Doc Туре	Tech Notes
Doc Id	TN10475
Last Modified Date	06/18/2020

# Galaxy Repository Flex and Non-Flex Licensing in System Platform 2020

## SUMMARY

AVEVA has introduced a new commercial and licensing model called **Flex Credits**. The Flex Credits model allows customers to exchange Credits for licenses and to acquire licenses on a usage basis. Some products are Flex aware and behave differently when in Flex mode. One such product is the Galaxy Repository.

In Flex mode the Galaxy Repository is licensed per Platform and each Platform can host either a single Application Engine or unlimited Application Engines. Platforms with no Application Engines require no license. In Non-Flex mode a Galaxy Repository behaves as it did in versions pre-2020 and is licensed based on IO count.

**NOTE:** For System Platform 2020 it is recommended that users do not mix Flex and Non-Flex licenses on the same license server. This avoids licensing the Galaxy Repository server incorrectly.

The following license types are available with System Platform 2020. They support Flex and Non-Flex requirements.

- Licenses with Flex entitlements only: Puts the Galaxy Repository into Flex (Engine-based) licensing mode. The following three features are present:
  - Application Server Flex Runtime
  - Application Server Flex Platform Single App Engine
  - Application Server Flex Platform Unlimited App Engines
- Licenses without Flex entitlements: Puts the Galaxy Repository into Non-Flex (IO-based) licensing mode. The following feature is present:
   Application Server ### IO (where ### represents IO count)

### License types

For production Galaxy Repositories, you can choose either a Flex license model or a Non-Flex license model and will receive the relevant license. In addition to the production license, you can use an Advanced Dev Studio consignment licenses to license a Galaxy Repository.

**NOTE:** Very early during the 2020 release certain consignment licenses were shipped with both Flex and Non-Flex entitlements. If both are present, Synchronise the license using the License manager. This will remove the Flex feature. Contact AVEVA Technical Support for assistance.

The following Advanced Dev Studio consignment licenses are available for System Platform 2020:

- 30-day demo licenses: Available in two types:
  - The 30-day Flex Demo Consignment license contains Flex (Engine-based) entitlements for the Galaxy Repository.
  - The **30-day Non-Flex Demo Consignment** license contains **Non-Flex** (IO-based entitlements) entitlements for the Galaxy Repository.
- 1-year SI Advanced Dev Studio Unlimited consignment license: Available in two types:
  - The 1-year Flex Consignment license contains ONLY Flex (Engine based) entitlements for the Galaxy Repository.
- The 1-year Non-Flex Consignment license contains ONLY Non-Flex (IO-based entitlements) entitlements for the Galaxy Repository.
   The regular perpetual Advanced Dev Studio license on the price list does not have Flex (Engine based) entitlements. This license puts the Galaxy Repository in Non-Flex (IO-based) licensing mode.
- The Subscription Access Advanced Dev Studio licenses on the Subscription Access Configurator does not have Flex (Engine-based) entitlements. It puts the Galaxy Repository in Non-Flex (IO-based) licensing mode.
- The Flex Advanced Dev Studio licenses acquired with Flex Credits has ONLY Flex (Engine-based) entitlements and does NOT support Non-Flex (IO-based) entitlements. It puts the Galaxy Repository into Flex mode.

#### ACTION

## Using a Galaxy Repository in Flex mode

If a Galaxy Repository is licensed in Flex mode, and after the Galaxy creation and optional import completes, all Application Engines show errors

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(Figure 1 below).



Figure 1: Application Engines in an error state

To examine the error, right-click the Engine, click Properties and click the Errors/Warnings tab.

You see the following message (Figure 2 below).

🔽 AppEng	gine Properties					
General A	Attributes References	Cross References	Change Log	Operational Limits	Errors/Warnings	
Status	C	escription				
Error	H	osting platform does	not have enou	igh AppEngine flex i	icenses to support th	s engine, so it cannot be deployed. Check the hosting platform's flex license type in the Deployment view.
Figure 2	2: Engine Er	ors/Warnir	ngs tab			

If you attempt to deploy these Application Engines they will fail to deploy (Figure 3 below).

Deploy	
Deploy complete	
Validating connected galaxy Validating GRNodeInfo Checking whether objects being deployed require software upgrade Sortion and Validation 1 object(a) otacting from AppEnging basted by platform P	atform for
Error: Failed to deploy AppEngine : Object(s) status is bad [SUCCESS] Deploy Completed: Deployed U object(s) out of a total 1 selected ob Optimizing the galaxy database	ject(s) star
<	>
100% completed	
	Close

Figure 3: Deployment fails

This happens because the Flex licensing mode requires a license for Platforms that host Application Engines.

To see how many Platform licenses of each type are available, open the Flex pane by clicking the appropriate menu item, pressing CTRL+SHIFT+F, or by clicking any Platform in the Deployment Pane.

If additional licenses are activated or released by other Galaxy Repositories, click the Refresh button to update the license counts (Figure 4 below).



Platform Type :	Single AppEngine	Unlimited AppEngines
Available to GR :	0	0 C
Deployed :	0	0
Configured :	0	0
Available for Deploy :	0	0
WARNING: One or moi Right-click a platform a	re Platforms' Flex Licen and select "Flex License'	se configuration does not match the deployed state of the s ' to update the Flex License configuration.

To use a Galaxy Repository in Flex (Engine based) mode, you must assign a Platform type to each Platform that will run Application Engines (Single or Unlimited).

To assign a Platform license to a Platform, complete the following steps:

- 1. Right-click the Platform.
- 2. Select Flex Licensing.
- 3. Select the correct Platform type:
  - No AppEngine: The Platform will not host any primary Application Engines.
  - Single AppEngine: The Platform will host only one Application Engine.
  - Unlimited AppEngines: The Platform will host more than one Application Engine

	9	Check In					
a Deployment	ø	Undo Check Out					
🖻 🛒 MLImport		Override Check Out					
🔍 🛄 Unassigned Host		Validate					
🖹 🔛 AppEngine	×	Delete	Del				
GR_AppEngine2 Image: Section of the secti		Rename	F2				
E Remote {Single AppE	r	Rename Contained Name	Shift+F2				
		Rename Alias Ctr	l+Shift+F2				
💷 🖳 VE1	1	Deploy					
	1	Undeploy					
		Upload Runtime Changes					
		Assign To					
		Unassign					
	$\checkmark$	Set as Default					
		Flex Licensing		×		No AppEngine	Ctrl+N
		Export		×		Single AppEngine	Ctrl+S
		Object Help	Ctrl+F1		$\checkmark$	Unlimited AppEngines	Ctrl+U
		1 F					

Figure 5: Flex Licensing Engine based mode

After you select the Platform type, the Configuration error on the Engine disappears and the Engine can now be deployed. The Flex panel updates the counts to reflect the current configuration (Figure 6 below).

🛥 Deployment	• 4 ×	Section 2015			
MLImport     Drassigned Host     Gr_Platform {Unlimited AppEngines}     Software (Unlimited AppEngines)     Drassigned Host     Drassigned Ho	^	Platform Type :	Single AppEngine	Unlimited AppEngines	
ViewEngine	_	Available to GR :	20	20	C
B B E	_	Deployed :	0	0	
- #0 VE1		Configured :	1	1	
		Available for Deploy :	20	20	

Figure 6: Updated license counts



**NOTE:** In some cases, the warning on the Flex Licenses panel does not disappear until the panel is closed. Please Contact AVEVA Customer Support to obtain the hotfix for the issue: **CR#L00158311**.

## Selecting a different licensing model

When you need to change the Galaxy Repository mode, deactivate any license(s) with the Flex features.

- 1. Open License Manager.
- 2. Select the License Server.
- 3. Deactivate the Flex Licenses (Figure 7 below).

Lice	nse Summar	y Usage Sumr	mary Usage Details	Device Reservation	User Reservation		
	Ð	0 🔳					
Ada	Quantity	Component Name		Part Number	Serial Number	Expiry Date	Status
	þ	AVEVA AdvDev Studio 2020 Unlim, 30day Demo Consign, Flex		AdvStd-46-P-20 T20052103-0		6/30/2020	Activated

Figure 7: Deactivate the Flex Licenses

When the appropriate licenses are activated on the License Server, you need to restart the Galaxy Repository Service, or restart the computer (Figure 8 below).

🔍 Services					
File Action View	Help				
() 🗐 👘 ()	à 🔒 🛿 📷 🕨 🔳 II 🕨				
🔍 Services (Local)	Services (Local)				
	ArchestrA GalaxyRepository	Name			
	Stop the service Restart the service	<ul> <li>ArchestrA Bootstrap</li> <li>ArchestrA Certificate Renewal Service</li> <li>ArchestrA Data Store</li> <li>ArchestrA GalaxyRepository</li> <li>ArchestrA GlobalDataCacheMonitorServer</li> <li>ArchestrA Identity Manager Token Host</li> <li>ArchestrA Logger</li> </ul>			
	Description: Galaxy Repository service to process requests to the ArchestA configuration subsystem				

Figure 8: Restart of the Galaxy Repository service

If Flex licensed Galaxy Repositories are required on the same site, it is recommended to create a second License server to host the Flex licenses and point the relevant servers to this License server using the Configurator.

#### Flex and Non-Flex licenses co-existence

Though AVEVA does not recommend activating both Flex and Non-Flex licenses on the same server, activating both might be required in some scenarios. In this case, the **Flex** licenses take precedence. In other words, when a Galaxy Repository starts up, it first attempts to find a valid, activated Flex license before it attempts finding a valid, activated Non-Flex license.

Therefore, when the license server has both License types activated, the Galaxy Repository will start up in Flex mode.

If you want to force a Galaxy Repository to start up in **Non-Flex** mode (even though a valid activated Flex license is available), you must reserve the Flex licenses for server names other than the name of the target Galaxy Repository server, even if such servers do not exist.

This prevents the target server from acquiring the Flex license(s) and it will acquire the Non-Flex one instead.

Complete the following steps:

- 1. Open License Manager.
- 2. Select the License server.
- Ensure that the Application Server ### IO feature is available in one of the activated licenses this is the Non-Flex feature that will put the Galaxy Repository into Non-Flex mode (Figure 9 below).

	License Summary Usage Summary Usage Details Device Reser				vation	User Reservation			
	Feature				Part Numb	er	License Type	Version	Quantity
ĺ	Application Server 1M IO				AdvStd-35-	P-20	Server	2020 (20.0)	20



Figure 9: Non-Flex feature

#### 4. Select Device Reservation.

5. Click Add Device (Figure 10 below).

License Summar	y Usage	Summary	Usage Deta	ils	Device Reservation	User Reservation
Add Device	pply Cancel	Export Im	port Clear All			
Device Name			Count	Feature	2	

Figure 10: Device Reservation Tab

- 6. Type a fictional name for **Device name**.
- 7. Find all the Application Server Flex Runtime features.
- 8. Note the number listed in the Total Available column for each of these features.
- 9. Select the entry and type the number in the Total Available column.

In this example 30 Flex licenses are available. You need to reserve them all so the GR will acquire a perpetual license instead.

10. Click Add (Figure 11 below).

dd Devio	ce					
evice Name	BogusSever		Comment: This reserve	s Flex licenses to a Bogus Sever		
Co	ount Feature	Part Number	Version	Expiry	Total Available	
•	Communication Drivers Professional	Adv5td-35-P-20	2020 (4.0)	6/30/2020	300	
•	Recipe Management Server Professional	Edition AdvStd-46-P-20	2020-(4.5)	6/30/2020	2	
0	Recipe Management Server Professional	Edition Adv5td-35-P-20	2020 (4.5)	6/30/2020	2	
•	Application Server Flex Platform Single A	pp Engine AdvStd-46-P-20	2020-(20.0)	6/30/2020	100	
<b>⊻</b> 33	Application Server Flex Runtime	Adv51d-46-P-20	2020 (20.0)	4/30/2020		
0	Application Server Flex Platform Unlimits	ed App Engines AdvStd-46-P-20	2020-(20.0)	6/30/2020	100	
0	Intelligence Concurrent Client Addon	Adv/\$1d-46-P-20	2020 (8.1)	6/30/2020	1	
•	Intelligence Concurrent Client Addon	Adv\$1d-35-P-20	2020-(3.1)	4/30/2020	1	
0	Telemetry Server - Redundant	Adv5td-46-P-20	2020 (4.0)	6/30/2020	300	
•	Telemetry Server - Redundant	Adv51d-35-P-20	2020-(4.0)	6/30/2020	300	
•	MOGAccess	Adv91d-35-P-20	2020-(20.0)	6/30/2020	300	
0	MSAccess	Adv5td-46-P-20	2020-(20.0)	6/30/2020	300	
0	Supervisory Client Read Only	AdvStd-35-P-20	2020 (20.0)	6/30/2020	300	

Figure 11: Device Reservation Application Server Flex Runtime features

11. Click Apply (Figure 12 below).

License Sumn	mary	Usage	Summary	/ .	Usage Details	Device Reservation	User Reservation						
⊕ Add Device	Apply	Cancel	<b>⊡</b> Export	-Ð Import	Clear All								
Device Name			Count	Featur	re			Part Number	Version	Expiry	Chec	Comment	Actio
BOGUSSEVER			30	Applic	ation Server Fle	x Runtime		AdvStd-46-P-20	2020 (20.0)	6/30/2020		This reserves Flex licenses to a Bogus Sever	

Figure 12: Apply Device Reservation Application Server Flex Runtime features

12. Restart the ArchestrA GalaxyRepository service or restart the machine (Figure 13 below).





Figure 12: Restart the ArchestrA GalaxyRepository sevice

