

2024 Q1 Management review

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Version 1.0, luka.ferlez@bozic.io, 2024-07-05 14:34:06 +0200

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Date	2024-05-21	
Time	13:00	
Attendance	Marin Božić	President
	Luka Ferlež	CTO
	Maja Pilipović	LIA PM
	Tea Miličević	AFBIS PM
	Hana Ercegovac	Brisk PM

Agenda

- Privacy compliance review
- Privacy policy review
- Processing capacity review
- PII use review
- Cybersecurity review

Meeting minutes

Privacy & PII

- Reviewed privacy policy as defined in contracts with clients
- Reviewed & confirmed data use and storage policy
- Reviewed per system privacy compliance
- Reviewed LIA data encryption in place



Figure 1. Data encryption

- Reviewed AFBIS data encryption in place

Transparent data encryption Always encrypted



Transparent data encryption encrypts your databases, backups, and logs at rest without any changes to your application. To enable encryption, go to each database. [Learn more](#)

Data encryption



Encryption status

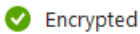


Figure 2. Data encryption

- Reviewed Brisk data encryption in place

Transparent data encryption Always encrypted



Transparent data encryption encrypts your databases, backups, and logs at rest without any changes to your application. To enable encryption, go to each database. [Learn more](#)

Data encryption



Encryption status

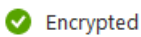


Figure 3. Data encryption

- Reviewed LIA data masking of PII

Masking rules			
Schema	Table	Column	Mask Function
dbo	AspNetUsers	Email	Email (aXXX@XXXX.com)
dbo	AspNetUsers	NormalizedEmail	Email (aXXX@XXXX.com)
dbo	AspNetUsers	PhoneNumber	Custom string (prefix [padding] suffix)
dbo	AspNetUsers	FirstName	Custom string (prefix [padding] suffix)
dbo	AspNetUsers	LastName	Custom string (prefix [padding] suffix)

Figure 4. Identity data mask

Masking rules			
Schema	Table	Column	Mask Function
dbo	Organization	Name	Custom string (prefix [padding] suffix)
dbo	Organization	FullName	Custom string (prefix [padding] suffix)

Figure 5. Organization data mask

Masking rules			
Schema	Table	Column	Mask Function
You haven't created any masking rules.			

Figure 6. Insurance data mask

- Reviewed AFBIS data masking of PII

Masking rules			
Schema	Table	Column	Mask Function
dbo	AspNetUsers	Email	Email (aXXX@XXXX.com)
dbo	AspNetUsers	NormalizedEmail	Email (aXXX@XXXX.com)
dbo	AspNetUsers	PhoneNumber	Custom string (prefix [padding] suffix)
dbo	AspNetUsers	FirstName	Custom string (prefix [padding] suffix)
dbo	AspNetUsers	LastName	Custom string (prefix [padding] suffix)

Figure 7. Identity data mask

Schema	Table	Column	Mask Function
You haven't created any masking rules.			

Figure 8. Quoter data mask

- Reviewed Brisk data masking of PII

Schema	Table	Column	Mask Function
dbo	AspNetUsers	Email	Email (aXXX@XXXX.com)
dbo	AspNetUsers	NormalizedEmail	Email (aXXX@XXXX.com)
dbo	AspNetUsers	PhoneNumber	Custom string (prefix [padding] suffix)
dbo	AspNetUsers	FirstName	Custom string (prefix [padding] suffix)
dbo	AspNetUsers	LastName	Custom string (prefix [padding] suffix)

Figure 9. Identity data mask

Schema	Table	Column	Mask Function
You haven't created any masking rules.			

Figure 10. Quoter data mask

Processing capacity review

- Reviewed LIA processing capacity

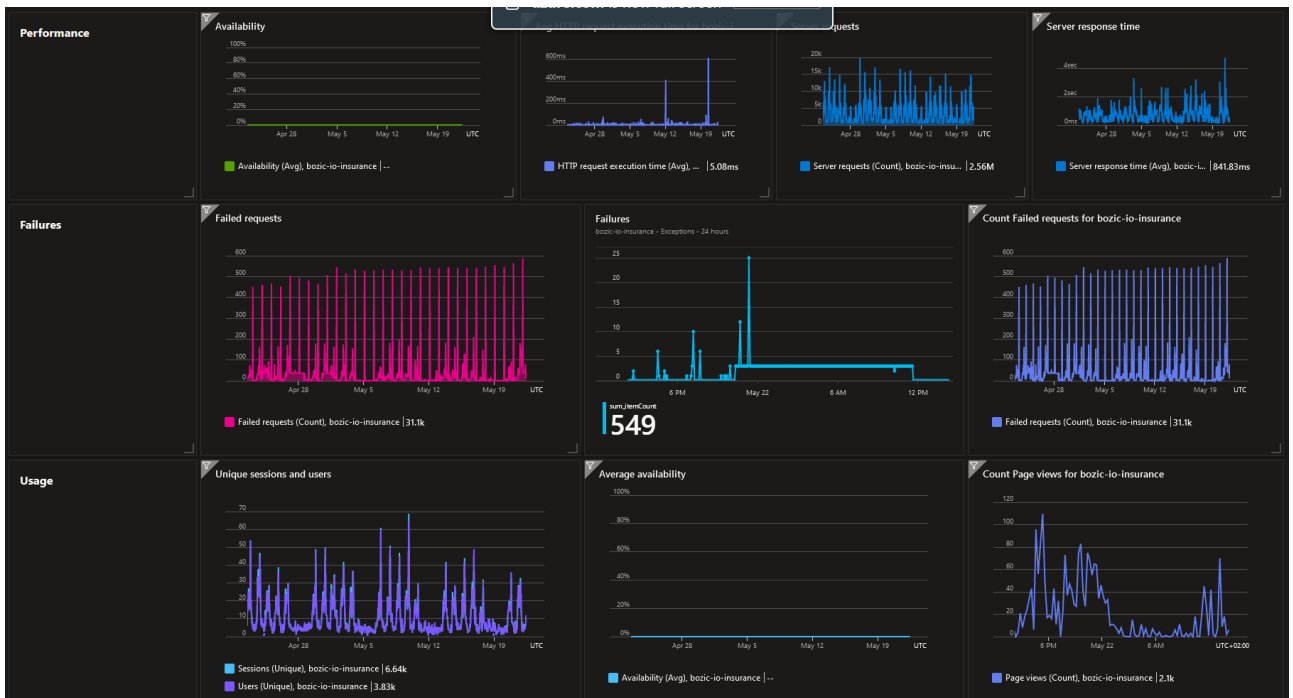


Figure 11. LIA processing capacity

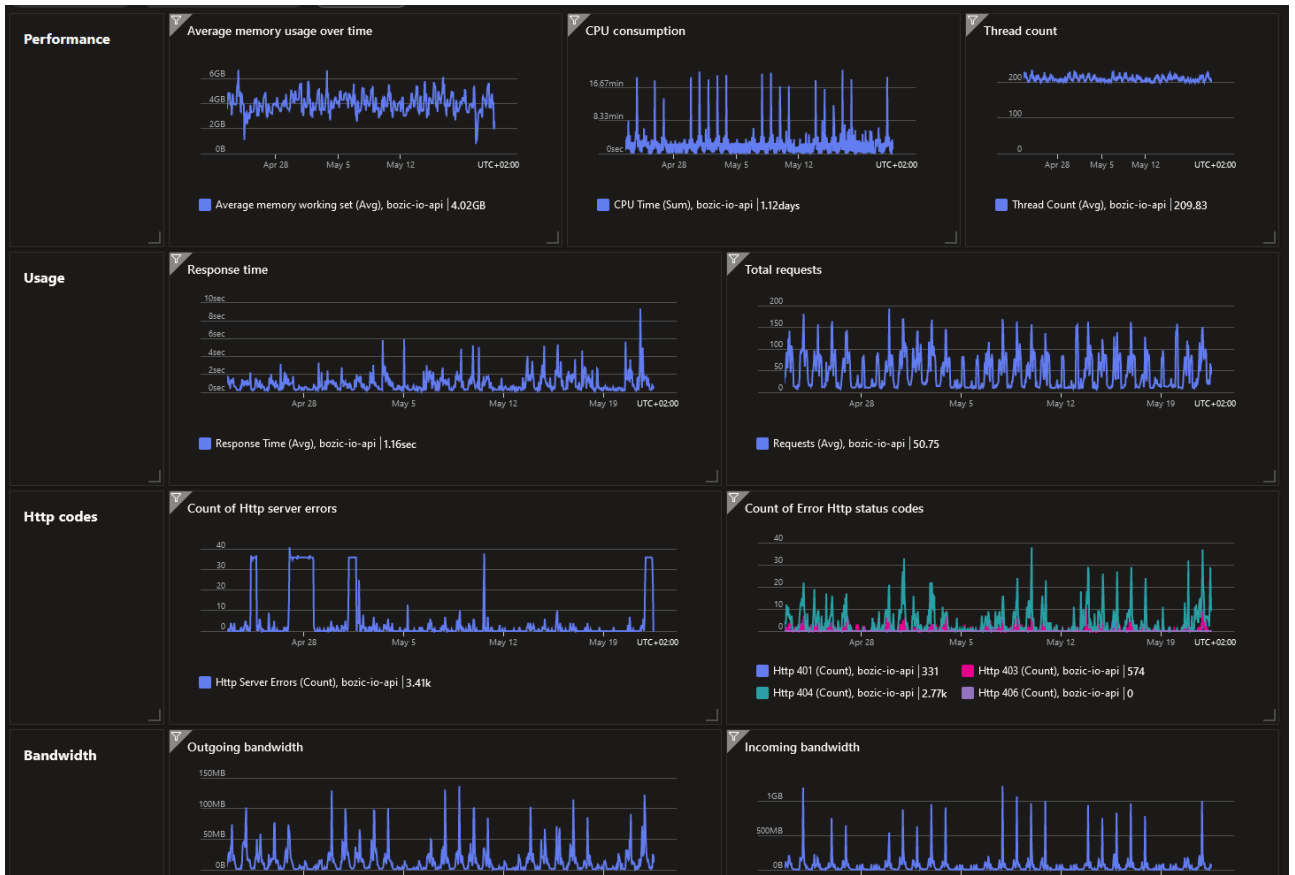


Figure 12. LIA API processing capacity

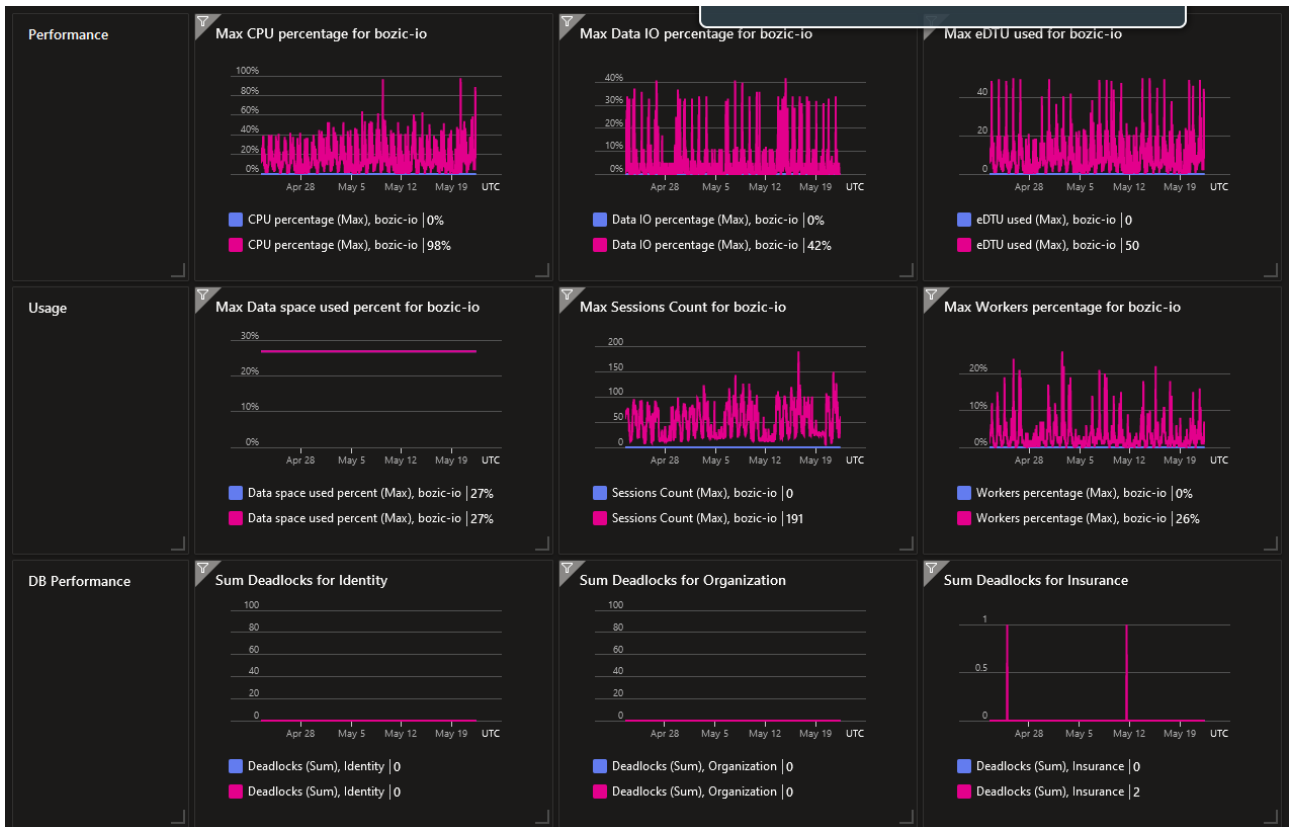


Figure 13. LIA DB processing capacity



Figure 14. LIA Function processing capacity

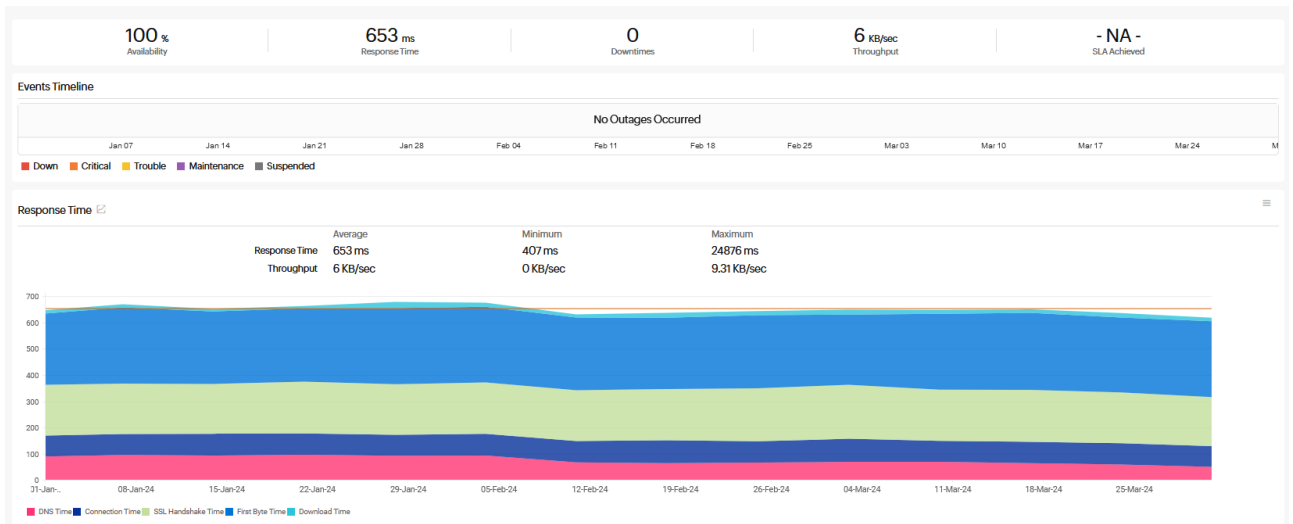


Figure 15. LIA availability

- AFBIS processing capacity not reviewed due to not being in production
- Brisk processing capacity not reviewed due to not being in production

PII use review

- Reviewed PII use

Raw PII access is limited to **Marin Božić (marin@bozic.io)** Luka Ferlež (luka.ferlez@bozic.io)
 ** LIA API web app

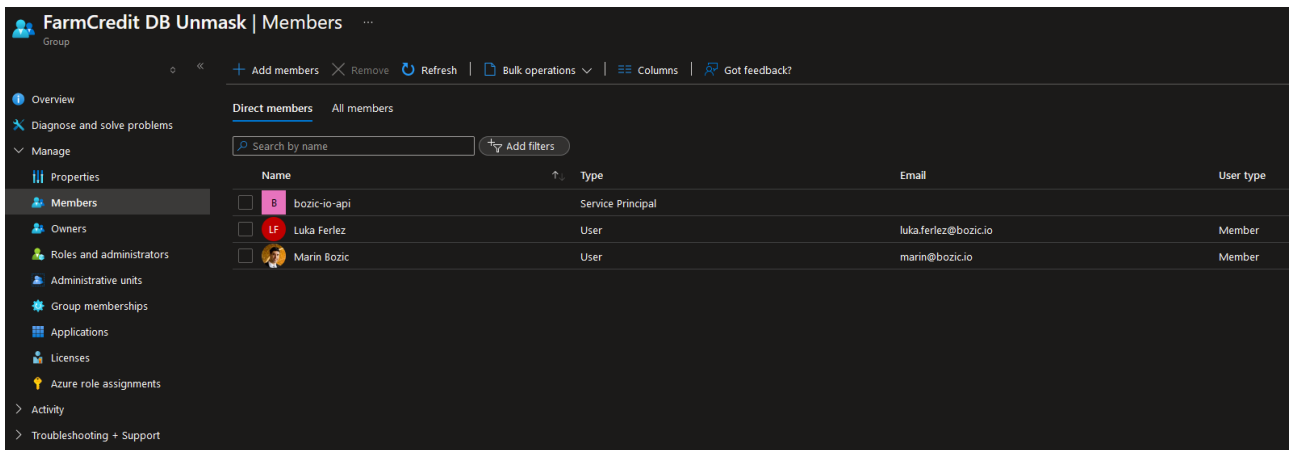


Figure 16. LIA Unmask group members

Unmask group is the only authorized to view masked PII

```
USE [Identity]
```

```
SELECT
    PERM.class_desc,
    PERM.type,
    PERM.permission_name,
    PERM.state,
    PERM.state_desc,
    PRINC.[name],
    PRINC.[type],
    PRINC.[type_desc],
    PRINC.[sid],
    PRINC.[authentication_type_desc]
FROM
    sys.database_permissions AS PERM
    left join sys.database_principals AS PRINC
        ON PERM.grantee_principal_id = PRINC.principal_id
WHERE
    PERM.[permission_name] = 'UNMASK'
```

class_desc	type	permission_name	state	state_desc	name	type	type_desc	sid	authentication_type_desc
DATABASE	UMSK	UNMASK	G	GRANT	FamCredit DB Unmask	X	EXTERNAL_GROUP	0xBFE2EE67768F7446B4BA6D62FCE87619	EXTERNAL

Figure 17. LIA Identity DB Unmask permissions

```
USE [Organization]
```

```
SELECT
    PERM.class_desc,
    PERM.type,
    PERM.permission_name,
    PERM.state,
    PERM.state_desc,
    PRINC.[name],
    PRINC.[type],
    PRINC.[type_desc],
    PRINC.[sid],
    PRINC.[authentication_type_desc]
FROM
    sys.database_permissions AS PERM
    left join sys.database_principals AS PRINC
        ON PERM.grantee_principal_id = PRINC.principal_id
WHERE
    PERM.[permission_name] = 'UNMASK'
```

class_desc	type	permission_name	state	state_desc	name	type	type_desc	sid	authentication_type_desc
DATABASE	UMSK	UNMASK	G	GRANT	FamCredit DB Unmask	X	EXTERNAL_GROUP	0xBFE2EE67768F7446B4BA6D62FCE87619	EXTERNAL

Figure 18. LIA Organization DB Unmask permissions


```

USE Insurance
SELECT
    PERM.class_desc,
    PERM.type,
    PERM.permission_name,
    PERM.state,
    PERM.state_desc,
    PRINC.[name],
    PRINC.[type],
    PRINC.[type_desc],
    PRINC.[sid],
    PRINC.[authentication_type_desc]
FROM
    sys.database_permissions AS PERM
    left join sys.database_principals AS PRINC
        ON PERM.grantee_principal_id = PRINC.principal_id
WHERE
    PERM.[permission_name] = 'UNMASK'

```

class_desc	type	permission_name	state	state_desc	name	type	type_desc	sid	authentication_type_desc
DATABASE	UMSK	UNMASK	G	GRANT	FarmCredit DB Unmask	X	EXTERNAL_GROUP	0xBFE2EE67768F7446B4BA6D62FCE87619	EXTERNAL

Figure 19. LIA Insurance DB Unmask permissions

PII is used only the application system and is not exported or removed from the system.

Cybersecurity review

LIA

Penetration testing

System penetration & vulnerability scan is performed annually. The latest results have been obtained on 27th November 2023 from Appalachia technologies LLC, 5012 Lenker Street, Mechanicsburg, PA 17050.

Findings Overview

A total of 10 findings were identified in this report.

Critical	High	Medium	Low	Informational
0	0	0	4	6

The following table provides a summary of all findings for this engagement. Full details for each can be found in the "Detailed Findings" section of this report.

Findings Summary

Severity	Finding Title
Low	Cookie without HttpOnly flag set
Low	Link manipulation (DOM-based)
Low	Session token in URL
Low	Vulnerable JavaScript dependency
Informational	Cacheable HTTPS response
Informational	Cross-domain Referer leakage
Informational	Cross-origin resource sharing
Informational	Frameable response (potential Clickjacking)
Informational	TLS certificate
Informational	TLS cookie without secure flag set

Figure 20. LIA penetration findings

The penetration test results are deemed satisfactory. * Low findings are required the used OpenIDC protocol for authentication and do not pose a security risk * Informational findings are accepted

System exposure

- Database

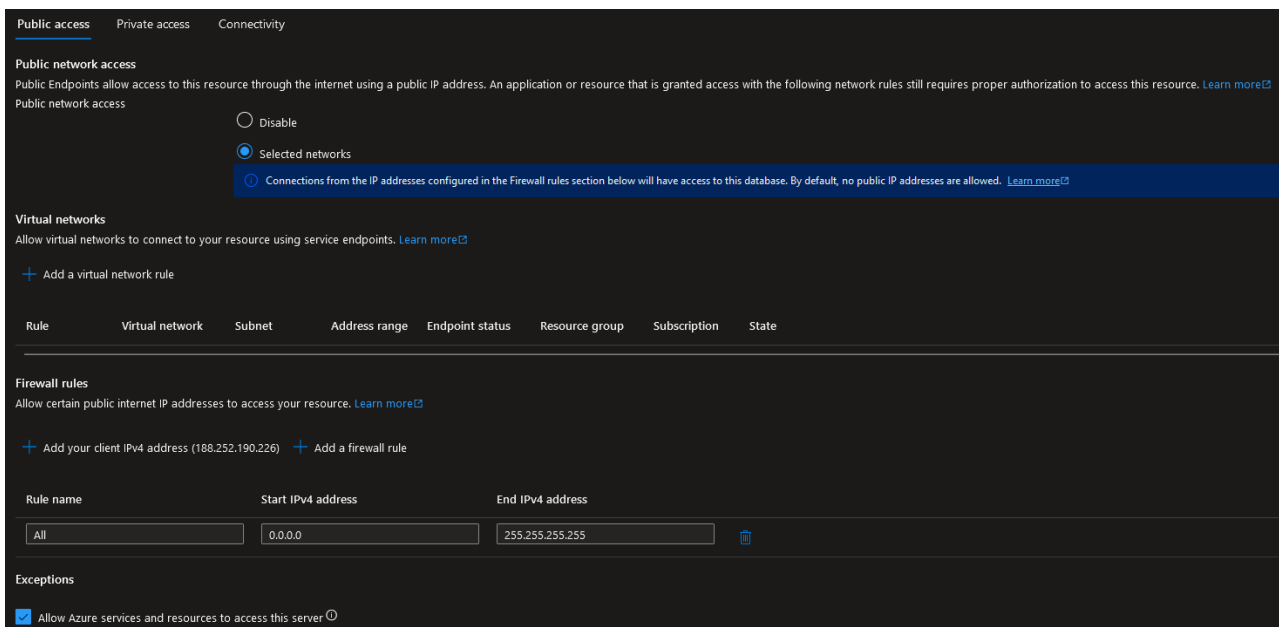


Figure 21. bozic-1 db server from public networks

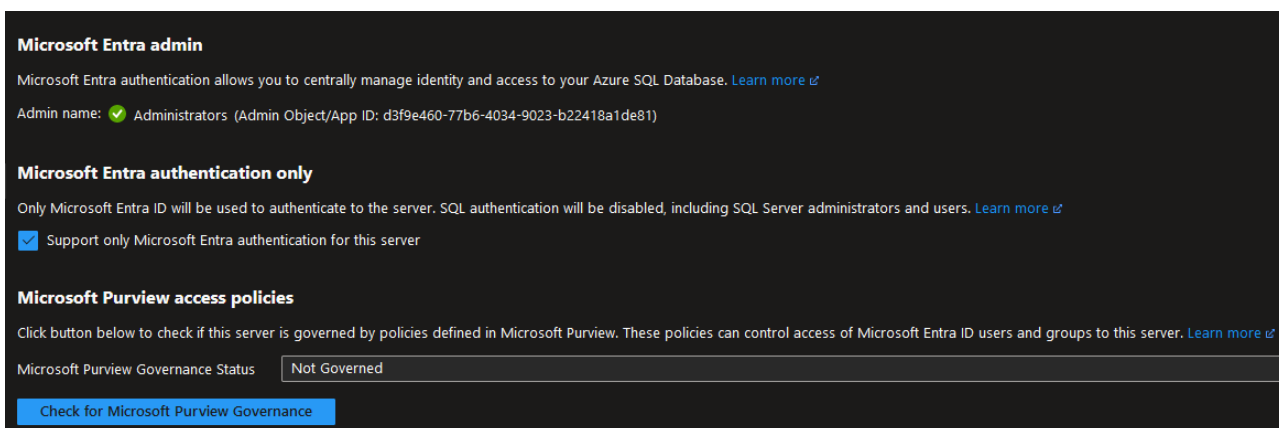


Figure 22. bozic-1 db server authentication settings

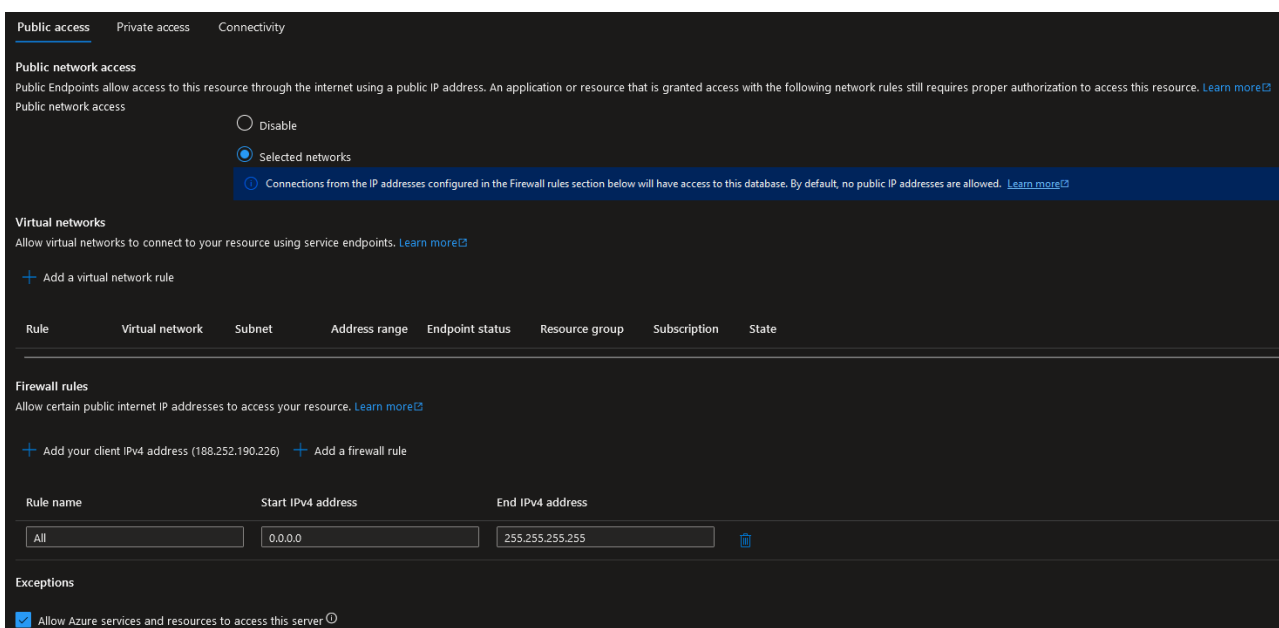


Figure 23. bozic-2 db server from public networks

- Connection to the servers is possible only using Entry ID
- Connection to the servers is possible only for users in FarmCredit domain group

Database server exposure is minimal, however should be tightened as there is no business need for public network access.

Storage

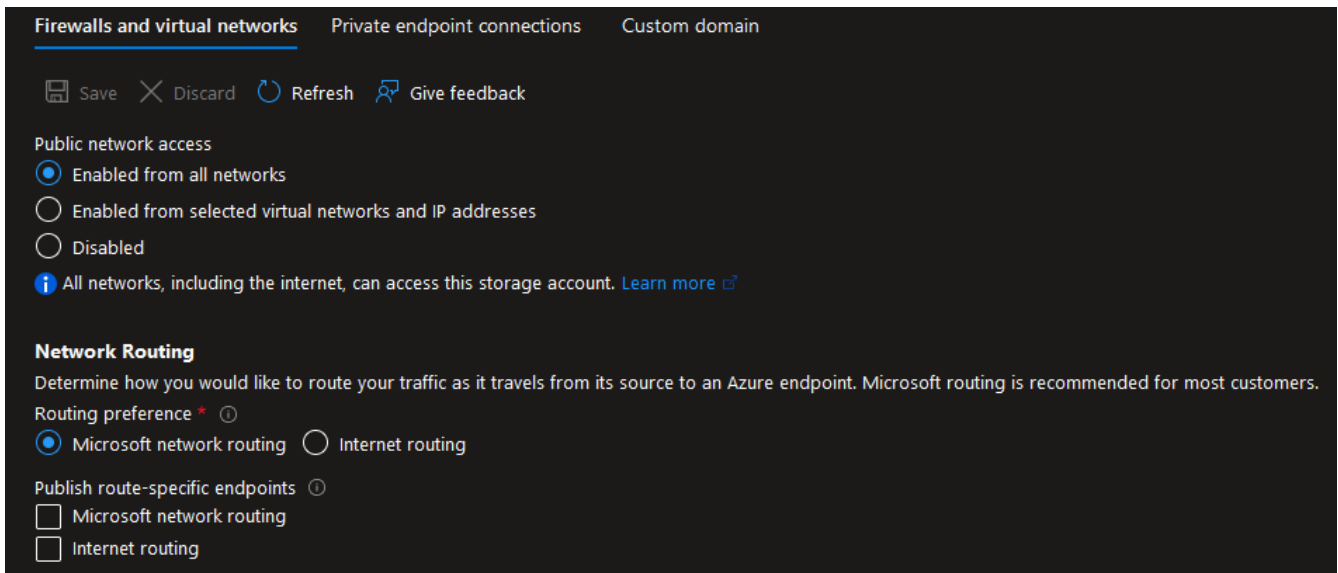


Figure 28. Storage access form public networks

Name	Last modified	Anonymous access level	Lease state
<input type="checkbox"/> \$logs	8/9/2019, 11:14:02 PM	Private	Available ***
<input type="checkbox"/> azure-webjobs-hosts	7/25/2019, 5:25:18 AM	Private	Available ***
<input type="checkbox"/> azure-webjobs-secrets	7/25/2019, 5:25:17 AM	Private	Available ***
<input type="checkbox"/> education-video	10/17/2019, 8:08:42 AM	Private	Available ***
<input type="checkbox"/> education-video-attachment	2/15/2021, 4:46:07 PM	Private	Available ***
<input type="checkbox"/> education-video-thumbnail	2/15/2021, 4:45:57 PM	Private	Available ***
<input type="checkbox"/> logo	8/9/2019, 11:53:45 PM	Blob	Available ***
<input type="checkbox"/> lrp-price-report-commodity	3/31/2023, 7:47:15 PM	Blob	Available ***
<input type="checkbox"/> memorydumps	2/27/2020, 11:45:51 PM	Private	Available ***
<input type="checkbox"/> production-history	8/9/2019, 11:53:51 PM	Private	Available ***
<input type="checkbox"/> swissre	5/9/2023, 10:42:24 PM	Private	Available ***

Figure 29. Container access level

- Access from public networks to storage account bozicio is enabled.
- Container access is set to private with the exception of "logo" & "lrp-price-report-commodity" containers

Public unauthenticated access is possible only to containers "logo" & "lrp-price-report-commodity" which contain information & documents that are required to be publicly available.

AFBIS

AFBIS system is under development, no penetration testing has been conducted

Brisk

Brisk system is under development, no penetration testing has been conducted.

Actions

- Expand data masking

Database contain additional potentially sensitive data and should be masked where ever such data is included. All personal names, usernames, address, phone numbers and similar personal data should be masked in all databases.

Database that contain such data and it is not masked are the be corrected

- LIA Insurance @maja.pilipovic
- AFBIS Quoter @tea.milicevic
- Brisk Quoter @hana.ercegovac
- Resolve causes of failed daily functions in LIA @maja.pilipovic
- Advise AFBIS of the need to conduct penetration testing on the AFBIS system prior to going to production @tea.milicevic
- Remove access to Database servers from all networks and enforce Private endpoint connections only @maja.pilipovic