



Andre Fischer

January 29, 2015 | 6 minute read

## Support of multiple backend systems – How to use Multi Origin Composition and Routing

34 12 16,446

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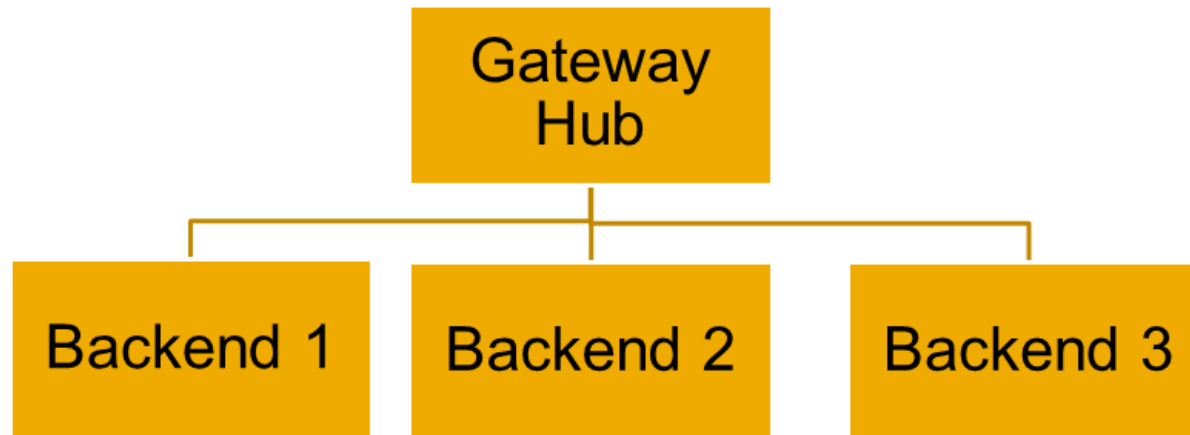
### Changes

08.08.2016 – Added link how to implement custom routing

12.06.2017 – Added section about host name based routing

### Use case 1 – Multi Origin Composition

A service is configured to use Multi Origin Composition to retrieve data from different backend systems, say Backend\_1, Backend\_2 and Backend\_3.



Therefore corresponding system alias entries have been created in the SAP Gateway Server and have been assigned to the service. This works fine as long as every user that calls this service has also a user in all three backend systems. However if there are users that do not have users in all connected backend systems the call will fail.

## Caution

Since as of SP07 of SAP Gateway 2.0 it is possible to make the READ feed requests of a service in "Multi Destination Composition" mode error tolerant (SPRO -> SAP NetWeaver -> Gateway -> OData Channel -> Composition -> Flag OData Services to be error tolerant in case of MDC) customers have tried to use this feature to solve the issue describe above.

The fault tolerant behaviour should however NOT be used in this case since the intention behind the fault tolerance option is to handle temporary error situations, e.g. a temporary connection problem to the backend where a next call that is performed a little bit later would be successful. The initial request however is processed by all backends and does not break at the first failing backend.

The solution that we recommend for the use case mentioned above is to use routing together with multi origin composition as described in the following:

## Solution





In a situation as described above one would like to restrict the SAP Gateway server such that it would only call those backend systems where the user that calls the service also has a user. This can be achieved by combining the features of Multiple Origin Composition and Routing.

Let's assume we have three different user groups A, B and C that have users in the following backend systems

Userid	Backend System 1	Backend System 2	Backend System 3
USER_A (user group A)	X		
USER_B (user group B)	X	X	

Userid	Backend System 1	Backend System 2	Backend System 3
USER_C (user group C)	X		

We now add the roles USERGROUP\_A, USERGROUP\_B and USERGROUP\_C to the system aliases BACKEND\_1, BACKEND\_2 and BACKEND\_3 that are assigned to the OData service. Since users from USERGROUP\_A and USERGROUP\_B have users in BACKEND\_1 we have added the system alias BACKEND\_1 twice. One time with having added role USERGROUP\_A and one time with having added role USERGROUP\_B.

 Add System Alias  Remove System Alias  Customizing  Service Implementation			
System Aliases			
SAP System Alias	Description	User Role	Default
BACKEND_1	Dummy System Alias to test routing	USERGROUP_A	<input checked="" type="checkbox"/>
BACKEND_1	Dummy System Alias to test routing	USERGROUP_B	<input type="checkbox"/>
BACKEND_2	Dummy System Alias to test routing	USERGROUP_B	<input checked="" type="checkbox"/>
BACKEND_3	Dummy System Alias to test routing	USERGROUP_C	<input checked="" type="checkbox"/>

We can now assign the roles USERGROUP\_A, USERGROUP\_B and USERGROUP\_C to the users USER\_A, USER\_B and USER\_C respectively so that their calls are routed to those system(s) where they have backend users.

## Display User



User   
Last Changed On    Status

Address Logon data SNC Defaults Parameters **Roles** Profiles Gr... < >



Reference user for additional rights

### Role Assignments

S...	Role	Type	Valid From	Valid to	Name	
	USERGROUP_A		29.01.2015	31.12.9999	empty role for backend assignment	^ v

## Display User



User   
Last Changed On    Status

Address Logon data SNC Defaults Parameters **Roles** Profiles Gr... <





Reference user for additional rights

### Role Assignments

S...	Role	Type	Valid From	Valid to	Name
	USERGROUP_B		29.01.2015	31.12.9999	empty role for backend assignment

**Display User**






































User:

Last Changed On: 




 Status:

Address Logon data SNC Defaults Parameters **Roles** Profiles Gr...

Reference user for additional rights

Role Assignments

S...	Role	Type	Valid From	Valid to	Name
	USERGROUP_C		29.01.2015	31.12.9999	empty role for backend assignment

When performing a MOC call like the following using the Gateway Client

/sap/opu/odata/IWBEP/GWDEMO;mo/CountryCollection/

You would get responses like the following:

USER\_A

```
<entry>
```

```
    <id>http://<host>:
```

```
<port>/sap/opu/odata/IWBEP/GWDEMO;mo/CountryCollection(SAP__Origin='BACKEND_1',CountryCode='A  
D')
```

```
    </id>
```

```
    <title type="text">CountryCollection(SAP__Origin='BACKEND_1',CountryCode='AD')
```

```
</title>
```

```
    <updated>2015-01
```

```
...
```

```
</entry>
```

USER\_B

```
<entry>
```

```
    <id>http://<host>:
```

```
<port>/sap/opu/odata/IWBEP/GWDEMO;mo/CountryCollection(SAP__Origin='BACKEND_1',CountryCode='A  
D')
```

```
    </id>
```

```
<title type="text">CountryCollection(SAP__Origin='BACKEND_1',CountryCode='AD')
</title>

<updated>2015-01

...

</entry>

...

<entry>

    <id>http://<host>:
    <port>/sap/opu/odata/IWBEP/GWDEMO;mo/CountryCollection(SAP__Origin='BACKEND_2',CountryCode='A
    D')

    </id>

    <title type="text">CountryCollection(SAP__Origin='BACKEND_2',CountryCode='AD')
    </title>

    <updated>2015-01

    ...

</entry>
```



USER\_C

<entry>

<id>[http://](#)<host>:

<port>/sap/opu/odata/IWBEP/GWDEMO;mo/CountryCollection(**SAP\_\_Origin**='BACKEND\_3',CountryCode='AD')

</id>

<title type="text">CountryCollection(**SAP\_\_Origin**='BACKEND\_3',CountryCode='AD')

</title>

<updated>2015-01

...

</entry>

Please note that an additional key field **SAP\_\_Origin** has been added to the response. Therefore it is possible to distinguish results from the different backend systems that might have the same key values.

## Use only routing

If the users have only one user in one of the backend systems you could call the service without the MOC option. In this case the call is simply routed to one backend.

## The default flag

When assigning system alias entries to a service there is the option to mark an entry as default which is also described here: [Assigning SAP System Alias to OData Service – SAP NetWeaver Gateway – SAP Library](#).

Why do we have this default flag ?

There are basically 3 types of requests:

1. Requests that can only be performed in one system

An example for such a request is the \$metadata request or a create request or a function import that only retrieves one entity (multiplicity 1)

2. Requests that can retrieve data from multiple systems

Here we are talking about Multi Origin Composition requests that use the option “;mo”. Examples are requests that retrieve a list from an entity set or a function import with multiplicity n.

3. Requests that will end up in one system

A simple example is any request that is sent without the MOC option.

The default flag is needed to specify a specific system alias to be used if more than one system alias is found but only one is needed. Let's have a look at the following two examples where this is the case.


#### 1.) Request of an entity set without using the MOC option

In the example described above this would be the case if USER\_B performs the http GET request without using the MOC option.

```
/sap/opu/odata/IWBEP/GWDEMO/CountryCollection/
```

In this case the data would be retrieved from BACKEND\_2 since based on the role assignment two system aliases are found (BACKEND\_1 and BACKEND\_2) but only the one with BACKEND\_2 is marked as default.

If none of the 2 system alias entries BACKEND\_1 and BACKEND\_2 are marked as 'Default' as shown in the following screen shot:

<div> Add System Alias Remove System Alias Customizing Service Implementation </div>			
<b>System Aliases</b>			
SAP System Alias	Description	User Role	Default
BACKEND_1	Dummy System Alias to test routing	USERGROUP_A	✓
BACKEND_1	Dummy System Alias to test routing	USERGROUP_B	
BACKEND_2	Dummy System Alias to test routing	USERGROUP_B	
BACKEND_3	Dummy System Alias to test routing	USERGROUP_C	✓

than the following error message would occur:

No System Alias flagged as "Default" for Service 'ZGWDEMO\_0001' and user 'USER\_B'

**SAP NetWeaver Gateway Client**

Execute Select Maintain Service Service Implementation EntitySets

HTTP Method: GET POST PUT PATCH MERGE DELETE ☐ Reuse HTTP Connection (e.g. necessary for Soft State)

Request URI: /sap/opu/odata/IWBEP/GWDEMO/CountryCollection/ Add URI Option

Protocol: HTTP HTTPS Test Group: MOC Test Case: count for moc

HTTP Request

Header Name	Value

1

HTTP Response

Header Name	Value
~status_code	500
~status_reason	Internal Server Error

```
<?xml version="1.0" encoding="UTF-8"?>
- <error xmlns="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">
  <code>/IWFND/CM_COS/065</code>
  <message xml:lang="en">No System Alias flagged as "Default" for Service
    'ZGWDEMO_0001' and user 'USER_B'</message>
  - <innererror>
    <transactionid>EF8FA8E4A0FAF1A4AC4F005056B22F13</transactionid>
    <timestamp>20150130150057.0600000</timestamp>
    - <Error_Resolution>
      <SAP_Transaction>Run transaction /IWFND/ERROR_LOG on SAP NW Gateway hub
        system and search for entries with the timestamp above for more
        details</SAP_Transaction>
      <SAP_Note>See SAP Note 1797736 for error analysis
        (https://service.sap.com/sap/support/notes/1797736)</SAP_Note>
    </Error_Resolution>
    <errordetails/>
  </innererror>
</error>
```

2.) Retrieve the \$metadata document of a service

The same error would also occur if USER\_B would try to retrieve the \$metadata document of the service

/sap/opu/odata/IWBEP/GWDEMO/\$metadata

## Use case 2 – Use the host name in addition for routing

In this scenario different system aliases should not only be selected based on the roles that have been assigned to a user but also on the host name that is used by the OData client to call the service.

In this case you have to add a host name including the port number in the field *Host Name* when adding a new system alias to a service using the transaction `/n/IWFND/MAINT_SERVICE`.

### Please note:

Adding solely the host name without the port number will not work.

### System Aliases

SAP System Alias	Description	Default	Metadata	User Role	Host Name
LOCAL	Local System Alias	<input type="checkbox"/>	<input type="checkbox"/>	Z_GATEWAY	gw_on_host1:50006
LOCAL2	Local System Alias	<input type="checkbox"/>	<input type="checkbox"/>	Z_GATEWAY	gw_on_host2:50006

If a user uses the following URL

`http://gw_on_host1:50006/sap/opu/odata/IWBEP/GWSAMPLE_BASIC/ProductSet`

the system alias **LOCAL** will be used whereas when using the following URL

`http://gw_on_host2:50006/sap/opu/odata/IWBEP/GWSAMPLE_BASIC/ProductSet`

the system alias **LOCAL2** will be used.

# Custom routing

If role based routing and the use of host names does not suite your needs you can implement custom dynamic system alias calculation as described in my following blog.

[How to implement custom dynamic system alias calculation in SAP Gateway](#)

Alert Moderator

## Assigned tags

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SAP Gateway

former jive document

## Similar Blog Posts



---

[How to implement custom dynamic system alias calculation in SAP Gateway](#)

By Andre Fischer Aug 08, 2016

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[Problems with multi-origin in SAP NetWeaver 740 SP13 ... and how to solve them](#)

By Andre Fischer Jan 21, 2016

---

[SAP Gateway Deployment Options](#)

By Jitin Khanna Apr 23, 2019

## Related Questions



---

[Multiple Origin Composition](#)

By Syambabu Allu Jan 28, 2013

---

[CREATE\\_ENTITY Operation in Multiple Origin Composition \(MOC\) Support](#)

By Former Member Feb 02, 2015

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[Error while consuming Odata service from Gateway client i.e /iwfnd/gw\\_client](#)

By Former Member Aug 08, 2014

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34 Comments

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Kai Holert

March 3, 2015 at 3:08 pm

If this is not sufficient, SAP provides the enhancement spot **/IWFND/ES\_MGW\_DEST\_FINDER** for the implementation of customer specific rules.

See SAP Help Portal:

[http://help.sap.com/saphelp\\_gateway20sp09/helpdata/en/5b/3391526aa6224fe10000000a445394/content.htm](http://help.sap.com/saphelp_gateway20sp09/helpdata/en/5b/3391526aa6224fe10000000a445394/content.htm)

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Former Member

July 1, 2015 at 11:39 am

Hello,

We have implemented OData Service using Multiple Origin Composition concept. Where, We had two backend Systems ( for ex: SYS1 and SYS2 ) and a gateway server system (For Ex: GWS). So When we make a call to service, the result comes from both the backend systems into a single feed.

But if one of the backend systems is down, We could not receive the result from the other backend as well. We should receive the result from SYS2 when SYS1 is down. Could you help in this regard.

Note: We have RFC connection from GWS to SYS1 and from GWS to SYS2.

Thank You.

Seshu

Like 0 | Share



Andre Fischer | Blog Post Author

July 1, 2015 at 3:56 pm

Hi Seshu,

as I wrote in the section "Caution" in this document there is a way to achieve a fault tolerant behavior for exactly these kind of scenarios.

*Since as of SP07 of SAP Gateway 2.0 it is possible to make the READ feed requests of a service in "Multi Destination Composition" mode error tolerant (SPRO -> SAP NetWeaver -> Gateway -> OData Channel -> Composition -> Flag OData Services to be error tolerant in case of MDC)*

Best Regards,

Andre

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Former Member

July 2, 2015 at 8:10 am

Hi Andre,

Yes. We have added our service in 'Flag

OData Services to be error tolerant in case of MDC' table in SPRO. Which is able to handle if there is any runtime error in one system (in this case, rfc connection is successful and service call can meet backend system). But, When the whole backend system is down (which results in rfc connection fail) for

maintenance, the result is some rfc error but not the result from another backend. Could you please tell me what is the reason.

Thank you for looking into this issue.

Regards,

Seshu

Like 0



Yen Shen, Ben Lim

November 3, 2020 at 8:52 am

Hi [Andre Fischer](#)

Is there workaround for this?

I'm having similar issues for MyInbox. I've followed the SAP Note 2944571 - My Inbox substitution - user does not exists by maintaining the TaskProcessing service in "Flag OData Services to be error in case of MDC" in SPRO. However when User A do substitution from which having system backend 1 and backend 2 access to substitute User B which only exists in backend 2, the substitution raised an error just like what is described in the SAP Note.

Anyone face similar issue and able to resolve?

Thanks.

Regards,

Ben

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**Andre Fischer** | Blog Post Author  
November 3, 2020 at 10:16 am

Hi Ben,

as indicated in the documentation the fault tolerance only works for read requests.

*Error Tolerance*

*You can flag READ feed requests of a service in MOC mode error-tolerant.*

And doing a substitution is probably not a READ request.

What you can try to do is to implement your own logic on top in the extension point of the destination finder as described here.

<https://blogs.sap.com/2016/08/08/how-to-implement-custom-dynamic-system-alias-calculation-in-sap-gateway/>

You could for example check if the user has an appropriate role in the hub system that indicates that he or she has a user in the backend.

Or you can implement other business logic to find out if some body has use in the system(s) that shall be called.

Best regards,

Andre

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**Yen Shen, Ben Lim**  
November 3, 2020 at 10:20 am

Appreciate for your prompt response [Andre Fischer](#) !

Will check on the blog you shared!

Thanks.

Regards,

Ben

Like 0 | Share



**Former Member**

March 2, 2016 at 12:58 am

Hi Andre, great blog! With this scenarios, how would you know/specify which system is making the call since they all using the same gateway server?

Thanks

DT

Like 0 | Share



**Oliver Walter**

March 24, 2016 at 2:10 pm

Hello everyone,

we face an issue with multiple Aliases assigned to an OData Service, where the aliases are not restricted by user roles:

System\_A (Default)

System\_B

System\_C

System\_D

...

In General every user could call every alias and the selection is controlled by SAP\_Origin. A request goes only to one particular System.

No it can happen, that a user has Access to Gateway, but is missing sufficient authorization to any of the backends. In that case we return a message, that user is not authorized for backend xxx.

Unfortunately now we have the issue that the Odata call is executed with SAP\_Origin=System\_D, but the error Returns always the Default Alias System\_A.

Switching off the Default Alias is also not working.

Any idea to solve this issue?

Regards Oliver

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**Rahul Gupta**

March 24, 2016 at 4:51 pm

Oliver,

Clear cache /IWFND/CACHE\_CLEANUP t-code and then try.

~Rahul

Like 0 | Share



**Oliver Walter**

March 29, 2016 at 6:52 am

Hi Rahul,

thanks for the hint, but this does not solve the issue. Any ideas?

Regards Oliver

Like 0 | Share



**Former Member**

November 10, 2016 at 6:16 pm

Hi Andre

Please, which the content of the role? The authorization objects?

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**Beat Birrer**









September 3, 2018 at 12:34 pm

Hello everyone,

I have a generated oData-Service based on a CDS-View. I try the multi origin composition to get data from two different clients. This works basically but when I add a filter to the request to get the data from a specific client, i'll always get an error. There are no issues when I do the same with a manually created oData-Service. So I think there is a problem with the SADL based services.

This is the request

### SAP Gateway Client

  Execute   Select  Service Administration  Service Implementation  EntitySets 

HTTP Method

☒ GET ☐ POST ☐ PUT ☐ PATCH ☐ MERGE ☐ DELETE

Request URI

/sap/opu/odata/sap/ZVO\_1STAT\_CDS\_SRV;mo/ZVO\_CDS\_STAT\_REPO\_UI?\$filter=SAP\_\_Origin eq '██████████'

Protocol

☒ HTTP ☐ HTTPS

Test Group

Test Case

And this the response:



## HTTP Response - Processing Time = 3919 ms

Header Name	Value
~status_code	500
~status_reason	Internal Server Error
content-type	application/xml; charset=utf-8
~server_protocol	HTTP/1.0
set-cookie	sap-usercontext=sap-language=E&sap-client=101; path=/
set-cookie	SAP_SESSIONID_MT3_101=Wc_uIK1zYqwkMvHZcDbq_8lrFWivdBHootoAUFaOb14%3d; path=/; ...
content-length	904
dataserviceversion	1.0
sap-perf-fesrec	3873565.000000
RequestID	0050568E6F5E1EE8ABEE9933B2E6E2DA

```

<?xml version="1.0" encoding="UTF-8"?>
- <error xmlns="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">
  <code>/IWFND/CM_BEC/026</code>
  <message xml:lang="en">RFC Error: This line is not contained in the table.</message>
  - <innererror>
    - <application>
      <component_id>FI-CAX</component_id>
      <service_namespace>/SAP/</service_namespace>
      <service_id>ZVO_1STAT_CDS_SRV</service_id>
      <service_version>0001</service_version>
    </application>
    <transactionid>E1744373AE6900B0E005B7FFD5119EFC</transactionid>
    <timestamp>20180903122809.5630380</timestamp>
  - <Error_Resolution>
    <SAP_Transaction>Run transaction /IWFND/ERROR_LOG on SAP Gateway hub sys
  
```

```
      details</SAP_Transaction>
    <SAP_Note>See SAP Note 1797736 for error analysis (https://service.sap.com/s
  </Error_Resolution>
  <errordetails/>
</innererror>
</error>
```

Can anyone help me?

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Andre Fischer | Blog Post Author

September 3, 2018 at 2:22 pm

Hi Beate,

I tested this myself and found the same issue.

I raised an SAP internal incident for that.

Can you please create a question in the forum that I can answer once I get Feedback from my colleagues.

I don't see a workaround right now since the SADL runtime used the `io_tech_request_context` object.

In contrast to the mapped data source approach there is no option to manipulate the filter string.

Regards,

Andre

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**Beat Birrer**

September 4, 2018 at 7:24 am

Hi Andre,

thanks for your answer and for creating an internal incident.

I create the following question in the forum where you can answer if you get some news.

<https://answers.sap.com/questions/621502/odata-multi-origin-doesnt-work-with-sadl-runtime.html>

Thanks and regards,

Beat

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**Ginwene Rueda**

September 7, 2018 at 6:38 am

Hi,

Does this work for batch operation?

We have a similar setup, but it only works if the requests are on a non-batch request.

Thanks,

Gin

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**Marc Schleeweiß**

April 11, 2019 at 1:33 pm

Hello,

how can we implement this behaviour when using SAP Cloud Platform OData Provisioning?

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**Andre Fischer** | Blog Post Author

April 12, 2019 at 3:29 pm

Hi Marc,

SAP Cloud Platform OData Provisioning does not support routing.

It only supports multi origin composition (MOC).

So you can't implement this behavior using SAP CP ODP.

Regards,

Andre

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**Marc Schleeweiß**

April 15, 2019 at 9:25 am

Thank you for your response. This seems like a showstopper for us, since we are currently migrating from on-premise to the cloud. Is this on the roadmap? Is there a workaround?

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**Andre Fischer** | Blog Post Author

April 19, 2019 at 12:18 pm

Hi Marc,

I checked with my colleagues and they told me that it is on the roadmap but I can unfortunately not share any Details, especially not when this feature is planned to be delivered.

Depending on the complexity you might be able to use several sub accounts that are connected to different backend Systems?

Best Regards,

Andre

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April 29, 2019 at 8:29 pm

Hi Andre ,

I have a scenario where I need to build an ODATA Service in SAP CRM system to SFDC to consume. This ODATA service, in turn, has to communicate to C4S by consuming multiple standard C4S ODATA service and RFC to S4 system to pull some of the data. For this scenario, what is the recommended approach?

Regards

Kiran

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**Andre Fischer** | Blog Post Author

May 4, 2019 at 5:02 pm

It depends on the SAP NetWeaver Release in your SAP CRM system and the timeframe in which the new service has to be built.

1.

The new SAP Cloud ABAP Environment might be an option for you since the new ABAP RESTful programming model allows for both, the consumption of OData Services as well as the consumption of RFC function modules and is perfectly suited for an ABAP based extension for SAP on premises systems as well as for SAP S/4 HANA Cloud.

There are still some technical restrictions that one would have to look into whether they are a showstopper right now.

2.

The second option would be to build an OData Service in the CRM using the SAP Gateway Framework using SEGW.

Here one would have to look how calling an OData service in C4S can be implemented since the OData Proxy will not yet be part of your SAP Gateway framework functionality.

HTTP calls can be performed but you would have to parse the OData response on your own.

Regards,

Andre

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**Olga Chrebtov**

June 26, 2019 at 11:13 am

Hello Andre,

Thank you very much for your Article!

We can connect one Gateway(Hub) with one Mandant with multiple Mandants in S/4 HANA On-Premise?

Several Apps use Standard System Alias (Example S4FIN). How connect we in this Case?

Best Regards

Olga

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**Andre Fischer** | Blog Post Author

June 26, 2019 at 11:24 am

Yes , you can define several system aliases (S4FIN1, S4FIN2, ...) that will use RFC destinations that point to Client 001, 002, ...

So you simply have to define additional system aliases for all clients in your S4 Backend and assign those to your services using transactin /iwfnd/maint\_service.

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**Olga Chrebtov**

June 27, 2019 at 11:48 am

Hello Andre,

We have clients 100, 200, 300 in S/4 HANA. In Gateway Hub (Fiori) have we only one client 100. If I understood correctly, for each Client should we do System Alias FI100, FI200, FI300 with Role ZGW\_100, ZGW\_200, ZGW\_300 and assign to OData Service. Should we assign System Alias in each Tile by Parameter Field in Fiori Launchpad Designer? What else should we do? How do we set SAP GUI, WEB Dynpro in this Case to Fiori Launchpad? Is there documentation?

Best Regards

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**Stephan Molden**





April 14, 2020 at 11:32 am

Hello Andre,

thanks for this post. It's great. Just one thing I came across. As far as I found out the determination of the table is not like it is in all other SAP customizing tables meaning the more restrictive the data record is it will be taken into account. So it is not possible to have one data record without a user role and one record with a user role and SAP searches for the best fitting.

In my opinion this is unfortunately not very flexible because it implies that you have to maintain all user roles. There is a way to achieve it to implement Badi /IWFND/ES\_MGW\_DEST\_FINDER but honestly it would be great if that would be the last option.

I didn't raise a SAP call as I think it's more a design question than a real bug, but maybe you can address it internally?

BR

Stephan

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**Andre Fischer** | Blog Post Author

April 14, 2020 at 4:18 pm

Hi Stephan,

thank you very much for your feedback.

The design for the customizing of the destination finder is already out for about 10 years now and though it is not the most flexible we do not plan to change anything here given the fact that any change here might have the potential to destabilize the huge number of existing installations out there.

So unfortunately the only thing that I can suggest you would be to implement the Badi with your own optimized code.

But maybe you can share your implementation with others if you write a blog and share your code on GitHub?

Best regards,

Andre

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**B S**

April 20, 2020 at 4:51 pm

Hello,

I have a local OData Service and would like to add a second backend from another SAP client. I want to connect the second backend via an RFC-Connection.

Do I need to implement a OData Service in the second backend?

Right now I have a local connection (local client) and an RFC-Connection to the client (second backend) and matching it to a system alias. But its giving me duplicate local data.

Is there a step by step guide how to establish a second backend to an existing hub?

Thanks in advance

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**Andre Fischer** | Blog Post Author

April 20, 2020 at 5:49 pm

You simply have to create a second system alias that uses the RFC destination that points to the other client.

And then you have to add this system alias to the service that you have already registered.

That should work.

[https://help.sap.com/saphelp\\_gateway20sp12/helpdata/en/46/bf1c1543eb406dbeece15d05d5582b/frameset.htm](https://help.sap.com/saphelp_gateway20sp12/helpdata/en/46/bf1c1543eb406dbeece15d05d5582b/frameset.htm)

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**B S**

April 21, 2020 at 9:23 am

Thank you for your reply.

I had already taken all the steps you mentioned.

In T-Code SM59 the Remote-Login is working fine.

This is my System Alias:

SAP-Gateway-Routing-Konfiguration

Verbindung prüfen

Stat.	Systemalias	RFC-Destination	Lokales GW	Für lokale ...	OData im ...	Syste... Man...	Beschreibung	BEP-Systeminformationen	Softwareversion	WS-Provi...
LOCAL	NONE		✓	✓			Lokaler Systemalias	nicht zutreffend	DEFAULT	
SYSTEM-2	SYSTEM-2			✓		400		noch nicht verfügbar	/IWPGW/BWF	

OData V4 - Servicegruppen - SYSTEM-2

Zelle	Gruppen-ID	Standar... Metad...	Benutzerrolle	Hostname	Geändert v...
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OData V2 - Services - SYSTEM-2

Zelle	Service-ID	Standar... Metad...	Benutzerrolle	Hostname	Geändert v...
1	SRV_0001				

SAP

But still in the SAP Gateway Client the output (SAP\_\_Origin='BACKEND-2') is from client 100 instead of 400.

I havent done any implementation or anything else in the client 400 System. Am I missing something there?

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Andre Fischer | Blog Post Author

April 21, 2020 at 12:01 pm

From your screen shot it is clear that this is not going to work since the alias is named "SYSTEM-2" and not "BACKEND-2".

Also it is strange why you are using a software version /IWPGW/BWF for the system alias "SYSTEM-2".

I would create a new system alias without a software version instead.

Have you tried to call your service using the option ";mo" ?

/sap/opu/odata/IWBEP/GWDEMO;mo/CountryCollection/

This should return values with keys from both "LOCAL" and "SYSTEM-2".

Best regards,

Andre

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**B S**

April 21, 2020 at 12:13 pm

Sorry I pasted the wrong SAP\_Origin. Instead it is "SAP\_\_Origin='SYSTEM-2')".

And yes I am using ";mo"

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**B S**

April 22, 2020 at 3:11 pm

One last question to my issue.

When I uncheck all checkboxes in "Manage SAP System Aliases" and hit the button "Check Connection" I get this error message:

	SYSTEM-2	SYSTEM-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4D	400	Multi Origin Client 400	not yet available	DEFAULT
--	----------	----------	--------------------------	--------------------------	--------------------------	-----	-----	-------------------------	-------------------	---------

## Connection Test SYSTEM-2

Action	Result
Connection Test	Connection Error
Error Details	Error: The specified destination was not yet created.

I havent found anything for this error message?

Does this mean the RFC-Destination is not created? Because in t-code sm59 its working fine and "Remote Logon" in sm59 is also working fine.

 **BS**  
Like 0 | April 24, 2020 at 7:31 am

We found the solution. The RFC Connection was not created in upper case. Now everything is working fine.

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