yes	Yes	Yes	Yes
Rest Consume	Yes	Yes	Yes	Yes
Role	Yes	Yes	Yes	Yes
Exception	Yes	Yes	Yes	Yes
SOAP Expose	Yes	Yes	Yes	N/A
SOAP Consume	Yes	Yes	Yes	N/A

Detailvergleich O11 / ODC

Application code elements available in the Data App layer tab

CODE ELEMENTS	O11 TRADITIONAL	O11 REACTIVE	O11 SERVICE	ODC APP
Entity	Yes	Yes	Yes	Yes
Static Entity	Yes	Yes	Yes	Yes
Entity Diagram	Yes	Yes	Yes	Yes
Structure	Yes	Yes	Yes	Yes
Site Property/ Settings	Yes	Yes	Yes	Yes
Resource	Yes	Yes	Yes	Yes
Session Variable	Yes	N/A	N/A	N/A
Client Variable	N/A	Yes	N/A	Yes
Translations	Yes	Yes	Yes	Yes

Detailvergleich O11 / ODC

Library code elements available in the Interface App layer tab

CODE ELEMENTS	O11 LIBRARY MODULE	ODC LIBRARY
UI Flow	Yes	Yes
External Site	Yes	Yes
Block	Yes	Yes
Image	Yes	Yes
Theme	Yes	Yes
Email	Yes	Yes

Detailvergleich O11 / ODC

Library code elements available in theLogic App layer tab

CODE ELEMENTS	O11 LIBRARY MODULE	ODC LIBRARY
Server Action	Yes	Yes
Client Action	Yes	Yes
Rest Consume	Yes	Yes
Exception	Yes	Yes
SOAP Consume	Yes	No

Detailvergleich O11 / ODC

Library code elements available in the Data App layer tab

CODE ELEMENTS	O11 LIBRARY MODULE	ODC LIBRARY
Static Entity	Yes	Yes
Entity Diagram	Yes	Yes
Structure	Yes	Yes
Site Property/ Settings	Yes	Yes
Resource	Yes	Yes
Translations	Yes	Yes

Vielen Dank Für Eure Aufmerksamkeit!



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