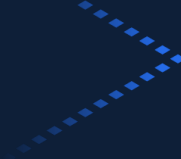




DNS rethought

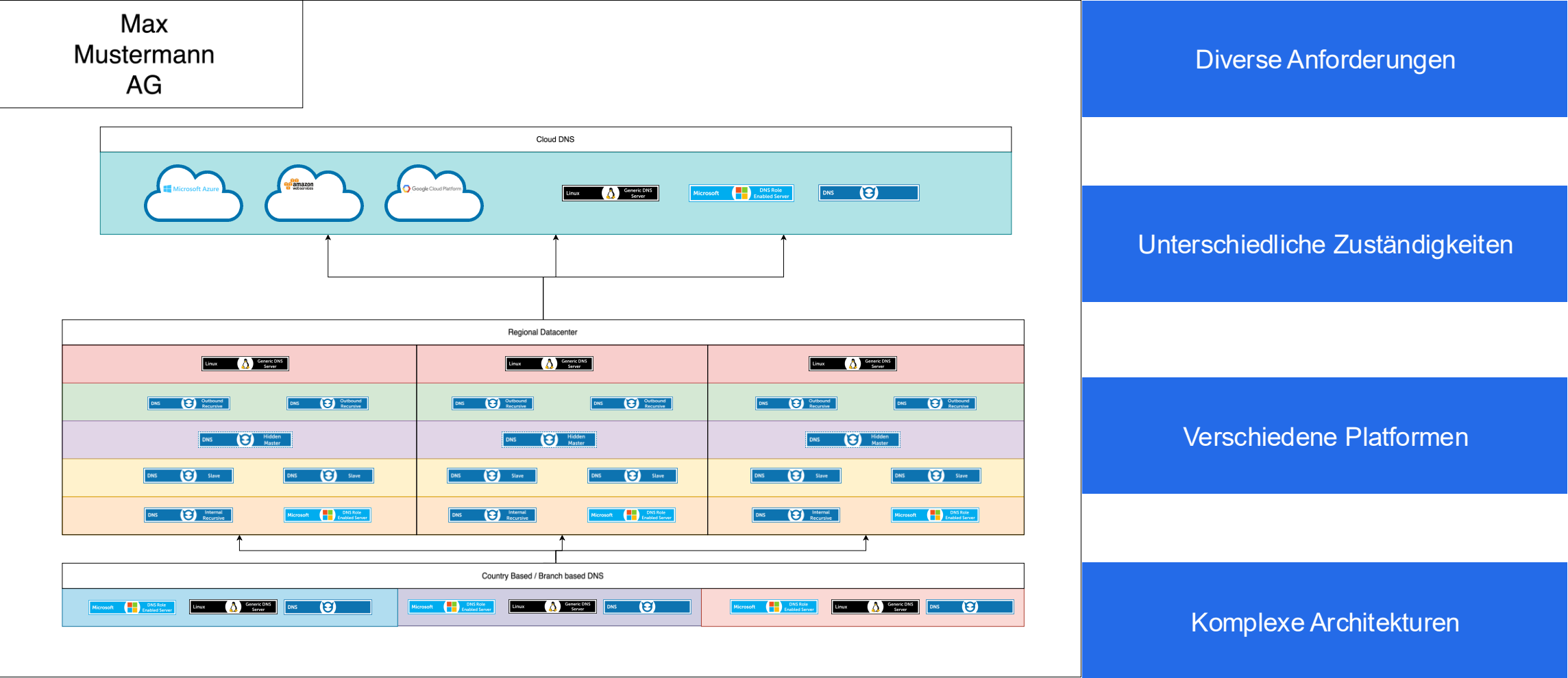
 DNS in komplexen hybriden
Umgebungen und wie wir dieses
adressieren



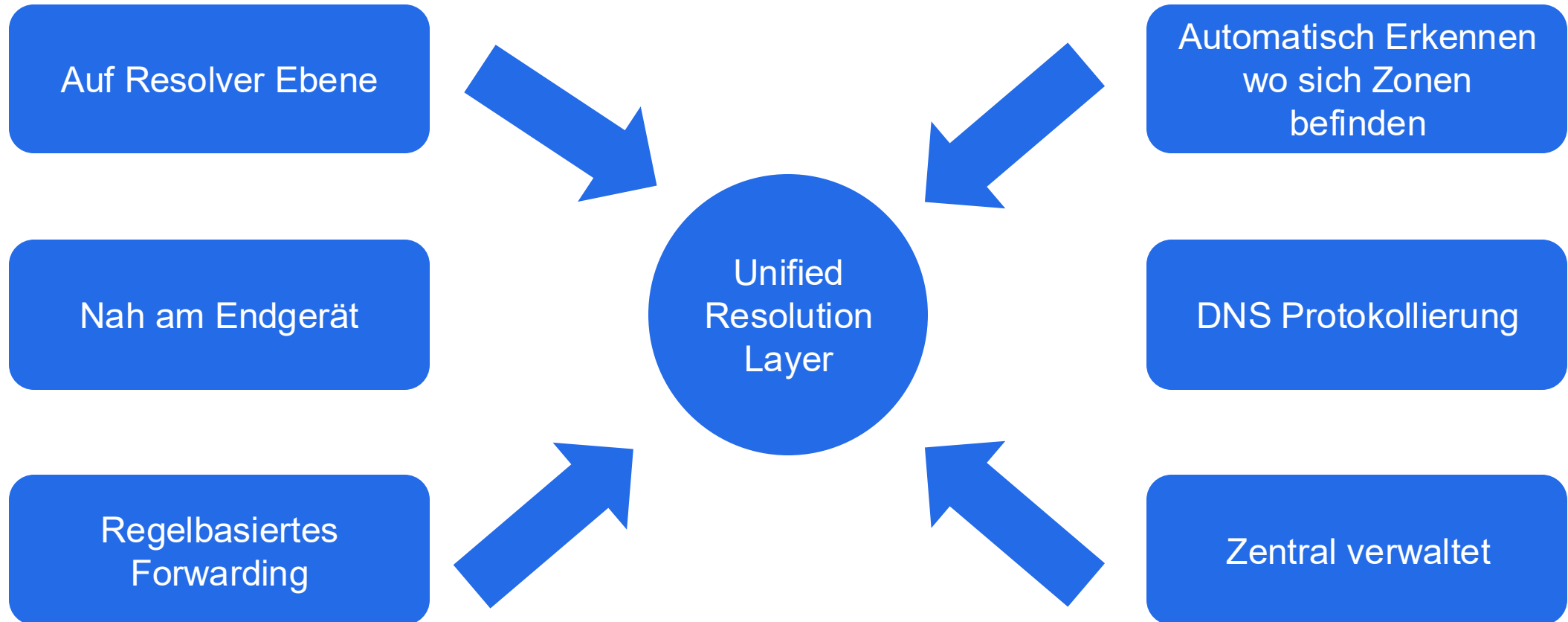
Über was geht es heute?



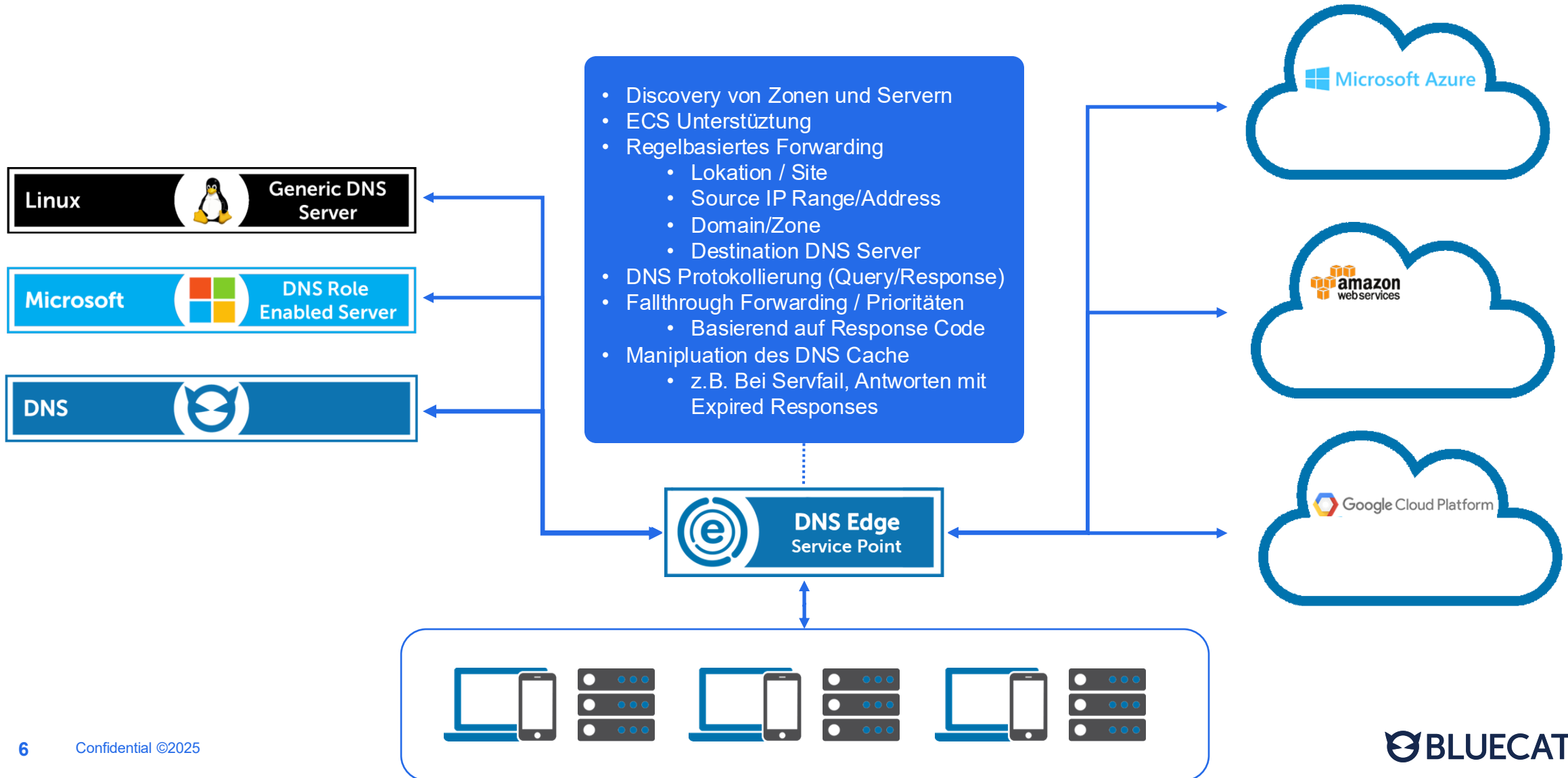
Erste Gedanken zu Enterprise DNS



Wie könnte man DNS „intelligenter“ machen?



BlueCat Edge Namespaces



BlueCat Edge



Demonstration



8

Confidential ©2025

Delete Edit

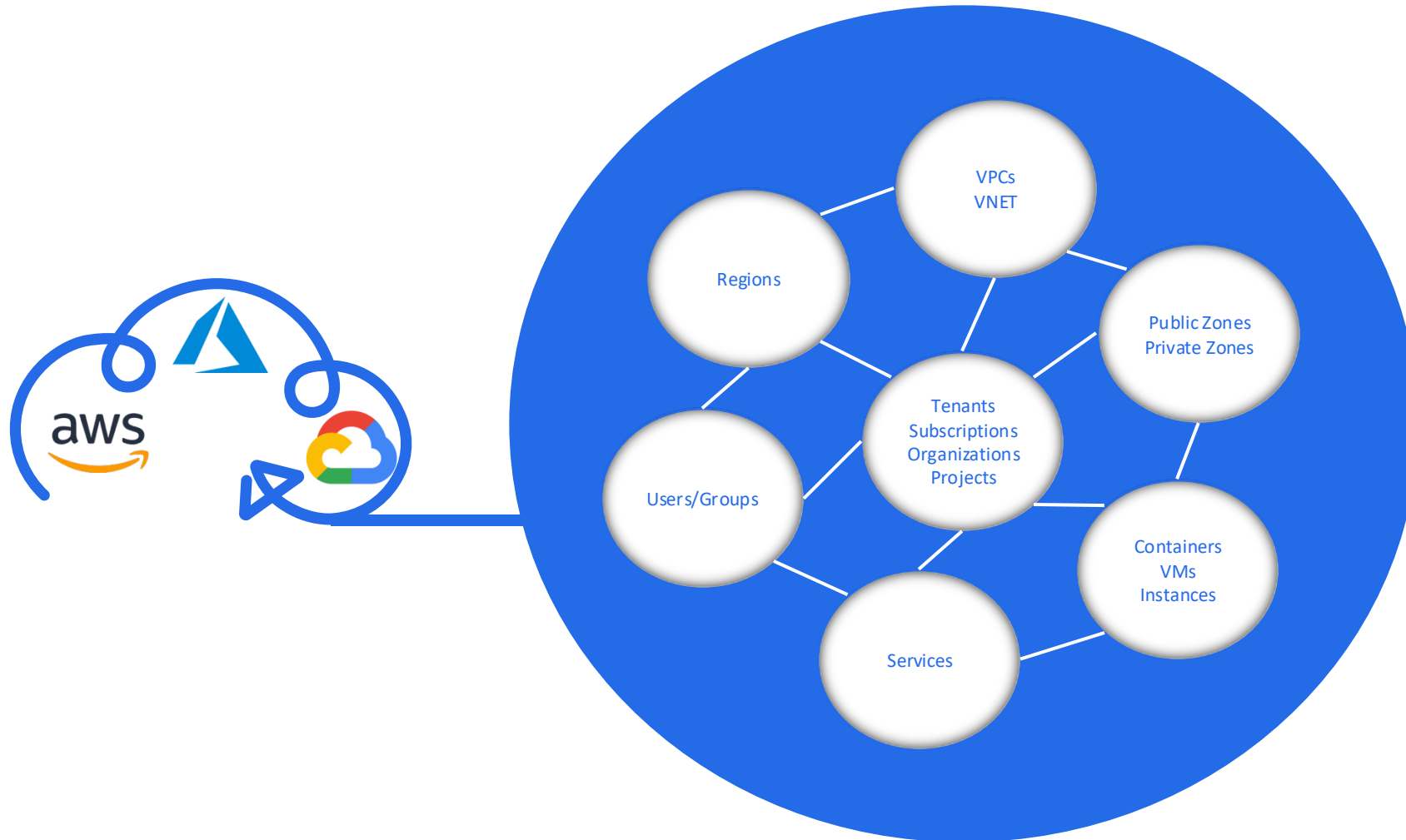


BLUECAT™

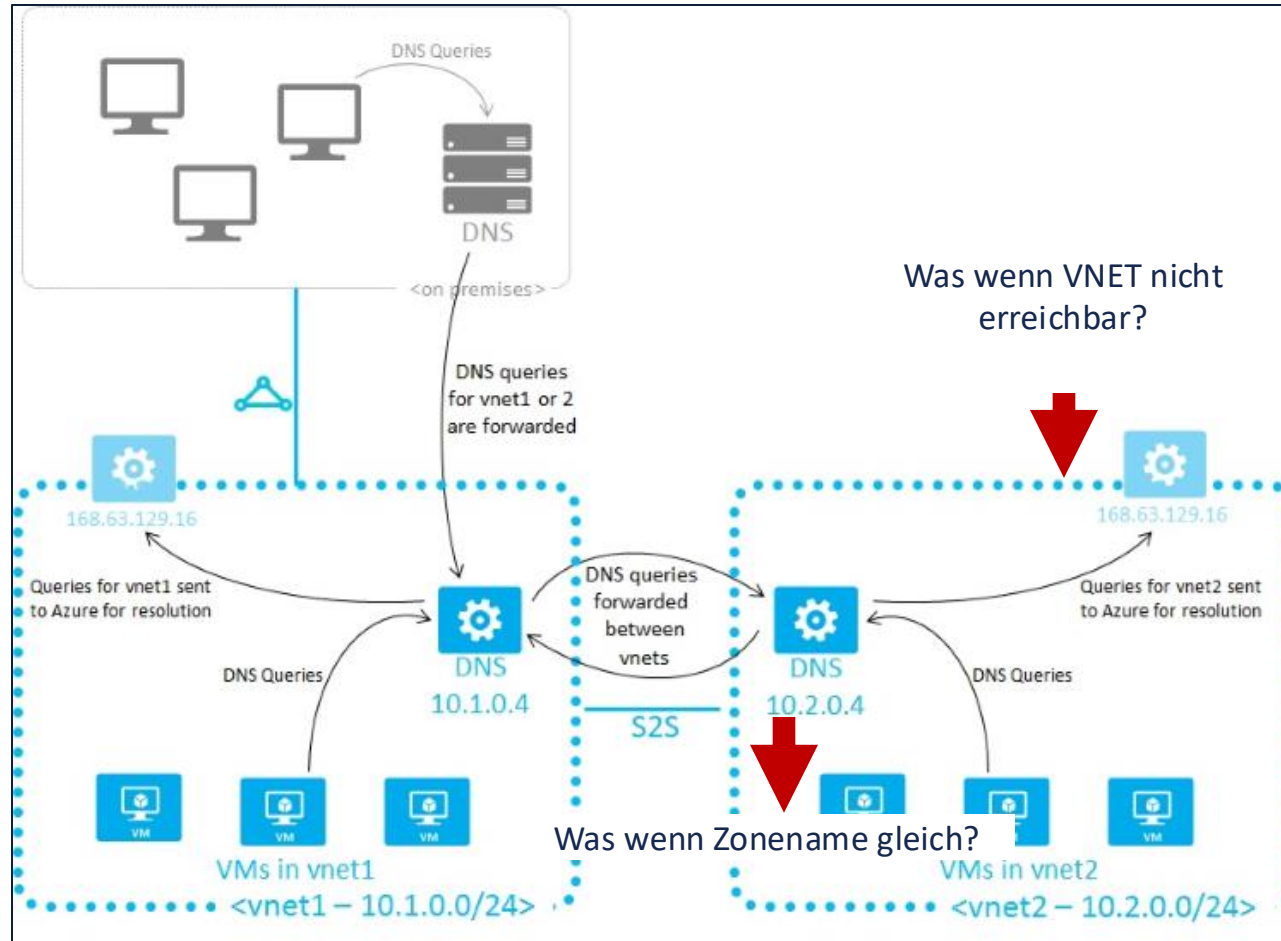
Query count 1,236,090

War nicht dein Vortrag über hybride Umgebungen?

DNS in Cloud Umgebungen ist kompliziert



Wir lösen das mit klassischen Forwarding... gute Idee?



Abhängig von der Erreichbarkeit des DNS Servers

Eindeutige Definition von Ziel DNS Servern

Eindeutige Definition von Zonen

Kompliziert Quellinformationen zu erhalten

Wir lösen das mit klassischen Forwarding... gute Idee?

Microsoft DNS Server

DNS

DC01

Forward-Lookupzonen

_msdcs.rw300984.local

rw300984.local

_msdcs

_sites

_tcp

_udp

DomainDnsZones

ForestDnsZones

Reverse-Lookupzonen

7.17.172.in-addr.arpa

Vertrauenspunkte

Bedingte Weiterleitungen

bluecat.cloud

privatelink.blob.core.windows.net

Globale Protokolle

IP-Adresse

172.16.10.100

BlueCat Integrity

Production - default - cloud - bluecat.cloud

bluecat.cloud

DNS Zone

DetailsResource RecordsSub ZonesDNSSECDeployment OptionsDeployment RolesNaming Policy

Deployment Roles

+ v

⚙ v

↺ v

≡ v

<input type="checkbox"/> SERVICE ▲	ROLE ⇅	SERVER	INHERITED FROM
<input type="checkbox"/> DNS	Forwarder	bdds.rw300984.local	
<input type="checkbox"/> DNS	Primary	Azure Hub DNS	

Geht es nicht irgendwie besser?



Realtime discovery

Discovery von allen DNS-bezogenen Ressourcen wie Netzwerke, private Links, Zonen

Intelligent DNS resolution

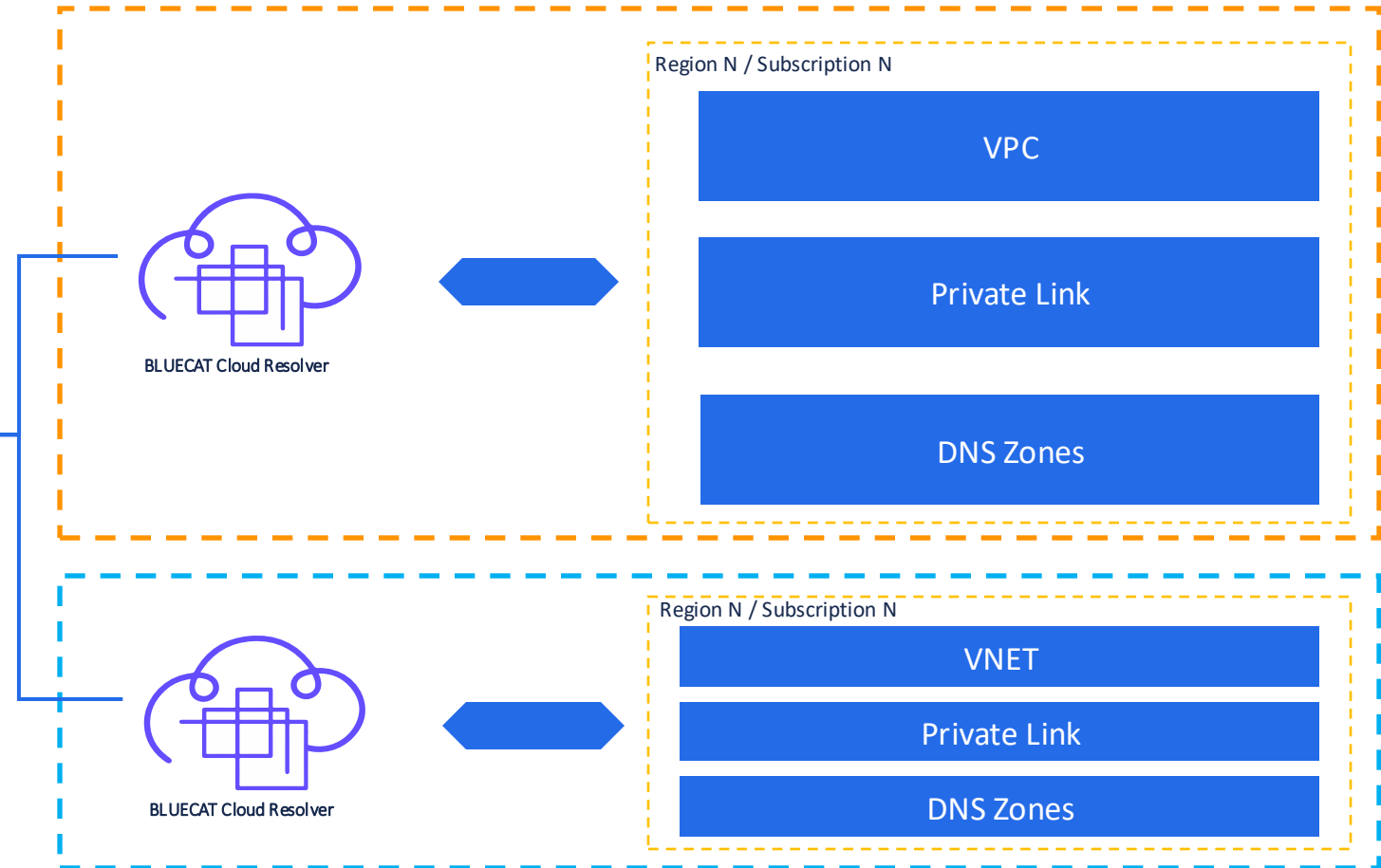
Automatische DNS Resolution Pfaderkennung wie z.B. Remote DNS, Cloud API, Cloud Functions und Fallbacks

Unified resolution layer

Einheitliche Lösung für komplexe Multi Cloud Umgebungen (z.B. AWS, GCP, Azure)

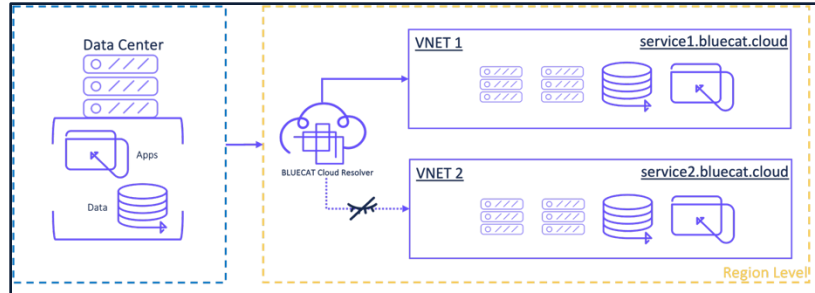
BlueCat Cloud Resolver

- Auto Discovery von Cloud Ressourcen
- Resolution Path Optimization
 - CloudAPI
 - DNS / Remote DNS
 - Function Resolver (AWS)
 - Fallback Resolver
 - Dynamic Zones (Reverse)
- Generieren von DNS Antworten
- Caching und ECS

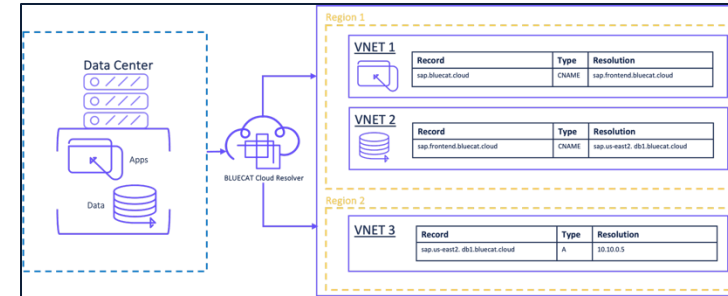


Anwendungsbeispiele

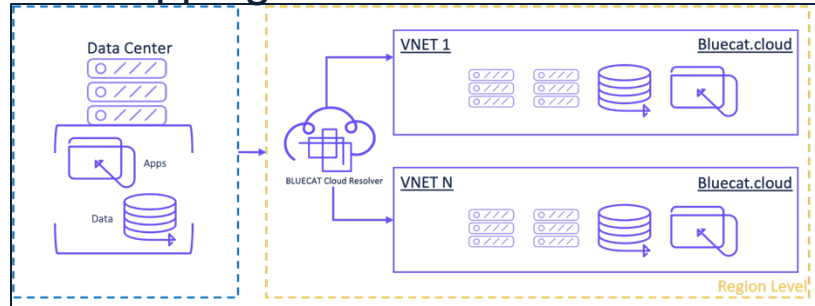
Non Routable



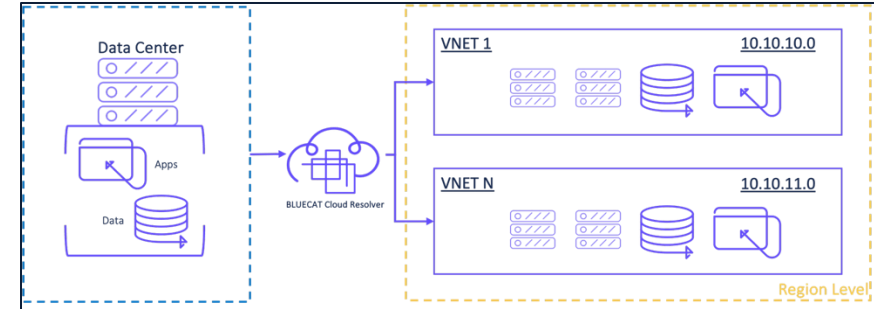
Cross Zone Resolution



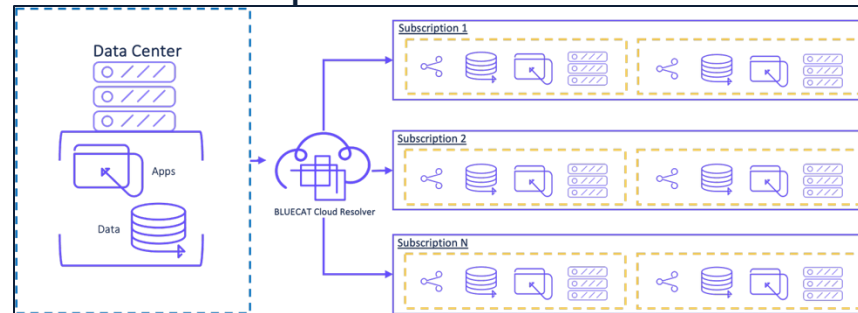
Overlapping Domains



Automatic Reverse Zone



Multi Subscriptions



BlueCat CloudResolver



Screenshots

Home

Discovery instances

Filter by name

Add filter

New

Name	Service point
AA_test_discovery	AA_v4_test
abbas-discovery	amohamed-v4-2
alireza-BCC-test	alireza-46-bpc
AmarDaveTest	PM-Azure-1
dd-aws-discovery-instance	dd-aws-sp
dd-azure-dis	dd-az-sp
Edge_QA_Discovery_Instance	A-Team-Long-Lived-Instance-XMB-
Edge_QA_Discovery_Instance4	Edge_QA_CL_SP
FF Discovery Instance	FF Service Point 1
GC-discovery-2	GC-Demo-V4d
jp-di-138-30	jp-sp
MJM-Discovery-Instance	MJM
PB-DISCO-01	PB-S
PM Discovery Lab	AS-E

jp-di-138-30

Connection state: Connected

Last sync: July 7, 2025 at 10:02:08

Last known status: Unhealthy

Service point: jp-spv4-10.244.138.30

Current version: 1.1.0

Update status: N/A

ID: 5db316b6-6ca4-499b-b24b-b26e86fc0903

Discovery configurations

Name	Domain count	Status
jp-aws-dc	0	Unhealthy
jp-bam-config	3	Healthy
PM Azure Sub-e	205	Healthy

ID: 51e93153-447b-4fd4-b8c3-2daf86a5d622

Polling time: 07-07-2025 10:01:32

```
root@bdds01:~# dig test.bluecat.cloud @172.17.7.25 +nsid
; <>> DiG 9.18.24-S1 <>> test.bluecat.cloud @172.17.7.25 +nsid
;; global options: +cmd
;; Got answer:
;; -->HEADER<-- opcode: QUERY, status: NOERROR, id: 26942
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; NSID: 7b 22 73 75 62 6e 65 74 22 3a 22 31 37 32 2e 31 37 2e 37 2e 30 2f 32 34 22 2c 22 71 75 65 72 79 5f 76 70 63 5f 69 64 22 3a 22 6f 6e 2d 70 72 65 6d 69 73 65 73 2d 6f 72 2d
75 6e 6d 61 70 70 65 64 22 2c 22 7a 6f 6e 65 5f 70 61 74 68 73 22 3a 5b 7b 22 43 6c 6f 75 64 41 50 49 22 3a 7b 22 41 7a 75 72 65 22 3a 22 2f 73 75 62 73 63 72 69 70 74 69 6f 6e 73
2f 36 33 32 64 65 63 38 36 2d 38 33 65 35 2d 34 62 35 39 2d 38 65 65 37 2d 61 38 36 36 63 38 66 36 32 31 62 61 2f 72 65 73 6f 75 72 63 65 47 72 6f 75 70 73 2f 61 6d 2d 64 65 6d 6
f 2f 70 72 6f 76 69 64 65 72 73 2f 4d 69 63 72 6f 73 6f 66 74 2e 4e 65 74 77 6f 72 6b 2f 70 72 69 76 61 74 65 44 6e 73 5a 6f 6e 65 73 2f 62 6c 75 65 63 61 74 2e 63 6c 6f 75 64 22
7d 7d 5d 2c 22 63 72 5f 69 64 22 3a 22 33 64 35 34 30 66 64 34 2d 36 63 35 32 2d 34 32 66 30 2d 62 62 61 66 2d 64 33 36 31 30 66 30 61 37 31 31 63 22 2c 22 73 6f 75 72 63 65 22 3a
22 63 72 5f 61 75 74 68 22 7d ("{"subnet":"172.17.7.0/24","query_vpc_id":"on-premises-or-unmapped","zone_paths":[{"CloudAPI":{"Azure":"/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/am-demo/providers/Microsoft.Network/privateDnsZones/bluecat.cloud"}}], "cr_id":"3d549fd4-6c52-42f0-bbaf-d3619f0a711c","source":"cr_auth"})
;; QUESTION SECTION:
;test.bluecat.cloud.          IN      A

;; ANSWER SECTION:
test.bluecat.cloud.          3600    IN      A          10.100.1.1

;; Query time: 0 msec
;; SERVER: 172.17.7.25#53(172.17.7.25) (UDP)
;; WHEN: Mon Jul 07 10:03:18 CEST 2025
;; MSG SIZE rcvd: 373
```

```
172.17.7.25:8008
BlueCat Links
Bookmarks
Home - BlueCat A...
BlueCat PSWiki
BlueCat SAWiki
Git-Hub - ClusterM...
Admin Console | S...
Starten | Splunk 8...
172.17.7.11

{"accounts": [{"vpc_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/bpc-extension/providers/Microsoft.Network/virtualNetworks/vn-sales-int-se-br", "name": "dikhil.ca.", "zone_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/bpc-extension/providers/Microsoft.Network/privateDnsZones/dikhil.ca", "zone_path": "CloudAPI(Azure(AzureResource { resource_type: PrivateDnsZones, subscription_id: \"632dec86-83e5-4b59-8ee7-a866c8f621ba\", name: \"dikhil.c\", provider_type: MicrosoftNetwork })))\""}, {"vpc_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/AM-Demo/providers/Microsoft.Network/virtualNetworks/AM-Demo-vnet", "name": "bluecat.cloud.", "zone_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/am-demo/providers/Microsoft.Network/privateDnsZones/bluecat.cloud", "zone_path": "CloudAPI(Azure(AzureResource { resource_type: PrivateDnsZones, subscription_id: \"632dec86-83e5-4b59-8ee7-a866c8f621ba\", name: \"bluecat.c\", provider_type: MicrosoftNetwork })))\""}, {"vpc_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/RW-RessourceGroup2/providers/Microsoft.Network/virtualNetworks/RW-Ressource", "name": "bluecat.cloud.", "zone_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/rw-privatedns/providers/Microsoft.Network/privateDnsZones/bluecat.cloud", "zone_path": "CloudAPI(Azure(AzureResource { resource_type: PrivateDnsZones, subscription_id: \"632dec86-83e5-4b59-8ee7-a866c8f621ba\", name: \"bluecat.c\", provider_type: MicrosoftNetwork })))\""}, {"vpc_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/RW-RessourceGroup/providers/Microsoft.Network/virtualNetworks/RW-VNET", "name": "bluecat.cloud.", "zone_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/rw-privatedns/providers/Microsoft.Network/privateDnsZones/bluecat.cloud", "zone_path": "CloudAPI(Azure(AzureResource { resource_type: PrivateDnsZones, subscription_id: \"632dec86-83e5-4b59-8ee7-a866c8f621ba\", name: \"bluecat.c\", provider_type: MicrosoftNetwork })))\""}, {"vpc_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/RWOpenProject_group/providers/Microsoft.Network/virtualNetworks/RWOpenProj", "name": "schwarz.cloud.", "zone_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/rw-privatedns/providers/Microsoft.Network/privateDnsZones/schwarz.cloud", "zone_path": "CloudAPI(Azure(AzureResource { resource_type: PrivateDnsZones, subscription_id: \"632dec86-83e5-4b59-8ee7-a866c8f621ba\", name: \"schwarz.c\", provider_type: MicrosoftNetwork })))\""}, {"vpc_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/PB_DEMO_RG/providers/Microsoft.Network/virtualNetworks/PB_DEMO_VN", "name": "pb.demo.", "zone_id": "/subscriptions/632dec86-83e5-4b59-8ee7-a866c8f621ba/resourceGroups/pb_demo_rg/providers/Microsoft.Network/privateDnsZones/pb.demo", "zone_path": "CloudAPI(Azure(AzureResource { resource_type: PrivateDnsZones, subscription_id: \"632dec86-83e5-4b59-8ee7-a866c8f621ba\", name: \"pb.demo.\", provider_type: MicrosoftNetwork })))\""}], "cr_id": "3d549fd4-6c52-42f0-bbaf-d3619f0a711c", "source": "cr_auth"}
```

Vielen Dank

Ronny Wolf
Field CTO
BlueCat Networks