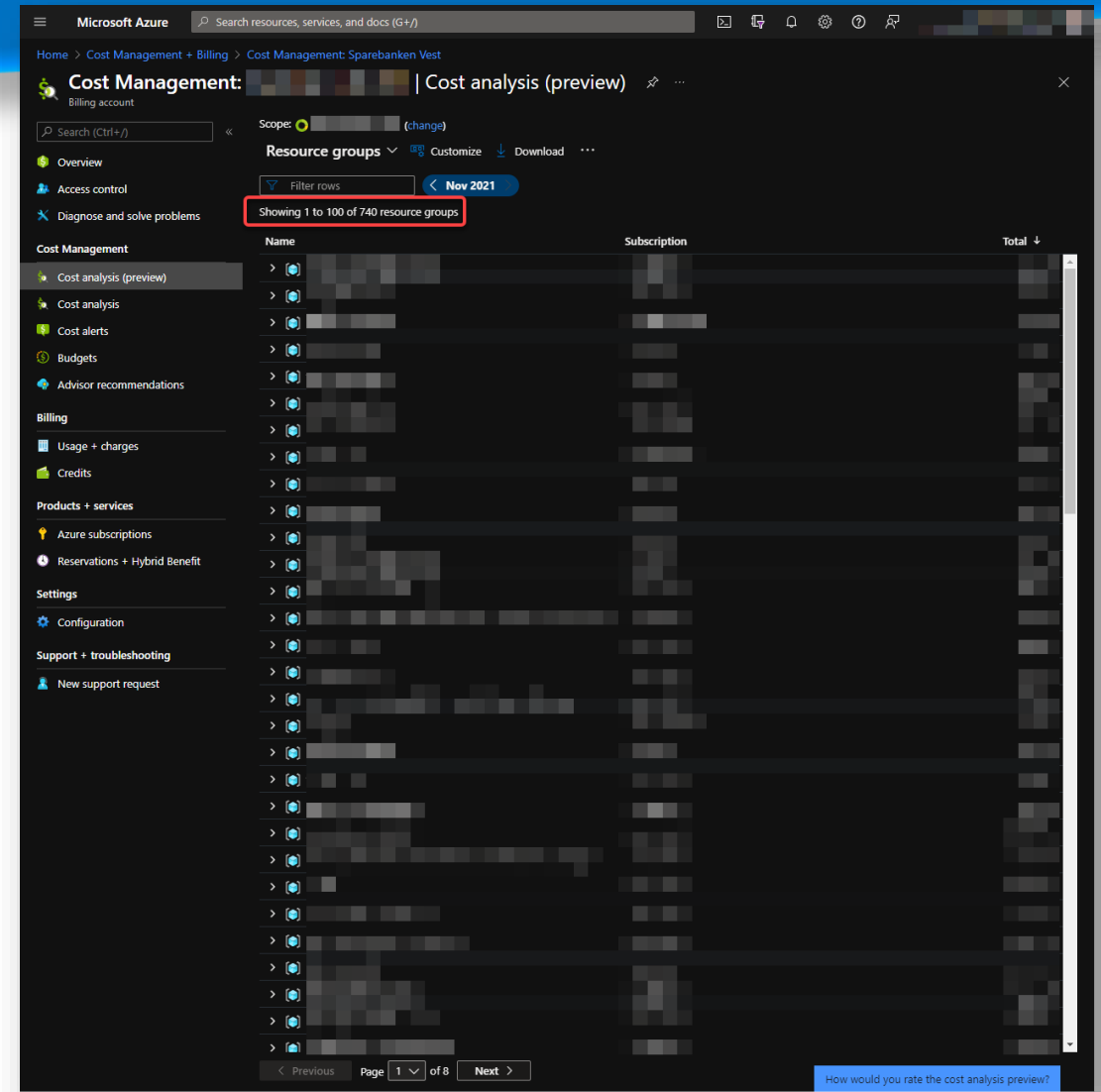
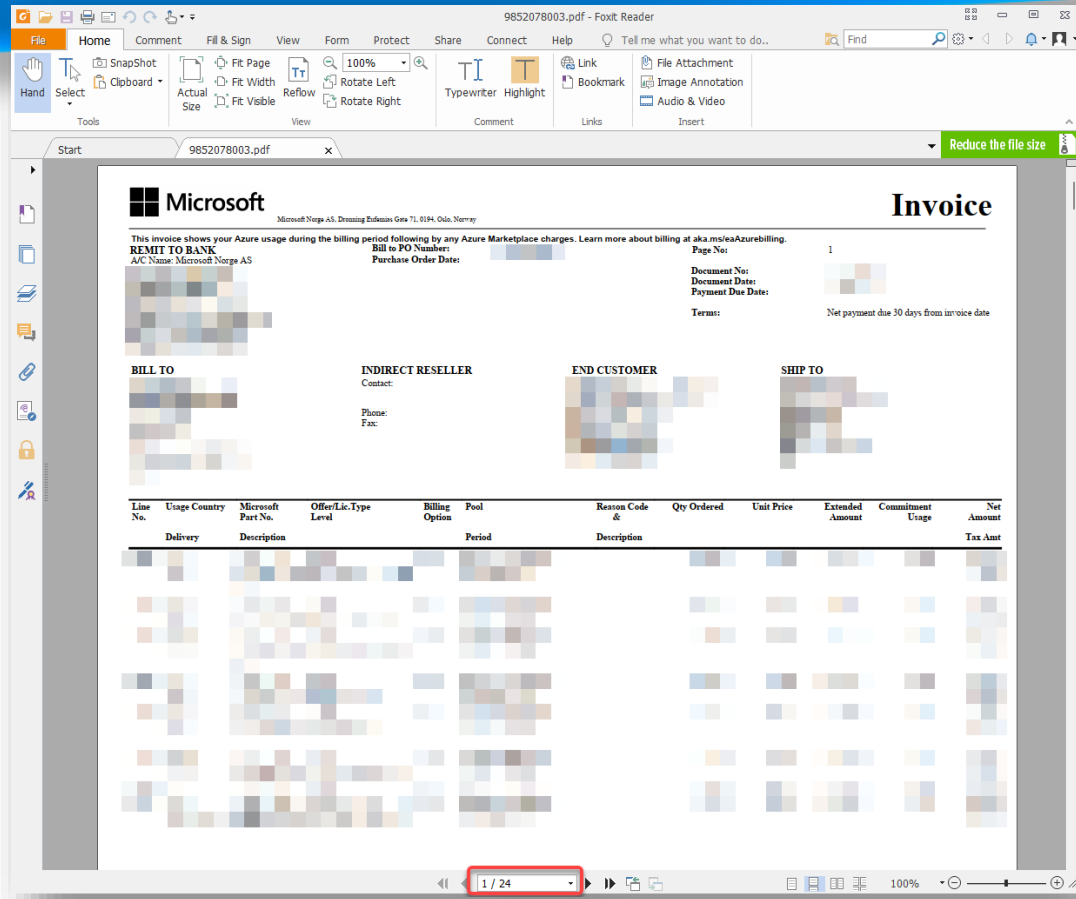


# Money For Nothing?

And the microchips for free

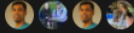
# Hvordan startet jakten?



# Hvordan startet jakten?



## NC-series

09/08/2021 • 2 minutes to read • 

**Applies to:** ✓ Linux VMs ✓ Windows VMs ✓ Flexible scale sets ✓ Uniform scale sets

NC-series VMs are powered by the [NVIDIA Tesla K80](#) card and the Intel Xeon E5-2690 v3 (Haswell) processor. Users can crunch through data faster by leveraging CUDA for energy exploration applications, crash simulations, ray traced rendering, deep learning, and more. The NC24r configuration provides a low latency, high-throughput network interface optimized for tightly coupled parallel computing workloads.

Premium Storage: Not Supported

Premium Storage caching: Not Supported

Live Migration: Not Supported

Memory Preserving Updates: Not Supported

VM Generation Support: Generation 1

Accelerated Networking: Not Supported

Ephemeral OS Disks: Not Supported

Nvidia NVLink Interconnect: Not Supported

Size	vCPU	Memory: GiB	Temp storage (SSD) GiB	GPU	GPU memory: GiB	Max data disks
Standard_NC6	6	56	340	1	12	24
Standard_NC12	12	112	680	2	24	48
Standard_NC24	24	224	1440	4	48	64
Standard_NC24r*	24	224	1440	4	48	64

1 GPU = one-half K80 card.

# Hvordan startet jakten?

Your Estimate

Virtual Machines

1 NC6 (6 vCPUs, 56 GB RAM) x 730 Hours (Pay as...)

Upfront: NOK 0.00

Monthly: NOK 8,523....

Virtual Machines

REGION: West Europe

OPERATING SYSTEM: Windows

TYPE: (OS Only)

TIER: Standard

CATEGORY: All

INSTANCE SERIES: All

INSTANCE: NC6: 6 vCPUs, 56 GB RAM, 340 GB Temporary storage, NOK 11.676/hour

VIRTUAL MACHINES

1

x

730

Hours

Savings Options

Save up to 72% on pay-as-you-go prices with 1-year or 3-year Reserved Virtual Machine Instances. Reserved Instances are great for applications with steady-state usage and applications that require reserved capacity. [Learn more about Reserved VM Instances pricing.](#)

Compute (NC6)

☒ Pay as you go

☐ 1 year reserved (~39% discount)

☐ 3 year reserved (~57% discount)

NOK 7,165.23

Average per month

(NOK 0.00 charged upfront)

OS (Windows)

☒ License included

☐ Azure Hybrid Benefit

NOK 1,358.08

Average per month

(NOK 0.00 charged upfront)

= NOK 8,523.31

Average per month

(NOK 0.00 charged upfront)

Managed Disks

NOK 0.00

Storage transactions

NOK 0.42

Bandwidth

NOK 0.00

Upfront cost

NOK 0.00

Monthly cost

NOK 8,523.73

Your Estimate

Virtual Machines

1 NC6 Promo (6 vCPUs, 56 GB RAM) x 730 H...

Upfront: NOK 0.00

Monthly: NOK 4,86...

Virtual Machines

REGION: West Europe

OPERATING SYSTEM: Windows

TYPE: (OS Only)

TIER: Standard

CATEGORY: All

INSTANCE SERIES: All

INSTANCE: NC6 Promo: 6 vCPUs, 56 GB RAM, 340 GB Temporary storage, NOK 6.65\*

VIRTUAL MACHINES

1

x

730

Hours

Savings Options

Save up to 72% on pay-as-you-go prices with 1-year or 3-year Reserved Virtual Machine Instances. Reserved Instances are great for applications with steady-state usage and applications that require reserved capacity. [Learn more about Reserved VM Instances pricing.](#)

Compute (NC6 Promo)

☒ Pay as you go

☐ 1 year reserved

☐ 3 year reserved

NOK 3,164.75

Average per month

(NOK 0.00 charged upfront)

OS (Windows)

☒ License included

☐ Azure Hybrid Benefit

NOK 1,696.06

Average per month

(NOK 0.00 charged upfront)

= NOK 4,860.81

Average per month

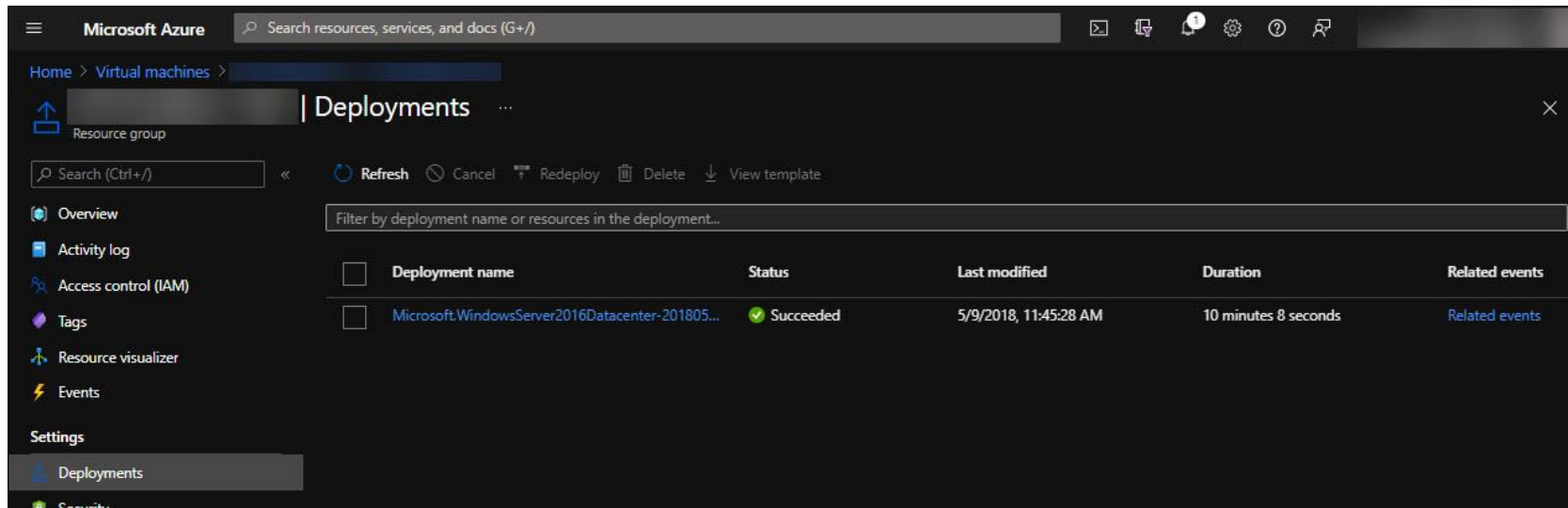
(NOK 0.00 charged upfront)

1 year reserved option is not available for your instance selection.

3 year reserved option is not available for your instance selection.

MVPDAGEN

# Jakten



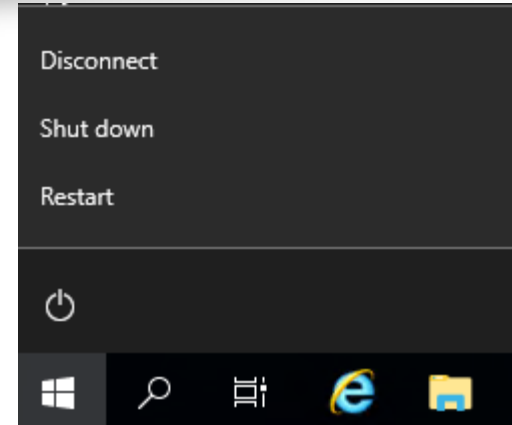
<https://olavtvedt.blogspot.com/2017/03/when-was-windows-installed.html>

# Kostnader

$$4.470,- * 24 = 107.280,-$$

# Tilstander

Running	Windows	Standard_D4s_v3	13.80.███
Stopped	Windows	Standard_D4s_v3	13.80.███
Stopped (deallocated)	Windows	Standard_D4s_v3	-



Connect Start Restart **Stop** Capture Delete Refresh Open in mobile CLI / PS Feedback

Essentials

Resource group (change)  
VM-SERVERS

Status **Stopped**

Location  
West Europe

Subscription (change)

Subscription ID

Tags (change)  
Click here to add tags

Operating system  
Windows

Size  
Standard D4s v3 (4 vcpus, 16 GiB memory)

Public IP address  
13.80.███

Virtual network/subnet  
Dtldevtestlab01/Dtldevtestlab01Subnet

DNS name  
Not configured

**Stop this virtual machine**

⚠ Public IP address '13.80.███' will be lost if this VM is stopped

☐ Do you want to reserve the Public IP address?

Do you want to stop 'srv01'?

OK Cancel

# Kostnader

$$\text{VM: } 4.470,- * 24 = 107.280,-$$

$$\text{IP: } 25,- * 24 = 600,-$$



# Support request

**Fra:** [redacted]  
**Sendt:** torsdag 14. januar 2021 17:38  
**Til:** Olav Tvedt [redacted]  
**Kopi:** support <support@mail.support.microsoft.com>  
**Emne:** Manager Follow Up - [redacted]

Hello Olav,

Happy New Year!

Hope you are well and staying safe!

I am [redacted], am the Manager of the Delivery team that handled the Support Request (SR)  
[redacted] This support request has come to my attention due to the time taken and the experience.

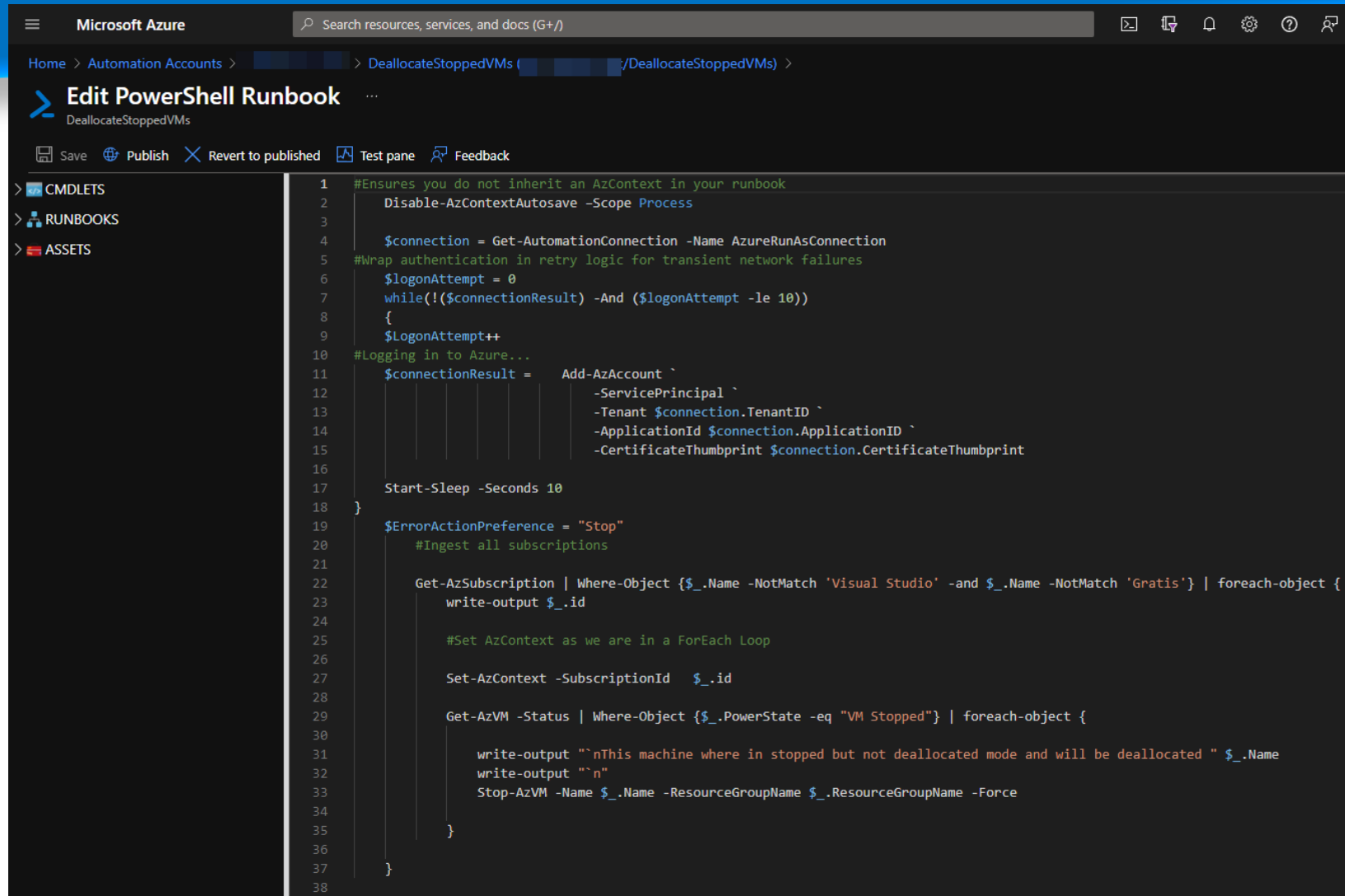
I see that you had submitted this request on November 13 because you were charged for a NC6 VM that was in stopped state since November 2018 and you wanted refund of the charges. My Support Engineer Aneesh was assisting you on this case.

Up on reviewing the SR I see that [redacted] informed you that though the VM is in stopped state you may still be billed for the allocated virtual cores. He also requested you to send name of the VM and logs that confirmed the VM was in stopped state. After receiving the requested details he worked with our Technical Advisors to check whether the refund for the complete duration (November 2018 to November 2020) can be submitted since as per Azure Credit Policies for these scenarios, our Enterprise Business Operation Team will approve refund/credit for only 60 days.

As per the suggestion received from our Technical Advisors [redacted] reached out to you to check whether we can proceed with refund/credit for 1 year. With your approval, he then worked with Enterprise Business Operation Team for credit approval of accidental usage for last 1 year. Enterprise Business Operation Team declined our credit/refund request for one year and informed that they can only approve credit/refund for 60 days of accidental usage.

[redacted] once again worked with our Enterprise Business Operation Team requesting an exception be made to the policy. However, the team could only approve credit for 60 days as per the credit policy. I see that a credit of 13405.31 NOK was processed and applied on December 24.

# Preventivt tiltak

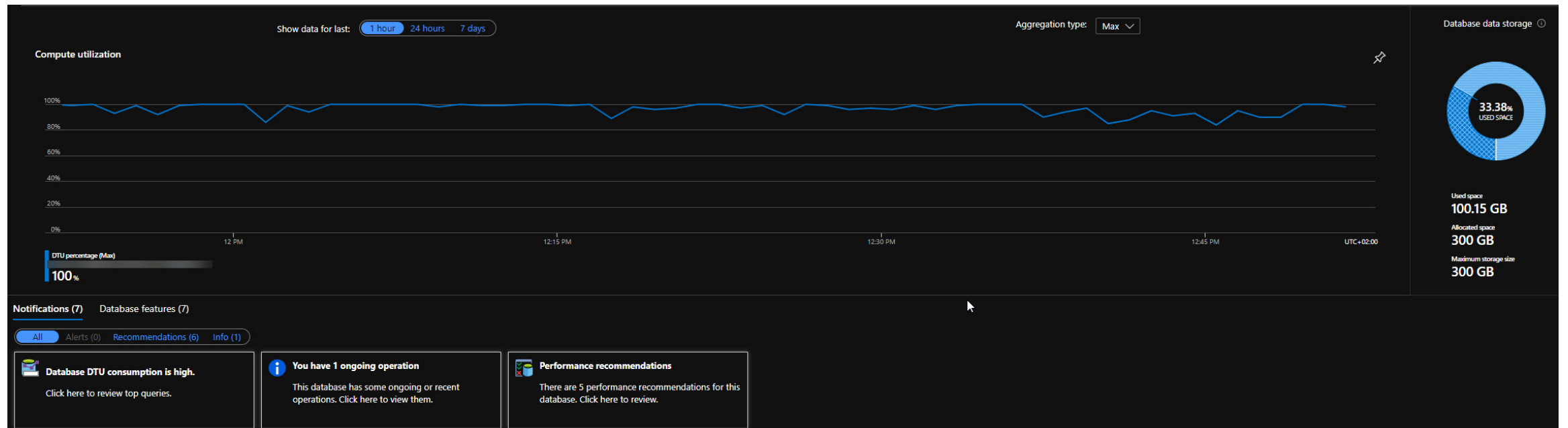


```
1 #Ensures you do not inherit an AzContext in your runbook
2 Disable-AzContextAutosave -Scope Process
3
4 $connection = Get-AutomationConnection -Name AzureRunAsConnection
5 #Wrap authentication in retry logic for transient network failures
6 $loginAttempt = 0
7 while(!($connectionResult) -And ($loginAttempt -le 10))
8 {
9     $loginAttempt++
10 #Logging in to Azure...
11 $connectionResult = Add-AzAccount `
12     -ServicePrincipal `
13     -Tenant $connection.TenantID `
14     -ApplicationId $connection.ApplicationID `
15     -CertificateThumbprint $connection.CertificateThumbprint
16
17 Start-Sleep -Seconds 10
18 }
19 $ErrorActionPreference = "Stop"
20 #Ingest all subscriptions
21
22 Get-AzSubscription | Where-Object {$_.Name -NotMatch 'Visual Studio' -and $_.Name -NotMatch 'Gratis'} | foreach-object {
23     write-output $_.id
24
25     #Set AzContext as we are in a ForEach Loop
26
27     Set-AzContext -SubscriptionId $_.id
28
29     Get-AzVM -Status | Where-Object {$_.PowerState -eq "VM Stopped"} | foreach-object {
30
31         write-output "`nThis machine where in stopped but not deallocated mode and will be deallocated " $_.Name
32         write-output "`n"
33         Stop-AzVM -Name $_.Name -ResourceGroupName $_.ResourceGroupName -Force
34     }
35 }
36
37
38
```

# Databaser



# Utfordring



# Løsninger

## Øke DTU

### Azure SQL Database

REGION: West Europe TYPE: Single Database BACKUP STORAGE TIER: RA-GRS PURCHASE MODEL: DTU

SERVICE TIER: Standard

PERFORMANCE LEVEL: S4: 200 DTUs, 250 GB included storage per DB, NOK 3.3946/hour

1 x 730 Hours = NOK 2,478.03

Databases

### Azure SQL Database

REGION: West Europe TYPE: Single Database BACKUP STORAGE TIER: RA-GRS PURCHASE MODEL: DTU

SERVICE TIER: Standard

PERFORMANCE LEVEL: S6: 400 DTUs, 250 GB included storage per DB, NOK 6.7891/hour

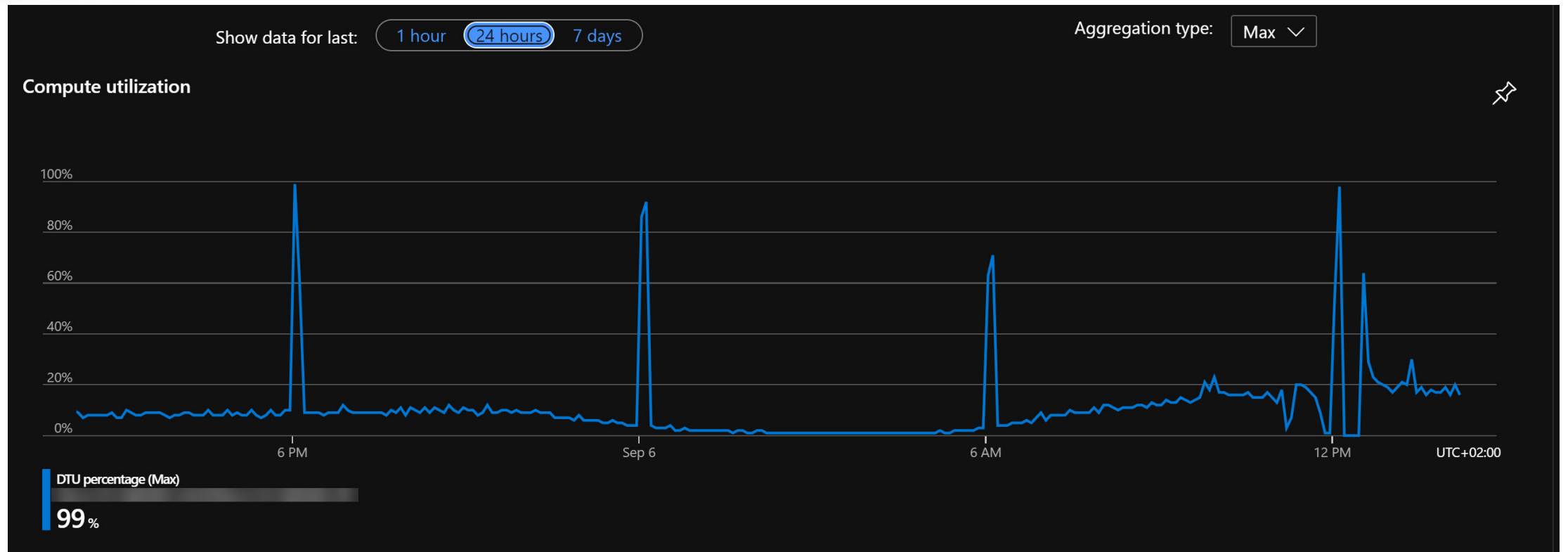
1 x 730 Hours = NOK 4,956.06

Databases

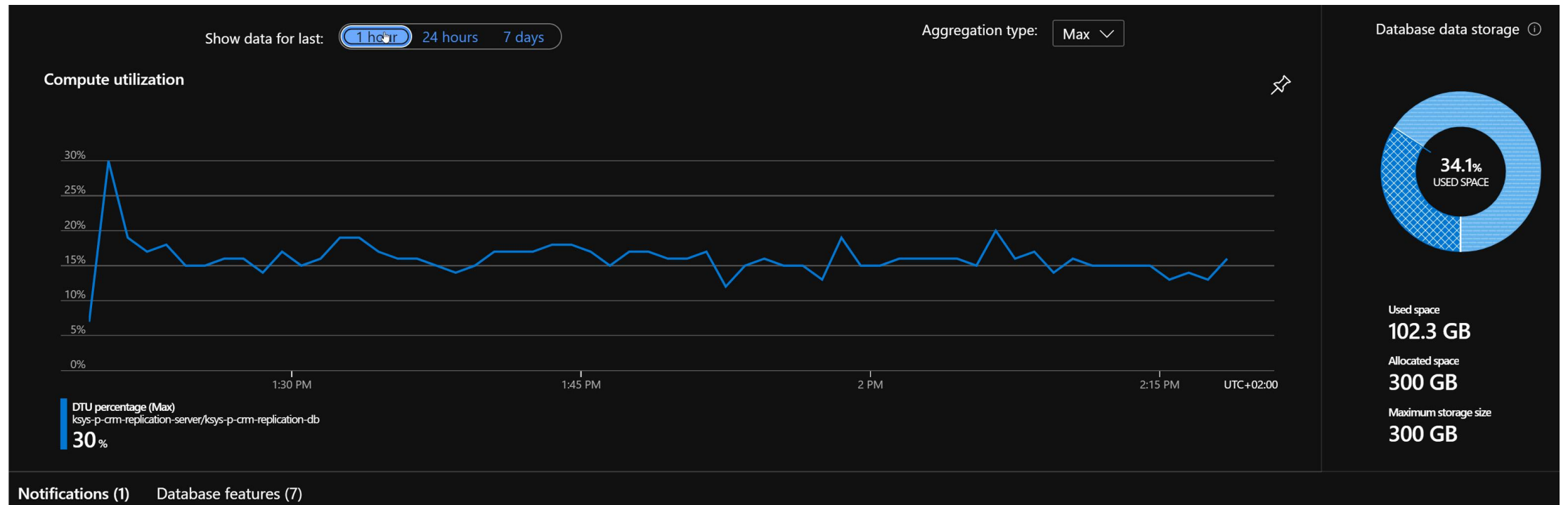
## Følge råd

Automate View discarded Getting started Feedback			
Recommendations			
Action	Recommendation description	Impact	
Create index	Table: [redacted] Indexed columns: [redacted]	High	
Create index	Table: [redacted] Indexed columns: [redacted]	High	
Create index	Table: [redacted] Indexed columns: [redacted]	Medium	
Create index	Table: [redacted] Indexed columns: [redacted]	Medium	
Create index	Table: [redacted] Indexed columns: [redacted]	Medium	

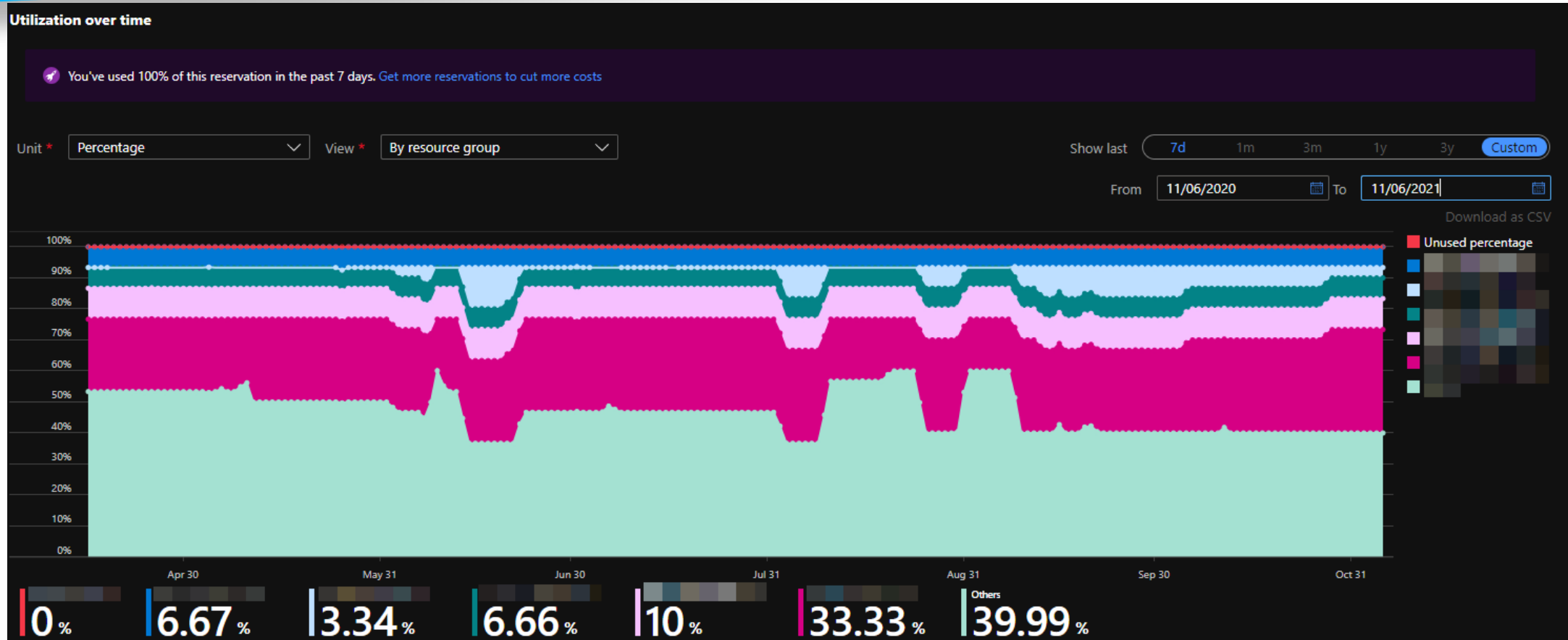
# Løsning



# Løsning

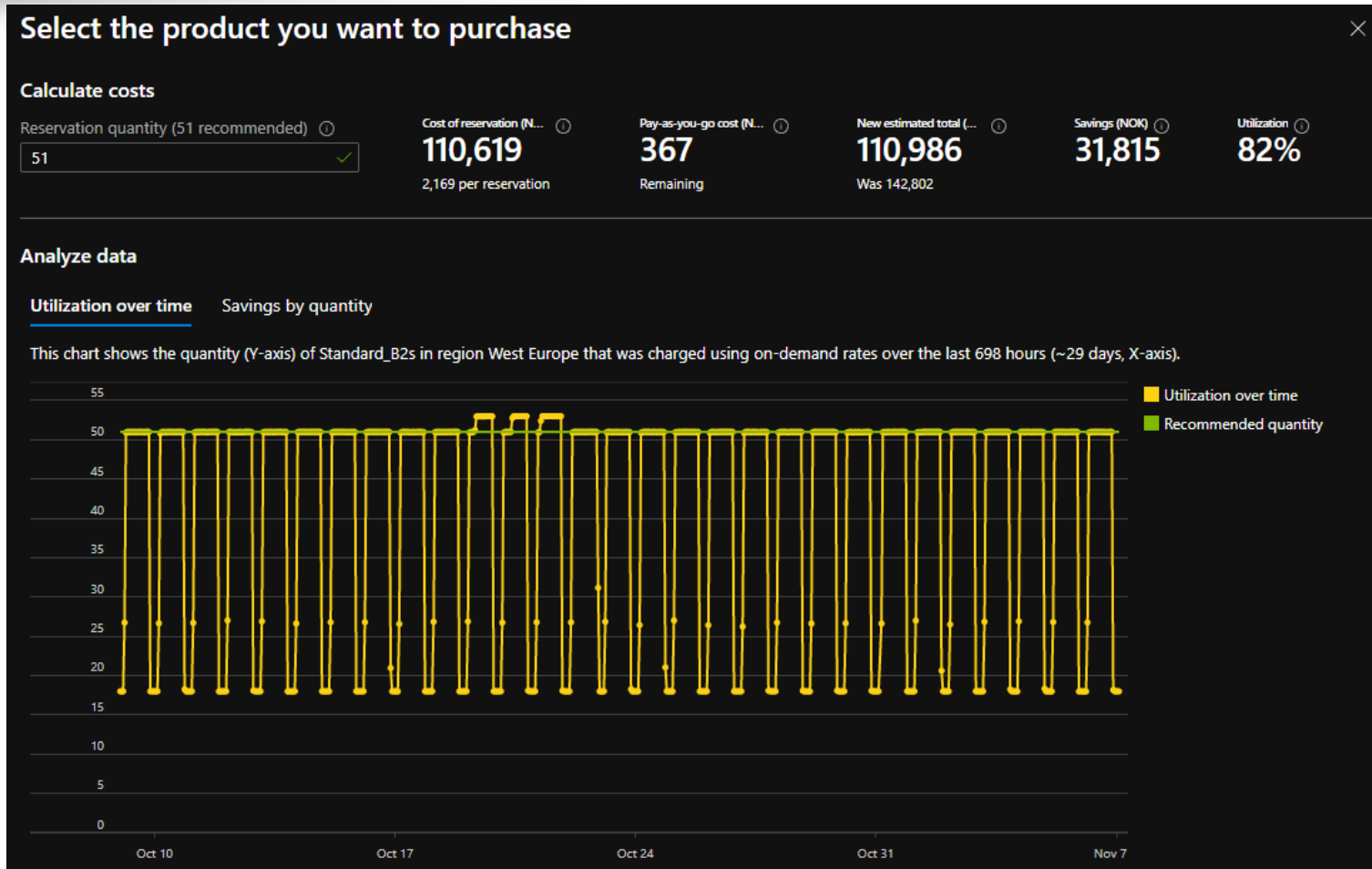


# Reserved Instances VM





# Reserved Instances VM



# Reserved Instances VM

## Compute (B2s)

- ☒ Pay as you go
- ☐ 1 year reserved (~42% discount)
- ☐ 3 year reserved (~62% discount)

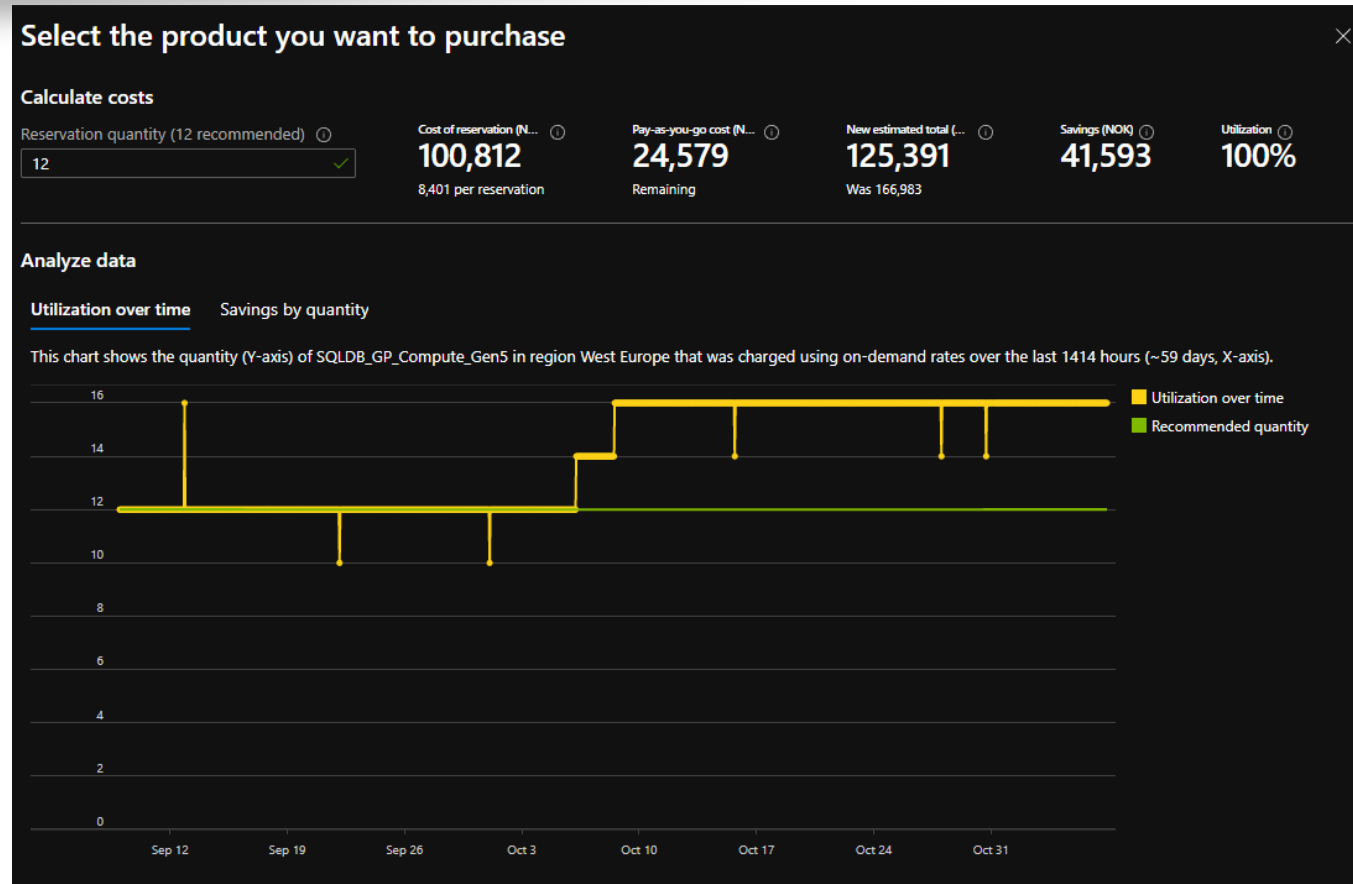
## Compute (NC6)

- ☒ Pay as you go
- ☐ 1 year reserved (~39% discount)
- ☐ 3 year reserved (~57% discount)

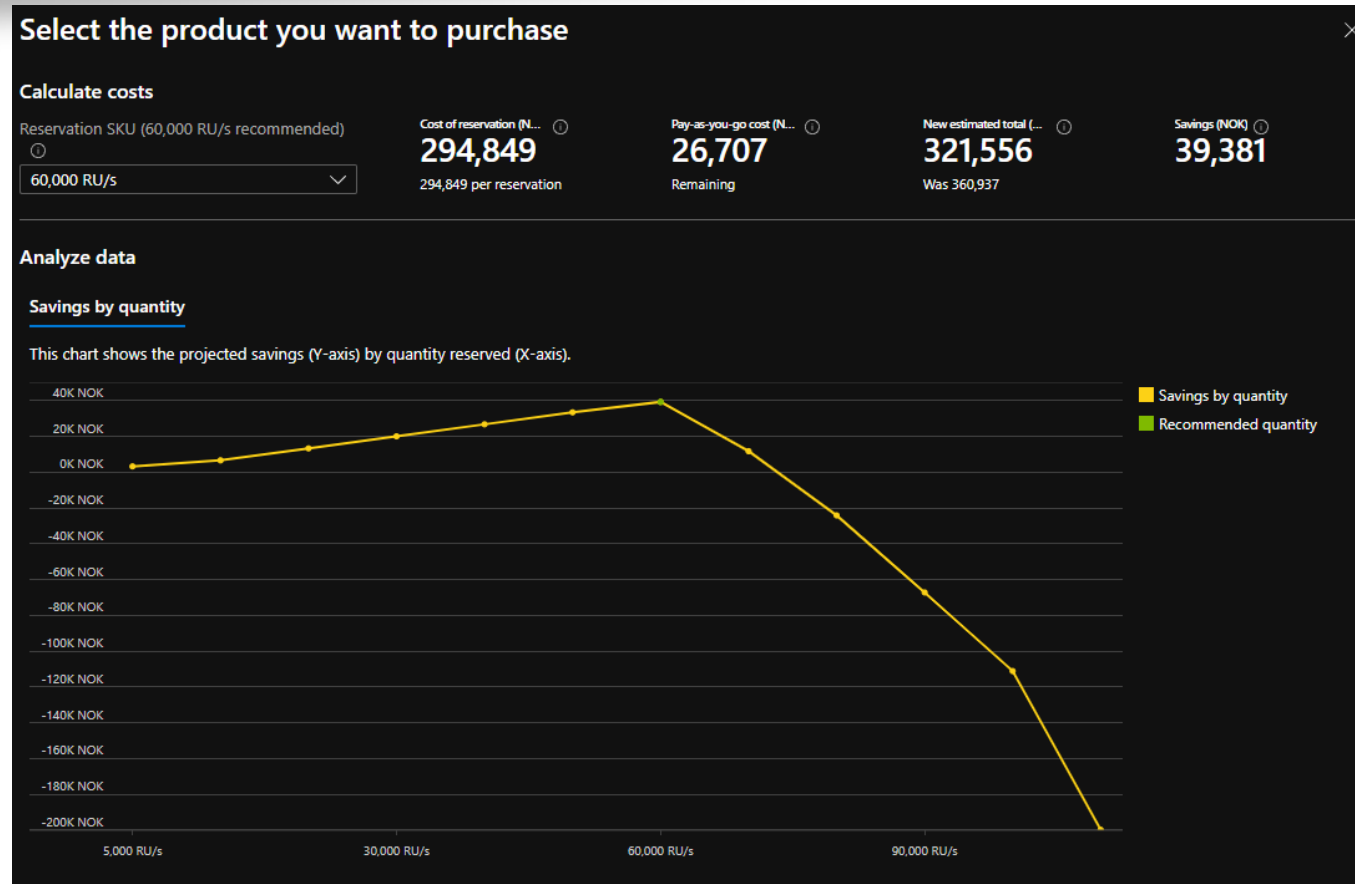
## Compute (F8s)

- ☒ Pay as you go
- ☐ 1 year reserved (~27% discount)
- ☐ 3 year reserved (~51% discount)

# Reserved Instances DB



# Reserved Instances DB



# Rydd!

- Oversikt
- Kostnader
- Sikkerhet





# Olav Tvedt

Cloud Dude (No not clown dude!)

SpareBanken Vest



bit.ly/Blaaskjerm

Twitter: @olavtwitt

LinkedIn: <https://www.linkedin.com/in/otvedt/>

Podkast: [BlåSkjerm Brødrende](#)

MVPDAGEN

En konferanse der  
MVPer deler sin  
kunnskap med deg

MVPdagen – 5 års jubileum  
Fra oss til deg

