CUSTOMER GUIDE

Migration of SAP Analytics Cloud from Neo to Cloud Foundry Environment

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1 WHY WE'RE MIGRATING FROM NEO TO CLOUD FOUNDRY

SAP Analytics Cloud is a cloud-only analytics application built on the SAP Cloud Platform. It provides comprehensive Business Intelligence, Planning, and Predictive capabilities.

SAP Cloud Platform is available on two different technical platforms: Neo and Cloud Foundry.

The Neo platform is an SAP proprietary environment that runs only in SAP operated Data Centers. On this platform, a limited number of programming languages is supported by SAP, such as Java and HANA XS.

Cloud Foundry, on the other hand, makes use of open source components and supports various additional runtimes like Python and NodeJS. It supports multiple cloud providers like Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform, and Alibaba Cloud.

SAP took the strategic decision for SAP Analytics Cloud as for many other services to stronger focus on the development on top the Cloud Foundry Environment. One important reason for that is the higher scalability in provisioning data centers around the globe. The large providers are extensively growing their footprint in the market, what makes it more flexible for you as a user of SAP Analytics Cloud to find an appropriate data center. While currently only AWS is supported for Analytics Cloud, Microsoft Azure and Alibaba Cloud are on our roadmap for the near future.

In this guide, we'll go over the differences between SAP Analytics Cloud running on Neo vs. on Cloud Foundry, so that you can have a thorough understanding of each. We'll also cover the process to migrate your SAP Analytics Cloud system(s) so your migration journey is as seamless as possible.

Want to learn more about the SAP Cloud Platform Environments? We cover Cloud Foundry and Neo more in depth in this blog post.

1.1 Features running only on Cloud Foundry (as per November 2020)

While some features of SAP Analytics Cloud are available on both Neo and Cloud Foundry only the Cloud Foundry environment will provide access to some of SAP Analytics Cloud's features, such as Smart Predict and scheduling/publishing a story.

To learn more about these features, take a look at these blog posts and articles in our Help Portal, below:

- Scheduling Publications
  See blog post and SAP Help

- Smart Predict
  See learning content and SAP Help

- Cloud Platform Open Connectors
  See SAP Help

- SAC Add-In for Microsoft Office
  See blog post and learning content

- Live Connection to HANA Cloud (without need for Adapter)
  See SAP Help

- Predictive Planning capabilities
  See learning content

In line with SAP's strategic direction to make Cloud Foundry the strategic platform, there may be more features in the future that will only be available on Cloud Foundry.

1.2 Migrations options

There are two ways you can choose to migrate from Neo to Cloud Foundry.

1.2.1 Manual migration

If you opt to manually migrate to Cloud Foundry, you will be able to do so easily with existing functionality for exporting and importing of objects. But with this approach, even though you won't have hands on guidance from SAP, our experts are always waiting in the wing should you have any questions.

Please note, some objects cannot be migrated automatically, such as private objects. These will have to be created manually on the target system.

For further information on exporting and importing of objects in SAP Analytics Cloud, please refer to this Knowledge Base article.

1.2.2 Migration by backup and recovery from SAP

If you opt to migrate by backup and recovery, SAP will provide a migration approach from Q3, 2020 onwards. This approach will move everything that´s included in your SAP Analytics Cloud Neo instance by taking a backup on Neo and restoring it on the Cloud Foundry environment.

You will find all necessary details of this approach in the following chapters.
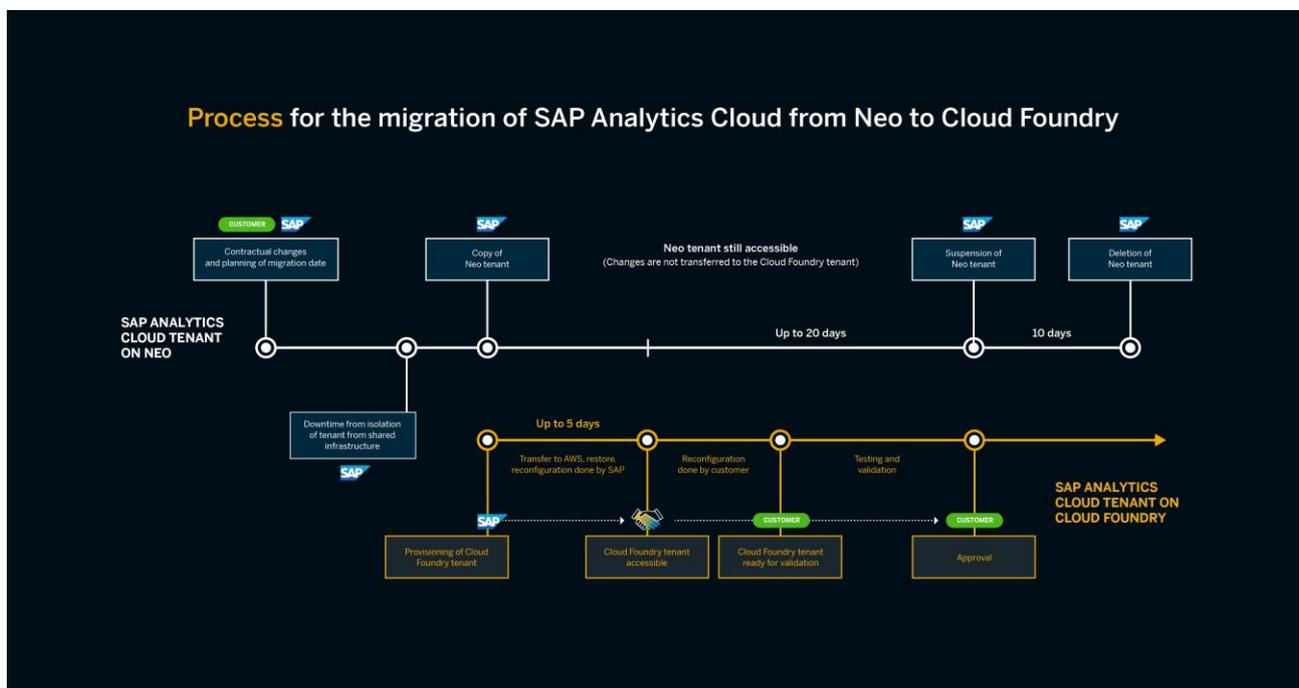
2   MIGRATION PROCESS

Our approach to migration by backup and recovery covers the entire process without deployment activities on your side. We conduct a backup of a complete system running in the cloud. The backup is then transferred to the Cloud Foundry infrastructure.

The new SAP Analytics Cloud instance merely needs to be embedded into your particular landscape.

The current migration process can take up to five days to complete, depending on the size of the tenant as well as several other factors. Once our team has all the necessary information in place, we can begin planning the migration project milestones, and you can expect a highly standardized migration project.

Here is what the migration journey looks like from start to finish. Don't worry; we'll cover all the migration steps in detail in the following sections of this guide.

2.1 Technical migration procedure

As mentioned above, SAP's migration process involves a backup of a complete system running in the cloud. A system consistent of different tenants which technically bear the single SAP Analytics Cloud units. These units can be reached with a dedicated URL. When these systems are backed up, they are then transferred to the new infrastructure – in our case, to Cloud Foundry.

If your SAP Analytics Cloud tenant is running together with tenants of other customers on a shared infrastructure ("Public"), it must first be transferred to a dedicated system within the Neo environment. Otherwise, all other tenants running on the system will be transferred to Cloud Foundry, too.

This tenant isolation requires a downtime of several hours, which means that the URL cannot be reached. This downtime can usually be performed overnight to ensure there is minimal user disruption. Data Center location, URL, functions, etc. will remain unchanged.

The actual migration is starting with a backup of your tenant in the Neo environment. This backup is then transferred to Cloud Foundry. After a restore and some re-configuration steps on the target infrastructure, such as binding the new tenant to a new SAP Cloud Platform (SCP) subaccount and a new URL, the tenant can be handed over to an admin user to perform certain re-configuration steps (such as re-entering credentials for live connections).

2.2 Prerequisites for the migration

Before we begin your migration from Neo to Cloud Foundry, you will need to complete the following prerequisites.

2.2.1 Adjustment of your SAP Analytics Cloud contract

As a very first step, the content in your contract must be adjusted by replacing the Neo material code by a code for Cloud Foundry environments. This will be the legal basis for SAP to:

1. Provision a new tenant on the Cloud Foundry environment of AWS (more cloud providers to come)
2. Transfer your data to this environment

As soon as the updated contract has been signed by all approvers on both your and SAP sides, we can then take the starting date of this contract as the starting point for the migration planning.

2.2.2 Ticket-based process

After your contract is signed with the new start date, we kindly ask you open an incident ticket. You can do so under component LOD-ANA-ADM with description "Migration from Neo to Cloud Foundry".

In this ticket, please provide all the information requested in chapter 2.2.3 and send it to us.

Your ticket will be used as reference for the entire migration process and our team will update it with every completed step in the migration process.

Important: Please do not close the ticket before you successfully validated that your SAP Analytics Cloud application after the migration is working as expected.

2.2.3 Information to be provided for migration

We kindly ask that you provide this information before the starting date of your new contract. Please refer to the process described in chapter 2.2.2.

2.2.3.1 Tenants

Please let us know which tenants on Neo shall be migrated to Cloud Foundry and under which URLs these SAP Analytics Cloud tenants can be reached.

If you would like to have one tenant migrated at a later point in time, please specify in your ticket.

2.2.3.2 New URL (optional)

The Data Center your tenant is in will change with the migration. As such, your new Cloud Foundry tenant will have a new URL. The Data Center section in the domain will therefore change, for instance, from "EU1" to "EU10" or from "US2" to "US10".

Depending on your current URL, our team will also update the domain name to our latest product names, for instance, from ".businessobjectscloud.com" to ".sapanalytics.cloud" or "*.hcs.cloud.sap"

Once the tenant is provisioned, there´s no possibility to change anything in the URL. If you would like to take the opportunity to change your company specific part of the URL, please let us know.

Example:

| URL on Neo: | https://company.eu1.businessobjectscloud.com |
| URL on CF: | https://company-new.eu10.sapanalytics.cloud |

This section of your URL is determined by a newly created SAP Cloud Platform subaccount. It can contain only letters, digits, and hyphens (not allowed in the beginning or at the end) and must be unique across all SAP Cloud Platform subaccounts in the same region. Uppercase and lowercase letters can be used; however, that alone does not qualify as a means to differentiate.

2.2.3.3 Identity Provider (IdP)

Are you using a custom IdP? If yes, please follow the steps described below. If not, you may skip ahead to section 2.2.3.4.

1. **Download XML Service Provider Metadata from the SAP Analytics Cloud UI**
   You'll find more information about the usage of Identity Providers in SAP Analytics Cloud and how to download the metadata file from the SAP Analytics Cloud UI on the SAP Help site.

2. **Maintain IdP metadata outside SAP Analytics Cloud**
   Instead of getting the metadata from SAP Analytics Cloud UI, you can get it directly from
   https://$subaccountName.authentication.$landscape.hana.ondemand.com/saml/metadata. The actual link to the right subaccount will be provided after the target URLs have been decided and our teams have created the subaccounts.

3. **Importing the information into IdP**
   Please refer to this SAP Help site.

4. **Add Claim Rules for SAP Analytics Cloud**
   Importing the Metadata.xml from IdP has already been completed using the metadata obtained in the elaboration phase. For "Choose a user attribute to map to your identity provider," the attribute selected is identical to the one currently selected in the Neo tenant.

5. **Validating the account**
   Validation is conducted by successfully logging into the tenant. Please note: the validation portion in the UI is to avoid locking yourself out of the tenant. If the tenant has been restored, you are locked out by default until the IdP configuration is fixed.

To read more on how to properly configure IdP for Cloud Foundry, see the support notes in our Knowledge Base, below:

> https://launchpad.support.sap.com/#/notes/2411608
> https://launchpad.support.sap.com/#/notes/2487567

2.2.3.4 Plan dates

When all your necessary information (see previous chapters) has been provided, the standard migration process is ready to commence. Your migration will begin after your contract starting date.

If you are on Public infrastructure, the first step in the migration process is tenant isolation within the Neo infrastructure (see chapter 2.1).

To move your SAP Analytics Cloud tenant to a dedicated system in the Neo environment, we will need a system downtime of about eight hours. This can usually be done overnight, but cannot be combined with other downtimes, such as maintenance windows.

To ensure you and your customers experience a minimal disruption as possible, please suggest a date and time (including time zone) when a potential downtime will best fit within your schedule. Dates must be after the start date of the contract, be at least one week in advance, and not on a weekend.

Please plan some time to briefly check if your SAP Analytics Cloud tenant is working properly after the isolation has been completed.

Migration date:

The migration is done by doing a backup of the tenant on Neo and transferring and restoring the tenant on the Cloud Foundry infrastructure. The backup of the Neo tenant will be completed without disrupting any user activity. Please note, however, that from this point, all changes in the Neo tenant will not be transferred automatically to the new Cloud Foundry instance.

You should be able to perform re-configuration steps after the technical migration (see chapter 2.3).

We will perform the migration in the second half of each month in a dedicated week. Backup will be conducted on the Friday before this week, at 7:00 p.m. CET. The migration of your SAP Analytics Cloud tenant will automatically be scheduled when all pre-requisites are fulfilled, meaning:

- New contract signed with a start date before the 5th of the month
- All information has been provided in an incident ticket under component LOD-ANA-ADM before the 5th of the month
- Tenant isolation (if applicable) has been successful

Please let us know if this standard schedule does not fit to your schedule. If so, we can move your tenant migration to a consecutive month.

2.2.3.5 Further preparation steps

As an additional step to prepare for the migration, we'd ask you to delete all entries in the 'Deleted Files' repository of SAP Analytics Cloud. These can sometimes cause issues during the migration process.

2.3 Post migration steps

After the migrated tenant has been made available, the following steps need to be performed to reconfigure the tenant.

2.3.1   Re-enter credentials for Open Authorization (OAuth) clients

If you're using OAuth clients, please refer to the section of the SAP Analytics Cloud Help Guide in our Help Portal.

There will be a new (similarly named) OAuth client with identical privileges as the one that existed in Neo. You will need to update any places where they were using those OAuth clients in the first place (outside of SAP Analytics Cloud) to target the new tenant with the new credential set instead of the old tenant with the old credential set.

2.3.2   Re-enter credentials for Live Connections

Please refer to the appropriate sub-section under the SAP Analytics Cloud Help Guide in our Help Portal.

Please refer also to this article in our Knowledge Base:
https://launchpad.support.sap.com/#/notes/2589761

SAP Analytics Cloud tenant will receive a new subaccount once the tenant migrated from SAP Neo to SAP Cloud Foundry and will require to reestablish Cloud Connector setup.

- Go to SAP Analytics Cloud, System > Administration > Datasource Configuration. Click Edit. Input Email then click Change Cloud Platform User. This will replace S-User ID to Email in Self-Service UI.
- Go to Cloud Connector. Click Add Subaccount and use information provided in Self-Service UI.
- After successful connection creation, click Cloud to On-Premise to configure Access Control. Click Import System setting button. Change Source to Subaccount then pick the subaccount prior to Neo-to-Cloud Foundry migration. Then complete Import: this will copy all mappings from one subaccount to current subaccount.

Repeat the procedure if you have setup Multi-location Cloud Connector.

Please Note:

a) Even if the user did not perform step 1), it is still possible to use S-User Email directly in Cloud Connector to establish the connection.

b) One email address can be associated with multiple S-Users but establishing the connection in SAP Cloud Platform (SCP) Cloud Foundry is Email only. It is SCP that determines which S-User to link to when using Email to logon in Cloud Connector. If your IT vendor has one or subset of S-Users linked to one Email, the vendor may not have right credential to logon. You can verify the credential by logging on to SCP directly or provide different email for different S-User. On SCP, the user should be able to the subaccount associated with SAC tenant to confirm account setup is correct.

c) After migrating to SCP Cloud Foundry, it is highly recommended to upgrade Connector to 2.12.x due to a known Cloud Foundry IP/DNS caching issue in prior versions.

d) If your Cloud Connector is behind a strict firewall, you will need to reconfigure IP restrictions.
- **Live Connections to SAP Cloud Platform with SSO**
  You will need to re-download certificates and re-establish trust between systems. Please refer to Live Data Connection to SAP CP with SSO in the user guide on how to perform these steps again.
- **Live Connections Direct Connection Type**
  For any live connection using Direct connection type, you will need to manually change the remote system CORS setting (due to SAC tenant address change).
- **Live Connections Path Connection Type**
  For any live connection using Path connection type, you will need to manually change the proxy routing for SAC tenant in the proxy server (due to SAC tenant address change).
- **Salesforce Connections**
  If your connection is using OAuth2 authentication, SAC URI is changed after migration and you will need to manually edit the connection.
- **Google Drive and BigQuery Connections**
  If your connection is authenticated with a Google account, you may need to manually edit the connection and re-authenticate with Google, as the certificate revocation is controlled by Google.

2.3.3   Re-configure everything that is impacted by the change of URL

Since the URL will be different in Cloud Foundry than it was in Neo (see chapter 2.2.3.2), you need to update all places where the old URL has been used, such as:

- SAP Cloud Connector (see chapter 2.3.2)
- Cross-Origin Resource Sharing/CORS
- Firewall permissions
- Browser rules
- Links on corporate portal sites
- Iframes (see Help Site)
- Bookmarks

2.3.4   Publish new URL to users

As part of the standard procedure, SAP can switch on a re-direction page on the Neo tenant which will be forwarding users to the Cloud Foundry tenant as soon as this has become the productive environment. As long as the Neo tenant is still accessible, it can be reached by using "?useNeo=true" in the URL.

Example: https://company.eu1.sapanalytics.cloud/?useNeo=true

It is also possible to switch on a banner to provide information about the new tenant
(got to Administration > Notifications).

2.4 Set new Cloud Foundry tenant as productive

After having received the migrated SAP Analytics Cloud tenant on the Cloud Foundry infrastructure, please validate its content and functionality. If everything is working as expected, please confirm the successful migration by closing the ticket (see chapter 2.2.2) within 20 days after the tenant has been handed over to you.

With your confirmation:

- The Cloud Foundry tenant will become the leading system for all your users.
- You can open incidents on the Cloud Foundry tenant.
- The Neo tenant will be suspended, meaning that nobody can logon to the old infrastructure any longer. From this point, only the new SAP Analytics Cloud instance will be available for the users.
- The old Neo tenant will be deleted 10 days after your confirmation.

3   KNOWN ISSUES AND TROUBLE SHOOTING

- SAML attribute mapping is not configured correctly
  - Please refer to this SAP Knowledge Base article.

- Uploaded data can be lost
  - Please make sure that no data (such as for planning purposes) is added or changed in the Neo tenant after the backup (see process description in chapter 2.1).

4 FAQ

Questions	Answer
Are there additional costs involved in migration from Neo of Cloud Foundry?	There are no additional costs except from the effort for re-configuration and testing.
Do we have to wait for renewal to migrate?	No, you do not have to wait for the renewal to migrate. Please connect with your SAP sales representative if you wish to renew.
How does the new contract look like?	The new contract contains a Cloud Foundry material code. All other terms and conditions remain unchanged.
Named users vs. concurrent users: Can named users be transformed into concurrent users during migration?	As only the entire tenant can be transferred, users must be adjusted before or after the migration has been finished.
Is it true that SAP Analytics Cloud will no longer support SAP EU Access service?	SAP EU Access service is not an official EU standard, policy, or mandated regulation, but is a unique SAP proprietary service for on-premise and cloud solutions. The introduction of the EU General Data Production Regulation (GDPR) beginning in May 2018 overlapped significantly with EU Access, by ensuring that data for EU based tenants remains within the European Union. The only addition that SAP's EU Access service provides is a limitation on the personnel that can access a customer's system to only SAP employees physically present within the EU. SAP is working on an EU Access service on Cloud Foundry/AWS, but at the time of this writing (November 2020) this is not yet available.
What if contract renewal data and migration date are not the same?	The renewal date is the starting point for all further migration steps. Once the contract renewal on Cloud Foundry is complete, we can begin to plan the migration project milestones. Note the Neo tenant can be used as before until the new migration date. The new Cloud Foundry tenant will be provisioned as part of the migration process and cannot be used prior to the migration.
Can the Neo tenant be used after the migration?	The source tenant will be available for up to 20 days after the migration has completed. During this time, both the source tenant and migrated tenant will coexist, and you may log on to either tenant using their respective URL. This window allows you to reconfigure the migrated tenant, verify it is working as expected and transfer over any content that was added or changed during the migration window. With your confirmation about the successful validation the Neo tenant will be suspended. You will then no longer be able to access it. If there is a reason to roll back to the source tenant, you can contact SAP and request this. Note that any new content/changes on the target tenant will be lost. 10 business days after your confirmation, the Neo tenant will be deleted.
Can a migration of a test tenant be started without a signed contract?	No, a signed Cloud Foundry contract is a prerequisite to transfer your data to AWS.

Will SAP also migrate SAP Analytics Cloud tenants that came with other solutions like Marketing Cloud, S/4HANA Cloud, SuccessFactors etc.?	No, at this point we are focussing on full SAP Analytics Cloud Enterprise tenants only.
Is there feature parity between existing SAP Analytics Cloud subscriptions on Neo and the Cloud Foundry subscriptions?	There is no feature loss from Neo to Cloud Foundry in fact there are some additional capabilities that are only available on Cloud Foundry and will only ever be available on Cloud Foundry. Please see chapter 1.1 for more.
What other hyperscalers will become available?	The migration process is currently only available for migration to AWS. Azure and AliCloud are on SAP´s roadmap for the upcoming months.
Are custom roles included in the migration or not?	Yes.
Can this approach also be used for a migration from Cloud Foundry to Cloud Foundry (for instance, from Public to Private)?	This particular approach is specific to Neo to Cloud Foundry migrations to AWS only.
Does the settings under system configuration is migrated as part of the Neo to Cloud Foundry migration?	Yes, but to be validated in new tenant.
From a content point of view, what about Private files, point of interest, or currency conversions?	All content is moved.
My company already has a Cloud Foundry tenant. Can this be used as target for the migration? Will the content in this tenant be deleted?	The process makes use of provisioning a brand-new HANA system from backups that are transferred from Neo. For this reason, an existing tenant (on an existing system) cannot be used as the target for a migration.
Concerning Re-entering credentials for Live connections: this is good for live connections, but what about Acquired connections? Are these connections part of the migration?	Yes, acquired connections do not need any special configuration after the migration. They will continue to work as before.
Which information is required before the migration?	Please see chapter 2.2.
Will Analytics Hub content be moved in terms of both assets and structure	Yes.
Does export/import work from Neo to Cloud Foundry, such as migrating additional content after the backup has been taken?	Yes. Exporting from Neo and importing in Cloud Foundry is possible.
Is a downtime necessary?	If your tenant is running on a public infrastructure, it must be extracted into a dedicated system before beginning of the migration. For this step, a downtime is necessary, but our team will work to ensure disruptions are as minimal as possible.

Can the migration be tested on the test tenant first before migrating the productive tenant?	The standard migration procedure includes all relevant tenants in one migration step, at one point in time. If you like to have your tenants migrated in different steps, please open a separate ticket for each tenant and tell us in which month the tenant in question shall be migrated.
Can the source tenant still be used while it's being migrated?	Yes. The source tenant on Neo will not be locked during the migration. It will be available for use. However, any changes made on this tenant during the migration, will not be present on the migrated tenant. It is recommended that you employ a suitable strategy to manage this, such as: 1. Inform users that they should not be adding or modifying content on the source tenant once the migration has started. 2. Devise a suitable way to track changes on the source tenant during the migration; and make the same changes available on the migrated tenant after the migration is complete. The SAP Analytics Cloud import/export function can help manage this. 3. Request that SAP locks the source tenant so that it is not available for use during the migration.
How long will the migration take?	The current migration process can take up to five days to complete depending on the size of the tenant and a number of other factors. SAP will update the migration ticket after migration has been completed and the tenant is available on Cloud Foundry.
What reconfiguration steps will be required by the customer as part of the migration?	Please refer to chapter 2.3.
How can users be informed about the new URL?	SAP will add a redirection page after your confirmation of the successful migration. This will inform the users about the new tenant as well as redirect them to the new URL.
Will the customer receive a new URL?	Yes. It is not possible to take the source tenant URL and make it work in the Cloud Foundry environment. A new Cloud Foundry specific URL will be issued for the target tenant.
Can you have a different URL for SAC and Analytics Hub, or must they have the same URL?	They have the same URL.
Can we choose a custom URL such as: https://sac.myorg.com?	Currently SAP cannot provide a custom URL. The new URL will look very similar to the existing one, for example: [Neo] company.eu1.sapanalytics.cloud → [Cloud Foundry] company.eu10.sapanalytics.cloud
Will the system owner be the same as in the Neo tenant after this tenant has been migrated?	Yes, system owner will remain the same.

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