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# Základní Azure PaaS služby

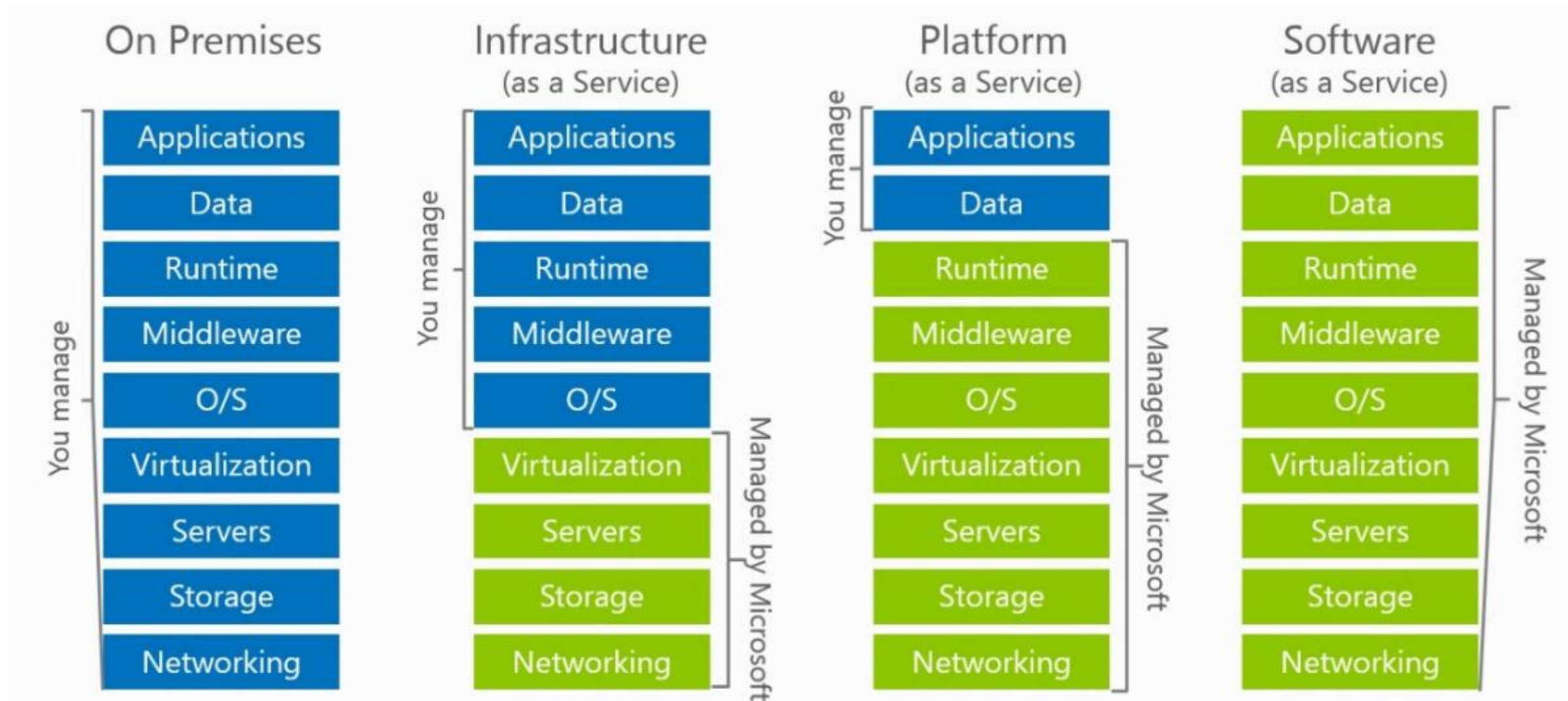
## pro provoz webových aplikací v Azure

# Agenda

- Mindset aneb Proč PaaS
- Přehled PaaS služeb
- Služby používané běžnými webovými aplikacemi...
- ... a pár hezkých služeb :-)



# Proč PaaS?



# Vítají vás předplatná nástroje Visual Studio

Výhody

Soubory ke stažení

Kódy Product Key

Předplatné

Získání pomoci

Marketplace

## Vybraná výhoda



**Azure**

Měsíční kredit 150 USD

Využijte kredity v Azure k tomu, abyste se seznámili se službami Azure, prošli si je a vyzkoušeli.

[Aktivovat](#)

[Zobrazit účet >](#)

Předplatné

Visual Studio Enterprise (MPN)



# Základní PaaS služby pro běžné webové aplikace

- Hosting webové aplikace
- Databázový server
- Úložiště souborů
- Monitoring



# Azure App Service

## IIS web site

- .NET Framework
  - .NET Core
  - Node.js
  - PHP
  - Java
- Https Only, TLS
  - Autentication, Authorization
  - Deployment sloty
  - Networking
  - WebJobs
  - Advanced Tools (Kudu)



# Azure App Service Plan

## Webový server

- Windows, Linux
- Basic, Standard, Premium, Isolated
- Free, Shared
- Škálování



| Standard Service Plan | Cores | RAM     | Storage | Pay as you go  |
|-----------------------|-------|---------|---------|----------------|
| S1                    | 1     | 1.75 GB | 50 GB   | €69.251/month  |
| S2                    | 2     | 3.50 GB | 50 GB   | €138.501/month |
| S3                    | 4     | 7 GB    | 50 GB   | €277.001/month |

# Azure & Databáze

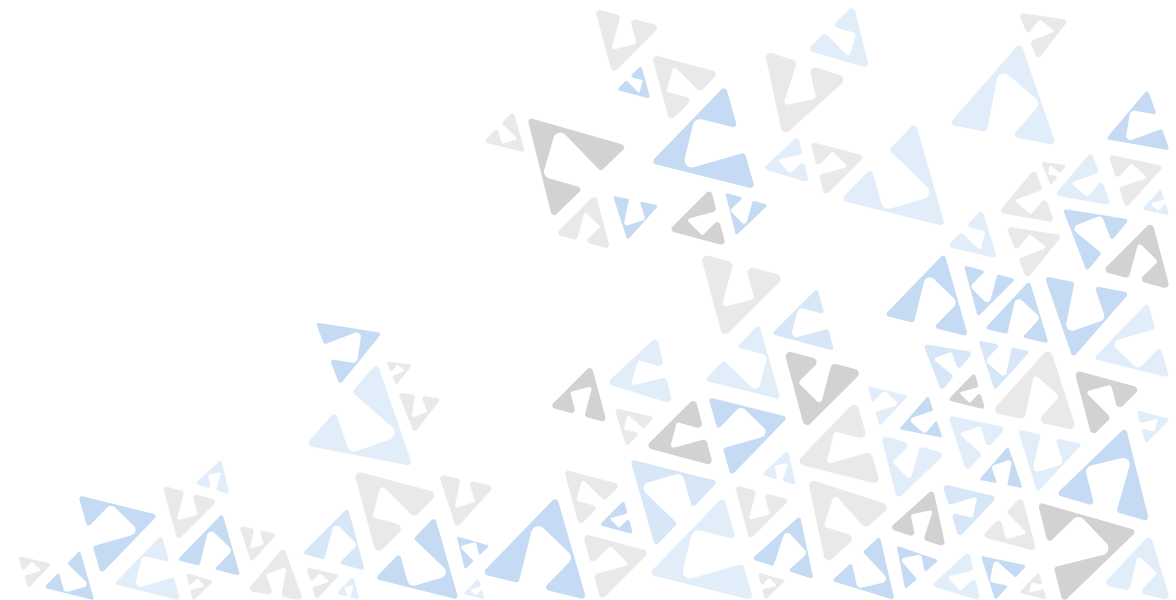
- Azure SQL Database
- Azure CosmosDB
- Azure Table Storage
- Azure Database for MySQL
- Azure Database for PostgreSQL
- Azure Database for MariaDB





# Azure SQL Database

- Geo Redundancy
- MFA
- Login: Managed Identity
- Query Performance Insight  
(Query Store)



# Azure SQL Database

Nepodporované

- CLR
- Cross-Database Queries
  - vč. USE statement
- SP xp\_... (a další)



# Diagnostika

TOP 5 queries by:

|         |
|---------|
| CPU     |
| Data IO |
| Log IO  |

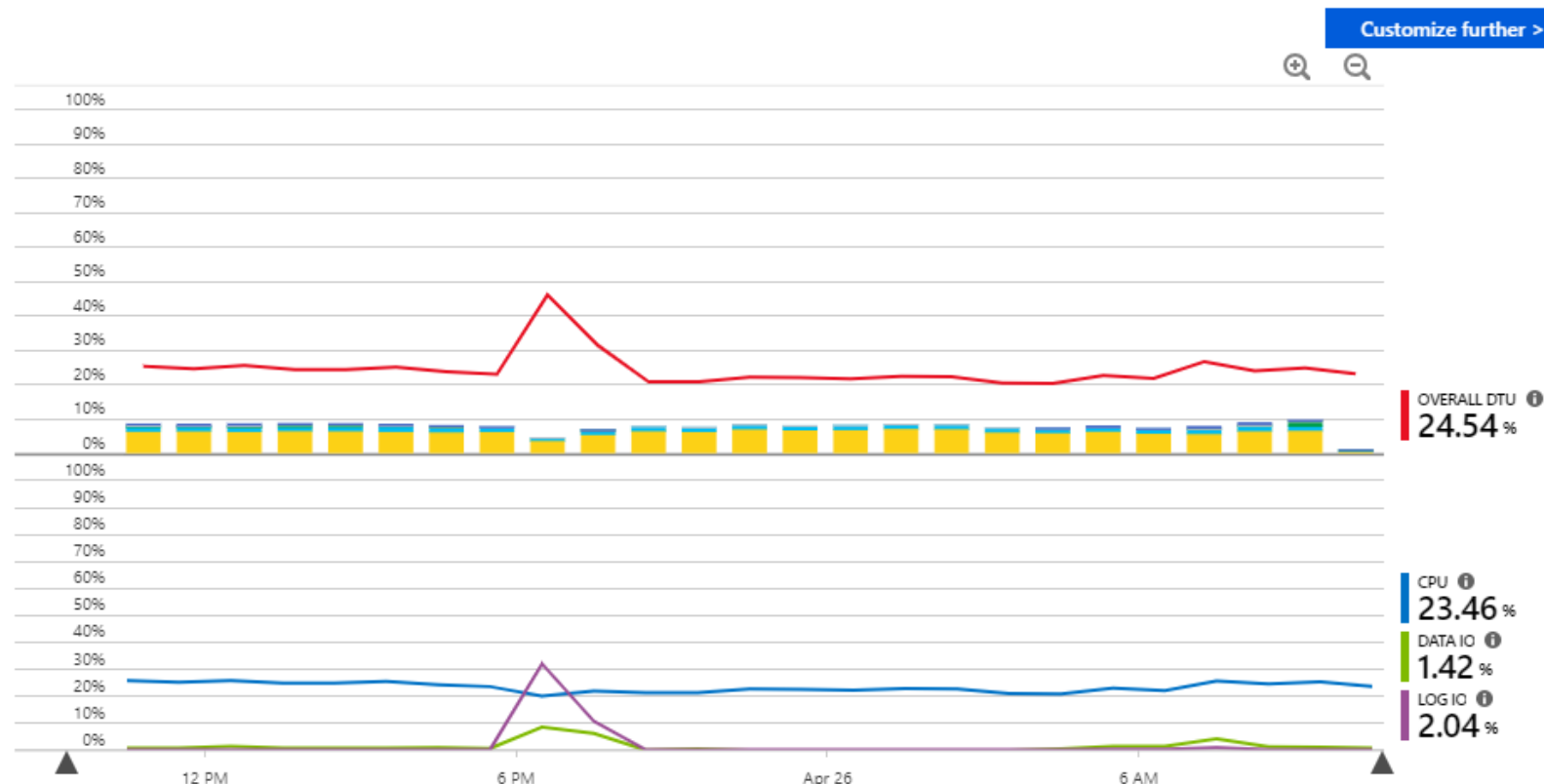
Aggregation type:

SUM

Time period:

LAST 24 HRS

Metrics comp... ?



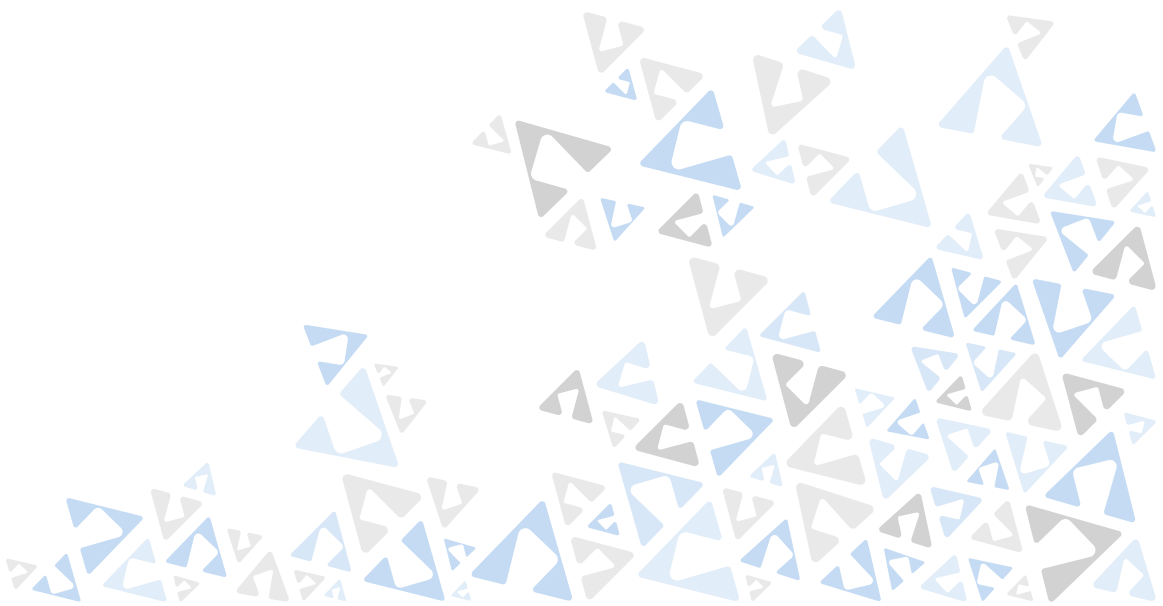
Click on a row below to get the details for the selected query. ?

| QUERY ID | CPU[%] | ↑↓ | DATA IO[%] | ↑↓ | LOG IO[%] | ↑↓ | DURATION[HH:MM:SS] | ↑↓ | EXECUTIONS COUNT | ↑↓ | # |
|----------|--------|----|------------|----|-----------|----|--------------------|----|------------------|----|---|
| 772749   | 6.37   |    | 0          |    | 0.16      |    | 01:11:31.210       |    | 361187           |    | ✓ |
| 772750   | 1.02   |    | 0.01       |    | 0         |    | 00:14:59.419       |    | 362450           |    | ✓ |
| 774140   | 0.14   |    | 0.03       |    | 0         |    | 00:02:36.590       |    | 1806             |    | ✓ |
| 216797   | 0.14   |    | 0.03       |    | 0         |    | 00:02:53.689       |    | 45               |    | ✓ |
| 306825   | 0.1    |    | 0          |    | 0         |    | 00:03:59.689       |    | 72               |    | ✓ |

# Doporučení

## Recommendations

| ACTION                                                                                        | RECOMMENDATION DESCRIPTION                                                             | IMPACT                                                                                  |
|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  Create index | Table: [Equipment]<br>Indexed columns:[Deleted], [Disabled], [SerialNumber]            |  Low |
|  Drop index   | Index name: IX_BillingDocument_BusinessKindID_ExternalSapID<br>Reason: Duplicate index |  Low |

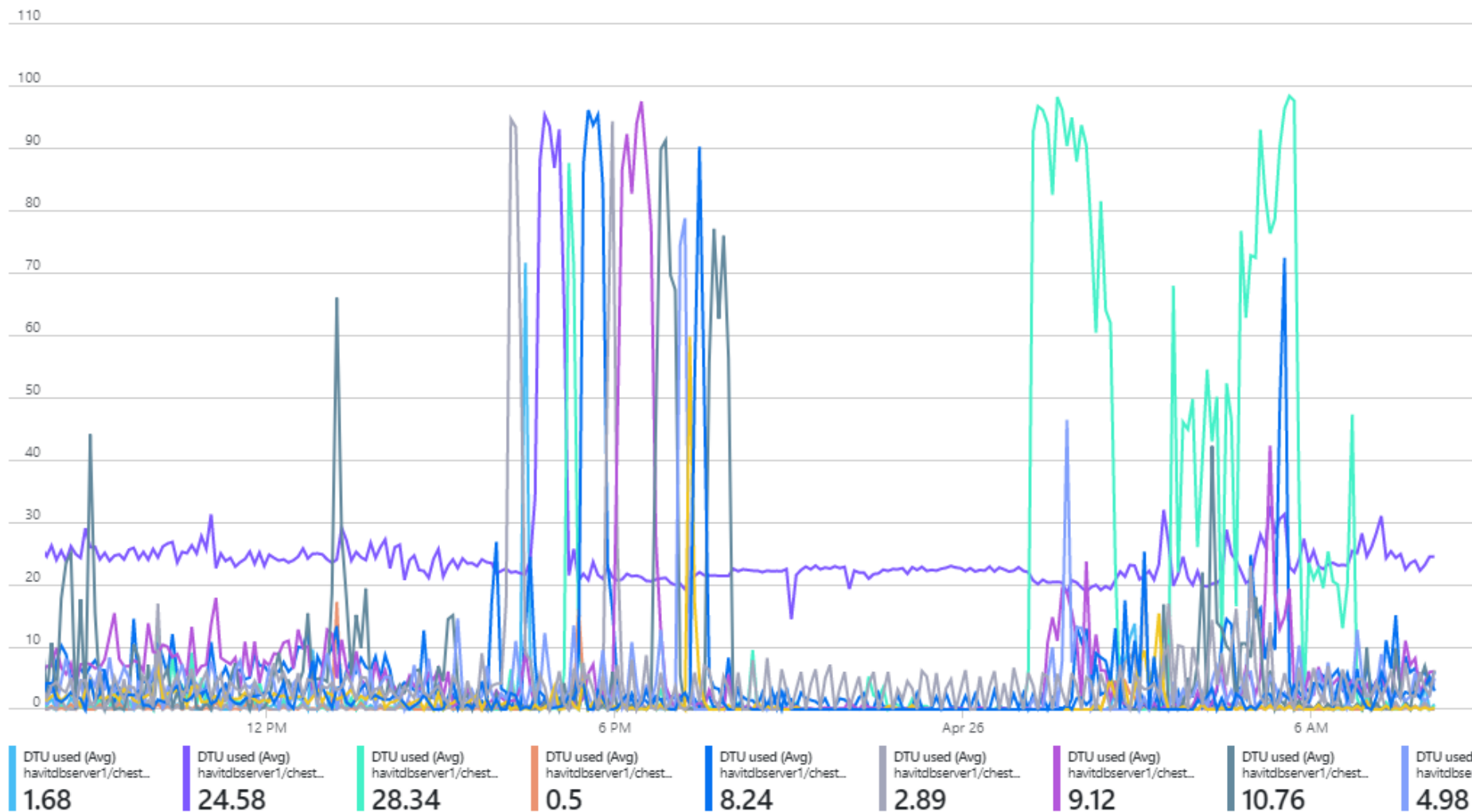


# Sledování zátěže



Chester Production: DTU used

..



# DTUs (database throughput units)

|     | <a href="#">DTUs</a> | Included storage | Max storage | Price for <a href="#">DTUs</a> and included storage <sup>1</sup> |
|-----|----------------------|------------------|-------------|------------------------------------------------------------------|
| S0  | 10                   | 250 GB           | 250 GB      | €13.9626/month                                                   |
| S1  | 20                   | 250 GB           | 250 GB      | €27.9223/month                                                   |
| S2  | 50                   | 250 GB           | 250 GB      | €69.8272/month                                                   |
| S3  | 100                  | 250 GB           | 1 TB        | €139.6169/month                                                  |
| S4  | 200                  | 250 GB           | 1 TB        | €279.2511/month                                                  |
| S6  | 400                  | 250 GB           | 1 TB        | €558.5022/month                                                  |
| S7  | 800                  | 250 GB           | 1 TB        | €1,117.0043/month                                                |
| S9  | 1,600                | 250 GB           | 1 TB        | €2,234.0085/month                                                |
| S12 | 3,000                | 250 GB           | 1 TB        | €4,188.7659/month                                                |

# vCore (Gen5)

| vCORE | Memory (GB) | Pay as you go   |
|-------|-------------|-----------------|
| 2     | 10.2        | €370.36/month   |
| 4     | 20.4        | €740.72/month   |
| 6     | 30.6        | €1,111.07/month |
| 8     | 40.8        | €1,481.43/month |
| 10    | 51          | €1,851.79/month |
| 12    | 61.2        | €2,222.14/month |
| 14    | 71.4        | €2,592.50/month |
| 16    | 81.6        | €2,962.86/month |

# Azure SQL Elastic Pool

- Výkon sdílený více (mnoha) databázemi
- eDTU, vCore





# Azure SQL Elastic Pool

| <a href="#">eDTUs</a> per pool | Included storage per pool | Max storage per pool <sup>1</sup> | Max number databases per pool | Max <a href="#">eDTUs</a> per database <sup>2</sup> | Price for <a href="#">eDTUs</a> and included storage <sup>3</sup> |
|--------------------------------|---------------------------|-----------------------------------|-------------------------------|-----------------------------------------------------|-------------------------------------------------------------------|
| 50                             | 50 GB                     | 500 GB                            | 100                           | 50                                                  | <b>€104.60</b> /month                                             |
| 100                            | 100 GB                    | 750 GB                            | 200                           | 100                                                 | <b>€209.20</b> /month                                             |
| 200                            | 200 GB                    | 1 TB                              | 500                           | 200                                                 | <b>€418.39</b> /month                                             |
| 300                            | 300 GB                    | 1.25 TB                           | 500                           | 300                                                 | <b>€627.58</b> /month                                             |
| 400                            | 400 GB                    | 1.5 TB                            | 500                           | 400                                                 | <b>€836.78</b> /month                                             |
| 800                            | 800 GB                    | 2 TB                              | 500                           | 800                                                 | <b>€1,673.55</b> /month                                           |
| 1,200                          | 1.17 TB                   | 2.5 TB                            | 500                           | 1,200                                               | <b>€2,510.32</b> /month                                           |
| 1,600                          | 1.56 TB                   | 3 TB                              | 500                           | 1,600                                               | <b>€3,347.09</b> /month                                           |
| 2,000                          | 1.95 TB                   | 3.5 TB                            | 500                           | 2,000                                               | <b>€4,183.87</b> /month                                           |
| 2,500                          | 2.44 TB                   | 4 TB                              | 500                           | 2,500                                               | <b>€5,229.83</b> /month                                           |
| 3,000                          | 2.93 TB                   | 4 TB                              | 500                           | 3,000                                               | <b>€6,275.80</b> /month                                           |

# Azure Storage

- Úložiště dat

Blobs

Files

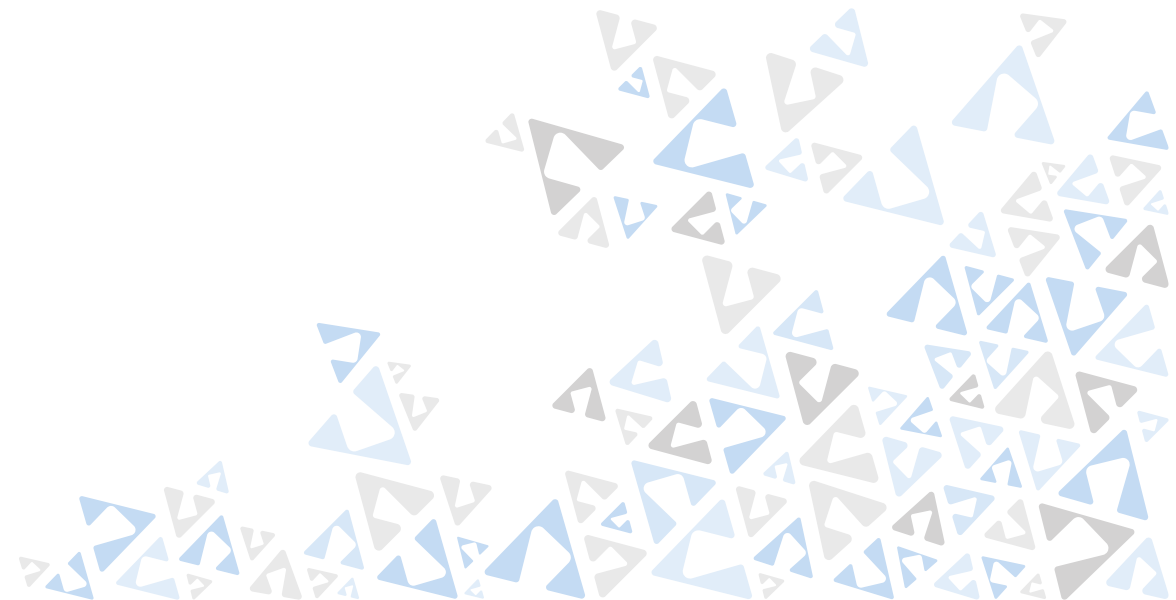
Queues

Tables

Managed Disks

Elastic SAN (preview)

NetApp Files



# Azure Blob Storage

- Geo redundancy: LRS, ZRS, GRS, RA-GRS, GZRS, RA-GZRS
- Hot, Cool, Archive
- Premium



| Data storage prices pay-as-you-go | Premium         | Hot            | Cool            | Archive         |
|-----------------------------------|-----------------|----------------|-----------------|-----------------|
| First 50 terabyte (TB) / month    | €0.18499 per GB | €0.0190 per GB | €0.00949 per GB | €0.00171 per GB |
| Next 450 TB / month               | €0.18499 per GB | €0.0179 per GB | €0.00949 per GB | €0.00171 per GB |
| Over 500 TB / month               | €0.18499 per GB | €0.0171 per GB | €0.00949 per GB | €0.00171 per GB |

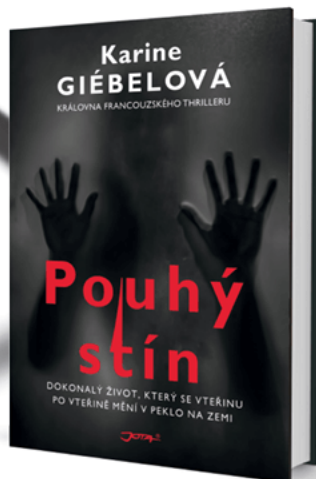
Operations and data transfer

| Operations and data transfer                        | Premium | Hot     | Cool    | Archive |
|-----------------------------------------------------|---------|---------|---------|---------|
| Write operations (per 10,000) <sup>1</sup>          | €0.0281 | €0.0665 | €0.1234 | €0.1480 |
| Read operations (per 10,000) <sup>2</sup>           | €0.0023 | €0.0057 | €0.0124 | €7.3994 |
| Iterative Read Operations (per 10,000) <sup>3</sup> | N/A     | €0.0057 | €0.0124 | €7.3994 |
| Iterative Write Operations (100's) <sup>4</sup>     | N/A     | €0.0665 | €0.1234 | €0.1480 |
| Data Retrieval (per GB) <sup>5</sup>                | Free    | Free    | €0.0095 | €0.0228 |
| Data Write (per GB)                                 | Free    | Free    | Free    | Free    |
| Index (GB/month)                                    | N/A     | €0.0266 | N/A     | N/A     |

# Pouhý stín

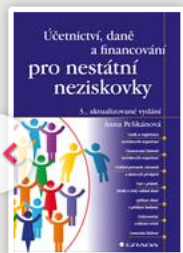
DOKONALÝ ŽIVOT,  
KTERÝ SE VTEŘINU  
PO VTEŘINĚ MĚNÍ  
V PEKLO NA ZEMI

JOTA®

TAKÉ JAKO  
E-KNIHA

## Novinky

Zobrazit vše



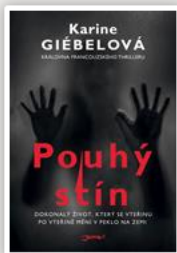
Účetnictví, daně a  
financování pro...



Zlatá klec



Malé zázraky



Pouhý stín



Radost z  
obyčejnosti

## Redakce doporučuje

Zobrazit vše

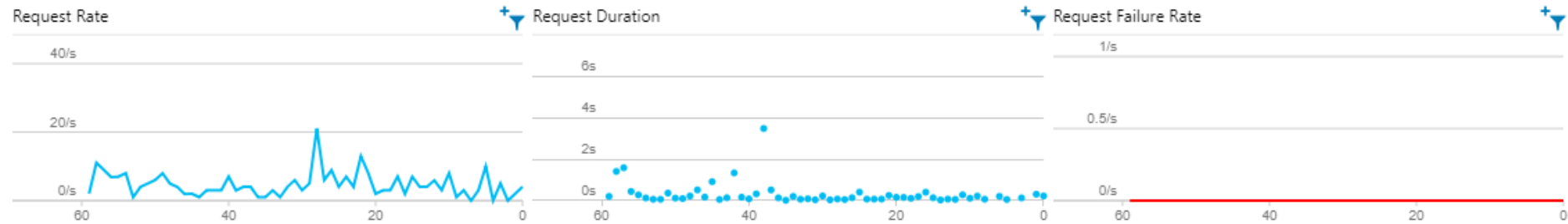


Elements Console Sources Network

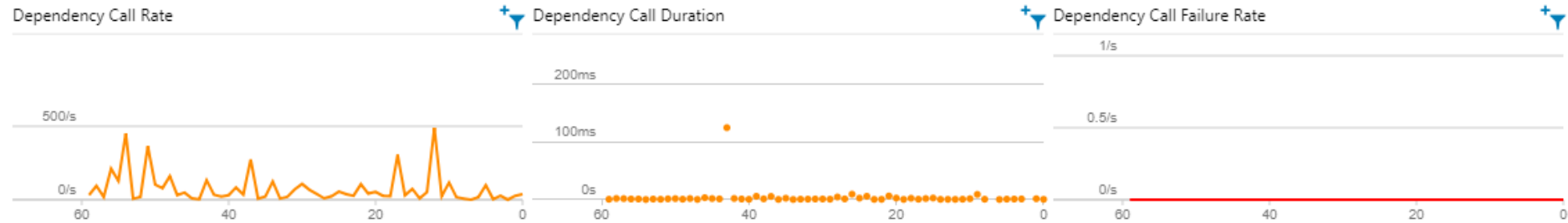
```
<div class="bookitem-wrapper" data-reactid=
".0.1.0.$original0.$0">
  <div class="bookitem" data-reactid=
".0.1.0.$original0.$0.0">
    <div class="cover" data-reactid=
".0.1.0.$original0.$0.0.0">
      <a href="/k/jota/ucetnictvi-dane-a-
financovani-pro-destatni-neziskovky-5029/"
data-reactid=".0.1.0.$original0.$0.0.0.0">
         == $0
      </a>
    </div>
    <div class="title" title="Účetnictví, daně a
financování pro nestátní neziskovky" data-
reactid=".0.1.0.$original0.$0.0.1">...</div>
  </div>
</div>
<div class="slick-slide slick-active bookitem-
```

# Application Insights + Log Analytics Workspace

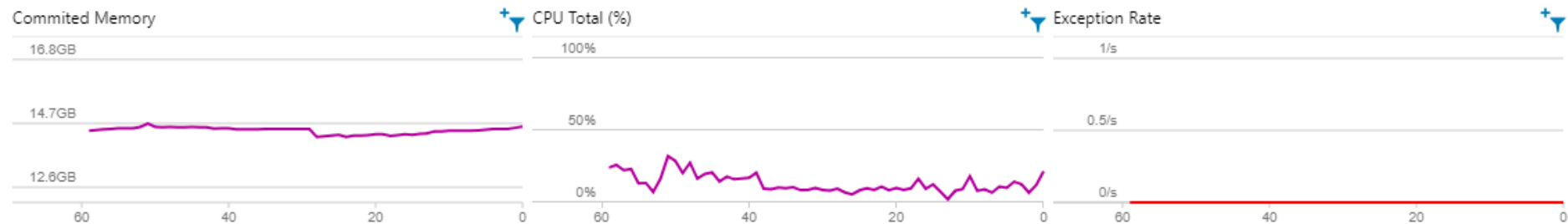
## ☐ Incoming Requests



## ☐ Outgoing Requests



## ☐ Overall Health

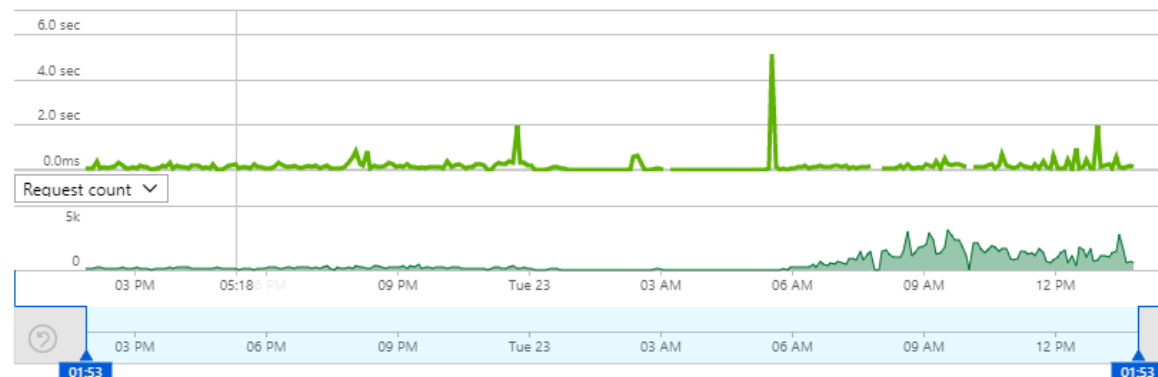


# Application Insights + Log Analytics Workspace

Operations Dependencies Roles

Operation times: zoom into a range

Avg 50<sup>th</sup> 95<sup>th</sup> 99<sup>th</sup>



Select operation

Search to filter items...

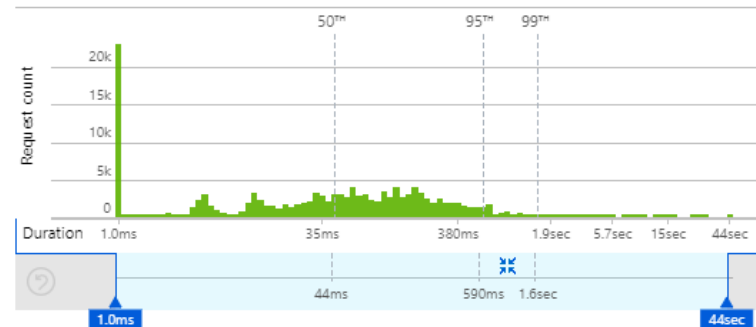
| OPERATION NAME                                       | DURATION (AVG) | COUNT   | PIN |
|------------------------------------------------------|----------------|---------|-----|
| Overall                                              | 188 ms         | 134.33k |     |
| POST /Attendance/StoreAttendanceOverview-Edit.aspx   | 469 ms         | 6.53k   |     |
| POST /Accounting/Document-Approval.aspx              | 381 ms         | 4.72k   |     |
| POST /Attendance/AttendanceTimesheetDetail-Edit.aspx | 233 ms         | 4.50k   |     |
| GET /default.aspx                                    | 197 ms         | 4.36k   |     |
| POST /Attendance/AttendanceRequest-Edit.aspx         | 191 ms         | 4.96k   |     |
| POST /Accounting/ERPService.svc                      | 109 ms         | 7.41k   |     |
| GET /Documents/GetFile.ashx                          | 58.1 ms        | 7.84k   |     |
| POST /Login.aspx                                     | 44.9 ms        | 4.41k   |     |
| GET /Login.aspx                                      | 4.85 ms        | 7.49k   |     |
| GET /ScriptResource.axd                              | 0.682 ms       | 11.38k  |     |

View in Analytics Feedback Profiler Refresh

Overall

Distribution of durations: zoom into a range

Scale



Insights (1)

38% COMMON PROPERTIES: resultCode, performanceBucket, cloud\_RoleInstance

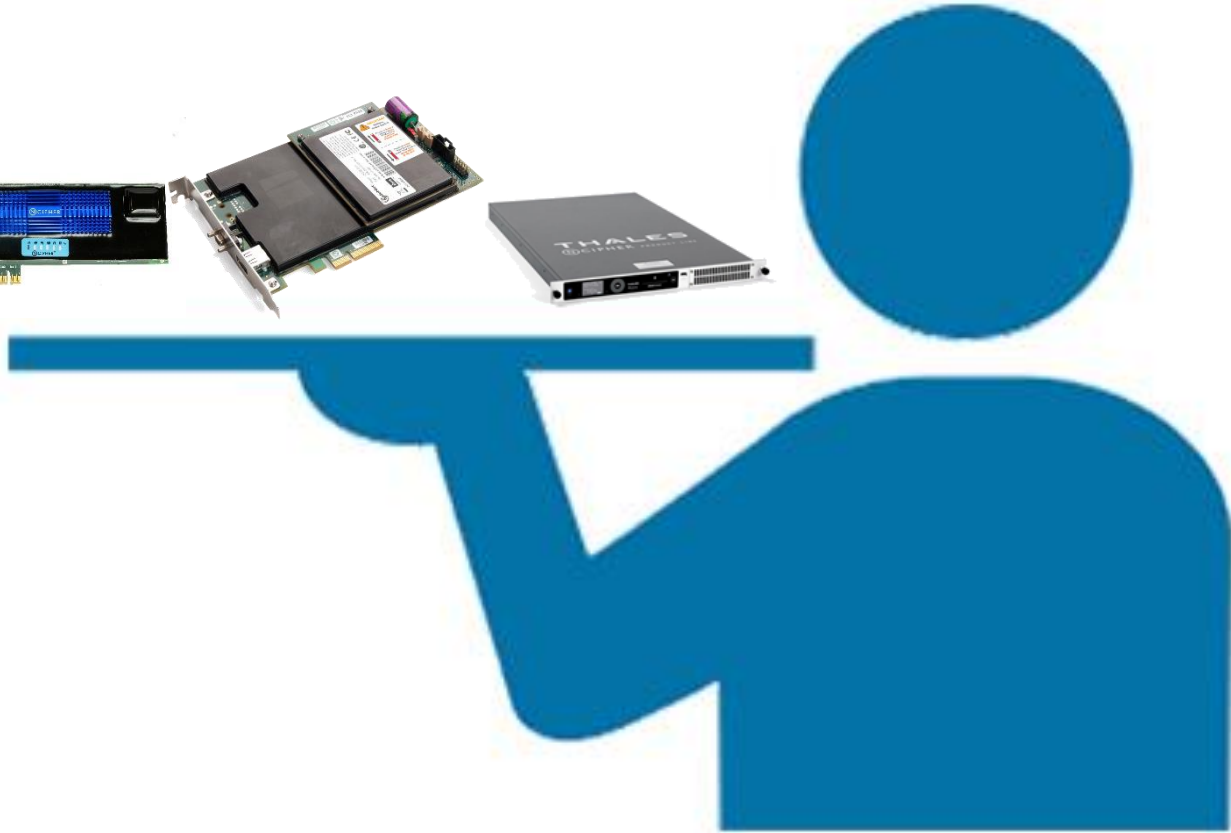
# Data Out

## Internet Egress (Routed via [Routing preference transit ISP network](#))

| Source Continent                                              | First 100GB / Month | Next 10TB / Month | Next 40TB / Month | Next 100TB / Month | Next 350TB / Month |
|---------------------------------------------------------------|---------------------|-------------------|-------------------|--------------------|--------------------|
| From North America, Europe to any destination                 | Free                | €0.0759 per GB    | €0.0617 per GB    | €0.0570 per GB     | €0.0380 per GB     |
| From Asia (China excluded), Australia, MEA to any destination | Free                | €0.1044 per GB    | €0.0712 per GB    | €0.0665 per GB     | €0.0570 per GB     |
| From South America to any destination                         | Free                | €0.1139 per GB    | €0.0807 per GB    | €0.0759 per GB     | €0.0712 per GB     |



# Azure Key Vault



# Azure Search

BOOKPORT®

+420 234 264 401 Jiří Kanda

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### Katalog knih

## Hledaný výsledek

**pohádky**

- Sportovní pohádky
- Vánoční pohádky
- Lesní pohádky
- Mokrě pohádky
- Policejní pohádky
- Hasičské pohádky
- Zlobivé pohádky
- Chechtavé pohádky
- Knihovnické pohádky

Organizace FAQ **Předplatné**

---

Filtrování výsledků

**Obory**

→ Beletrie (18)

→ Dětská literatura (131)

**Autoři**

de Risco Kouřová Eva (5)

Hladká Jitka (5)

Hladký Marek (5)

Klimek Hynek (18)

Pospíšilová Zuzana (31)

Ráž Václav (5)

Rožnovská Lenka (18)

Sušina Michal (11)

Študlarová Zdeňka (33)

Trstán Drahomír (7)

**Jazyky**

Česky (174)

**Nakladatelství**

Bambook (135)

Cosmopolis (4)

Čas (3)

Eknihy hned (2)

Epocha (2)

Galén (2)

Grada (15)

Kknihy (3)

Metafora (3)

Práh (3)

Řazení: Podle relevance

1 - 10 z 174 výsledků

**Nové vánoční pohádky**

Pospíšilová Zuzana, Wagner Barbara Issa

Vykouzlete si ty nejsvátečnější Vánoce s Novými vánočními pohádkami. Po úspěšné knize Vánoční pohádky přichází oblíbená spisovatelka Zuzana Pospíšilová se dvěma desítkami originálních, zbrusu nových pohádkových příběhů, které dětem připomenou, že kouzla nepatří jen k pohádkám, ale také k vánočnímu času.

Zobrazit ukázku
Vyzkoušet na 14 dní

**Projdeme se pohádkou**

Študlarová Zdeňka

Už jste někdy přemýšleli o tom, co dělá pohádku pohádkou? Knížka plná pohádkových říkanek, krásných ilustrací i zábavných úkolů vám toto velké tajemství pomůže odhalit.

Zobrazit ukázku
Vyzkoušet na 14 dní

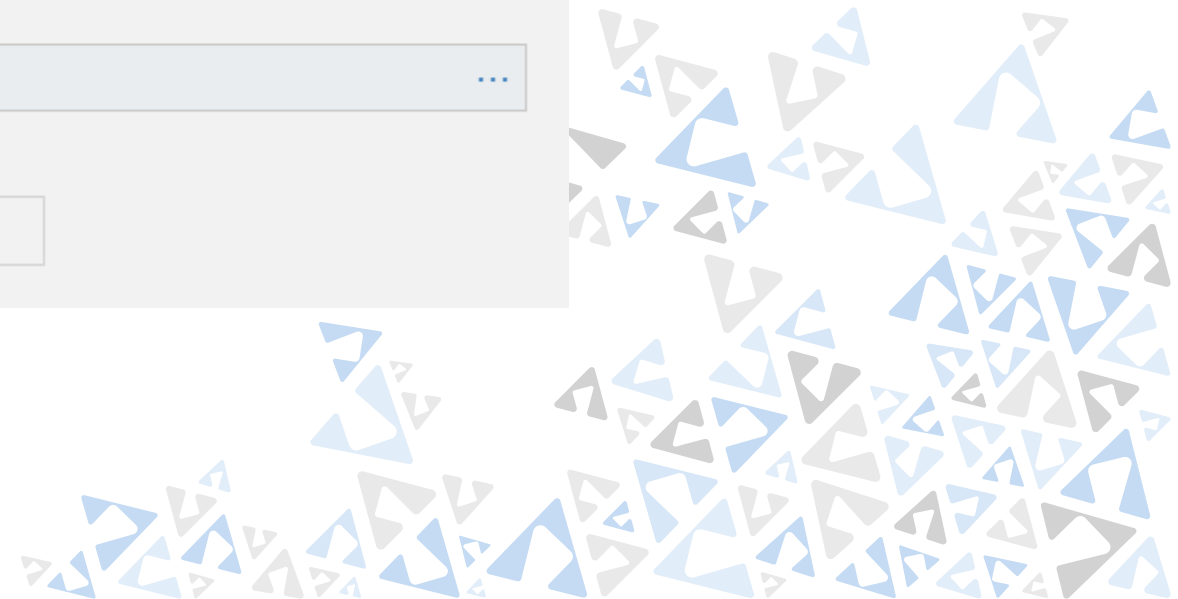
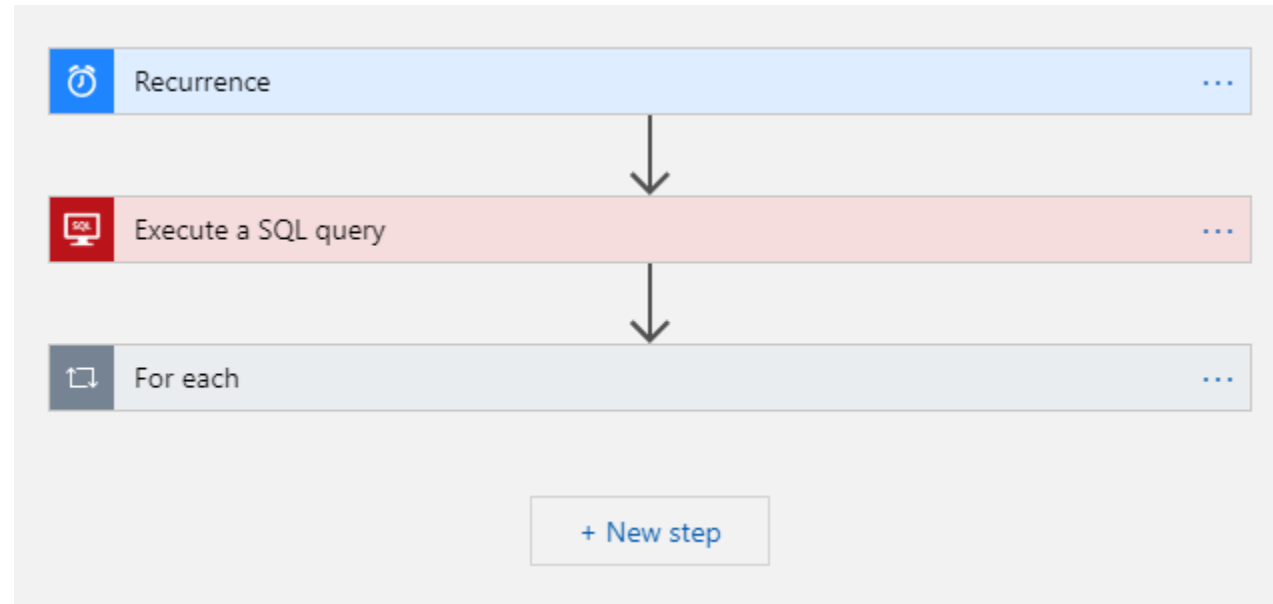
**Policejní pohádky**

Pospíšilová Zuzana, Študlarová Zdeňka

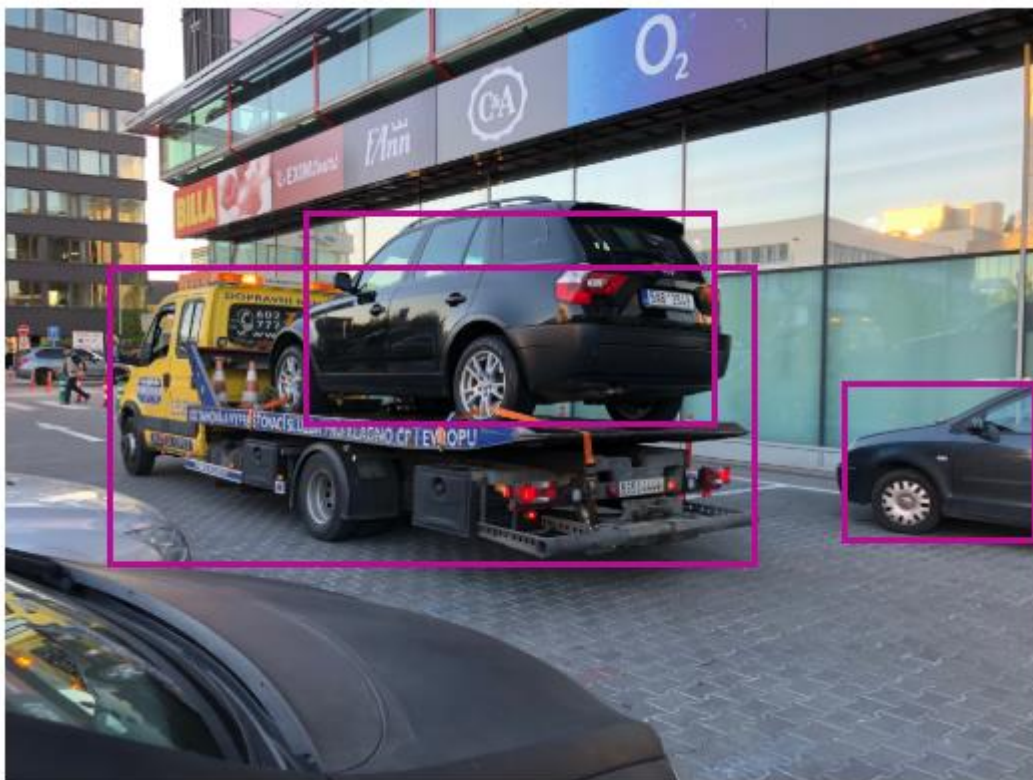
Pořádek musí být, a to i v pohádkách. Někdy se ale policistům, strážníkům a detektivům jejich pohádková služba pěkně zkomplikuje a pak přijdou na řadu kouzla. Ve dvaceti napínavých a zároveň humorných pohádkách pro děti od předškolního věku se to hemží neobyklými zločiny a ještě neobvyklejšími vyšetřovacími metodami.

Zobrazit ukázku
Vyzkoušet na 14 dní

# Logic Apps

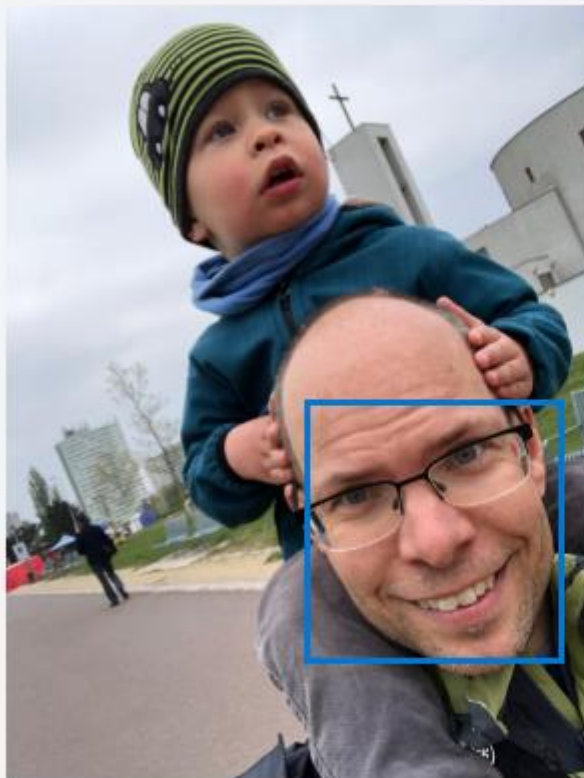


# Azure Cognitive Services



| FEATURE NAME: | VALUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Objects       | [ { "rectangle": { "x": 582, "y": 387, "w": 800, "h": 428 }, "object": "car", "parent": { "object": "Land vehicle", "parent": { "object": "Vehicle", "confidence": 0.696 }, "confidence": 0.696 }, "confidence": 0.536 }, { "rectangle": { "x": 1624, "y": 720, "w": 390, "h": 317 }, "object": "car", "parent": { "object": "Land vehicle", "parent": { "object": "Vehicle", "confidence": 0.83 }, "confidence": 0.829 }, "confidence": 0.743 }, { "rectangle": { "x": 193, "y": 500, "w": 1279, "h": 586 }, "object": "Land vehicle", "parent": { "object": "Vehicle", "confidence": 0.702 }, "confidence": 0.7 } ] |
| Tags          | [ { "name": "road", "confidence": 0.9915297 }, { "name": "outdoor", "confidence": 0.9668335 }, { "name": "truck", "confidence": 0.9522858 }, { "name": "car", "confidence": 0.9522858 }, { "name": "city", "confidence": 0.215728179 }, { "name": "motorsport", "confidence": 0.179997519 }, { "name": "automotive", "confidence": 0.179997519 } ]                                                                                                                                                                                                                                                                    |

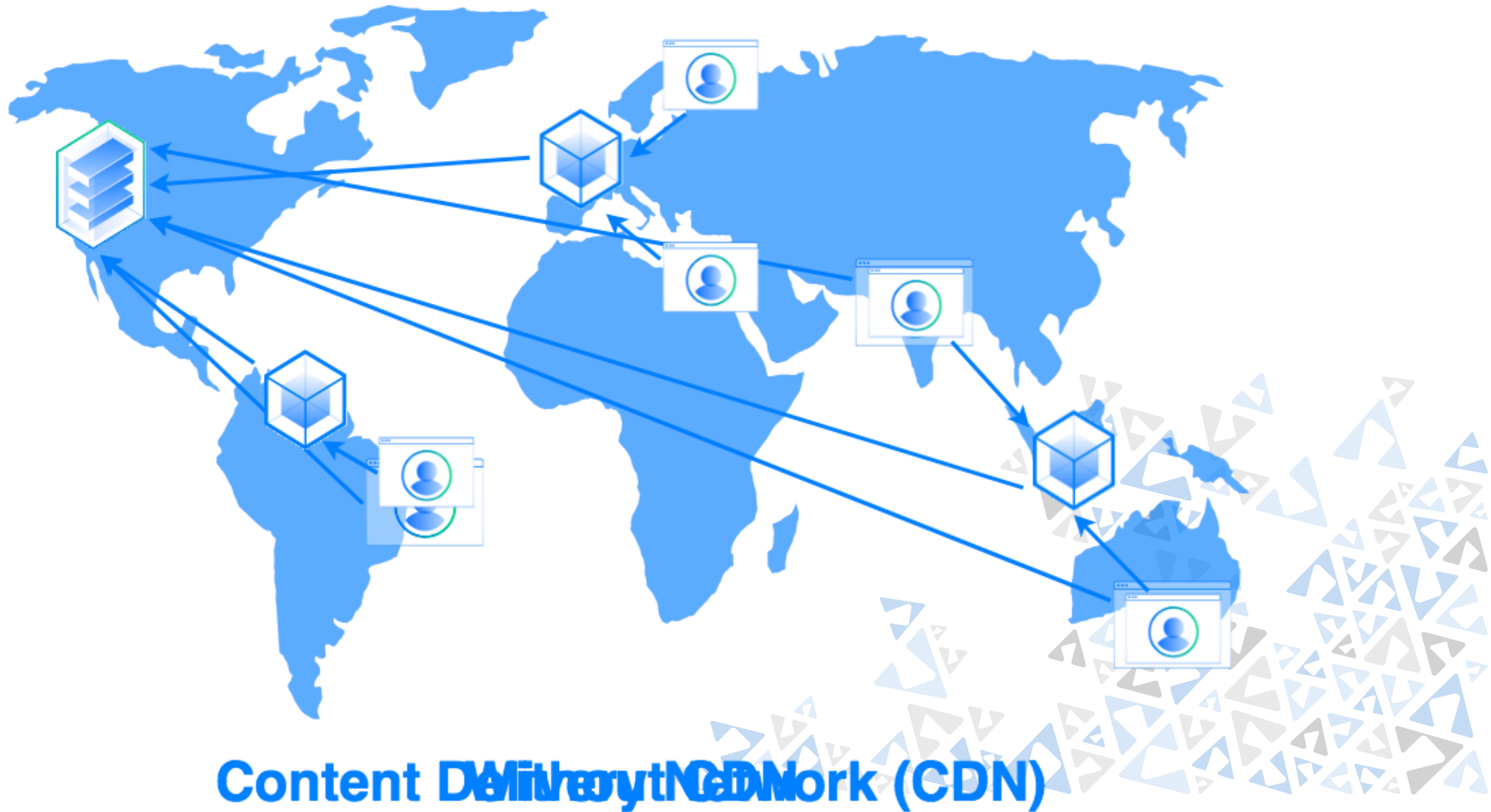
# Azure Cognitive Services



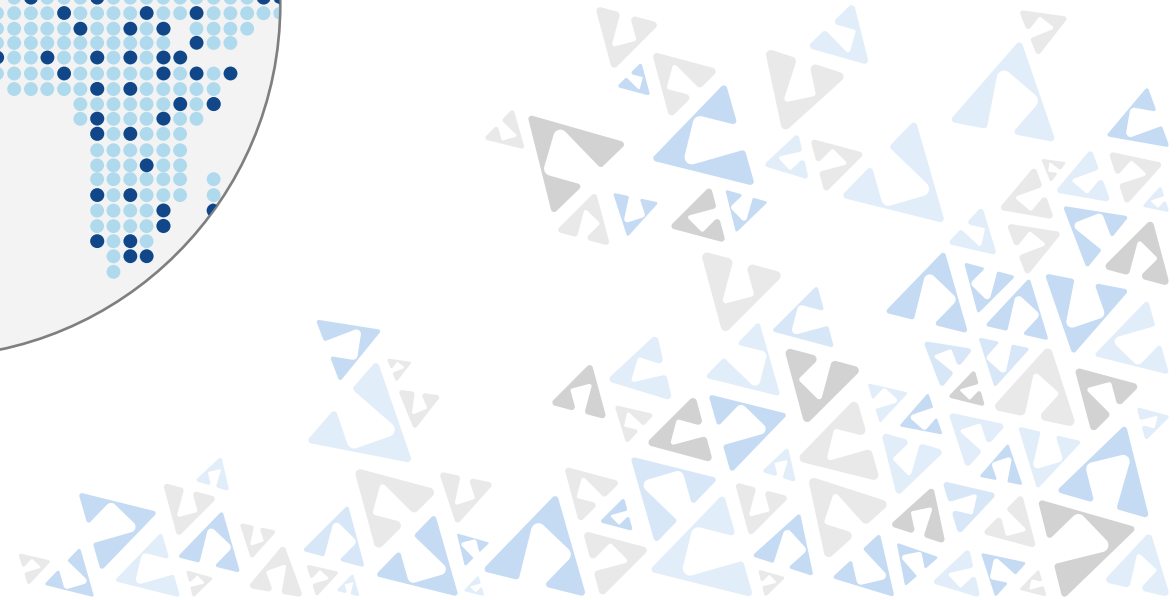
```
"headPose": {  
  "pitch": 0.0,  
  "roll": -22.3,  
  "yaw": -2.3  
},  
"gender": "male",  
"age": 38.0,  
"facialHair": {  
  "moustache": 0.1,  
  "beard": 0.1,  
  "sideburns": 0.1  
},  
"glasses": "ReadingGlasses",  
"makeup": {  
  "eyeMakeup": false,  
  "lipMakeup": false  
},  
"emotion": {  
  "anger": 0.0,  
  "contempt": 0.0,  
  "disgust": 0.0,  
  "fear": 0.0,  
  "happiness": 1.0,  
  "neutral": 0.0,  
  "sadness": 0.0,  
  "surprise": 0.0  
},  
}
```



# Azure CDN



# Azure CosmosDB



# SendGrid





# Co využíváme v HAVITu?

- 123 instancí App Service (10 App Service Plan)
- 110 instancí Application Insights
- 71 databází (65 v jediném Elastic Pool, 200 eDTU)
- 85 instancí Azure Storage
- 3x logic app
- 2x Azure Search
- 1x SendGrid



# HAVIT Azure Consumption 2019

