

Reconciling the Console and the GUI

POWERSHELL PLUS

Session Goals

- ④ *Demonstrate strengths and weaknesses of the Console*
- ④ *Demonstrate strengths and weaknesses of the GUI*
- ④ *Show a mindset, workflow and set of tools that help you reconcile the two.*
- ④ *Show Cool Stuff with PowerShell Plus*

Background

⦿ Developer Fatigue

- Wanted to Automate, do ad-hoc tasks, but Too much effort.
- Other Script Languages exist but PowerShell is in the Dotnet ecosystem.
- Wanted to add features to an application that aren't in the GUI.
- PowerShell Engine superb. Console experience subpar.

Some Weaknesses of the console.

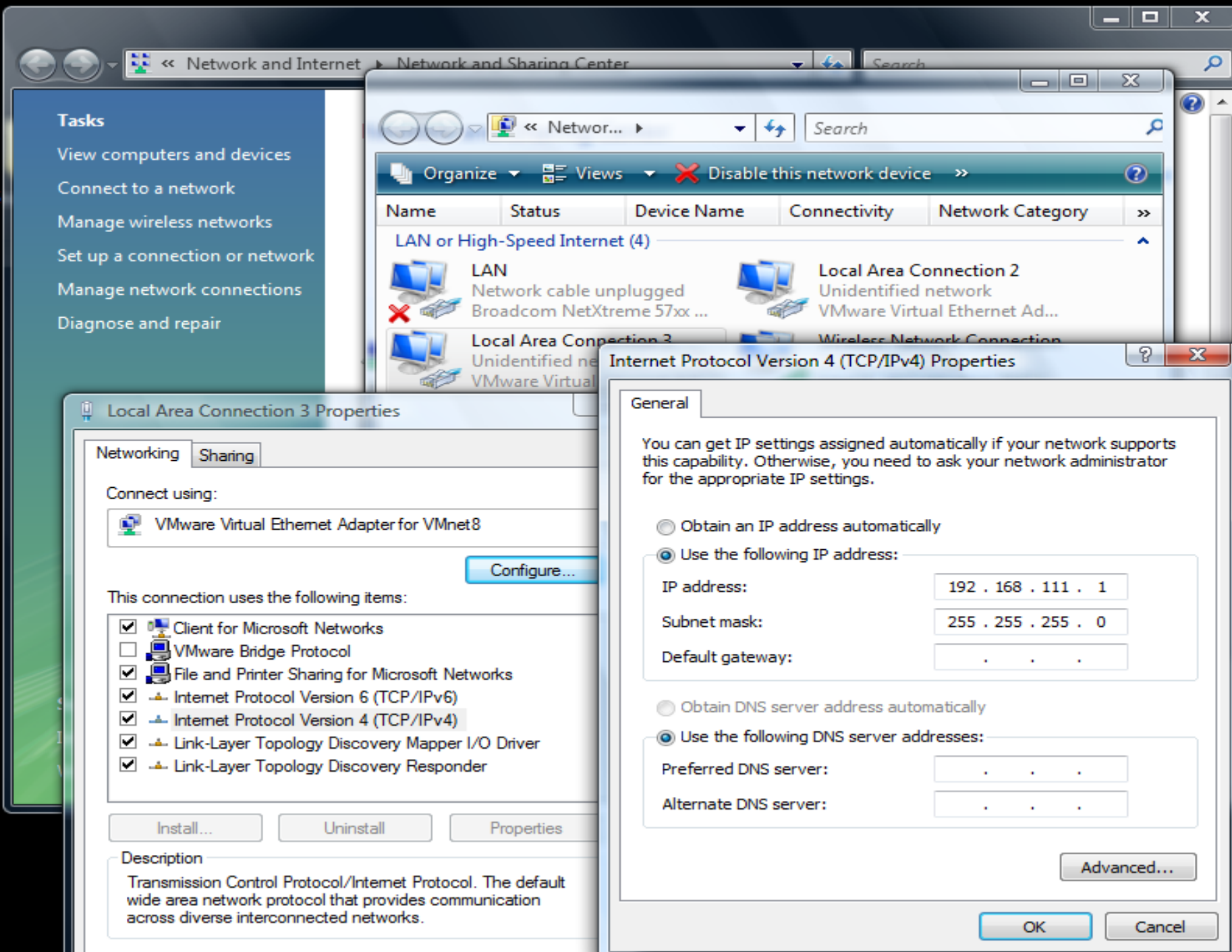
- ⦿ One line at a time (demo)*
- ⦿ Plain text in a rich object world.
- ⦿ Inability to present large results in a useful manner for human consumption.
- ⦿ Hasn't significantly progressed,
Methodologies were based on historic constraints.

Advantages of the Shell

- ⦿ Instant Gratification
- ⦿ INTERACTIVITY!!!!
- ⦿ Agility
- ⦿ Scalability
- ⦿ Reusability
- ⦿ Economics
- ⦿ FLEXIBILITY. (demo)

Disadvantages of the GUI.

- ⦿ E.g. Fictional process manager.
- ⦿ (GUI) Software is like Concrete.
 - Defines and restricts workflow.
 - Inflexible – bar expensive/complex domain specific GUIs.
 - Not easily scalable.
 - IP settings.
 - Thus expensive.
 - Car factory robot example



Tasks

- View computers and devices
- Connect to a network
- Manage wireless networks
- Set up a connection or network
- Manage network connections
- Diagnose and repair

Organize Views Disable this network device >>				
Name	Status	Device Name	Connectivity	Network Category
LAN or High-Speed Internet (4)				
LAN	Network cable unplugged	Broadcom NetXtreme 57xx ...		
Local Area Connection 2	Unidentified network	VMware Virtual Ethernet Ad...		
Local Area Connection 3	Unidentified network	VMware Virtual Ethernet Ad...		
Wireless Network Connection				

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192 . 168 . 111 . 1

Subnet mask: 255 . 255 . 255 . 0

Default gateway: . . .

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: . . .

Alternate DNS server: . . .

Advanced...

OK

Cancel

Local Area Connection 3 Properties

Networking Sharing

Connect using:

VMware Virtual Ethernet Adapter for VMnet8

Configure...

This connection uses the following items:

- ☒ Client for Microsoft Networks
- ☐ VMware Bridge Protocol
- ☒ File and Printer Sharing for Microsoft Networks
- ☒ Internet Protocol Version 6 (TCP/IPv6)
- ☒ Internet Protocol Version 4 (TCP/IPv4)
- ☒ Link-Layer Topology Discovery Mapper I/O Driver
- ☒ Link-Layer Topology Discovery Responder

Install...

Uninstall

Properties

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

Advantages of the GUI.

- ⦿ Better end user experience.
- ⦿ Better at visualizing and presenting data.
- ⦿ Input doesn't have to be linear.
- ⦿ What it does better, it does phenomenally better. (i.e. document editing)

Reconciliation.

- ⦿ Values of the console we can bring into our GUI world.
 - INPUT / OUTPUT
 - REPL
 - Read-Eval-Print – but let us humans control the loop.
 - Flexibility!!

All About Input

- ⦿ Software 2 way conversation
- ⦿ Goal to help you with your input
 - Code Completion , taken for granted, but amazing.
 - Composing input.
 - REPL – Admin Development Model.
 - SQL Server as an example.



INTRANET.aspn...QLQuery1.sql* Object Explorer Details

sp_tables

select top 100 * from aspnet_users

select * from sv_scripts

select * from sv_scriptkinds

select * from sv_scripts S
join sv_scriptkinds SK on S.scriptkind_id = SK.scriptkind_id

Results Messages

	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	TABLE_TYPE	REMARKS
1	aspnetdb	dbo	aspnet_Applications	TABLE	NULL
2	aspnetdb	dbo	aspnet_Membership	TABLE	NULL
3	aspnetdb	dbo	aspnet_SchemaVersions	TABLE	NULL
4	aspnetdb	dbo	aspnet_Users	TABLE	NULL

More Input

- ⦿ Dirty State is fine when problem solving.
- ⦿ Dirty Slate – like how you brainstorm on paper.
 - //Comments
- ⦿ Execution Control in PowerShell Analyzer
 - Selection , Line , Paragraph
 - #regions for more than source code management.
 - Computer game agility. (demo)
- ⦿ Comparison to Vbscript.

Output

- Treat output as the real objects it is.

Ending thought.

- ⦿ Dynamic Languages deserve a dynamic experience.
- ⦿ BEYOND:
 - Ancient CLI interfaces that still maintain artificial constraints from antiquity.
 - Development environments designed for “traditional” languages.

Resources

- PowerShell Plus and Analyzer
<http://www.powershell.com>
- Mow's PowerTab
- <http://thepowershellguy.com/blogs/posh/pages/powertab.aspx>