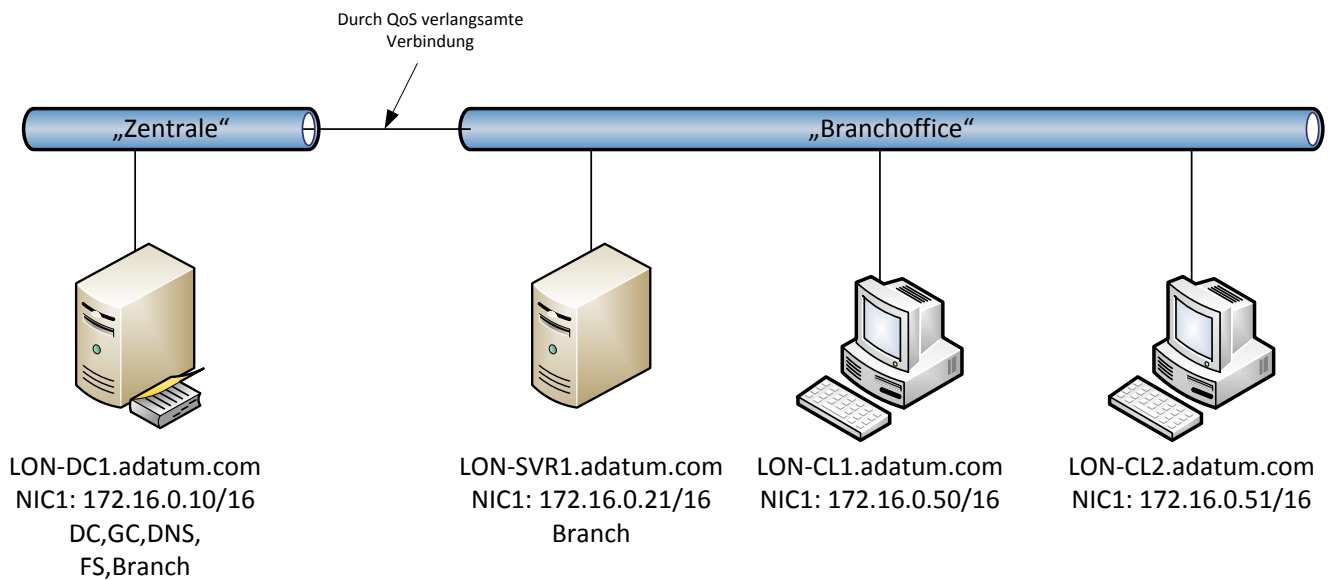


Inhalt

| | | |
|----|--|---|
| 1. | Szenario Beschreibung..... | 1 |
| 2. | Szenario 1 „verteilter CacheMode“..... | 1 |
| | Installation und Konfiguration der Branch-Cache-Rolle..... | 1 |
| | Simuliere die langsame WAN-Verbindung:..... | 3 |
| | Konfiguriere die Clients..... | 3 |
| | Funktionstest..... | 4 |
| 3. | Szenario 2 „Hosted CacheMode“..... | 6 |
| | Konfiguriere den BranchCache-Server (Lon-SVR1) für den Hosted-CacheMode..... | 6 |
| | Funktionstest..... | 8 |

1. Szenario Beschreibung

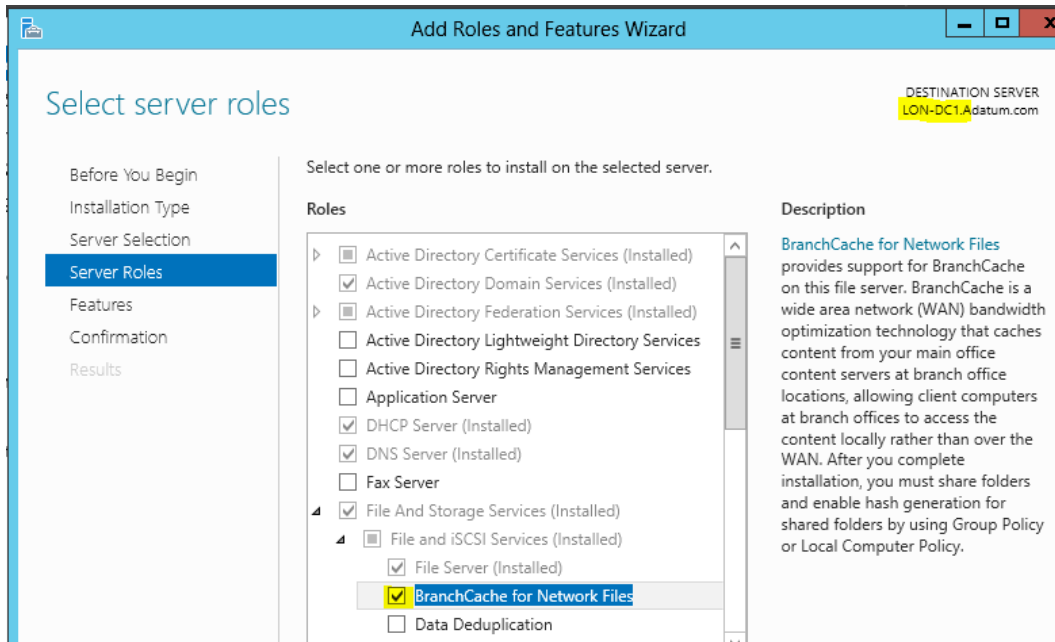


- Lon-DC1 ist der FileServer in der Zentrale
- Lon-CL1, Lon-CL2 und LON-SVR1 stehen in der Zweigniederlassung
- Alle VMs hängen am gleichen virtuellen Switch, aber die Anbindung von Lon-DC1 wurde durch eine GPO künstlich verlangsamt
- **Szenario 1: verteilter CacheMode:**
 - Lon-CL1 wird eine Datei von [\\Lon-DC1\Files](#) laden (langsam) und diese zwischenspeichern
 - Lon-CL2 wird die gleiche Datei dann vom Cache von Lon-CL1 beziehen
- **Szenario 2: gehosteter CacheMode:**
 - Lon-CL1 wird eine Datei von [\\Lon-DC1\Files](#) laden
 - Lon-SVR1 wird diese zwischenspeichern
 - Lon-CL2 wird die gleiche Datei dann vom Cache von Lon-SVR1 beziehen

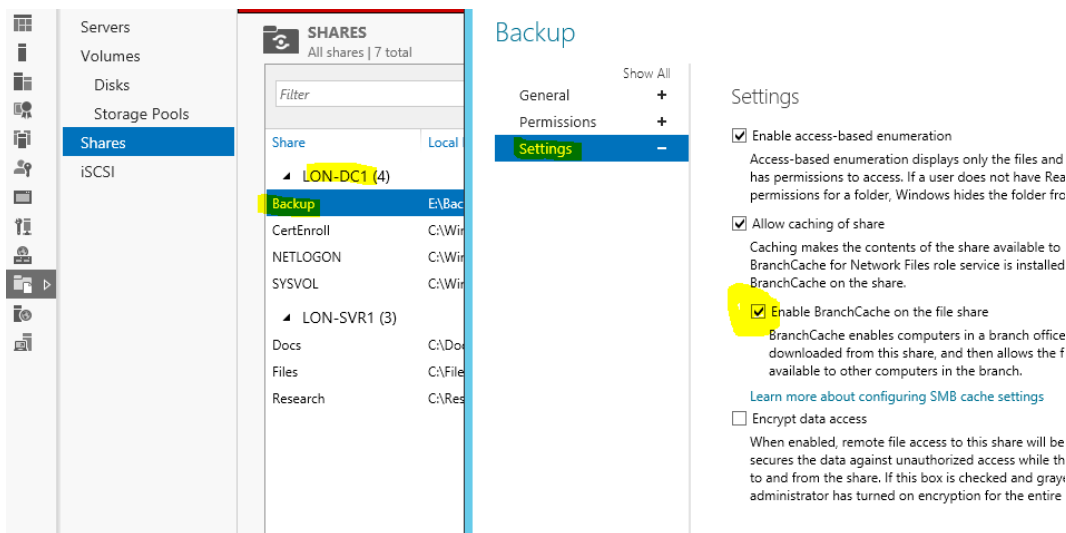
2. Szenario 1 „verteilter CacheMode“

Installation und Konfiguration der Branch-Cache-Rolle

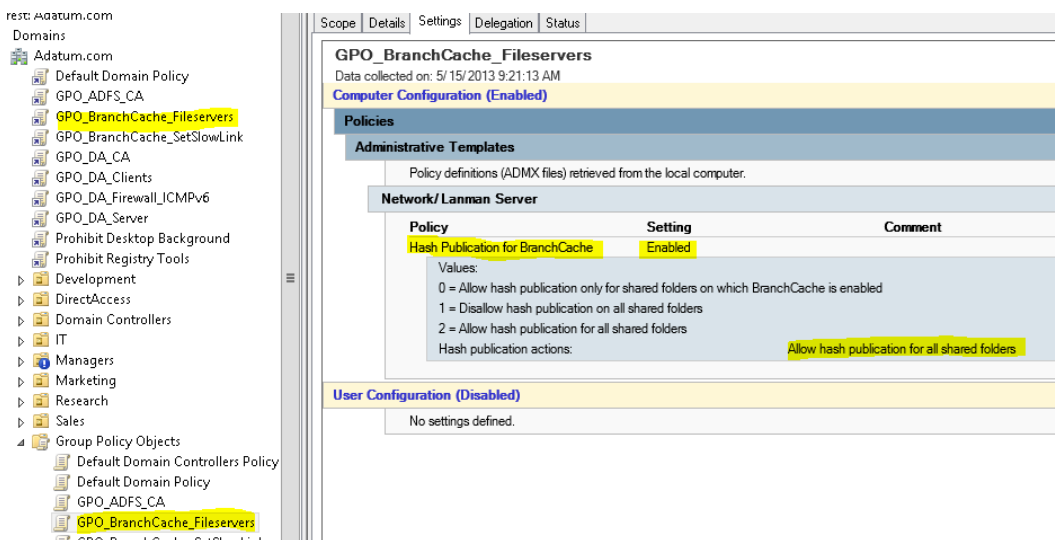
- Installiere die Unterrolle „BranchCache für Fileserver“:



- Aktiviere auf der Freigabe das BranchCache-Feature:

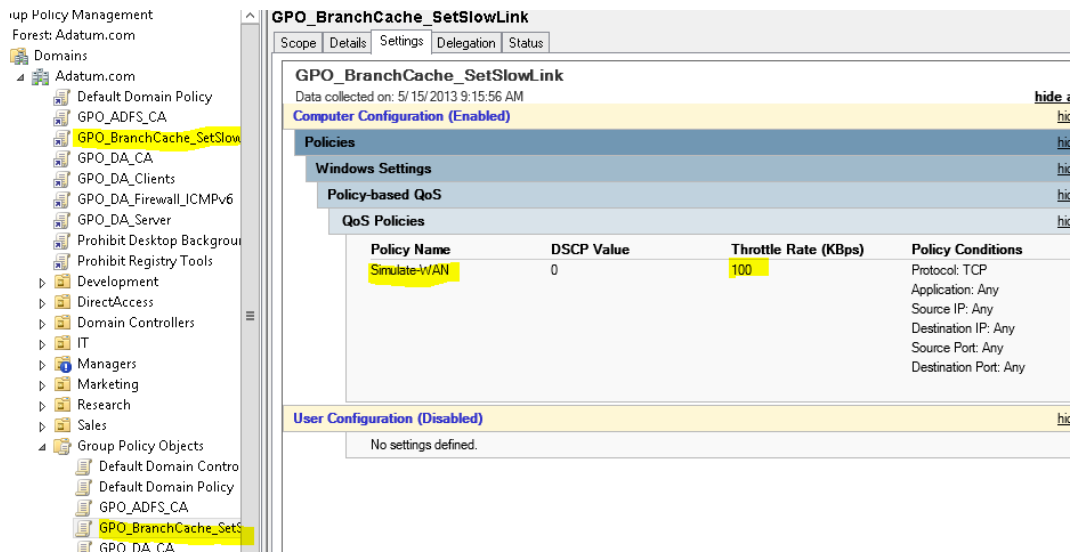


- Erstelle GPO für die Konfiguration der Hash-Veröffentlichung (nur auf den Fileserver gefiltert):



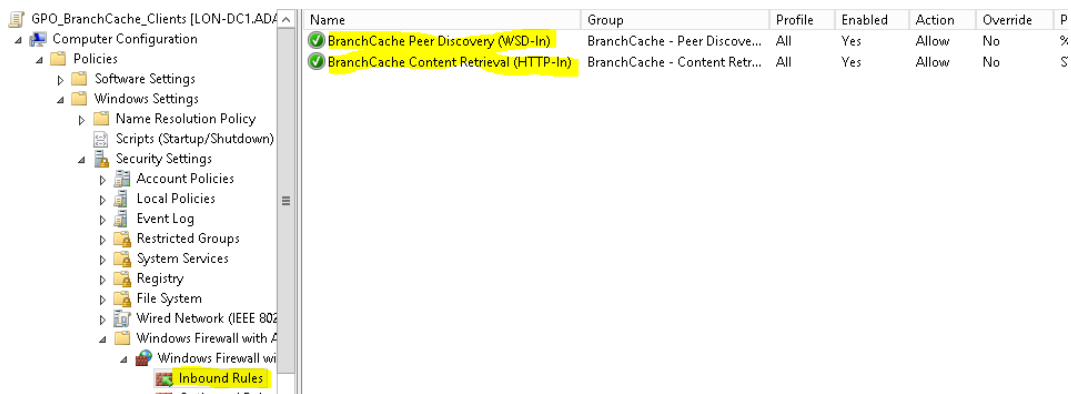
Simuliere die langsame WAN-Verbindung:

- Baue neue GPO und filtere diese nur für den Fileserver (Lon-DC1):

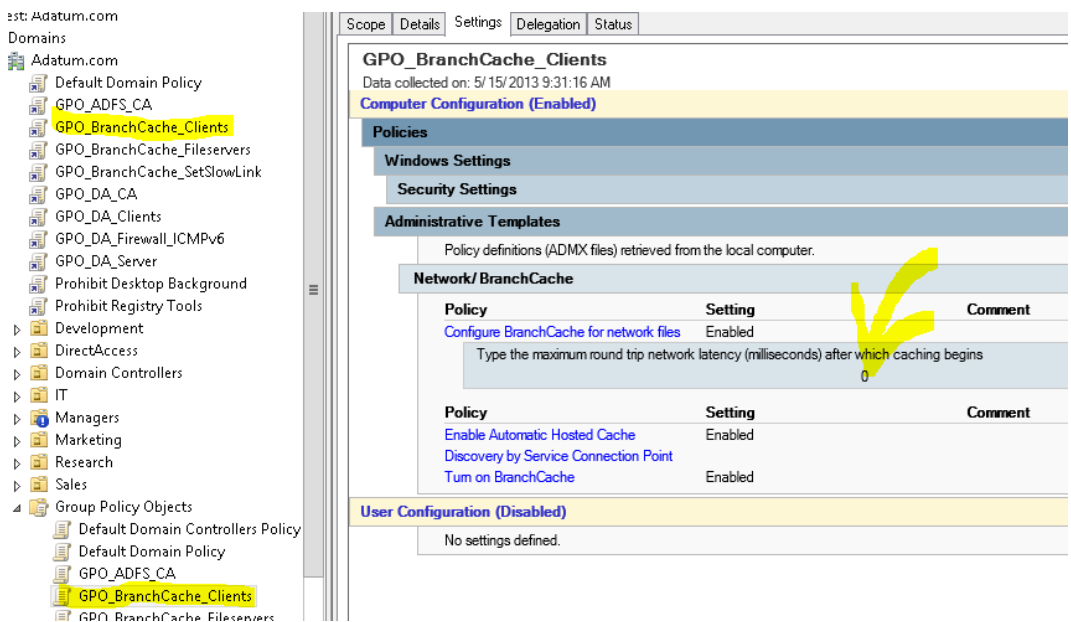


Konfiguriere die Clients

- Erstelle GPO für die automatische Clientkonfiguration (ab Windows 8!!):
 - Firewallausnahmen:



- Konfiguriere BranchCache:



Achtung: die Round-Trip-Latency ist hier auf 0 gesetzt, um eine langsame WAN-Verbindung zu simulieren!

- Die GPO wirkt nur für die Clients und den Lon-SVR1 (gefiltert)

Funktionstest

- Prüfe die Konfiguration auf Lon-CL1
 - Starte in cmd:

```
gpupdate /force
netsh branchcache show status all
```

```
C:\>netsh branchcache show status all

BranchCache Service Status:
-----
Service Mode           = Local Caching <Set By Group Policy>
Current Status         = Running
Service Start Type     = Manual
This machine is not configured as a hosted cache client.

Local Cache Status:
-----
Maximum Cache Size     = 5% of hard disk
Active Current Cache Size = 0 Bytes
Local Cache Location   = C:\Windows\ServiceProfiles\NetworkService\AppData\Local\PeerDistRepub <Default>

Publication Cache Status:
-----
Maximum Cache Size     = 1% of hard disk
Active Current Cache Size = 0 Bytes
Publication Cache Location = C:\Windows\ServiceProfiles\NetworkService\AppData\Local\PeerDistPub <Default>

Networking Status:
-----
Content Retrieval URL Reservation = Configured <Required>
Hosted Cache URL Reservation     = Configured <Not Required>
Hosted Cache HTTP URL Reservation = Configured <Not Required>
SSL Certificate Bound To Hosted Cache Port = Not Configured <Not Required>
Content Retrieval Firewall Rules  = Enabled <Not Required>
Peer Discovery Firewall Rules     = Enabled <Not Required>
Hosted Cache Server Firewall Rules = Disabled <Not Required>
Hosted Cache Client Firewall Rules = Enabled <Not Required>
```

- Prüfe die Konfiguration auf Lon-CL2
 - Starte powershell

```
Gpupdate /force
Get-bcClientConfiguration
Get-bcstatus
```

```

PS C:\> Get-BCClientConfiguration

CurrentClientMode           : LocalCache
HostedCacheServerList       :
HostedCacheDiscoveryEnabled : True

PS C:\> Get-BCStatus

BranchCacheIsEnabled        : True
BranchCacheServiceStatus    : Running
BranchCacheServiceStartType : Manual

ClientConfiguration:

CurrentClientMode           : LocalCache
HostedCacheServerList       :
HostedCacheDiscoveryEnabled : True

ContentServerConfiguration:

ContentServerIsEnabled      : True

HostedCacheServerConfiguration:

HostedCacheServerIsEnabled   : False
ClientAuthenticationMode     : Domain
HostedCacheScpRegistrationEnabled : False

NetworkConfiguration:

ContentRetrievalUrlReservationEnabled : True
HostedCacheHttpUrlReservationEnabled  : True
HostedCacheHttpsUrlReservationEnabled : True

```

- Kopiere Datei von \\lon-dc1\backup\ nach Lon-CL1:

```

PS C:\> robocopy \\lon-dc1\backup c:\test

-----
ROBOCOPY      ::      Robust File Copy for Windows
-----

Started      : Wednesday, May 15, 2013 10:11:24 PM
Source       : \\lon-dc1\backup\
Dest        : c:\test\
Files       : *.*
Options     : *.* /DCOPY:DA /COPY:DAT /R:1000000 /W:30
-----

100%         New Dir          1      \\lon-dc1\backup\
             New File          6.3 m      mspaint1.exe
-----

  Dirs :          Total      Copied  Skipped  Mismatch  FAILED  Extras
  Files :          1          1        0         0         0         0
  Bytes :         6.37 m      6.37 m      0         0         0         0
  Times :          0:00:31      0:00:31          0         0         0         0

  Speed :                      215558 Bytes/sec.
  Speed :                      12.334 MegaBytes/min.
  Ended : Wednesday, May 15, 2013 10:11:55 PM

PS C:\> _

```

- Kopiere die gleiche Datei von \\lon-dc1\backup\ nach Lon-CL2:

```
PS C:\> robocopy \\lon-dc1\backup c:\test

ROBOCOPY      ::      Robust File Copy for Windows

-----

Started : Wednesday, May 15, 2013 10:12:57 PM
Source  : \\lon-dc1\backup\
Dest    : c:\test\

Files    : *.*

Options  : *.* /DCOPY:DA /COPY:DAT /R:1000000 /W:30

-----

100%          New Dir          1          \\lon-dc1\backup\
              New File          6.3 m          mspaint1.exe

-----

      Total      Copied      Skipped      Mismatch      FAILED      Extras
 Dirs  :         1         1         0         0         0         0
Files  :         1         1         0         0         0         0
Bytes  :        6.37 m        6.37 m         0         0         0         0
Times  :      0:00:10      0:00:10                0:00:00      0:00:00

Speed  :                    663161 Bytes/sec.
Speed  :                    37.946 MegaBytes/min.
Ended  : Wednesday, May 15, 2013 10:13:07 PM
```

und ein weiterer Versuch:

```
PS C:\> robocopy \\lon-dc1\backup c:\test2

ROBOCOPY      ::      Robust File Copy for Windows

-----

Started : Wednesday, May 15, 2013 10:14:24 PM
Source  : \\lon-dc1\backup\
Dest    : c:\test2\

Files    : *.*

Options  : *.* /DCOPY:DA /COPY:DAT /R:1000000 /W:30

-----

100%          New Dir          1          \\lon-dc1\backup\
              New File          6.3 m          mspaint1.exe

-----

      Total      Copied      Skipped      Mismatch      FAILED      Extras
 Dirs  :         1         1         0         0         0         0
Files  :         1         1         0         0         0         0
Bytes  :        6.37 m        6.37 m         0         0         0         0
Times  :      0:00:00      0:00:00                0:00:00      0:00:00

Speed  :                    14756450 Bytes/sec.
Speed  :                    844.370 MegaBytes/min.
Ended  : Wednesday, May 15, 2013 10:14:24 PM
```

3. Szenario 2 „Hosted CacheMode“

Konfiguriere den BranchCache-Server (Lon-SVR1) für den Hosted-CacheMode

- Installiere die Unterrolle „BranchCache für Dateiserver“ und das Feature „BranchCache“:

Select features

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results

Select one or more features to install on the selected server.

| Features | Description |
|---|--|
| <input type="checkbox"/> .NET Framework 3.5 Features | |
| <input checked="" type="checkbox"/> .NET Framework 4.5 Features (Installed) | |
| <input type="checkbox"/> Background Intelligent Transfer Service (BITS) | |
| <input type="checkbox"/> BitLocker Drive Encryption | |
| <input type="checkbox"/> BitLocker Network Unlock | |
| <input checked="" type="checkbox"/> BranchCache | BranchCache installs the se required to configure this c as either a hosted cache se BranchCache-enabled cont server. If you are deploying content server, it must also configured as either a Hyp Transfer Protocol (HTTP) w or a Background Intelligent Service (BITS)-based applic server. To deploy a Branch |
| <input type="checkbox"/> Client for NFS | |
| <input type="checkbox"/> Data Center Bridging | |

- Prüfe aktuelle Konfiguration: -> der Server arbeitet jetzt bereits im verteilten CacheMode:

```
PS C:\> Get-BCStatus

BranchCacheIsEnabled      : True
BranchCacheServiceStatus  : Running
BranchCacheServiceStartType : Automatic

ClientConfiguration:
  CurrentClientMode      : LocalCache
  HostedCacheServerList  :
  HostedCacheDiscoveryEnabled : True

ContentServerConfiguration:
  ContentServerIsEnabled : True

HostedCacheServerConfiguration:
  HostedCacheServerIsEnabled      : False
  ClientAuthenticationMode        : Domain
  HostedCacheScpRegistrationEnabled : False

NetworkConfiguration:
  ContentRetrievalUrlReservationEnabled : True
```

- Aktiviere den Hostet-CacheMode für die automatische Erkennung (ab Windows 8/2012):

```

PS C:\> Enable-BCHostedServer -RegisterSCP
PS C:\>
PS C:\> Get-BCStatus

BranchCacheIsEnabled      : True
BranchCacheServiceStatus  : Running
BranchCacheServiceStartType : Automatic

ClientConfiguration:

    CurrentClientMode      : LocalCache
    HostedCacheServerList  : {LON-SVR1.Adatum.com}
    HostedCacheDiscoveryEnabled : True

ContentServerConfiguration:

    ContentServerIsEnabled : True

HostedCacheServerConfiguration:

    HostedCacheServerIsEnabled      : True
    ClientAuthenticationMode        : Domain
    HostedCacheScpRegistrationEnabled : True

NetworkConfiguration:

    ContentRetrievalUrlReservationEnabled : True
  
```

Funktionstest

- Auf Lon-CL1:
 - Prüfe Konfiguration (nach Neustart!)

```

PS C:\> Get-BCClientConfiguration

CurrentClientMode      : HostedCacheClient
HostedCacheServerList  : {LON-SVR1.Adatum.com}
HostedCacheDiscoveryEnabled : True
  
```

- Kopiere neue Datei


```
PS C:\> robocopy \\lon-dc1\backup c:\test4
```

```
-----
```

```
ROBOCOPY      ::      Robust File Copy for Windows
```

```
-----
```

```
Started   : Wednesday, May 15, 2013 10:39:15 PM
Source    : \\lon-dc1\backup\
Dest     : c:\test4\

Files    : *.*

Options  : *.* /DCOPY:DA /COPY:DAT /R:1000000 /W:30
```

```
-----
```

```
100%      New Dir          1      \\lon-dc1\backup\
          New File                2.2 m      explorer.exe
```

```
-----
```

| | Total | Copied | Skipped | Mismatch | FAILED | Extras |
|---------|---------|---------|---------|----------|---------|---------|
| Dirs : | 1 | 1 | 0 | 0 | 0 | 0 |
| Files : | 1 | 1 | 0 | 0 | 0 | 0 |
| Bytes : | 2.27 m | 2.27 m | 0 | 0 | 0 | 0 |
| Times : | 0:00:31 | 0:00:31 | | | 0:00:00 | 0:00:00 |

```
Speed   :          76543 Bytes/sec.
Speed   :          4.379 MegaBytes/min.
Ended   : Wednesday, May 15, 2013 10:39:46 PM
```

- Auf Lon-CL2
 - Prüfe Konfiguration (ist auch im Hosted-CacheMode)
 - Kopiere die gleiche Datei von Lon-DC1:

```
PS C:\> robocopy \\lon-dc1\backup c:\test4
```

```
-----
```

```
ROBOCOPY      ::      Robust File Copy for Windows
```

```
-----
```

```
Started   : Wednesday, May 15, 2013 10:40:27 PM
Source    : \\lon-dc1\backup\
Dest     : c:\test4\

Files    : *.*

Options  : *.* /DCOPY:DA /COPY:DAT /R:1000000 /W:30
```

```
-----
```

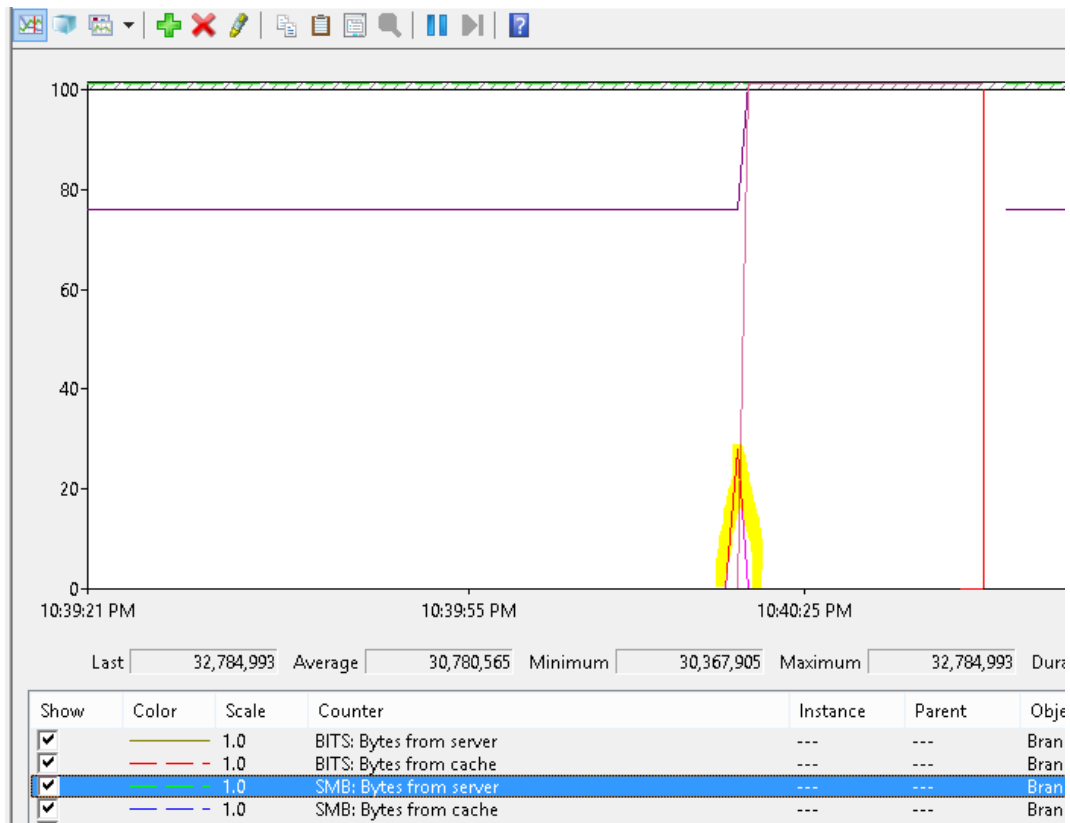
```
100%      New Dir          1      \\lon-dc1\backup\
          New File                2.2 m      explorer.exe
```

```
-----
```

| | Total | Copied | Skipped | Mismatch | FAILED | Extras |
|---------|---------|---------|---------|----------|---------|---------|
| Dirs : | 1 | 1 | 0 | 0 | 0 | 0 |
| Files : | 1 | 1 | 0 | 0 | 0 | 0 |
| Bytes : | 2.27 m | 2.27 m | 0 | 0 | 0 | 0 |
| Times : | 0:00:09 | 0:00:09 | | | 0:00:00 | 0:00:00 |

```
Speed   :          250730 Bytes/sec.
Speed   :          14.346 MegaBytes/min.
Ended   : Wednesday, May 15, 2013 10:40:37 PM
```

kontrolliere dabei perfmom auf Lon-CL2:



- Ein weiterer Kopiervorgang wird wesentlich schneller verarbeitet:

```
PS C:\> robocopy \\lon-dc1\backup c:\test5
```

```
-----
ROBOCOPY      ::      Robust File Copy for Windows
-----

Started : Wednesday, May 15, 2013 10:42:35 PM
Source  : \\lon-dc1\backup\
Dest    : c:\test5\

Files   : *.*

Options : *.* /DCOPY:DA /COPY:DAT /R:1000000 /W:30

-----
100%      New Dir          1      \\lon-dc1\backup\
          New File          2.2 m      explorer.exe
-----

Total      Copied      Skipped      Mismatch      FAILED      Extras
 Dirs  :      1          1          0          0          0          0
Files  :      1          1          0          0          0          0
Bytes  :  2.27 m      2.27 m          0          0          0          0
Times  :  0:00:00      0:00:00          0          0          0          0
```