

Introduction to Desired State Configuration (DSC)

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What is DSC?

An extension to the PowerShell language

- Uses PowerShell syntax
- Create configuration scripts

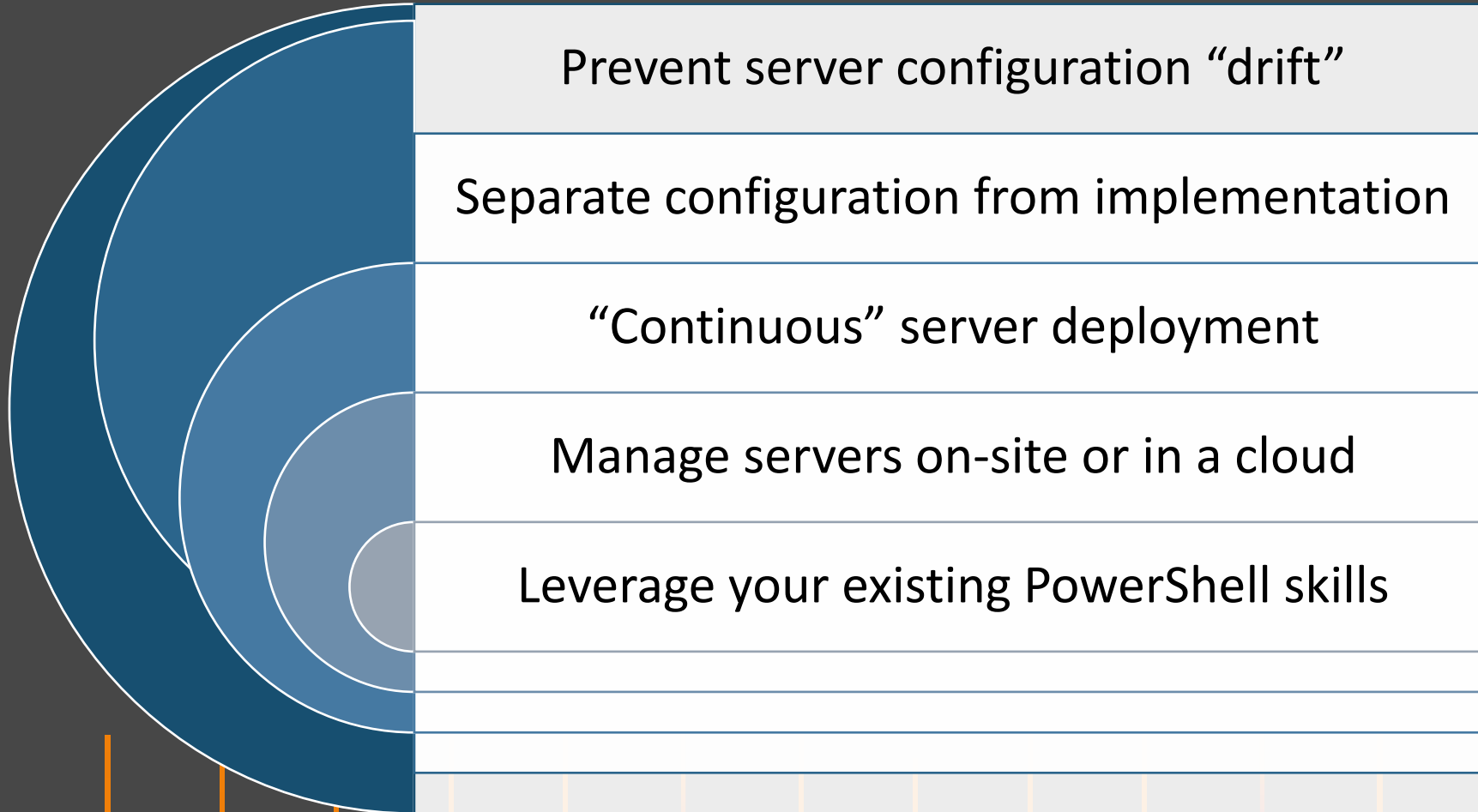
Create and manage server configuration files

- Use PowerShell language and cmdlets to create and deploy configurations

Ensures servers are always configured the way you need

- A local configuration manager does the heavy lifting (V2 only)

Why DSC?



V2 Requirements

- Windows PowerShell 5.1
- PowerShell Remoting
- Access to the PowerShell Gallery
- DSC-aware editor
- Optional: PKI for certificates

DSC Phases

Authoring Phase

- Can include imperative and declarative commands
- Create MOF definitions

Staging Phase

- Declarative MOFs staged
- Configuration calculated per node

“Make It So” Phase

- Declarative configurations implemented through imperative providers

Creating a Configuration

Defined in a PowerShell script

Configuration keyword (new command type)

Define Node

Configure resources

DSC Resources



Managed element you define in your configuration



Core resources shipped “out of the box”



Additional “experimental” resources shipped from Microsoft



Community developed resources



You can write your own

Administrator: Windows PowerShell ISE

File Edit View Tools Debug Add-ons Help

demo-dscconfig.ps1* X

```

1 #requires -version 4.0
2
3 configuration ChicagoServers {
4     Param([string[]]$Computername)
5
6     Node $computername {
7
8         File Reports {
9             DestinationPath = 'C:\Reports'
10            Ensure = 'Present'
11            Type = 'Directory'
12        } #end File resource
13
14        Service windowsUpdate {
15            Name = 'wuauserv'
16            StartupType = 'Automatic'
17            State = 'Running'
18        } #end Service resource
19
20        WindowsFeature windowsBackup {
21            Name = 'windows-Feature-Backup'
22            Ensure = 'Present'
23            IncludeAllSubFeature = $True
24        } #end windowsFeature resource
25
26    } #node
27 } #configuration
28
29
30
31

```

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Configuration key word

Desired configuration for nodes

Create a directory

Configure a service

Install a Windows feature

Define configuration and load into PowerShell

- PS C:\Scripts> . .\ChicagoCoreConfig.ps1

Defines a configuration called 'ChicagoCore'

Invoke the configuration to create MOF

- PS C:\Scripts> ChicagoCore

Configuration has hard code node names

Start the configuration on the computer

- PS C:\Scripts> Start-DscConfiguration -Path .\ChicagoCore

Configuration pushed to every defined node

Configuration Management is a concept. DSC is a framework. You will need to provide tooling, practices and policies.