

Virtual desktops in the cloud: Experiences from the field

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Introduction



TheMicrosoftPlatform.net

A Microsoft minded blog about End User Computing



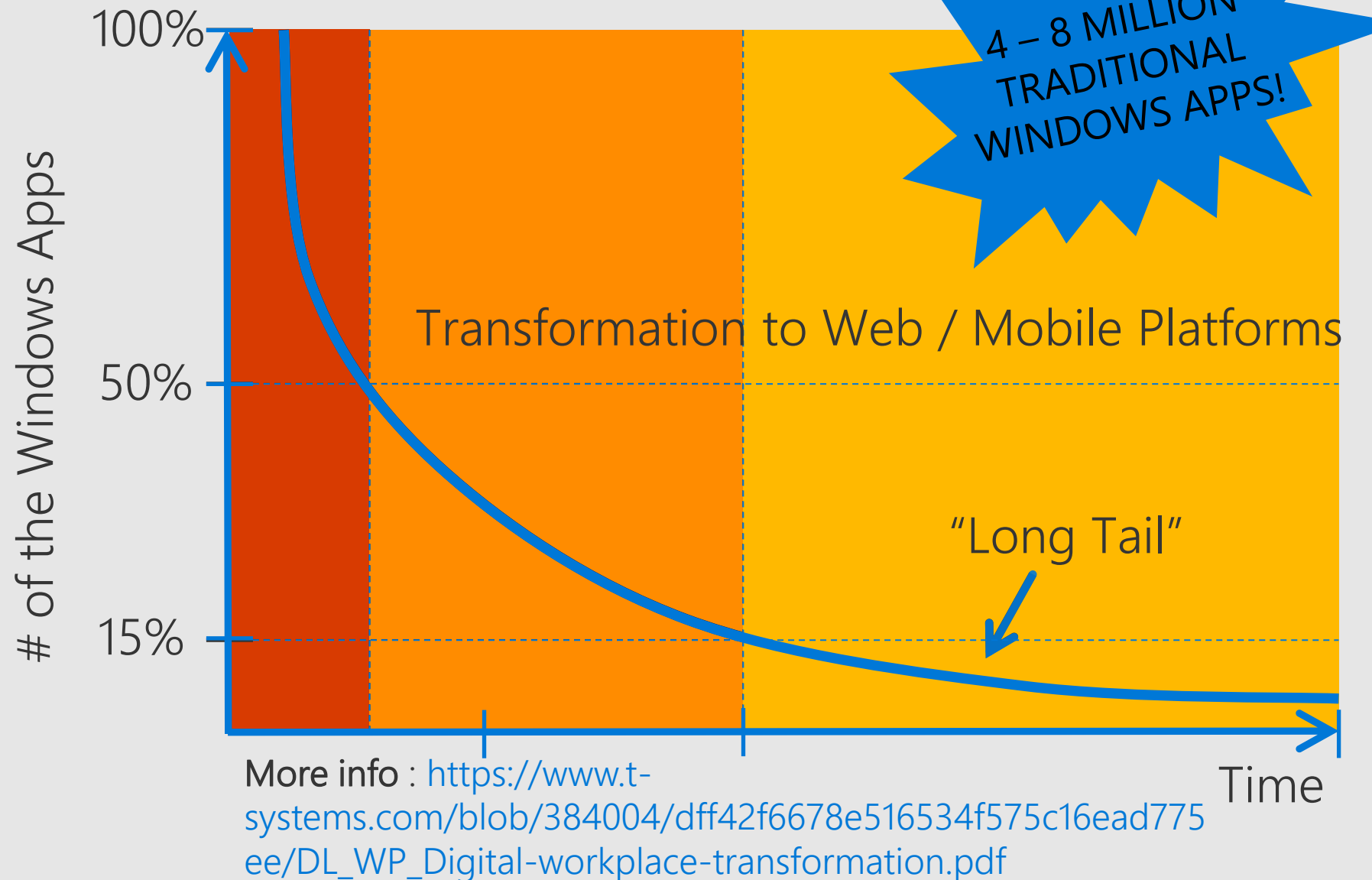
Freek Berson

- RDS
- VDI
- RemoteApp
- Azure
- ARM

Is RDS / VDI still relevant?

Windows applications:

- Not designed for modern workplace
- Demand Windows Desktop
- Rely heavily on application back end
- Process huge amounts of data
- Resource intensive



Agenda

RDS / VDI in Azure

- IaaS, RDmi
- Cloud Optimization
- Scaling
- High Availability
- Azure MFA

1

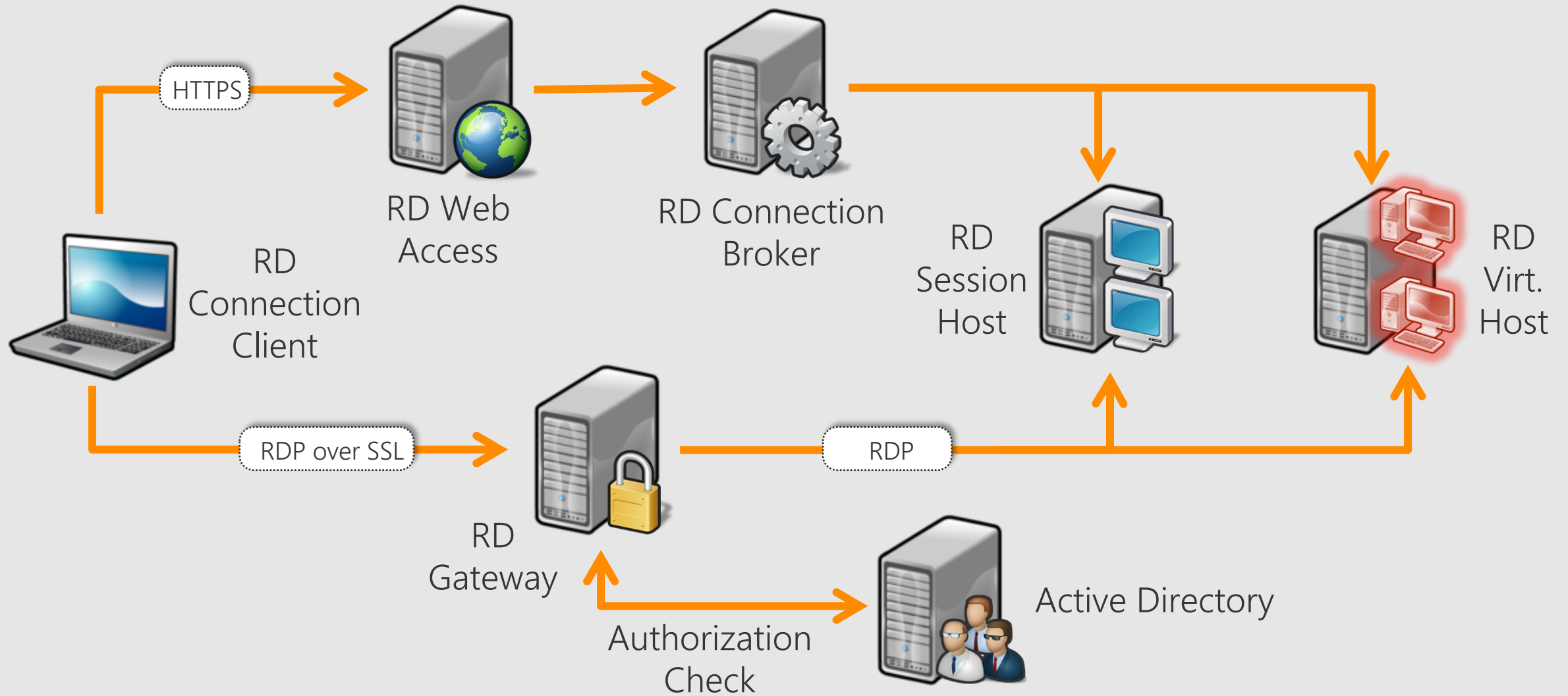
Demos

- Automation using ARM
- Benchmarking

2

RDS / VDI in Azure

Roles explained



Infrastructure as a Service

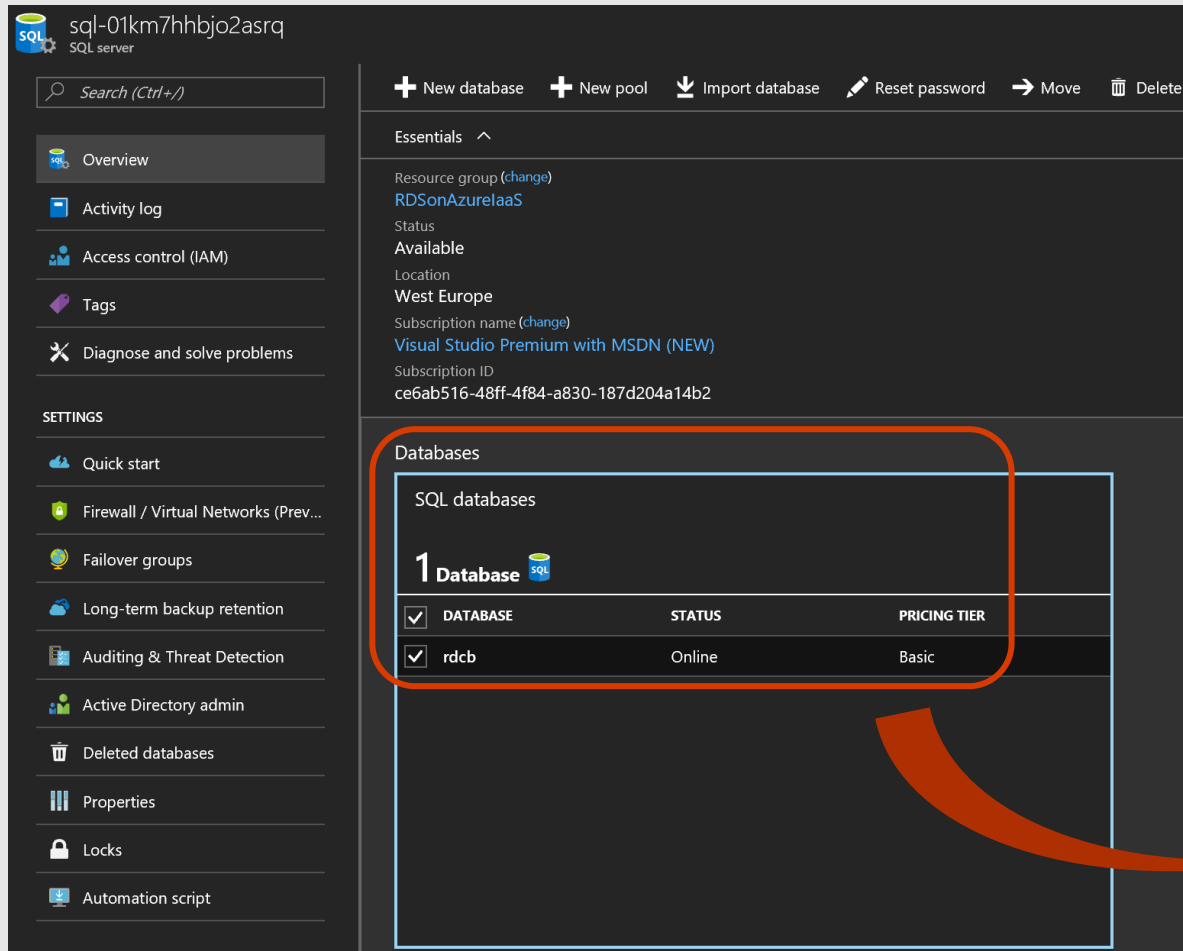
- ~~Azure RemoteApp~~
- RD Modern Infrastructure
 - BRK3021
 - BRK2169
 - THR2115

The screenshot displays the Azure portal interface for a resource group named 'RDsonAzureIaaS'. The left-hand navigation pane includes sections for Overview, Activity log, Access control (IAM), Tags, SETTINGS (Quickstart, Resource costs, Deployments, Policies, Properties, Locks, Automation script), MONITORING (Metrics, Alert rules, Diagnostics logs, Application insights, Log analytics (OMS), Log search, Advisor recommendations), and SUPPORT + TROUBLESHOOTING. The main content area shows the 'Essentials' section with subscription details: 'Visual Studio Premium with MSDN (NEW)' and '8 Failed, 92 Succeeded' deployments. Below this is a table of 28 resources, filtered by name, type, and location. The resources are listed in a table with columns for NAME, TYPE, and LOCATION.

NAME	TYPE	LOCATION
RDCB-01	Virtual machine	West Europe
RDCB-02	Virtual machine	West Europe
RDGW-01	Virtual machine	West Europe
RDGW-02	Virtual machine	West Europe
RDSH-01	Virtual machine	West Europe
RDSH-02	Virtual machine	West Europe
km7hhbjo2asrqrdsh1	Storage account	West Europe
sql-01km7hhbjo2asrq	SQL server	West Europe
rdcb	SQL database	West Europe
publicIPRDGW	Public IP address	West Europe
RDCB-01-nic	Network interface	West Europe
RDCB-02-nic	Network interface	West Europe
RDGW-01-nic	Network interface	West Europe
RDGW-02-nic	Network interface	West Europe
RDSH-01-nic	Network interface	West Europe
RDSH-02-nic	Network interface	West Europe
RDCBLoadbalancer	Load balancer	West Europe
RDGWLoadbalancer	Load balancer	West Europe
RDSH-RDSG-Template-Image	Image	West Europe

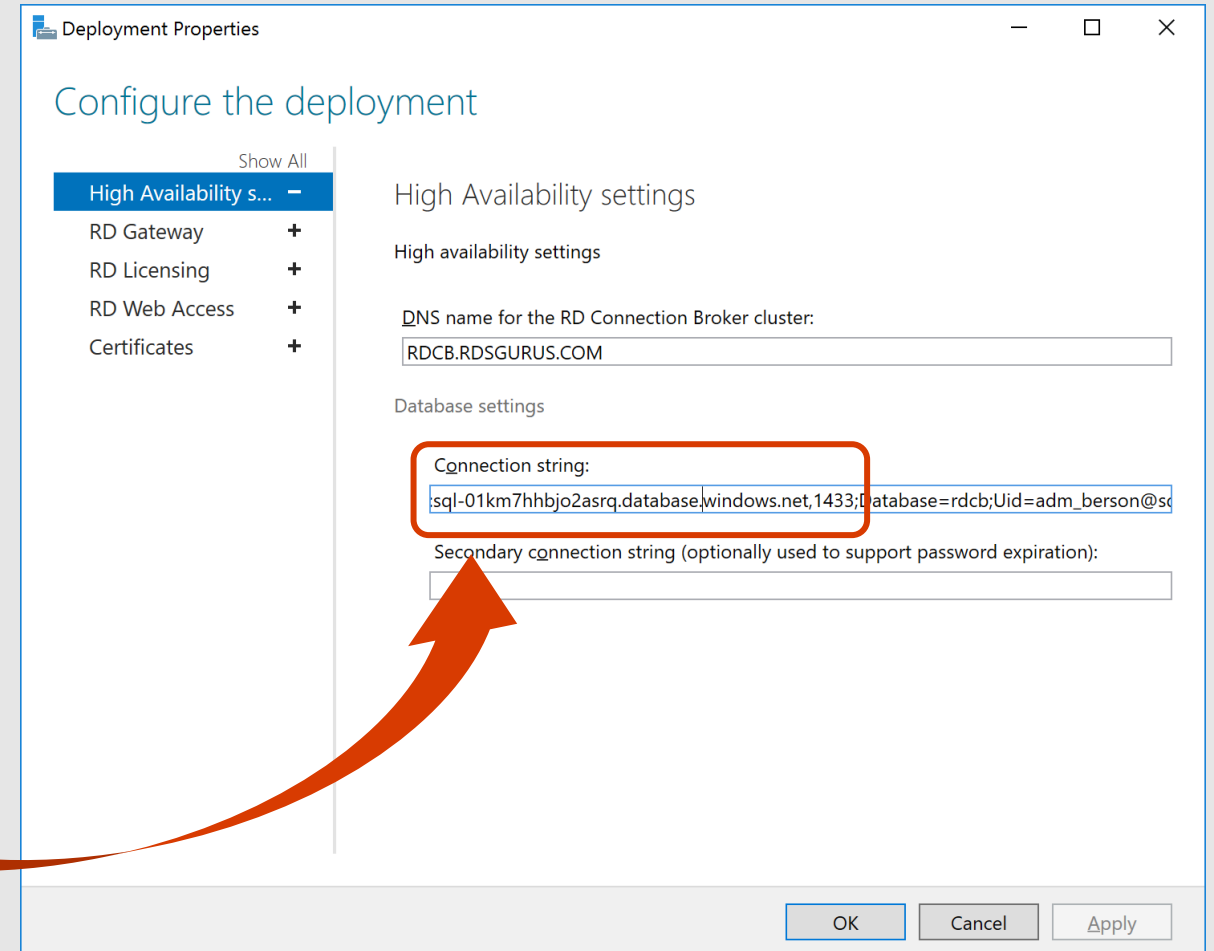
Optimize for the Cloud

- Use Azure SQL



The screenshot shows the Azure SQL server management console for a server named 'sql-01km7hbjjo2asrq'. The 'Databases' section is highlighted with a red box. It contains a table with the following data:

DATABASE	STATUS	PRICING TIER
rdcb	Online	Basic



The screenshot shows the 'Deployment Properties' dialog box with the 'Connection string' field highlighted by a red box. The connection string is:

`sql-01km7hbjjo2asrq.database.windows.net,1433;database=rdcb;Uid=adm_berson@sc`

More info : <http://microsoftplatform.blogspot.nl/2016/04/run-your-remote-desktop-server.html>

Scaling

- Auto scale where possible
- Stop and **deallocate**
- Special attention needed for N-series VM's

```
<RDSScaleSettings>  
<Variable Value="08:00:00" Name="BeginPeakTime"/>  
<Variable Value="18:00:00" Name="EndPeakTime"/>  
<Variable Value="-7" Name="TimeDifferenceInHours"/>  
<Variable Value="3" Name="SessionThresholdPerCPU"/>  
<Variable Value="1" Name="MinimumNumberOfRDSH"/>  
<Variable Value="120" Name="LimitSecondsToForceLogOffUser"/>  
<Variable Value="System Under Maintenance" Name="LogOffMessageTitle"/>  
<Variable Value="Please save your work and logoff!" Name="LogOffMessageBody"/>  
</RDSScaleSettings>
```



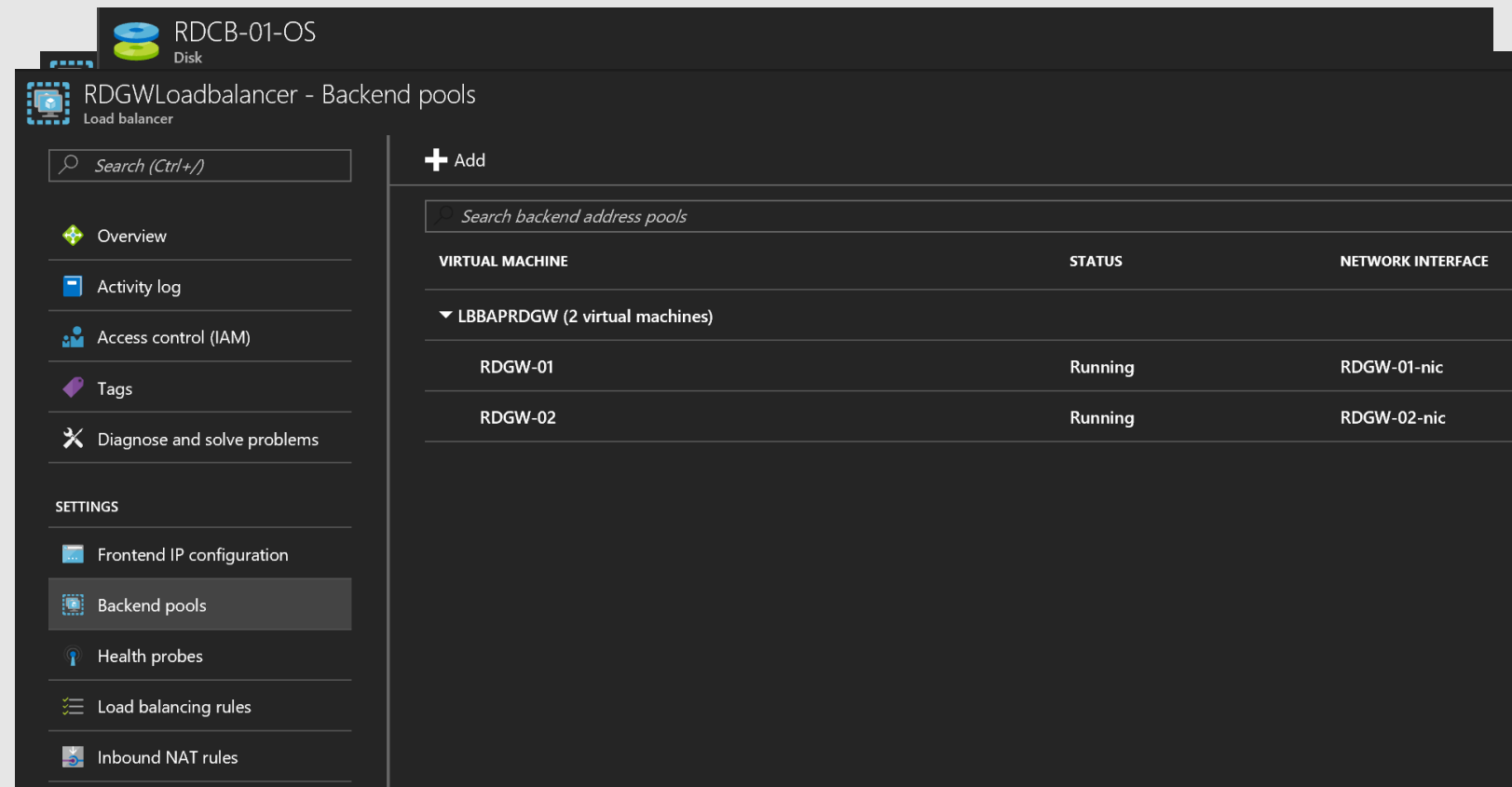
Microsoft Azure: Automatic Scaling of Remote Desktop Session Hosts

Reducing Costs of Desktop Hosting on Microsoft Azure Infrastructure Services

More info : <https://aka.ms/rdshscaling>
<https://github.com/Azure/vm-scale-sets/tree/master/hack2017>

High Availability, general rules apply

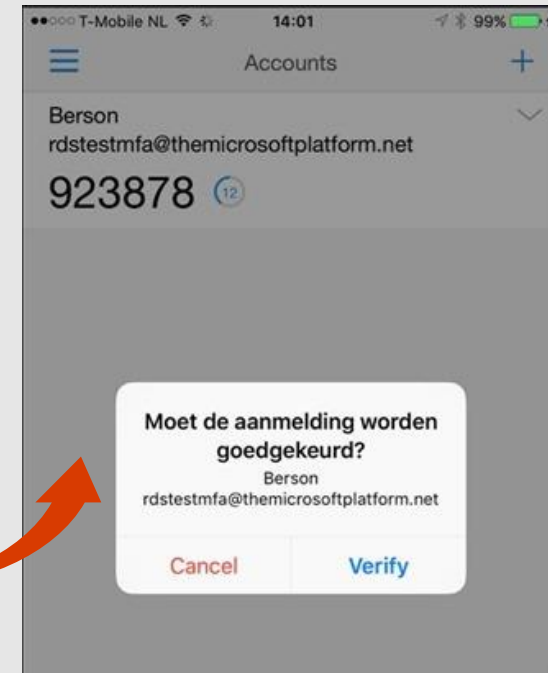
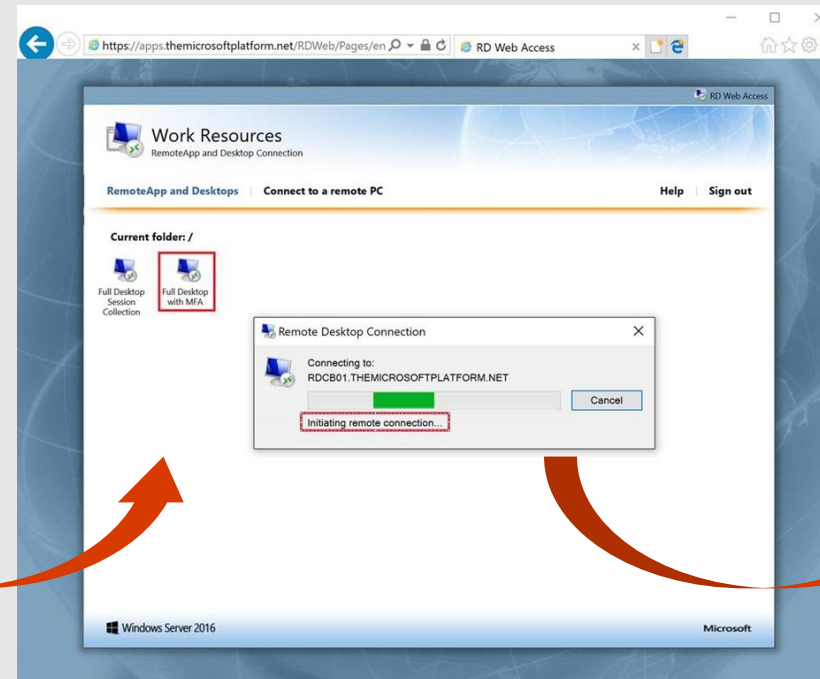
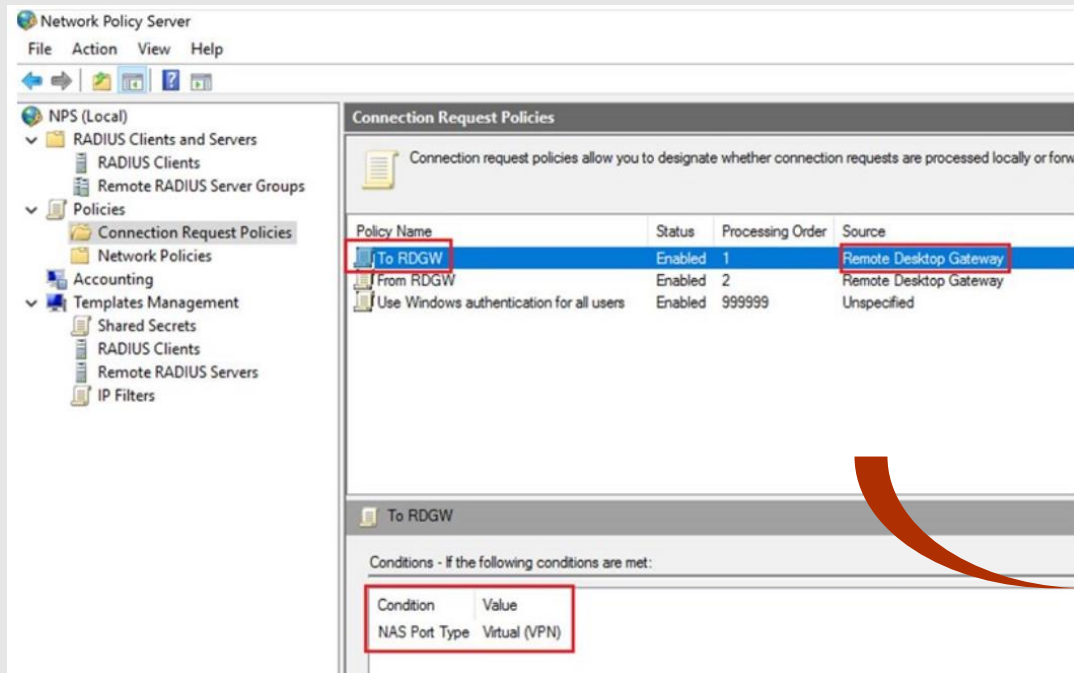
- Availability Sets
- Managed Disks
- Azure Load Balancing



More info : http://microsoftplatform.blogspot.nl/2017/03/azure-resource-manager-and-json_15.html

Azure MFA NPS Extension

- No need for Azure MFA Server
- Same MFA provider as e.g. O365



More info: <http://microsoftplatform.blogspot.nl/2017/02/securing-rd-gateway-with-mfa-using-new.html>

ARM Templates

- Declarative JSON Templates → Infrastructure as code!
- Azure Quick Start Templates by RDS Team

<https://azure.microsoft.com/en-us/resources/templates>

A screenshot of the Azure Quick Start Templates page. At the top, there is a search bar with the text 'rds' and a magnifying glass icon. Below the search bar, it says '5 templates match your filter.' There are five template cards displayed in a grid. Each card has a title, a description, and a footer with a user icon, name, and last updated date.

rds

5 templates match your filter.

- Update RDSH collection**
This template updates servers in an RD Session Host collection
by Michael, Last updated: 9/2/2016
- Basic RDS farm deployment**
This template creates a basic RDS farm deployment
by MahendraAgrawal, Last updated: 10/12/2016
- RDS farm deployment using existing active directory**
This template creates a RDS farm deployment using existing active directory in same resource group
by MahendraAgrawal, Last updated: 10/12/2016
- Update RDS certificates template**
This template configures certificates in RDS deployment
by Michael, Last updated: 12/5/2016
- RDS Gateway High Availability deployment**
This template provides high availability to RD Gateway and RD Web Access servers in an existing RDS deployment
by AshishSharma303, Last updated: 12/21/2016

Demo: ARM Template

Deploying an entire RDS deployment in 30 minutes

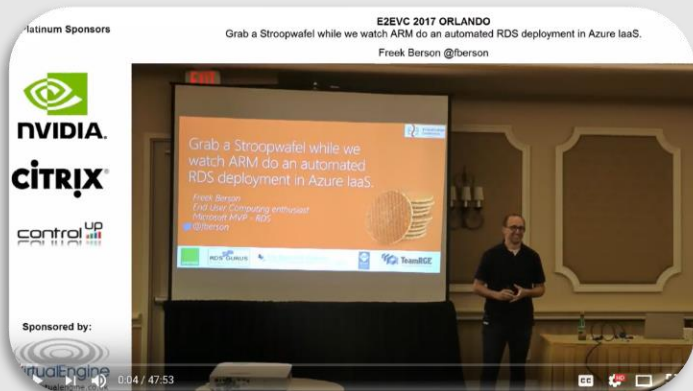
Recap, what has been created?

In Azure:

- 6 Managed Disks
- 6 NIC's
- 6 VM's
- 3 Availability Sets
- Azure SQL Database
- Static public IP Addresses
- 2 load balancers

On the Virtual Machines:

- All VM's joined to AD Domain
- Anti-virus & Anti Malware configured
- Bginfo configured
- Full HA RDS Deployment
- 2 RD Connection Broker / Licensing
- 2 RD Gateway / Web Access
- 2 RD Session Host
- SSL Certificates configured for all roles
- Session Collection created
- Sample RemoteApp published
- RD Web Access branding
- RD CAP / RAP Policies
- Session Time Out settings configured



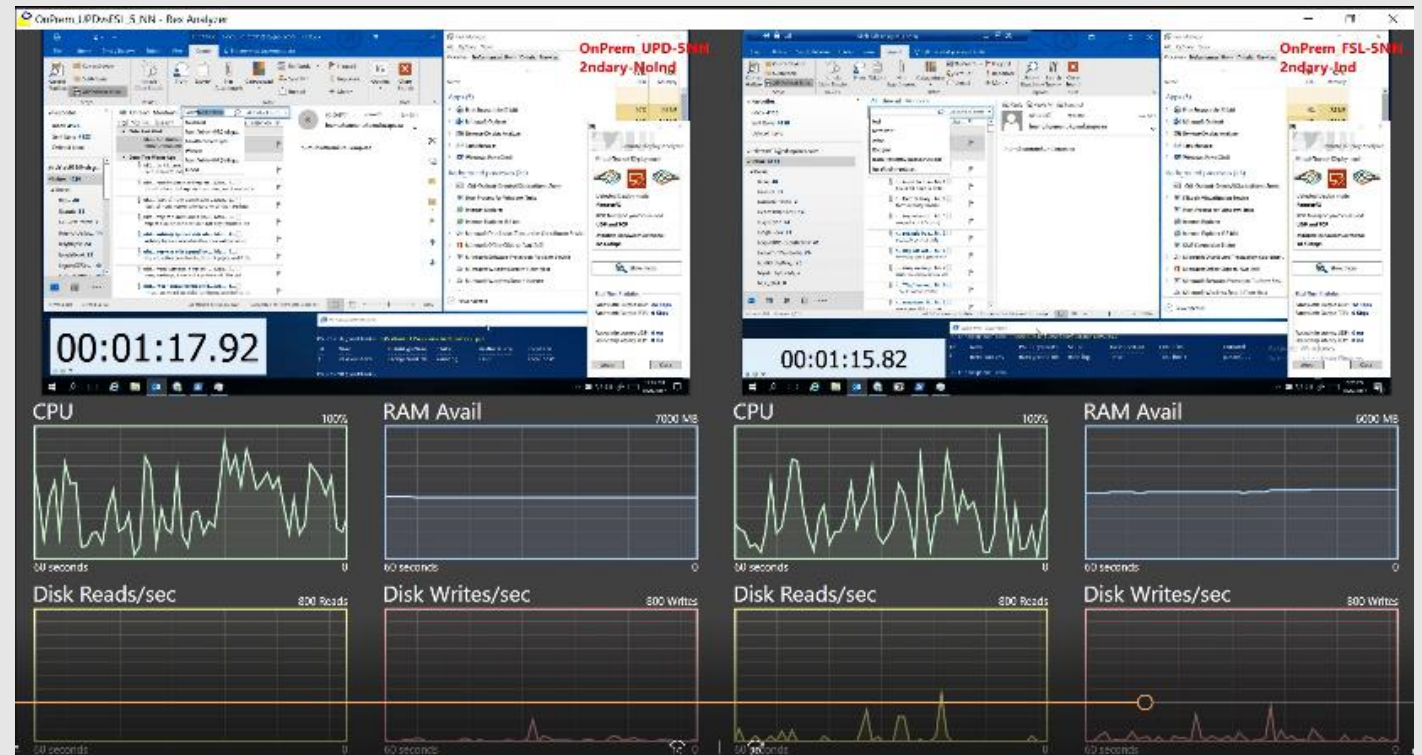
More info: <https://www.youtube.com/watch?v=YbEVvpv9rC0>

Demo: benchmarking

Measuring Remote End User Experience (REX)

Benchmarking

- When performance counters are not enough
- Visualization of user experience becomes key
 - Build
 - Measure
 - Analyze



More info: <http://www.rdsgrus.com/outlook-performance-in-non-persistent-environments-using-fslogixs-office-365-containers/>

Key takeaways

- Optimize for the Cloud
- Use auto Scaling
- Prepare for HA
- Benefit from Remoting Graphics
- Keep an eye out for RDmi
- Start using ARM
- Benchmarking of user experiences

RDS / VDI in Azure

- IaaS, RDmi
- Cloud Optimization
- Scaling
- High Availability
- Azure MFA

1

Demos

- Automation using ARM
- Benchmarking

2

Call to action:

More info, links, video's, questions:

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[@fberson](#)

themicrosoftplatform.net

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