

Branch Cache

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用使用者的使用角度來思考

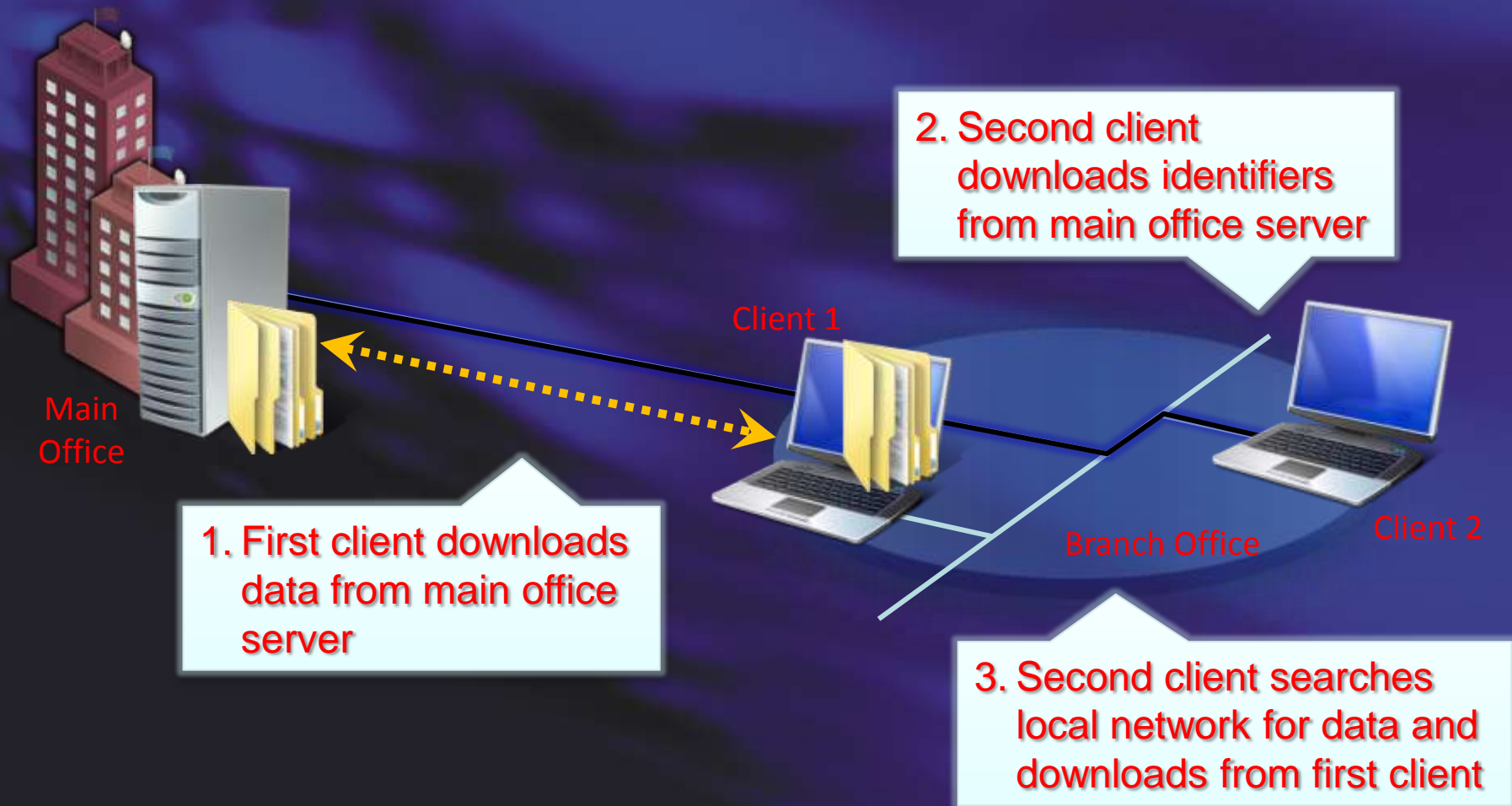
- 一切的出發點以安全為出發點
- 了解使用者真正的使用方式
- 大部分的分點、外點，頻寬都不夠
- 浪費太多資源
- 資料集中於資料中心，方便管理與備份，但是分公司使用者取得不易

Branch Cache

- 減少了連接分公司的 WAN 連結的網路使用
- 改善分公司位置的使用者體驗
- Branch Cache 會同時快取 HTTP 和 SMB 內容，並且確保只有授權的使用者可以存取
- 改善了本機的存取時間，並且減少分公司和公司網路之間的 WAN 頻寬使用
- 只有授權的使用者可以存取，因為授權處理是由位於資料中心的伺服器所執行的

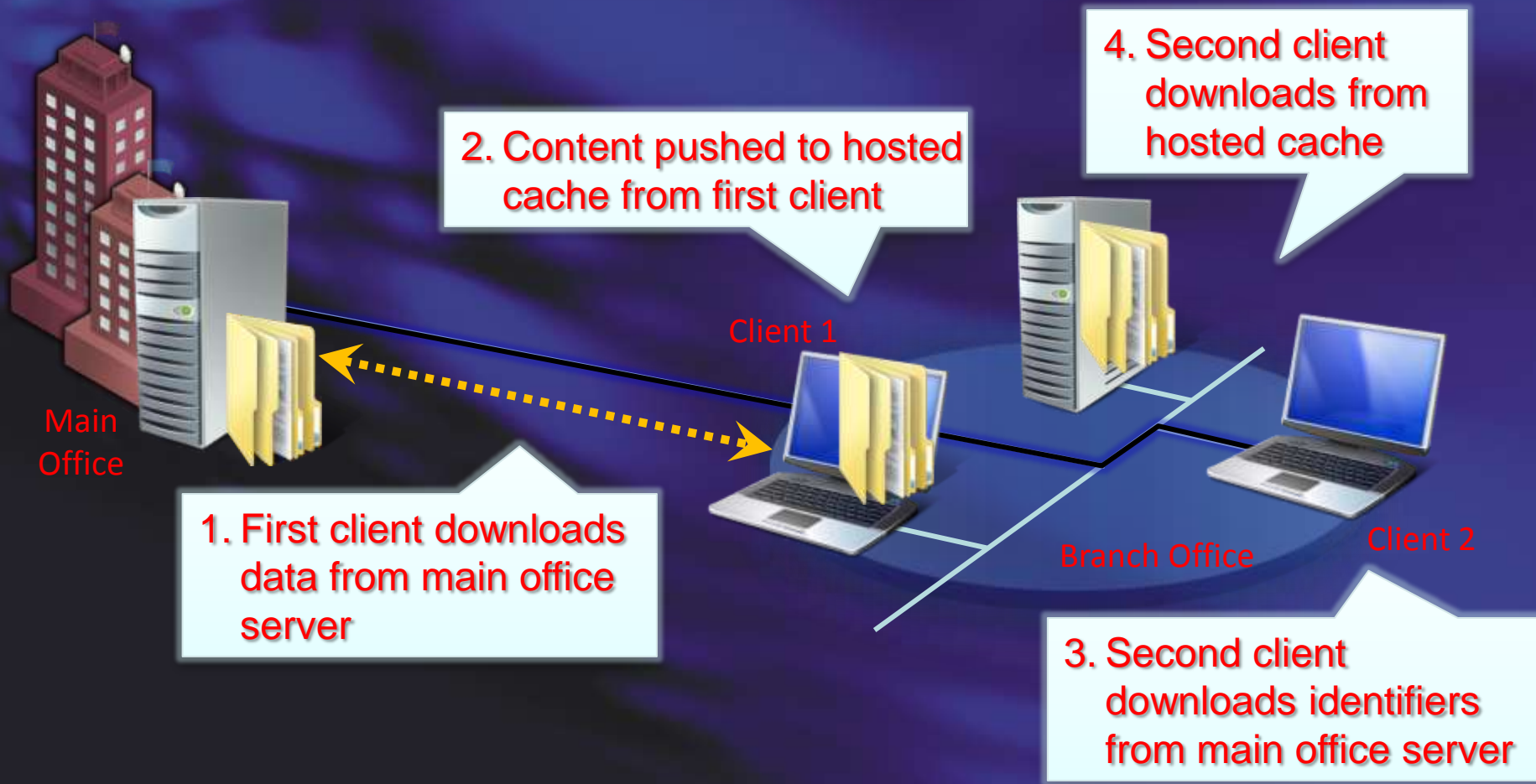
Improving Branch Performance

Distributed Mode

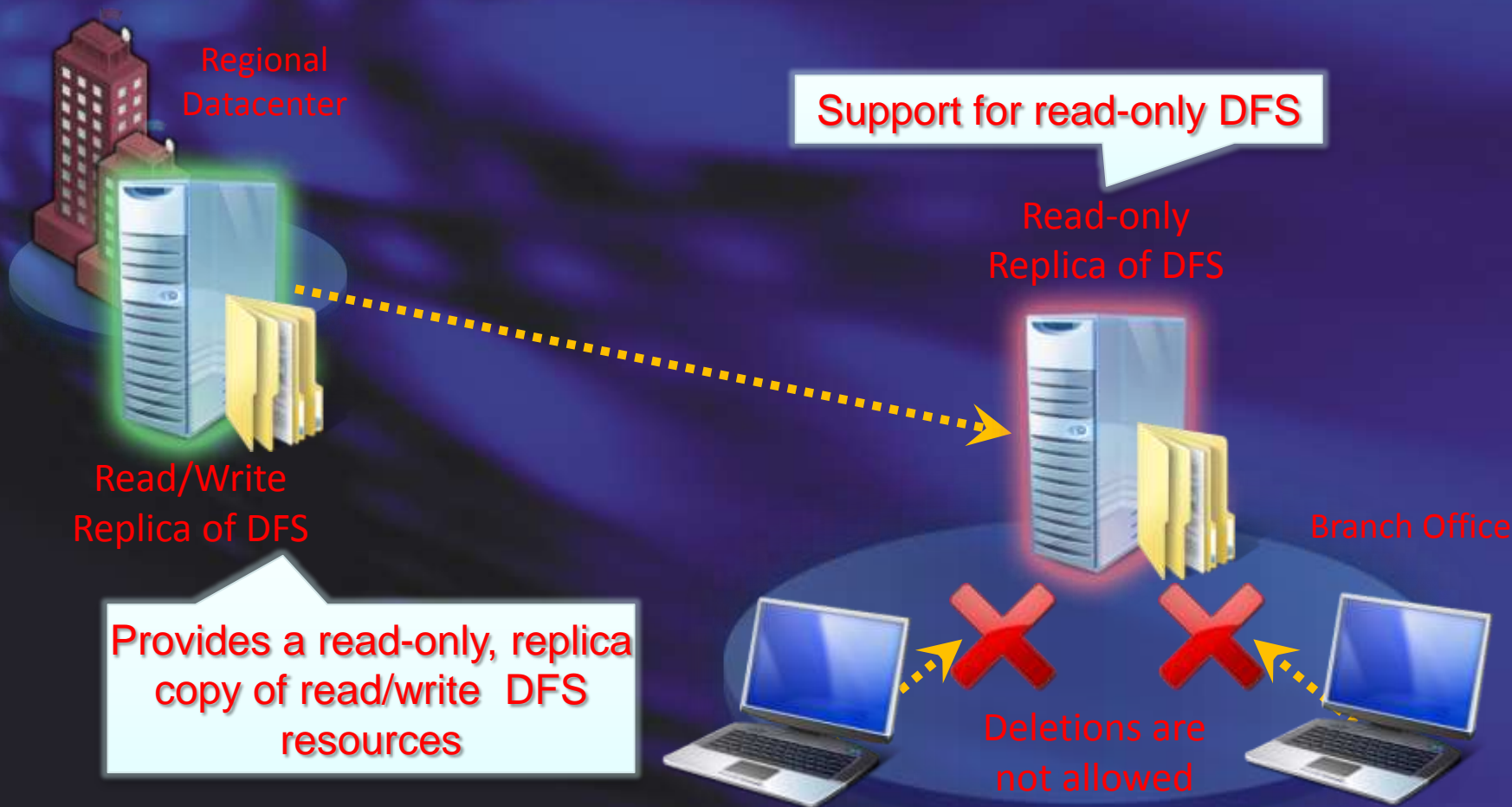


Improving Branch Performance

Hosted Caching



Improving Branch Office Security



Provides a read-only, replica copy of read/write DFS resources

Support for read-only DFS

Prevents modifications within branch office



Branch Cache Requirements

- 點對點 (distributed caching) 用戶端必須在同一個網段
- Hosted cache 不需要在同一網段
- 一個分點 1 台 Hosted cache
- 只支援 Windows Server 2008 R2 + Windows 7
- 兩種模式都必須連接至原始檔案伺服器
- If you want resiliency against connectivity failure you should look at DFSR instead

So What Exactly is Cached and When?

- Any file that has a hash is cached on the client
- When cache is full the least recently accessed item is removed to make room
- Only files over 64KB cached
- Designed for slow changing files
- Hashing is configured on a per-share level on the server
- For web content a script is used to create hashes for files and not done automatically
- Does not care about transport (supports IPSEC, HTTPS etc)

Branch Cache Storage

- Cache files are stored in chunks under the Network Service profile
- The cached chunks are not encrypted but protected by ACLs
- Only the Network Service has access

Monitoring and Controlling How Branch Cache is Used

- Performance Counters
- Group Policy and commands to enable distributed cache and to point to hosted cache
- Group Policy control cache % use of drive
- Entire cache can be cleared on client through netsh commands

DEMO

Branch Cache

Deployment

- Distributed

- HQ: 内容伺服器 (must run R2)

- Branch: 用戶端 (must run Win 7 or R2)

- Hosted

- HQ: 内容伺服器 (must run R2)

- Branch: Hosted Cache (must run R2)

- Branch: 用戶端 (must run Win 7)

- Server Core R2 也支援!

Deployment – 內容伺服器

- HTTP server (IIS) - Install the BranchCache feature from Server Manager
- SMB server (File server) – Install the BranchCache role service feature within the file server role using Server Manager
- 這樣就夠了

Deployment - Client

Identify the “branch”

- An Active Directory Site
- An IP address range
- A collection of specific client computers

Choose how to deploy

- **Group Policy**
- **netsh**

Deploy to clients!

- Group policy: Use built-in ADMX files
- netsh: Run ***netsh branchcache set service distributed*** on all relevant clients

Deployment – Hosted Cache

Setup the hosted cache

- Install the BranchCache feature on an R2 server
- Install a server-auth certificate for use with SSL
- Run *netsh branchcache set service hostedserver* on the hosted cache

Identify Branch

Choose how to deploy

Deploy to clients!

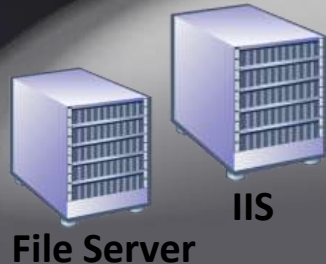
- Group policy: Use built-in ADMX files
- netsh: Run *netsh branchcache set service hostedclient location=<>* on all clients

Deployment - Summary

Group Policy to enable clients



Install BranchCache™ feature on an R2 server



Main Office



Optionally, install a hosted cache in your branch.

Additional configuration options

- Enable / disable distributed cache mode
- Enable / disable hosted cache mode
- Set the cache size
- Set the location of the hosted cache
- Clear the cache
- Create and replicate a shared key for use in a server cluster
- Works in domains and workgroups

Monitoring

- Event logs - Operational logs & Audit logs
- Perfmon counters - Client, hosted cache and Content Server
- netsh for querying the infrastructure for potential problems
 - Cache size too small, firewall issues, certificate problems etc
- SCOM pack - for rolling all the information up

總結

- Windows Server 2008 R2 提供更好分公司解決方案
- 多了解 Branch Cache
- 開始著手部署 Windows Server 2008
- <http://www.microsoft.com/branchCache>

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