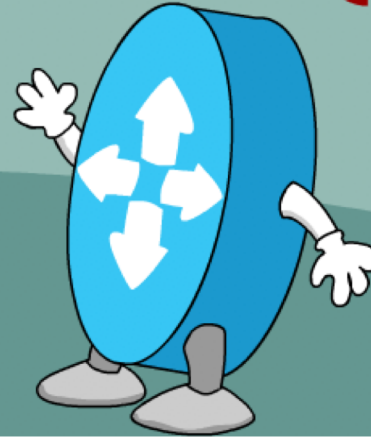




NETDEVOPS {LIVE!}



DEVNET

Solving Operational Challenges with Network Automation

Stuart Clark

Developer Advocate w/ Cisco DevNet

@bigevilbeard

Season 2, Talk 3

<https://developer.cisco.com/netdevops/live>



<http://cs.co/ndi>

Help us track NetDevOps Live Interest!

What are we going to talk about?

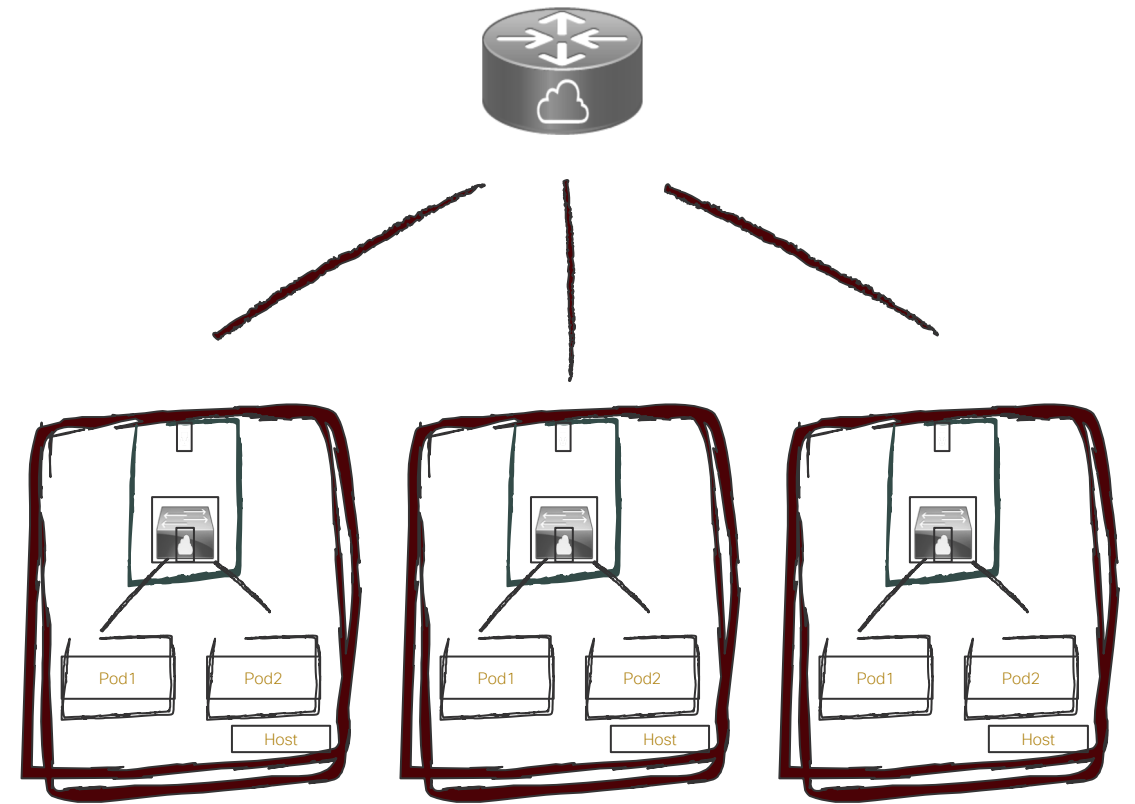
- Who moved my cheese!
 - Learning services and getting context
 - Find the largest sources of stress
- Rinse and repeat
 - Is twice too much?
 - Automate the boring stuff today!
- Demo time! (yay)
 - How to codify your day job



“How often do you find yourself doing a task so redundant and dull that it feels like it might actually be making you dumber?”

The tasks we want to solve

- ✓ Simplify operations to gain speed, agility, and efficiency
- ✓ Deliver relevant and customized services that address consumer needs
- ✓ Support tremendous scale and resiliency



The why... some of them

- ✓ Wastage of skilled resources in repetitive configuration tasks
- ✓ Administrators spend lots of time to do configuration changes
- ✓ Troubleshooting in the face of outages becomes monumental
- ✓ No provision to monitor unauthorized changes, security and compliance
- ✓ Unable to keep track of configuration changes
- ✓ No centralized reporting
- ✓ Lack of accountability for actions

Tasks we are going to solve

✓ Network configuration as a code

Enable network administrators to treat network configuration like software code. New configurations get developed and deployed with modern techniques that now allow a version control system, automated testing, simulation testing, and a peer review process.

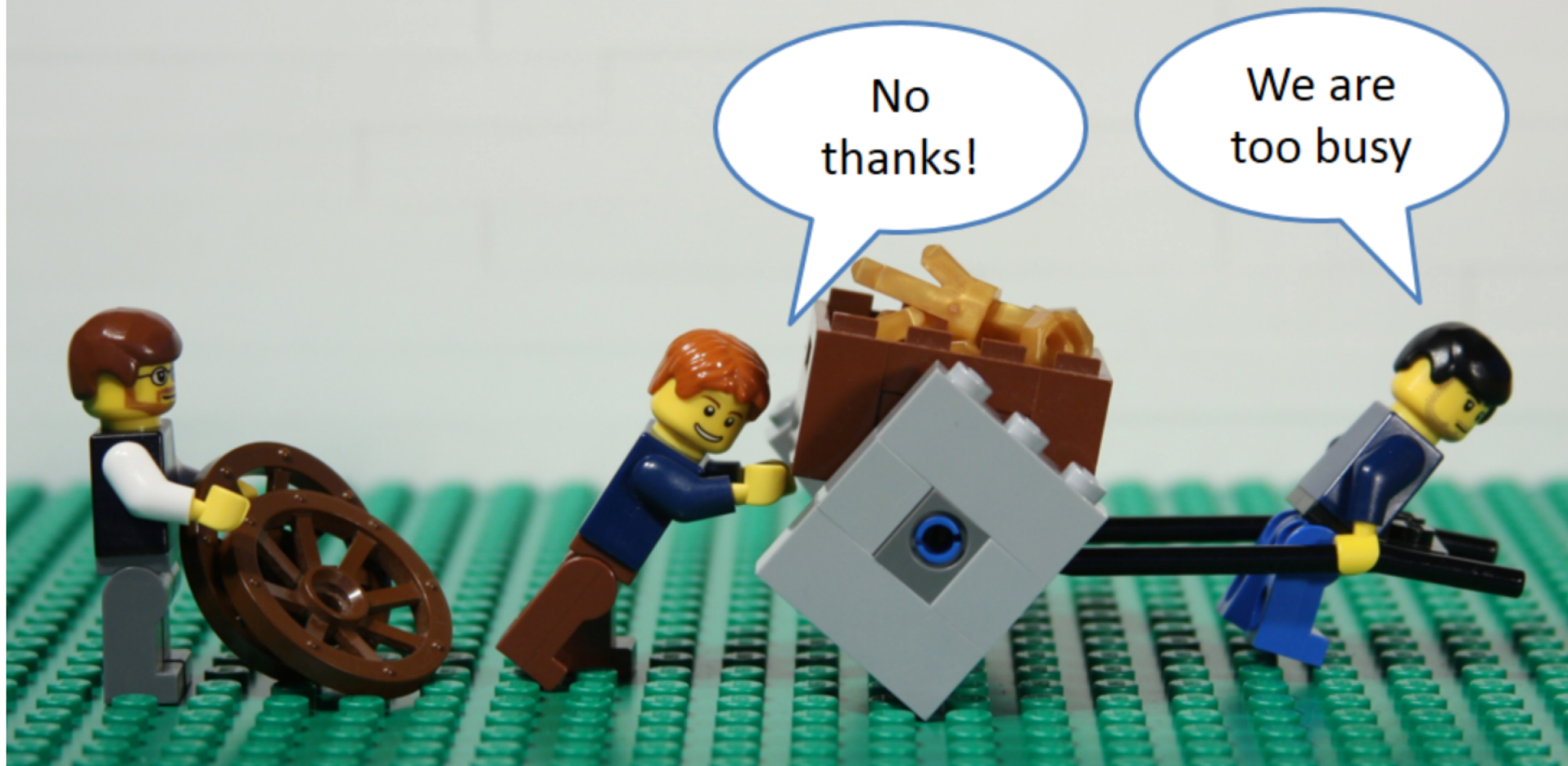
✓ Self-service monitoring

Network Automation continually self-monitors the preselected key performance indicators related to a service or network and notifies of any breach or change

✓ Event based management

Correlates current events with similar events

Are you too busy to improve?



Automate time-consuming, repetitive configuration tasks!

Generally, it makes sense to automate an IT task or process if:

- ✓ You can run the automation enough times to spread out the cost of creating the automation capability (hours of development, testing, and ongoing maintenance)

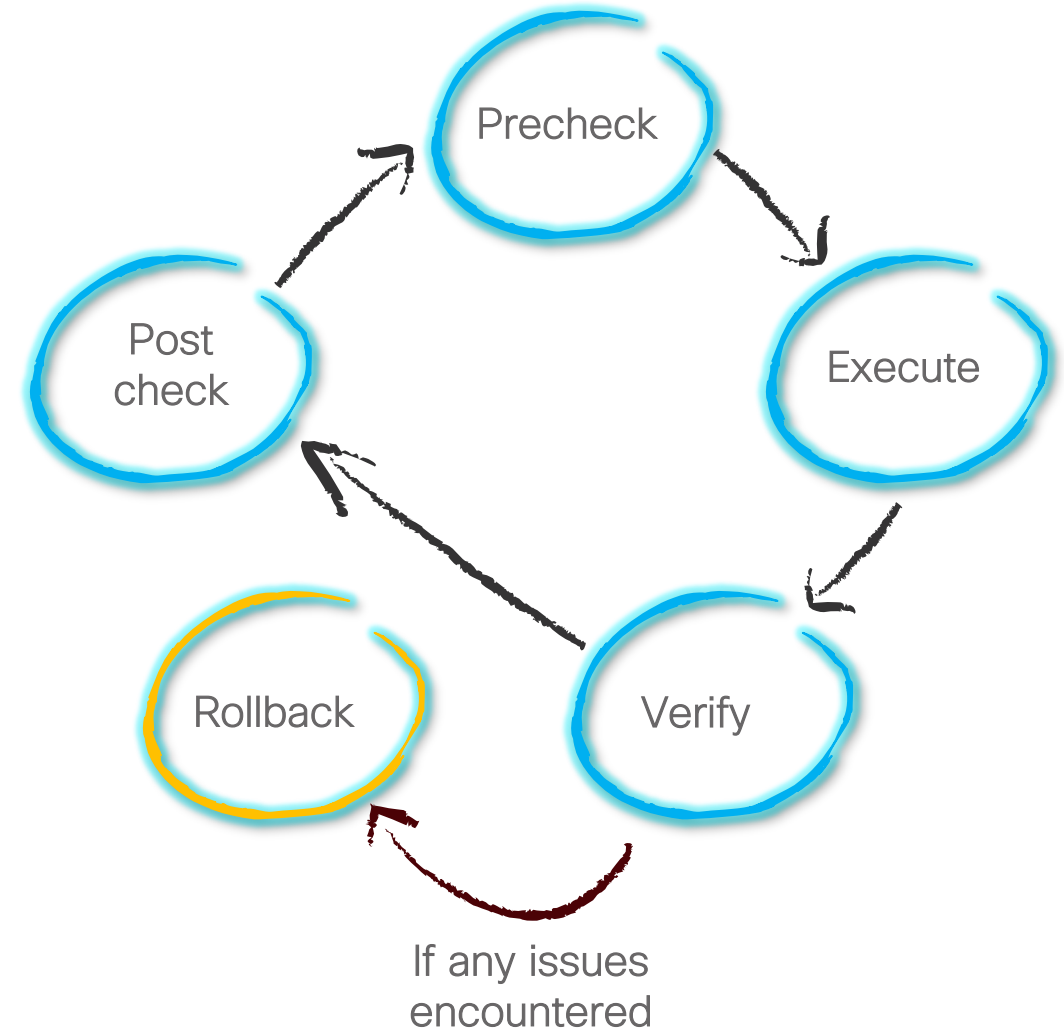
Pattern – “I’m going to do this task X times in the next year and it will take me a couple hours of writing, testing, and updating a script to add to my bag of tools.”

- ✓ Each automated execution has a lower cost than performing the work manually

Anti-Pattern – every time I run the automation I end up spending more time tweaking things because the environment or process keeps changing.

Codify your workflows

- ✓ Change in network device configurations
- ✓ Change in service configurations
- ✓ Maintenance window work orders



Demo Time



Summary, what did talk about?

- Who moved my cheese!
 - Learning services and getting context
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Webinar Resource List

- Docs and Links

- <https://developer.cisco.com/docs/ios-xe/#enabling-restconf-on-ios-xe>
- <https://developer.cisco.com/site/python/>

- Learning Labs

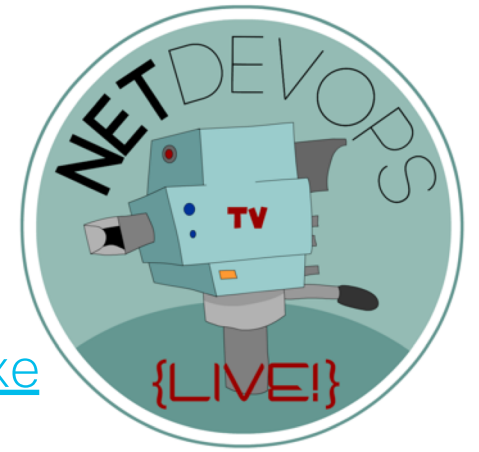
- Model Driven Programmability <http://cs.co/lab-mdp>

- DevNet Sandboxes

- Mutli-IOS VIRT Sandbox <http://cs.co/sbx-multi>

- Code Samples

- [bigevelbeard/challenges_with-network_automation](https://github.com/bigevelbeard/challenges_with-network_automation)



Looking for more about NetDevOps?

- NetDevOps on DevNet
developer.cisco.com/netdevops
- NetDevOps Live!
developer.cisco.com/netdevops/live
- NetDevOps Blogs
blogs.cisco.com/tag/netdevops
- Network Programmability Basics Video Course
developer.cisco.com/video/net-prog-basics/

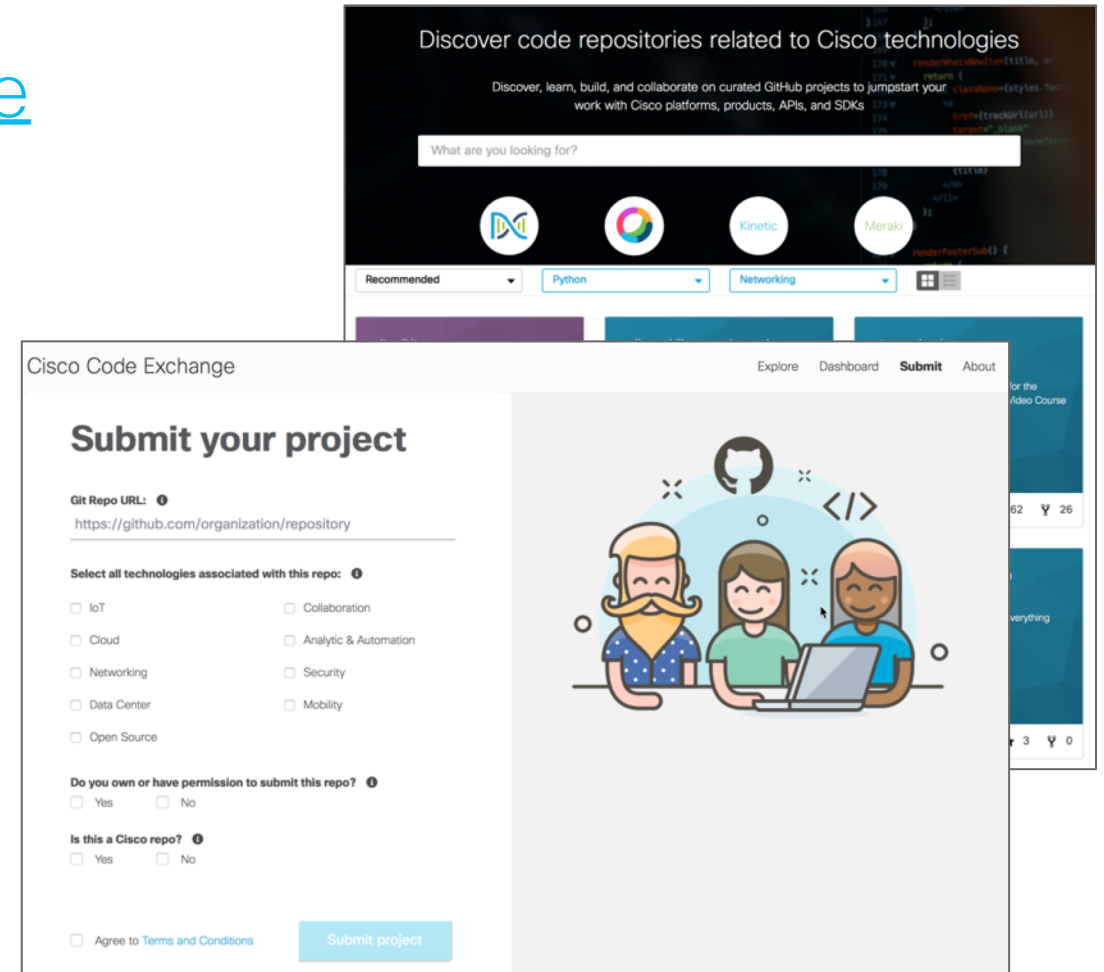


NetDevOps Live! Code Exchange Challenge

developer.cisco.com/codeexchange

Try using click to build command line applications for your Python scripts

Example: Use echo for printing text, build standard options which will take a string as input



The image shows two overlapping screenshots of the Cisco Code Exchange website. The top screenshot is a search interface with the heading 'Discover code repositories related to Cisco technologies'. It includes a search bar with the placeholder text 'What are you looking for?' and several filter buttons for 'Python' and 'Networking'. The bottom screenshot is the 'Submit your project' form. It contains the following fields and options:

- Git Repo URL:** A text input field containing 'https://github.com/organization/repository'.
- Select all technologies associated with this repo:** A list of checkboxes for IoT, Cloud, Networking, Data Center, Open Source, Collaboration, Analytic & Automation, Security, and Mobility.
- Do you own or have permission to submit this repo?:** Radio buttons for Yes and No.
- Is this a Cisco repo?:** Radio buttons for Yes and No.
- Agree to Terms and Conditions:** A checkbox.
- Submit project:** A blue button.

On the right side of the 'Submit your project' form, there is an illustration of three people (two men and one woman) sitting around a laptop, with a GitHub logo and code symbols above them.

Got more questions? Stay in touch!



Stuart Clark

 stuaclar@cisco.com

 [@bigevilbeard](https://twitter.com/bigevilbeard)

 <http://github.com/bigevilbeard>



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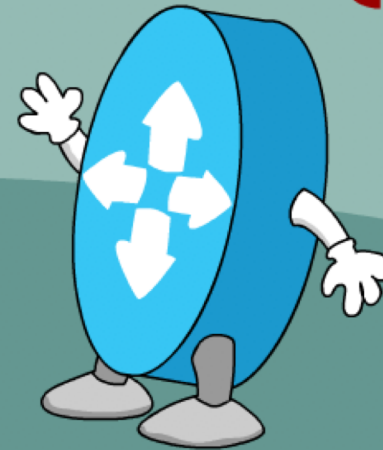
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 <http://github.com/CiscoDevNet>



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