

PowerShell Remoting



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Datacenters used to be “down the hall”

Minimal network security needs

Network isolated and self contained

RPC/COM/DCOM protocols ruled





Drive to the cloud

Push for virtualization

Tighter network security

Need modern protocols





Meet WSMAN

Connect via single port

- 5985 (HTTP)
- 5986 (HTTPS)

Requires admin credentials by default

Utilizes Kerberos for mutual authentication

Encrypted data transfer

Managed by the WinRM service

`help about_WS-Management`



PowerShell Remoting

**Disabled by default on clients
and older servers**

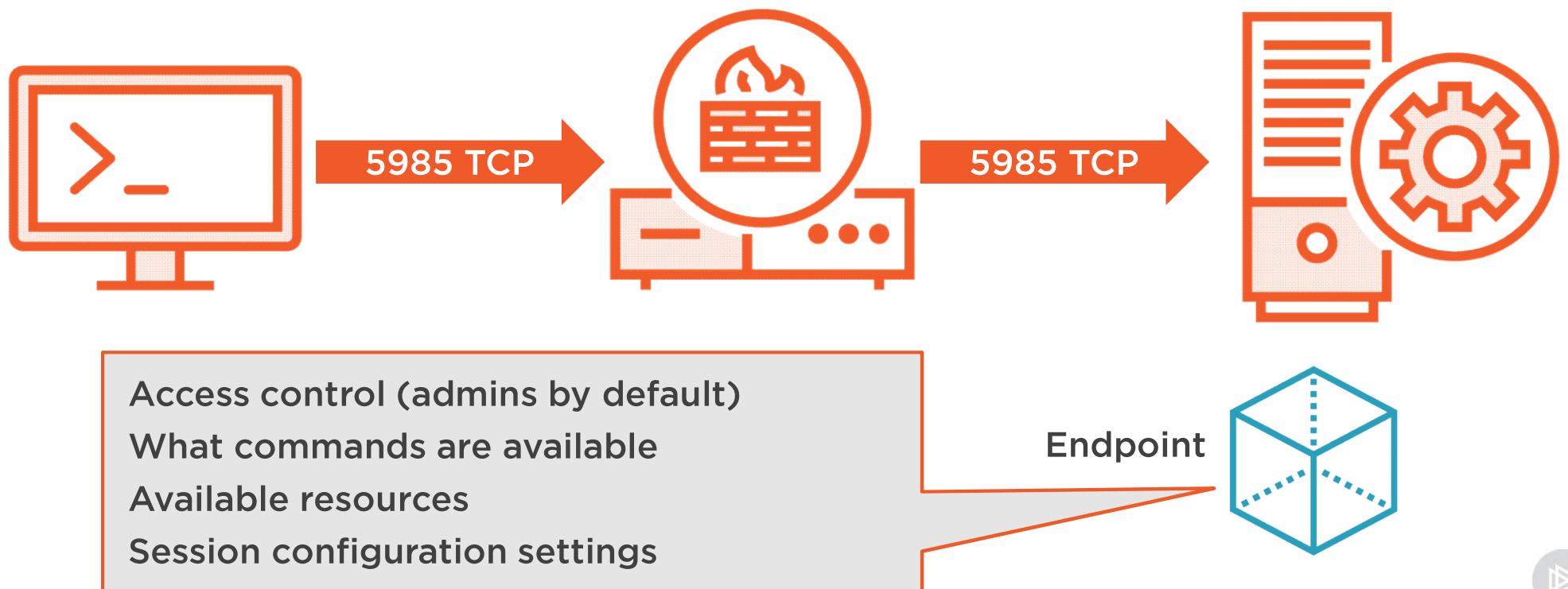
**Works best with minimal
effort in a domain
environment**

**Remoting configurations can
be implemented via GPO**

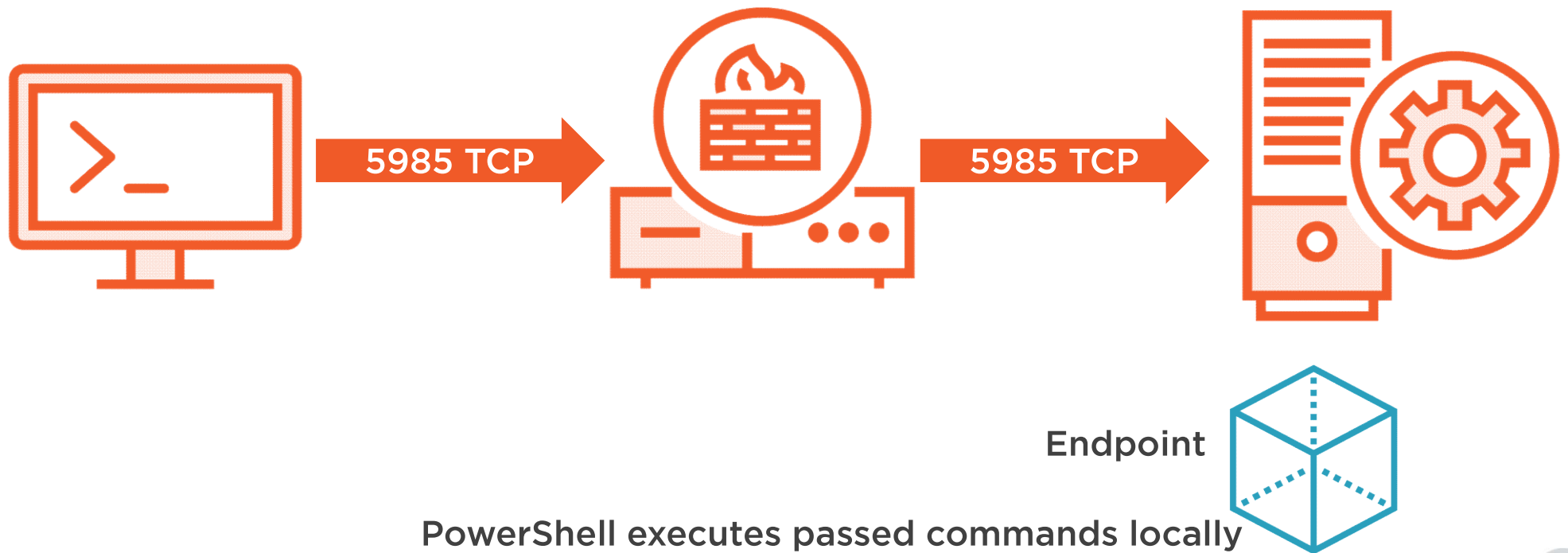
**You need remoting to manage
via PowerShell**



PowerShell Remoting



PowerShell Remoting

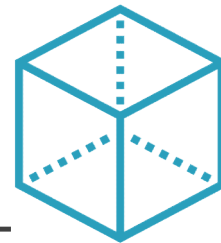


PowerShell Remoting



Endpoint

Returns results as serialized XML



`Enable-PSRemoting`

Configuring PowerShell Remoting

Must run elevated

Only applies to non-public networks

Starts and configures the WinRM service



Enable-PSRemoting

Configuring PowerShell Remoting

Creates default listeners

Creates necessary firewall rules

Creates default configuration end points



```
Test-WSMan -computename SRV1
```

Testing PowerShell Remoting

Verify that a remote computer is ready for WSMAN connections

Can specify SSL (HTTPS)

Can specify a credential



```
Enter-PSSession -computename SRV1 -credential  
company\administrator
```

Using PowerShell Remoting - 1 to 1

Establish a remote interactive session

Requires admin credentials

Secure, “telnet-like” session.



```
Invoke-Command -scriptblock {Get-Process -includeusername}  
-computername SRV1,SRV2 -credential company\administrator
```

Using PowerShell Remoting – 1 to Many

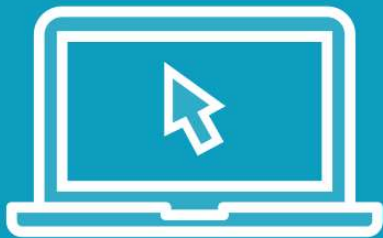
Create a temporary PSSession using alternate credentials

Run the script block code

It executes ON the remote computer(s)



Demo



PowerShell Remoting Essentials



Summary



Help about_remote*

PowerShell remoting is practically a management requirement

You will need remoting to take advantage of the CIM cmdlets

Remoting will eventually offer SSH as an option for cross platform management

Watch *PowerShell Remoting Fundamentals* for more in-depth coverage

