



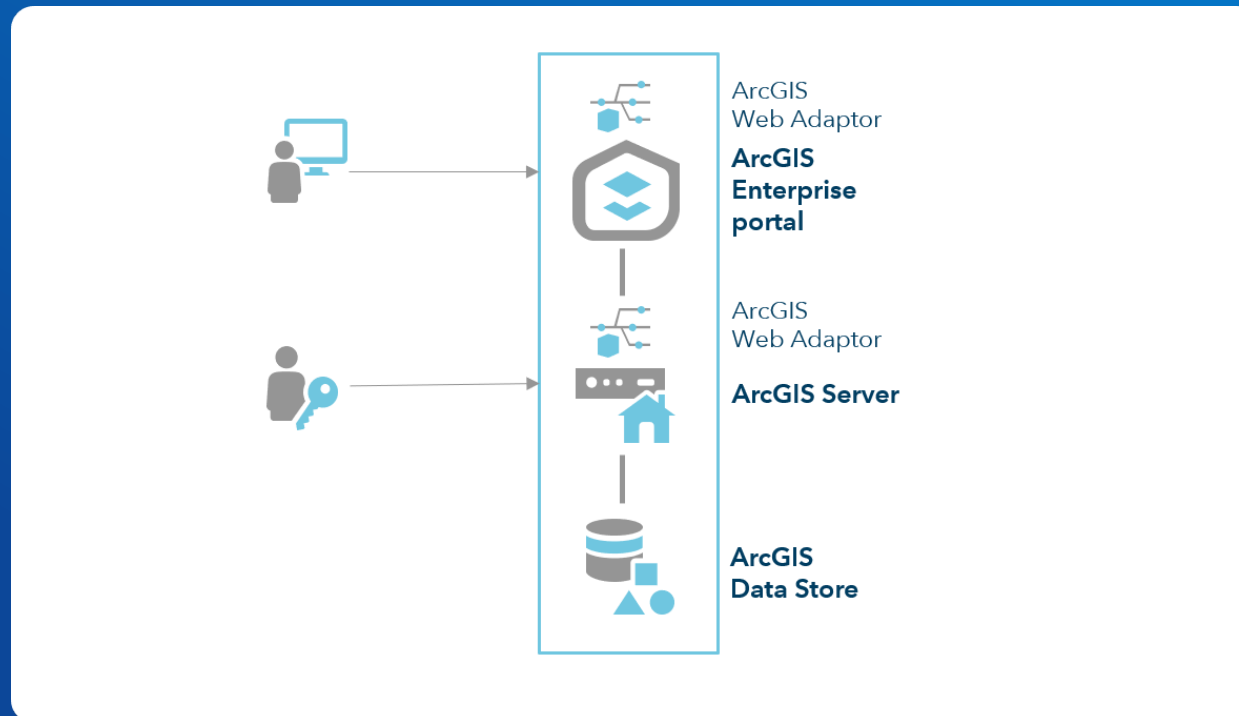
hnit•baltic

# Migravimas į ArcGIS Enterprise 10.9.1 ir 11.0

Donatas Bružas

# ArcGIS for Enterprise

- ArcGIS Enterprise yra organizacijos GIS programinės įrangos pagrindas, leidžiantis kurti, valdyti ir dalintis žemėlapiais, analize, duomenimis.



# Turinys

1. Pradžia
  - Kas yra migravimas?
  - Terminai
  - Kodėl reikėtų migruoti?
  - Prieš migravimą
  - Rekomenduojama veiksmų eilė
2. 10.9.1 ar 11?
3. ArcGIS Enterprise komponentai
  - Portal for ArcGIS
  - ArcGIS Server
  - ArcGIS Data Store
  - ArcGIS Web Adaptor
4. ArcGIS Enterprise Builder
5. Po migravimo
6. Neveikimo laiko sutrumpinimas, rizikos valdymas
7. Klausimai

# Ką apima migravimas?

Migravimas <> Atnaujinimas

- Atnaujinimai (pataisos):
  - Santykinai nedideli pataisymai, skirti esamai programinės įrangos versijai
  - Paprastai diegiami vienam ar keliems įrangos komponentams
  - Neužtrunka
- Migravimas:
  - Esminiai programinės įrangos pokyčiai, susiję su nauja versija (pavyzdžiui, 10.9.1 ar 11.0)
  - Apima nemažiau nei visus bazinės minimalios architektūros (Base Deployment) komponentus
  - Užtrunka ilgiau

# Terminai

- Bazinė (minimali) architektūra
  - Privalomi ArcGIS Enterprise architektūros komponentai (Portal for ArcGIS, ArcGIS Server, ArcGIS Data Store, ArcGIS Web Adaptor'iai).
- Tiesioginis atnaujinimas (In-Place Upgrade)
  - Nauja programinės įrangos versija diegiama esant sudiegtai ankstesnei versijai.
- Atnaujinimas išdiegiant ir įdiegiant (Uninstall/Install Upgrade)
  - Išdiegimas rankiniu būdu, tuomet naujos versijos diegimas
  - Neištrinti diegimo resursų failinėje sistemoje
  - Nepalaiko ArcGIS Data Store
- Autorizavimo failai
  - ArcGIS Enterprise komponentų licencijavimo failai.

# Kodėl turime migruoti?

- Saugumo ir funkcionalumo spragų sprendimas
- Naujos programinės įrangos galimybės, funkcionalumas, aplikacijos ir įrankiai
- Programinės įrangos palaikymo ciklas

# ArcGIS for Enterprise

## Servisų migravimas iš ArcMap į ArcGIS Pro

ArcGIS  
Enterprise 10.9.1  
ir ankstesnės:  
Du vidiniai varikliai:  
ArcMap ir  
ArcGIS Pro

Vienas variklis servisams,  
publikuotiems iš **ArcMap**.

Vienas variklis servisams,  
publikuotiems iš **ArcGIS Pro**.

Nuo **ArcGIS Enterprise 11.0** versijos  
ArcMap variklio nebėra.

# ArcGIS for Enterprise. Servisų migravimas iš ArcMap į ArcGIS Pro

## Update ArcMap Services Utility

- Du režimai:
  - Patikra
  - Vykdymas
- Visų palaikomų servisų migravimas

Migravimo priemonės  
ArcGIS  
Enterprise 10.9

## Edit Runtime operacija

- Pasiekama per ArcGIS Server Manager
- Palaikomų servisų migravimas individualiai

```
C:\Users>cd "C:\Program Files\ArcGIS\Server\tools\UpdateArcMapServices"
C:\Program Files\ArcGIS\Server\tools\UpdateArcMapServices>updateArcMapServices.bat -h
Tool help
usage: updateArcMapServices.bat -h|--help [=] --mode <analysis/execution>
      -o|--output <output directory>
      -u|--username <username>
Help message for the Update ArcMap Services tool.
Choose 'analysis' mode to analyze the services or
'execution' mode to analyze and update the
services. If not specified, 'analysis' mode will be
used by default.
```

ArcGIS Server Manager - Update ArcMap Services Tool Result

Summary (analysis mode)

Result type	Service Name	Count	Code
Services that are ready to be updated	USA	1	
Services that are not ready to be updated	USA_With_SOE_SOI_Schematics	1	10900
Services that are not ready to be updated	USA_With_Raster_Catalog	1	10901

Logs

Time	Level	Message	Code
Jan 20, 2021, 21:18:36 PM	Info	Service [USA] is ready to be updated.	
Jan 20, 2021, 21:18:36 PM	Warning	Service [USA_With_Raster_Catalog] with data in layers [testrc] needs to be addressed.	10901
Jan 20, 2021, 21:18:36 PM	Warning	Service [USA_With_SOE_SOI_Schematics] with extensions [JavaSimpleRESTSOE, SchematicsServer, JavaSimpleMapSOI] enabled needs to be addressed.	10900

Edit Runtime

Select the runtime that your map service will use. Future versions of ArcGIS Enterprise will require services to be migrated to the ArcGIS Pro runtime.

ArcGIS Pro (recommended)

ArcMap (deprecated)

Changing the runtime will automatically restart your service, and any edits made to the service properties that have not been saved will be lost.

Apply Cancel



# ArcGIS for Enterprise

## Servisų migravimas iš ArcMap į ArcGIS Pro

### Migruoti

- Map servaisai
  - Prisiminkime, feature access yra map serviso funkcionalumas
- Image servaisai
- Geodata servaisai

### Perpublikuoti

- Map, image, ir geodata servaisai, jei:
  - Nebepalaikomi duomenų šaltiniai
    - IBM Informix, IBM Db2 for z/OS, Raster catalogs...
  - Servaisai su nestandartiniais ArcObjects SOE ir SOI
- Geocode servaisai
- GP servaisai
- Network analysis servaisai
- Schematics servaisai

## ArcGIS 2021

## ArcGIS 2022

10.4.x – 10.8.x



10.9.x



11.x



2016 - 2020

2021

2022

ArcMap ir  
ArcGIS Pro varikliai.

ArcMap ir  
ArcGIS Pro varikliai  
+ migravimo įrankiai.

Tik  
ArcGIS Pro variklis.

*Tik 10.9.1: pasirinktinai nediegti  
ArcMap servisų variklio ir Python 2.7.*

# ArcGIS for Enterprise Migravimas į 10.9.1 ir 11

- 10.0 versija išleista dar 2010 m.
- Migravimui į 11.x reikės didesnio pasirengimo
- Nebėra
  - ArcMap servisų variklio
  - ArcGIS Enterprise SDK dabar .NET 6
  - pirmieji (classic) Esri Story Map aplikacijų šablonai
  - dalis konfigūruojamų aplikacijų šablonų
  - ArcGIS Dashboard Classic
  - Prezencijos Map Viewer Classic
- Rekomenduojame 10.9.1
  - Migravimo įrankiai – pasiruošimui 11.x
  - Galima pasirinkti nediegti ArcMap variklio ir Python 2.x
  - ArcGIS StoryMaps, ArcGIS Dashboards, ArcGIS Instant Apps
- 10.9.1 – ilgo laikotarpio, palaikoma iki 2027 m. (6 m.)
- 11.0 – trumpo laikotarpio, palaikoma iki 2025 m. (3 m.)
- 11.1 – ilgo laikotarpio, palaikoma iki 2029 m. (6 m.)



# Prieš migruojant...

- Susipažinti su dokumentacija
- Atsisiųsti diegimo failus iš My Esri
- Atsisiųsti licenciją iš My Esri
  - Serverio licencijos failas (.ecp ar .prvc)
  - Portalo licencijos failas (.json)
- Jei naudojate aplikacijas Workforce for ArcGIS, Collector for ArcGIS, ArcGIS Insights, pasitikrinkite versijos suderinamumą su ArcGIS Enterprise.
  - Kai kurių aplikacijų leidimų ciklas gali nesutapti su ArcGIS Enterprise
  - Esri dokumentacija

# Prieš migruojant ...

- Atsargai
  - WebGIS DR įrankis atsarginei Enterprise kopijai
    - Portal for ArcGIS
    - Federuoti ArcGIS Serveriai
    - ArcGIS Data Store
  - Mašinų/failinių resursų kopijos

# Rekomenduojama eiga

- Portal for ArcGIS
- Portalo ArcGIS Web Adaptor
- Web Styles (jei įdiegta)
- ArcGIS Server
  - Jei serverio site'ą sudaro daugiau nei viena mašina, atnaujinti po vieną serverį
- ArcGIS Serverio ArcGIS Web Adaptor
- ArcGIS Data Store
- Kiti serveriai (kitos ArcGIS Server rolės):
  - GeoAnalytics Server, Image Server, GeoEvent Server ir kt.

***Nebūtina migruoti į visas versijas***

The background features a stylized globe in shades of green and blue, partially obscured by several thick, overlapping, curved bands in various shades of purple and blue. To the right, there is a vertical gradient from orange at the top to purple at the bottom, with a pattern of small, semi-transparent squares scattered across it.

Portal for ArcGIS migravimas

# Licencija


Prieš migruojant reikalingas Enterprise portalo .JSON licencijos failas

## Import License File and Continue Portal Upgrade

Select a license file (.json) to authorize your ArcGIS Enterprise portal's users and apps. Click Continue Portal Upgrade to continue upgrading your Portal for ArcGIS software.

To learn more about upgrading Portal for ArcGIS please refer to the Upgrade section of the [Portal for ArcGIS help documentation](#).

License file

 AllUTs\_AllAddOnApps.json 

Continue Portal Upgrade

Portal Administrator Directory  
[Home](#) > [Upgrade](#)

### Upgrade

Backup Directories	<input type="button" value="True"/> ▾
Roll back if upgrade failed	<input type="button" value="True"/> ▾
Run asynchronously	<input type="button" value="False"/> ▾
Enable debug	<input type="button" value="False"/> ▾
License File *	<input type="button" value="Choose File"/> AllUTs_AllAddOnApps.json
Format	<input type="button" value="HTML"/> ▾

Supported Interfaces: [REST](#)

```
C:\Program Files\ArcGIS\Portal\tools\upgradeportal>upgradeportal.bat -h  
Description: The upgradeportal utility allows you to upgrade the portal.
```

```
usage: upgradeportal [-lf <arg>] [-s]
```

```
-lf,--licenseFile <arg> This is the path to the portal license file.  
-s,--silent             Upgrade the portal silently.  
-h,--help              Display this tool help message and exit.
```

```
C:\Program Files\ArcGIS\Portal\tools\upgradeportal>_
```



# Migravimas į 10.9.1

## Import License File and Continue Portal Upgrade

Select a license file (.json) to authorize your ArcGIS Enterprise portal's users and apps. Click Continue Portal Upgrade to continue upgrading your Portal for ArcGIS software.

To learn more about upgrading Portal for ArcGIS please refer to the Upgrade section of the [Portal for ArcGIS help documentation](#).

License file

Choose File AllUTs\_AllAddOnApps.json ✓

Continue Portal Upgrade

## Continue Portal Upgrade

Click Continue Portal Upgrade to continue upgrading your Portal for ArcGIS software.

To learn more about upgrading Portal for ArcGIS please read the [Upgrading Portal for ArcGIS help documentation](#).

Continue Portal Upgrade

## Import License File and Continue Portal Upgrade

Select a license file (.json) to authorize your ArcGIS Enterprise portal's users and apps. Click Continue Portal Upgrade to continue upgrading your Portal for ArcGIS software.

To learn more about upgrading Portal for ArcGIS please refer to the Upgrade section of the [Portal for ArcGIS help documentation](#).

License file

\\vesri.com\software

10.9. Browse... ✓

Continue Portal Upgrade

### Upgrade Complete

The upgrade of your portal is complete.

Your portal is currently restarting and will require a few minutes to complete.

When you click OK, you will be directed to install the Web Adaptor and configure it with your portal using an administrator account. When installing the Web Adaptor, be sure to use the same name you had used for your previous Web Adaptor installation.

Waiting...

### Post-upgrade operations required

portal is ready to use.

If you have not already done so, upgrade the portal's hosting server. After the hosting server is upgraded, upgrade ArcGIS Data Store. See the ArcGIS Server and ArcGIS Data Store installation guides for instructions.

Click OK to complete the required post-upgrade steps. The dialog will close once the post-upgrade is complete.

OK


# Migravimas į 11.0

## Import License File and Continue Portal Upgrade

Select a license file (.json) to authorize your ArcGIS Enterprise portal's users and apps. Click Continue Portal Upgrade to continue upgrading your Portal for ArcGIS software.

To learn more about upgrading Portal for ArcGIS please refer to the [Upgrade](#) section of the [Portal for ArcGIS](#) help documentation.

License file

Continue Portal Upgrade

# Migravimas į 11.0

## Import License File and Continue Portal Upgrade



Portal for ArcGIS upgrade from 10.9.1 to 11.0.0

### Upgrade Completed

The Portal for ArcGIS upgrade was successful and is currently restarting. This may require a few minutes to complete.



When you click OK, you will be directed to install the ArcGIS Web Adaptor. If you are using the ArcGIS Web Adaptor, configure it with your ArcGIS Enterprise portal using an administrator account. When installing the ArcGIS Web Adaptor, be sure to use the same name you had used for the previous ArcGIS Web Adaptor installation.

OK

### Upgrade status

Completed: 7 / 7

Backup content, database, and index directories

✔ Completed

Upgrade portal content

✔ Completed

Upgrade database

✔ Completed

Migrate configuration settings

✔ Completed

Update configuration settings

✔ Completed

Configure index service

✔ Completed

Reindex

✔ Completed

# Migravimas į 11.0

## upgradeportal įrankis

```
=====
Starting the upgradeportal utility.
=====
```

```
Checking if the portal is initialized.
```

```
The portal is not initialized.
```

```
Upgrading the portal.
```

```
Backup content, database, and index directories is in progress.
```

```
Backup content, database, and index directories is completed.
```

```
Upgrade portal content is in progress.
```

```
Upgrade database is in progress.
```

```
Upgrade portal content is completed.
```

```
Upgrade database is completed.
```

```
Migrate configuration settings is completed.
```

```
Configure index service is in progress.
```

```
Update configuration settings is in progress.
```

```
Configure index service is completed.
```

```
Update configuration settings is completed.
```

```
Reindex is in progress.
```

```
Reindex is completed.
```

```
Populating the portal license.
```

```
The portal license is populated successfully.
```

```
Completing the post upgrade operations on the portal ...
```

```
The portal has completed the post upgrade operations successfully.
```

```
Reindex Portal for ArcGIS using the ArcGIS Portal Administrator Directory.
```

```
You may access the portal by navigating to:  
https://DEV0020438.ESRI.COM:7443/arcgis/home
```

```
The upgradeportal utility completed successfully.
```

```
Stopping the upgradeportal utility.
```

# Migravimas į 11.0

portaladmin

## Portal Administrator Directory

[Home](#) > [Upgrade](#)

### Upgrade

Backup Directories	<input type="text" value="True"/>
Roll back if upgrade failed	<input type="text" value="True"/>
Run asynchronously	<input type="text" value="True"/>
Enable debug	<input type="text" value="False"/>
License File *	<input type="text" value="Choose File"/> AllUTs_AllAddOnApps.json
Format	<input type="text" value="HTML"/>
<input type="button" value="Upgrade"/>	

Supported Interfaces: [REST](#)

# Migravimas į 11.0

portaladmin

## Portal Administrator Directory

[Home](#)

### Upgrade

#### Status:

in progress

- Backup content, database, and index directories: completed
- Upgrade portal content: completed
- Upgrade database: completed
- Migrate configuration settings: completed
- Update configuration settings: in progress
- Configure index service: completed
- Reindex: not started

Supported Interfaces: [REST](#)

# Lygiagrečios architektūros (Highly Available - HA) portalo migravimas

Mašinų rolė nėra svarbi

- Portal for ArcGIS setup diegimas abiejose mašinose
- Kiti migravimo veiksmai vienoje iš mašinų



# Migravimas į 11.0

Home aplikacija (HA Standby)

## Import License File and Continue Portal Upgrade



Portal for ArcGIS upgrade from 10.9.1 to 11.0.0

Upgrade status

Completed: 0 / 8

Backup content, database, and index directories

⌚ Not started

Upgrade portal content

⌚ Not started

Upgrade database

⌚ Not started

Migrate configuration settings

⌚ Not started

Update configuration settings

⌚ Not started

Configure index service

⌚ Not started

Reindex

⌚ Not started

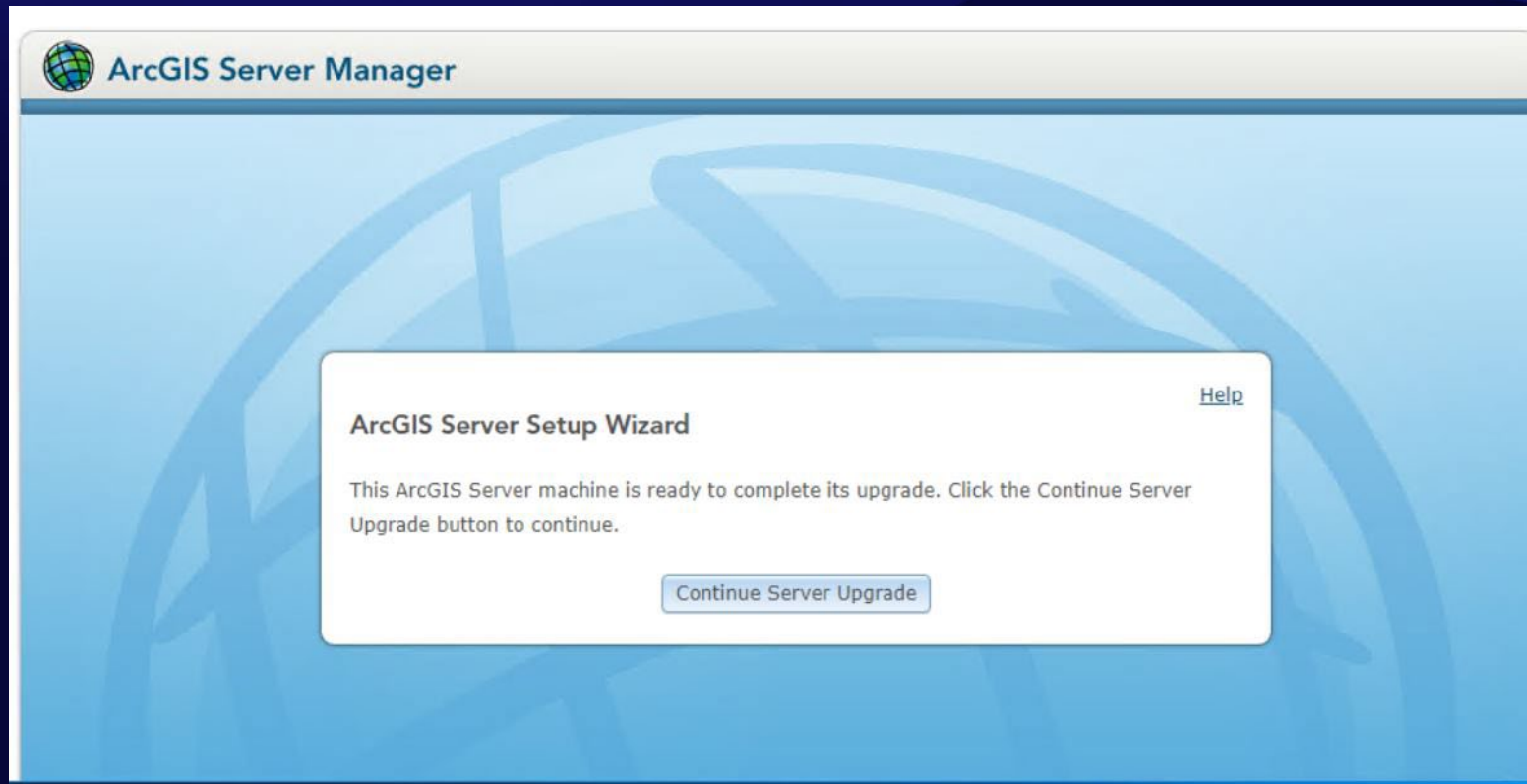
Upgrade standby machine

⌚ Not started



The background features a stylized globe with green and blue landmasses and oceans, partially obscured by several thick, overlapping, curved bands in shades of purple, blue, and pink. To the right, a vertical gradient bar transitions from orange at the top to purple at the bottom, with a pattern of small, semi-transparent squares scattered across it.

# ArcGIS Server migravimas



- Talpinimo (hosting) serverio versija turi būti ta pati kaip Enterprise portalo
- Jei yra daugiau federuotų serverių, juos migruosime vėliau

# Lygiagrečios architektūros (highly available) serveriai

Lygiagrečios architektūros (highly available) serverių migravimas atliekamas tokia tvarka:

- Diegimas naudojant ArcGIS Server setup visose mazgo (site) mašinosė
- Kiti veiksmai kiekvienoje mašinoje, iš eilės
  - Pabaigus vieną, pereiti prie kitos



The background features a stylized globe with green and blue landmasses and oceans, partially obscured by several thick, overlapping, curved bands in shades of purple and blue. To the right, there is a vertical gradient from orange to purple, overlaid with a pattern of small, semi-transparent squares, suggesting a data visualization or digital theme.

# ArcGIS Data Store migravimas

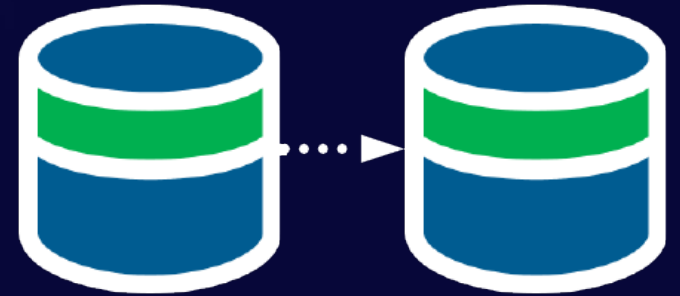
# ArcGIS Data Store

- „In-place“ migravimas (vienintelis būdas nuo 10.5)
  - Įdiegti programinę įrangą
  - Naudojant Configuration Wizard arba configuredatastore komandinės eilutės įrankį konfigūruoti programinę įrangą ir užbaigti migravimą

# Aukšto pasiekiamumo (High availability) ArcGIS Data Store

Relational ir Tile cache data store

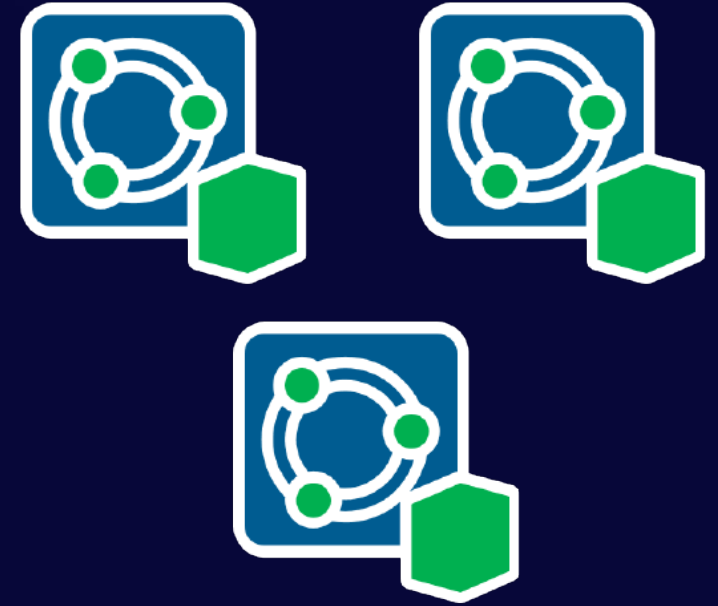
- Mašinų rolė (primary/standby) nesvarbi
  - Diegti abiejose Data Store mašinos
  - Vienoje iš mašinų pabaigti diegimą naudojant Configuration Wizard arba configuredatastore įrankį



# Spatiotemporal Big Data Store migravimas

Norint migruoti spatiotemporal big data store:

- Diegti kiekvienoje iš mašinų
- Vienoje iš mašinų pabaigti diegimą naudojant Configuration Wizard arba configuredatastore įrankį



The background features a stylized globe in shades of green and blue, partially obscured by several overlapping, curved bands of purple and blue. To the right, there is a vertical gradient from orange to purple, overlaid with a pattern of small, semi-transparent squares.

ArcGIS Web Adaptor migravimas



# ArcGIS Web Adaptor

- Išdiegti esamą versiją ir įdiegti naują
  - Svarbu, kad nepasikeistų adresas (pavz., . <https://host.domenas.lt/portal>)
- Atnaujinus komponentą (Portal for ArcGIS/ArcGIS Server), naudoti Configuration Wizard ar komandinės eilutės įrankį ir užregistruoti

The background features a dark blue gradient with several overlapping, curved, semi-transparent bands in shades of purple, blue, and magenta. On the right side, there is a vertical gradient from orange at the top to purple at the bottom, overlaid with a pattern of small, semi-transparent yellow squares. In the center, a stylized map of the world is visible, rendered in light green and blue tones.

# ArcGIS Enterprise Builder

# ArcGIS Enterprise Builder

ArcGIS Enterprise Builder gali būti naudojama sistemos migravimui:

- Jei prieš tai diegta naudojant ArcGIS Enterprise Builder
- Nepakitusi architektūra
  - Federavimas, WebcontextURL, daugiau serverių ir pan.
- Tiesioginis „In-place“ migravimas

Po migravimo



# Veiksmai po migravimo

- Prisijungti į Enterprise portalą ir patikrinti ar visi serveriai veikia (valid)
  - *Enterprise Portal Home > Organization > Settings > Server*
- Portalo administratoriaus direktorijoje (portaladmin) patikrinti indekso būseną
  - *portaladmin endpoint > System > Indexer > Index Status*
  - Jei turinys debesyje, indeksuoti iš naujo
    - *portaladmin endpoint > System > Indexer > Reindex*
- Išbandyti publikavimą portale
- Išbandyti publikavimą į ArcGIS Server
  - Pavz: iš Server Manager, iš ArcGIS Pro

The background features a stylized globe with green and blue continents and oceans. It is overlaid with several thick, curved, overlapping bands in shades of purple, blue, and pink. To the right, there is a vertical gradient from orange to purple, with a pattern of small, semi-transparent squares scattered across it.

Neveikimo laiko sutrumpinimas (nuo 10.8)

# Neveikimo laiko sutrumpinimas migruojant

- Gali būti, kad laiko langas sistemos migravimui yra pakankamai trumpas
- Read-only režimas (nuo 10.8 versijos) užkardo pokyčius
- WebGIS DR įrankiu galima pasigaminti sistemos kopiją migravimui

webgis.esri.com



m1.esri.com





# Sistemas kopija

webgis.esri.com



m1.esri.com



“webgis.esri.com”



m2.esri.com



Tikrasis hostname adresas  
webgis2.esri.com  
etc\hosts įrašas nurodo  
webgis.esri.com

etc\hosts įrašas nurodo webgis2.esri.com  
į webgis.esri.com

# Pagrindinė sistema tampa „Read-Only“

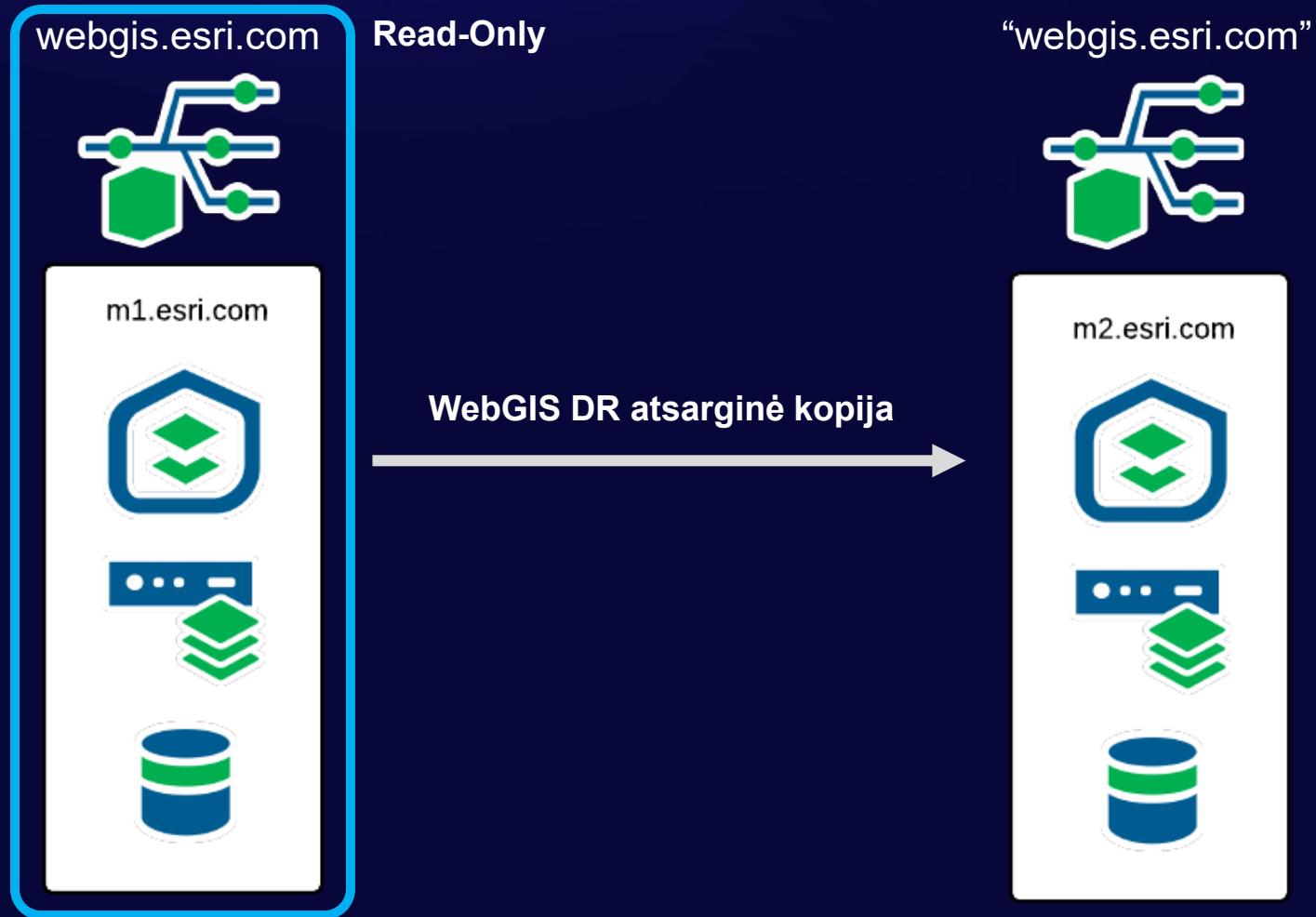


Read-Only

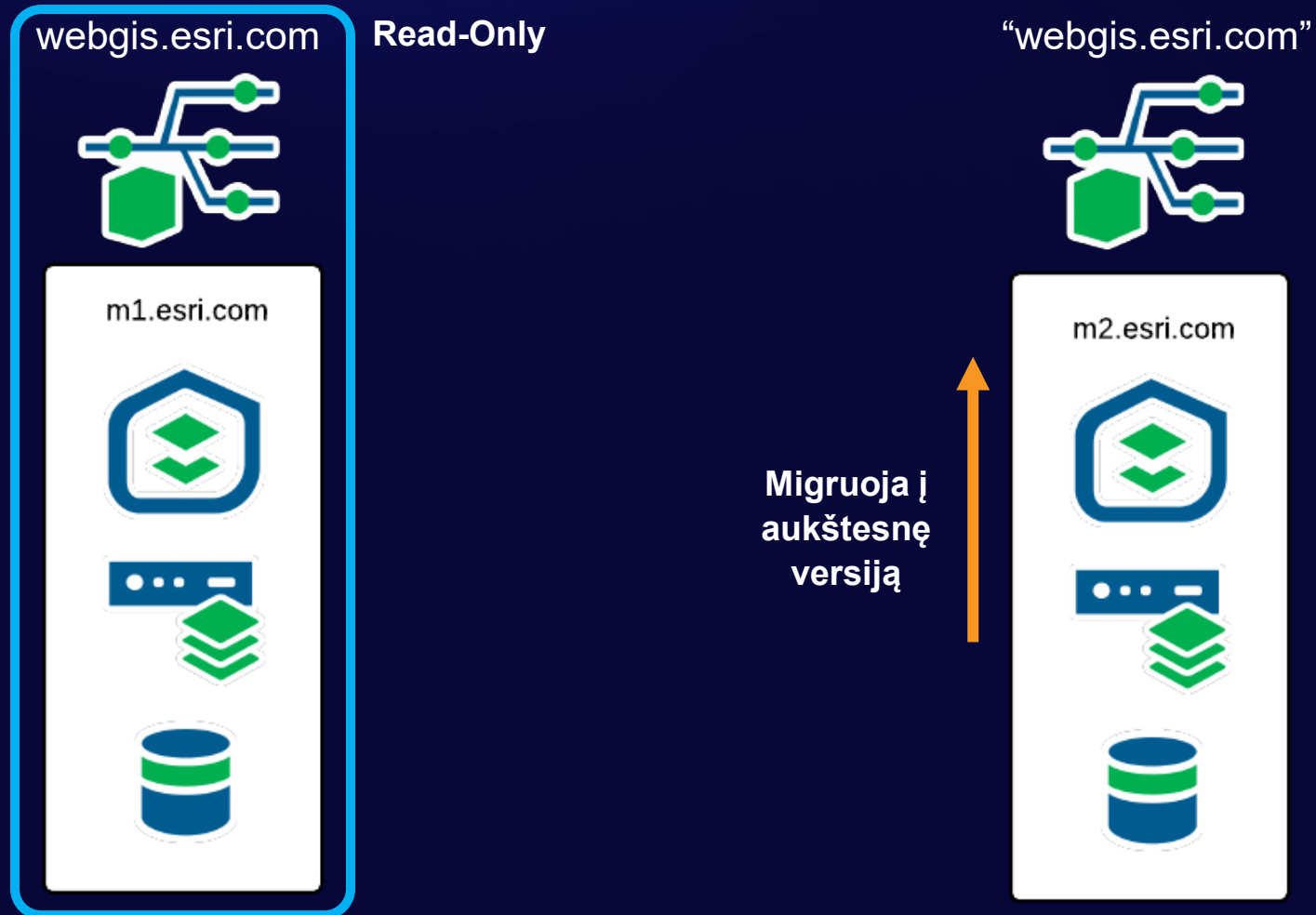
“webgis.esri.com”



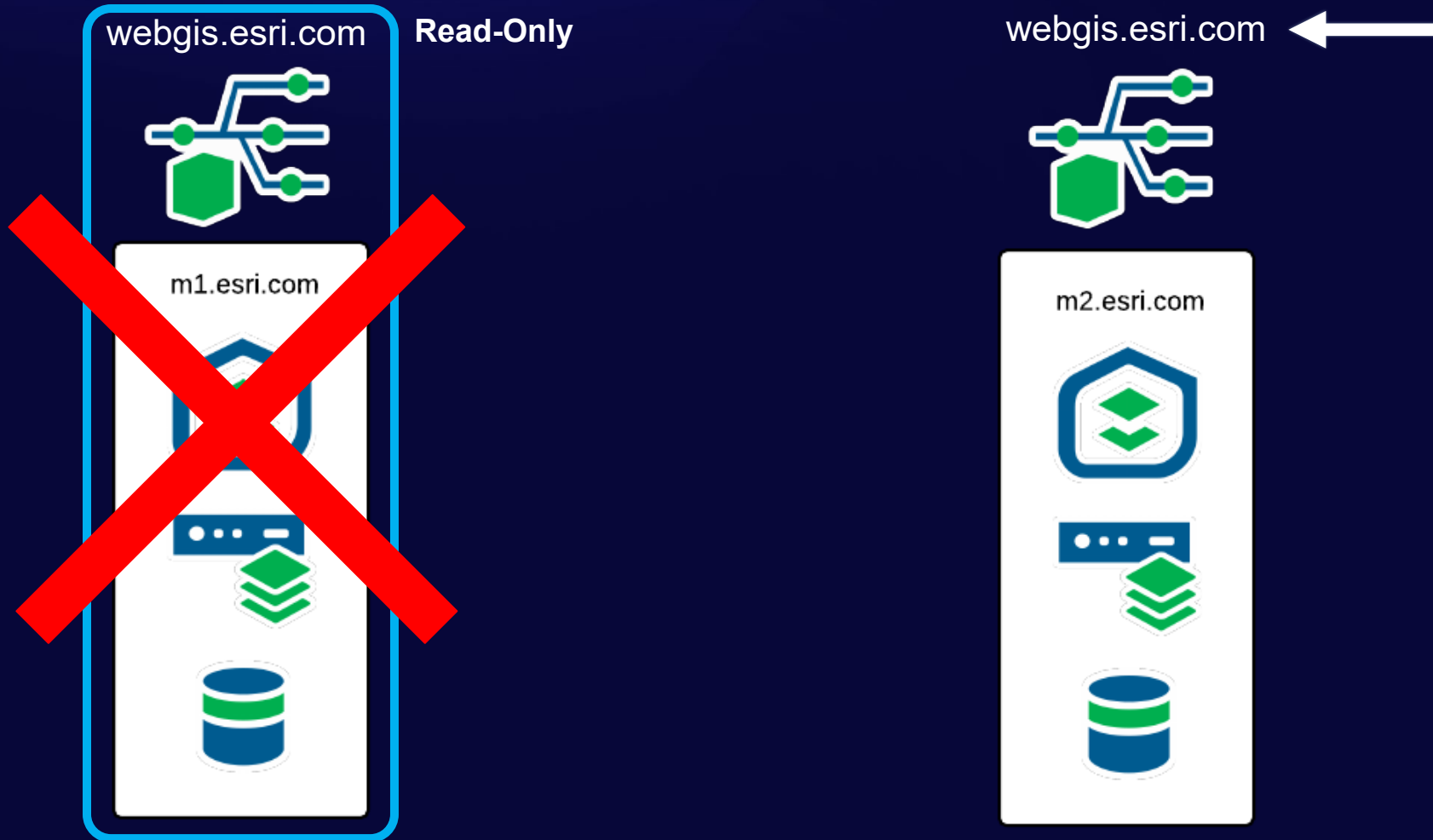
# Turinys kopijuojamas WebGIS DR įrankiu



# Sistemos kopija migruoja



# Pakeičiamas DNS, senoji sistema nebeveikia



# Migruoja pradinis Web Adaptor, registruojamas darbui su nauja sistemos versija

webgis.esri.com



m2.esri.com



# Plačiau apie šį metodą

- Daugiau informacijos rasite adresu:
  - <https://www.esri.com/arcgis-blog/products/arcgis-enterprise/administration/minimize-downtime-when-upgrading-arcgis-enterprise/>
- WebGIS DR įrankio reikalavimai
  - <https://www.esri.com/arcgis-blog/products/arcgis-enterprise/administration/migrate-to-a-new-machine-in-arcgis-enterprise-two/>
  - Nesikeičia portalo ir federuotų serverių išoriniai URL adresai
- Papildomi reikalavimai techninei įrangai



# Baigiant

- Susipažinkite su migravimo dokumentacija
- Migruokite!
- Daugumai rekomenduojame 10.9.1 (dėl ArcMap runtime ir Python 2.x)
- Atsarginės kopijos – labai svarbu
- Jei svarbus laikas, migruoti naudojantis esamos sistemos kopija





Ačiū

The image features a dark, textured background on the left side, transitioning into a vibrant, abstract composition of overlapping, flowing shapes on the right. These shapes are rendered in a variety of colors including deep purple, bright yellow, orange, green, and blue. Some of the shapes contain intricate patterns, such as a grid of small squares and organic, wavy lines. The overall effect is one of dynamic movement and layered depth.