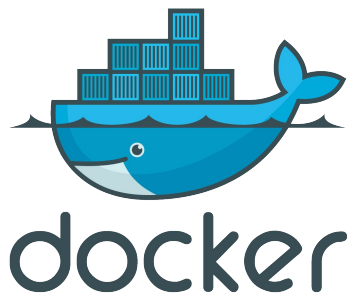**PowerShell Conference Asia**

Nano Server:
The Future is now

Flynn Bundy

@bundyfx

PowerShell Conference

Singapore 2016

1

Looking Back

2

Solving Problems

3

Features and Deployment

Looking back
20 years in the making

Server for the masses era

1996 - 2000

Microsoft® **WindowsNT**®

Looking back
20 years in the making

Enterprise era
2000 - 2008

Looking back
20 years in the making

Datacenter era
2009 - 2013

Windows Server 2008

Windows Server 2008 R2

Windows Server 2012

Windows Server 2012 R2

Looking back
20 years in the making
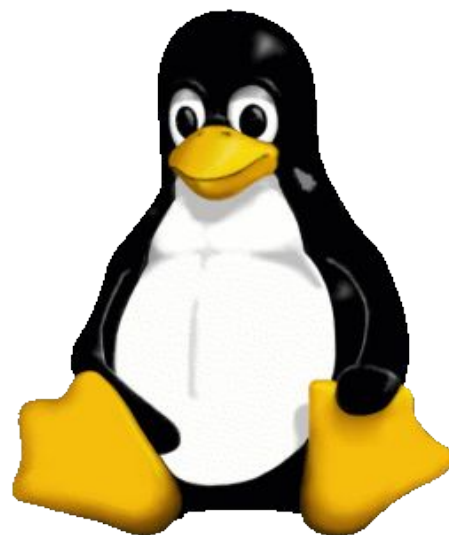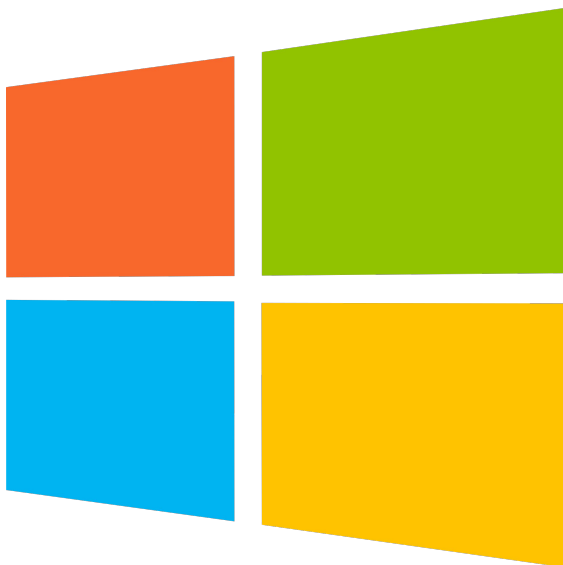
Cloud for the masses era

2016 - Today

Windows Server 2016

What it is:

- Tiny Footprint
- Lightning Fast
- Super Secure
- <2 Second boot time
- The Future of Windows Server
- Built for the Cloud

What it is NOT:

- Traditional workloads
- PXE bootable
- Detailed GUI
- Full .NET Framework Support
- MSI Supportability

```json
     "storageAccountName": "[concat(uniquestring(resourceGroup().id), 'sawinvm')]",
     "nicName": "myVMNic",
     "addressPrefix": "10.0.0.0/16",
     "subnetName": "Subnet",
     "subnetPrefix": "10.0.0.0/24",
     "publicIPAddressName": "myPublicIP",
     "vmName": "SimpleWindowsVM",
     "virtualNetworkName": "MyVNET",
     "subnetRef": "[resourceId('Microsoft.Network/virtualNetworks/subnets', variables('virtualNetworkName'), variables('subnetName'))]"
   },
   "resources": [
     {
       "type": "Microsoft.Storage/storageAccounts",
       "name": "[variables('storageAccountName')]",
       "apiVersion": "2016-01-01",
       "location": "[resourceGroup().location]",
       "sku": {
         "name": "Standard_LRS"
       },
       "kind": "Storage",
       "properties": {}
     },
     {
       "apiVersion": "2016-03-30",
       "type": "Microsoft.Network/publicIPAddresses",
       "name": "[variables('publicIPAddressName')]",
       "location": "[resourceGroup().location]",
       "properties": {
         "publicIPAllocationMethod": "Dynamic",
         "dnsSettings": {
           "domainNameLabel": "[parameters('dnsLabelPrefix')]"
         }
```

```powershell
30
31    [DscProperty(Mandatory)]
32    [System.String[]]$Subscription
33
34    [DscProperty(Mandatory)]
35    [System.String]$User
36
37    [DscProperty(Mandatory)]
38    [System.String]$Password
39
40    [DscProperty(Mandatory)]
41    [Ensure]$Ensure
42
43
44    [Sensu]Get(){···
56    }
57
58    [void]Set(){···
108   }
109
110   [Boolean]Test(){
111
112       if ($this.Ensure -eq [Ensure]::Present)
113           {
114               if ((Get-Service 'sensu-client' -ErrorAction SilentlyContinue).Status -eq 'Running')
115                   {···
138                   }
139               else
140                   {
141                       Write-Verbose "Sensu client is not installed or configuration changes are required, Calling set"
142                       return $false
143                   }
144               }
```

Pets

- Saturn
- Carefully looked after.
- Nursed back to health when ill.

Cattle

- 183717263
- Nearly or identical to other Cattle.
- Replaced when ill.

```
Display Name                                              Name                    Install State
------------                                              ----                    -------------
[ ] Active Directory Certificate Services                 AD-Certificate             Available
    [ ] Certification Authority                           ADCS-Cert-Authority        Available
    [ ] Certificate Enrollment Policy Web Service         ADCS-Enroll-Web-Pol        Available
    [ ] Certificate Enrollment Web Service                ADCS-Enroll-Web-Svc        Available
    [ ] Certification Authority Web Enrollment            ADCS-Web-Enrollment        Available
    [ ] Network Device Enrollment Service                 ADCS-Device-Enrollment     Available
    [ ] Online Responder                                  ADCS-Online-Cert           Available
[ ] Active Directory Domain Services                      AD-Domain-Services         Available
[ ] Active Directory Federation Services                  ADFS-Federation            Available
[ ] Active Directory Lightweight Directory Services       ADLDS                      Available
[ ] Active Directory Rights Management Services           ADRMS                      Available
    [ ] Active Directory Rights Management Server         ADRMS-Server               Available
    [ ] Identity Federation Support                       ADRMS-Identity             Available
[ ] Application Server                                    Application-Server         Available
    [ ] .NET Framework 4.5                                AS-NET-Framework           Available
    [ ] COM+ Network Access                               AS-Ent-Services            Available
    [ ] Distributed Transactions                          AS-Dist-Transaction        Available
        [ ] WS-Atomic Transactions                        AS-WS-Atomic               Available
        [ ] Incoming Network Transactions                 AS-Incoming-Trans          Available
        [ ] Outgoing Network Transactions                 AS-Outgoing-Trans          Available
```

Microsoft-NanoServer-BootFromWim-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   30 KB
Microsoft-NanoServer-Compute-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   349 KB
Microsoft-NanoServer-Containers-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   366 KB
Microsoft-NanoServer-DCB-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   35 KB
Microsoft-NanoServer-Defender-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   23 KB
Microsoft-NanoServer-DNS-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   148 KB
Microsoft-NanoServer-DSC-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   90 KB
Microsoft-NanoServer-FailoverCluster-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   165 KB
Microsoft-NanoServer-Guest-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   263 KB
Microsoft-NanoServer-Host-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   255 KB
Microsoft-NanoServer-IIS-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   142 KB
Microsoft-NanoServer-NPDS-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   29 KB
Microsoft-NanoServer-OEM-Drivers-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   399 KB
Microsoft-NanoServer-SCVMM-Compute-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   24 KB
Microsoft-NanoServer-SCVMM-Package_en-us.cab   25/03/2016 1:52 PM   Cabinet File   27 KB
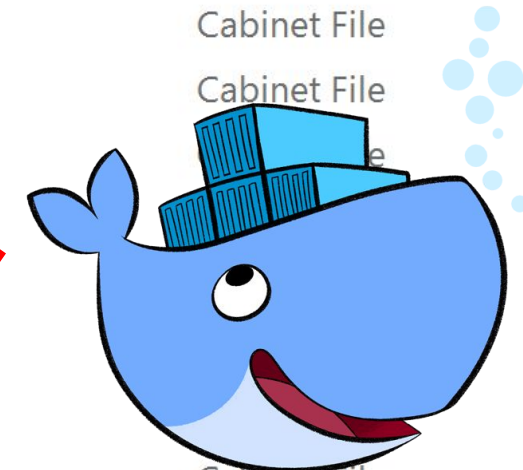
Step 1
Build Nano Server

Step 2
Bake Application in

Step 3
Receive Web Traffic

WWW

Mandalorian
Crusader

Mandalorian
Neo-Crusader

Modern
Mandalorian

Republic
Commando

Phase I
Clone Trooper

Phase II
Clone Trooper

Stormtrooper

Modern
Stormtrooper

24, 000 BBY   60 BBY   22 BBY   19 BBY

Microsoft Nano Builder

https://blogs.technet.microsoft.com/nanoserver/2016/10/15/introducing-the-nano-server-image-builder/

Nano Builder GUI (Download)

https://www.microsoft.com/en-us/download/details.aspx?id=54065

The History of Windows Server

http://www.20yearsofwindowsserver.com/

PowerShell Conference Asia

Questions?

#PowerShell
#PSConfAsia

SAPIEN

Microsoft

KEMP
#1 Price/Performance
Load Balancer

amazon
webservices™

Don't Forget!
- Fill in your survey – it's how we do better!
- Don't lose your badge! You need it for the Social Events
- Grab the Speakers for a chat – they all have time for you!
- Let everyone know what they are missing on Social Media
	#PowerShell
	#PSConfAsia

	Tweets (preferably with Pictures) win Prizes!!!!

Photos of Marina Bay Credit: Sebastian Szumigalski

SAPIEN

Microsoft

KEMP #1 Price/Performance Load Balancer

amazon web services