cisco Live!

Let's go

#CiscoLiveAPJC

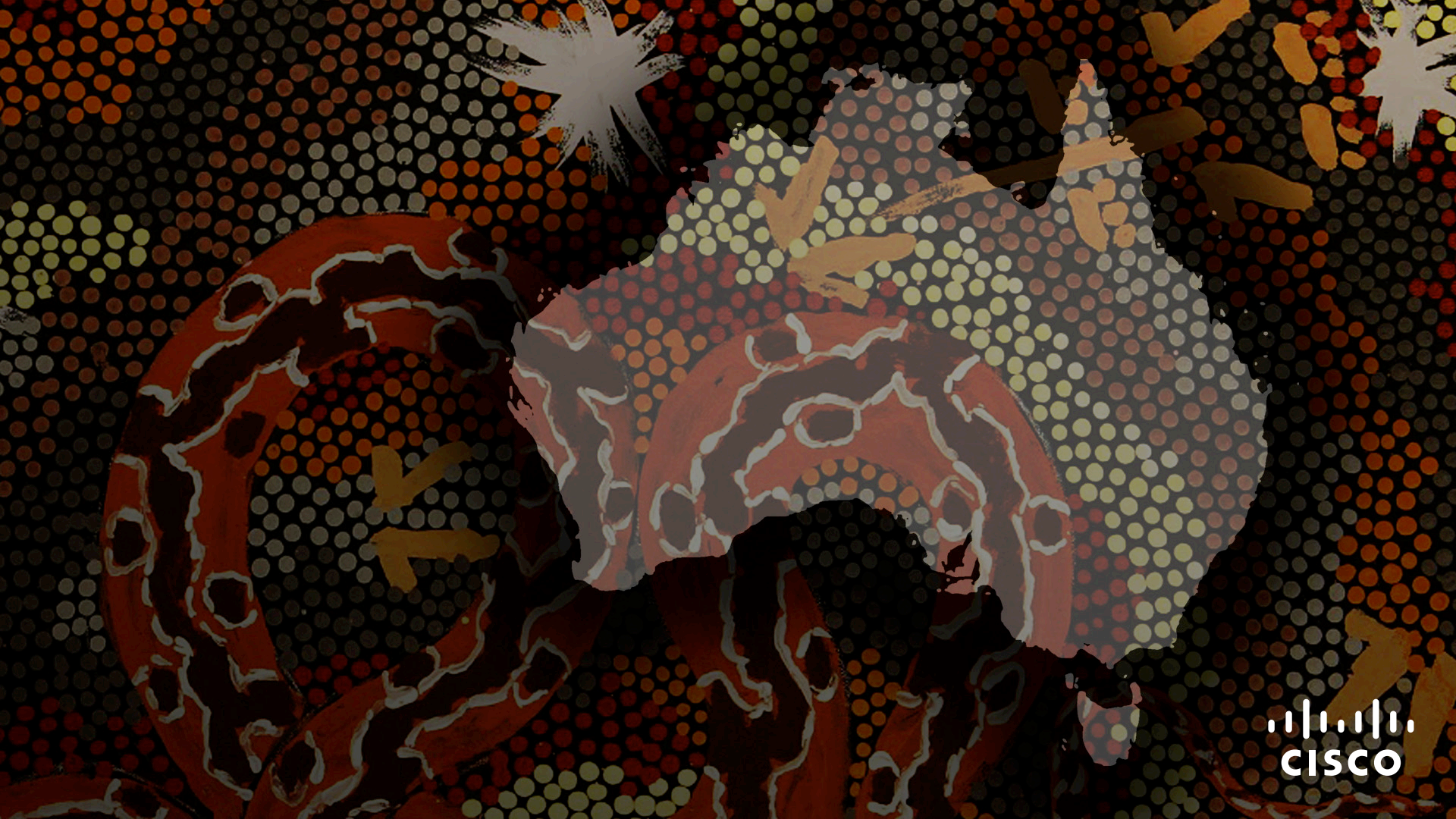
The bridge to possible

ENCC: Cloud VPN

From Click-Ops to Automation

Quinn Snyder | Technical Advocate, Learning and Certifications
@qsnyder

CISCOU-1814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Agenda

- This Agenda
- Exam Topics
- Cloud Connectivity
- Mouse Goes “Clicky-Clicky”
- Lets Automate!
- Conclusion

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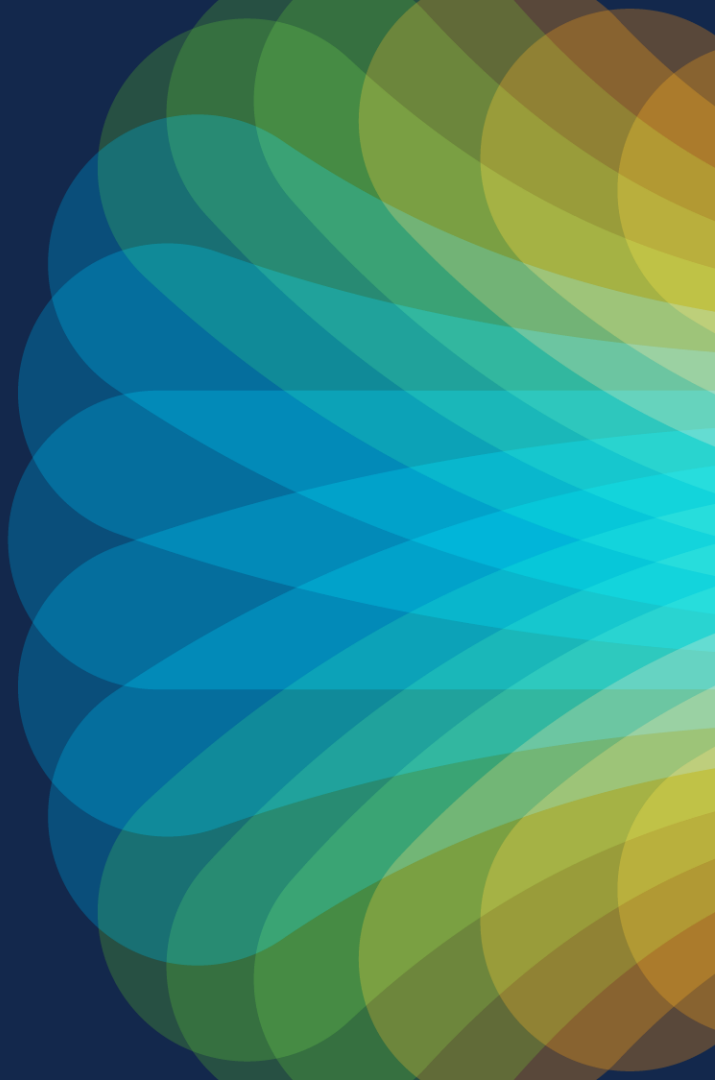
Exam Topic Correlation, Background



Where in the Exam Topics?

- 3.0 – IPsec Cloud Connectivity (25%)
  - 3.1 – Configure IPsec internet-based secure cloud connectivity between an on-premises Cisco IOS XE router to a native AWS, Azure, and Google Cloud endpoint
- 5.0 – Management (20%)
  - 5.1 – Diagnose IPsec internet-based secure cloud connectivity between an on-premises Cisco IOS XE router to a native AWS, Azure, and Google Cloud endpoint
  - 5.2 – Diagnose routing issues on Cisco IOS XE to integrate with cloud networks using BGP and OSPF, including redistribution and static routing

Don’t neglect troubleshooting!

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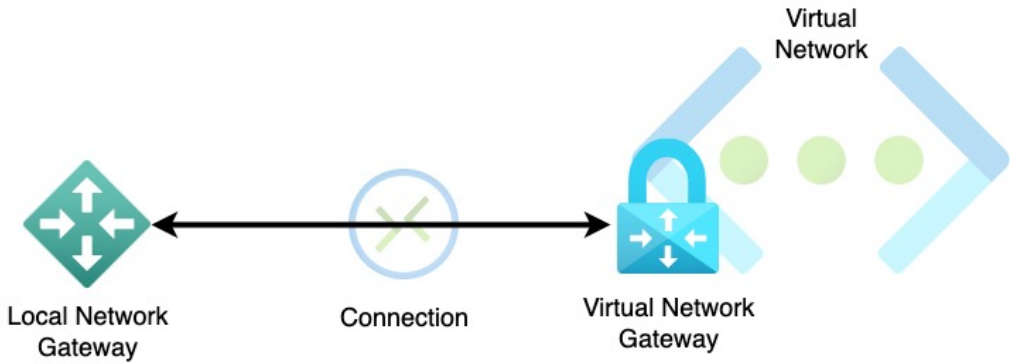
Cloud: Its About Terminology

Azure Edition

- **Virtual Network (Vnet):** Network entity (LAN of the cloud)
- **Virtual Network Gateway:** Hosts the VPN endpoint in the Vnet
- **Local Network Gateway:** Virtual representation of “local” VPN endpoint
- **Connection:** Creates the binding parameters between local and remote



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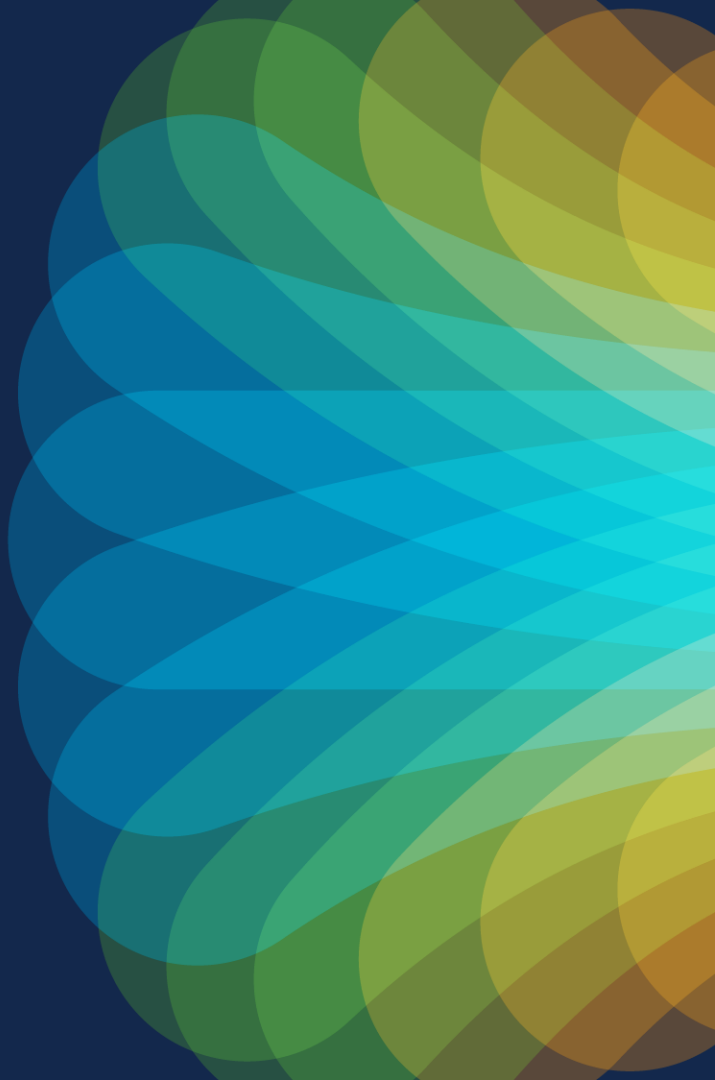
Tutorial

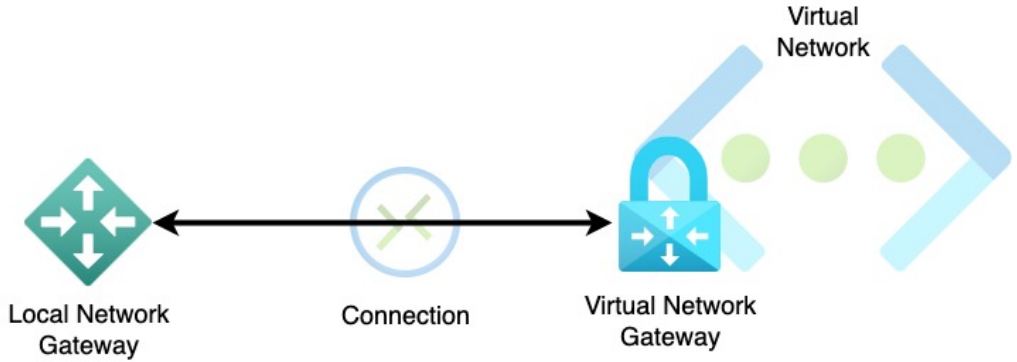


Building an Azure VPN

Steps for Success

1. Create Vnet (includes CIDR and subnet)
2. Create Virtual Network Gateway
3. Define the Local Network Gateway
4. Connect both VNG and LNG with VPN parameters
5. Apply template
6. Success!

Cisco U. Tutorial



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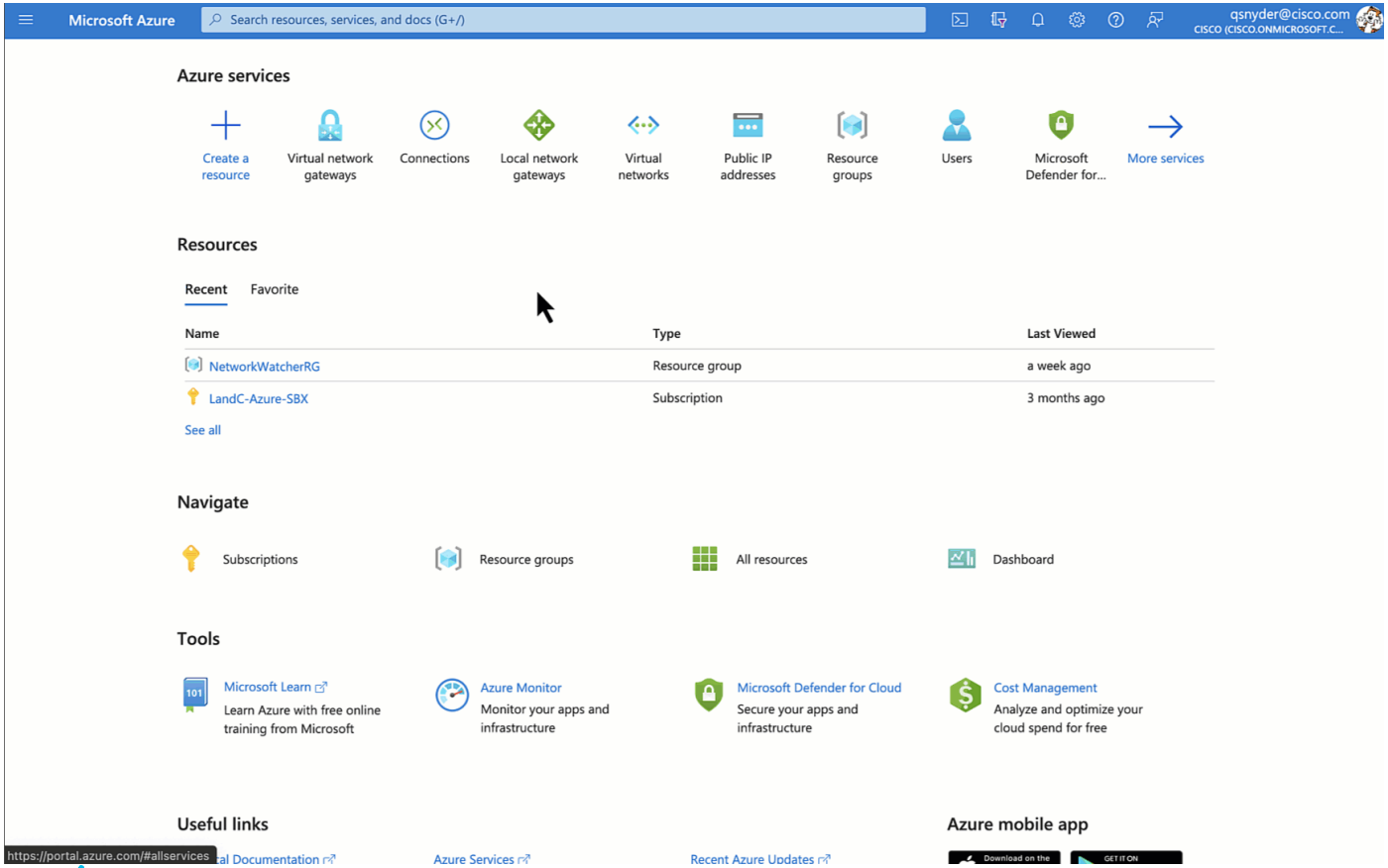
Building an Azure VPN: Virtual Network



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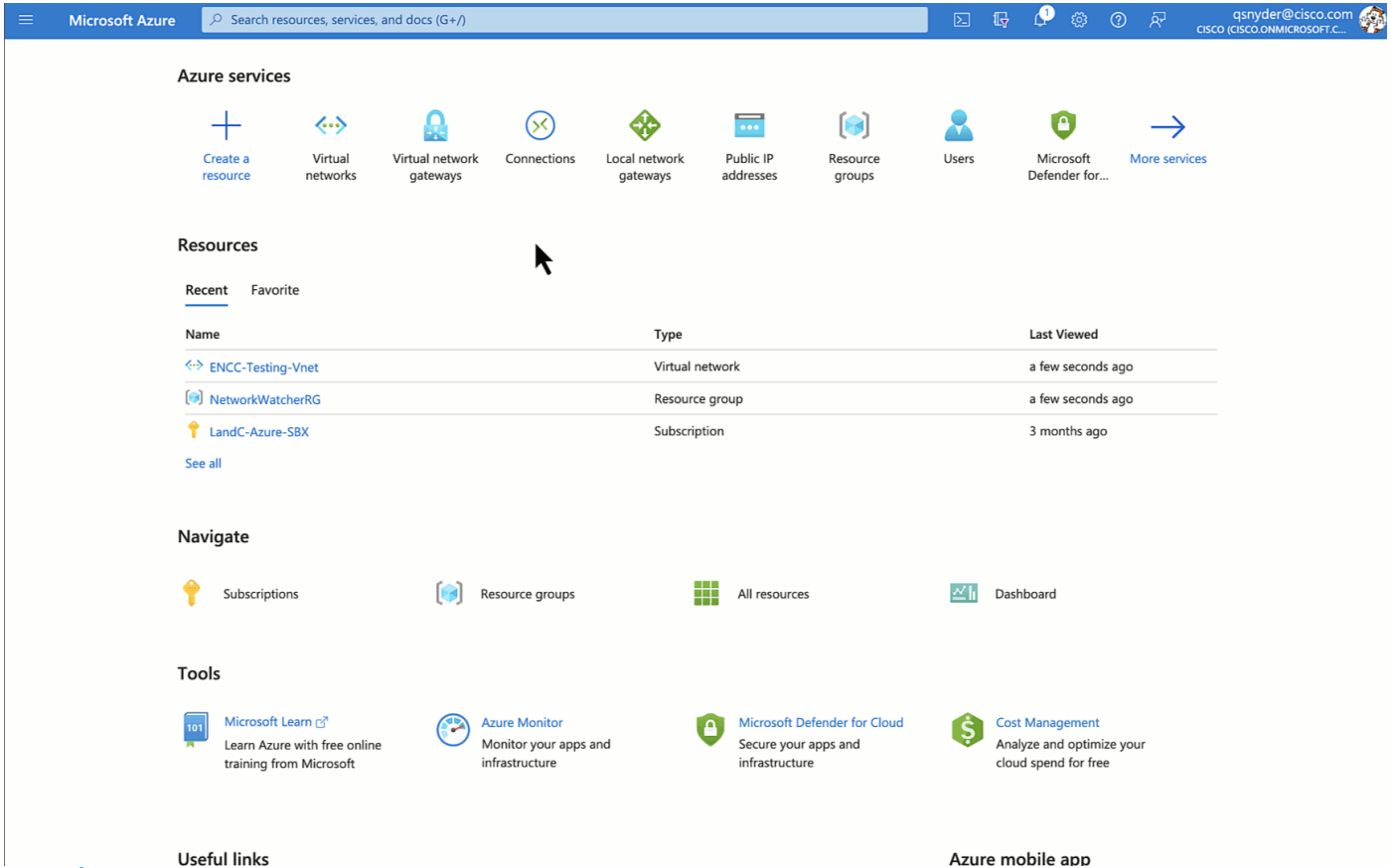
Building an Azure VPN: Virtual Network Gateway



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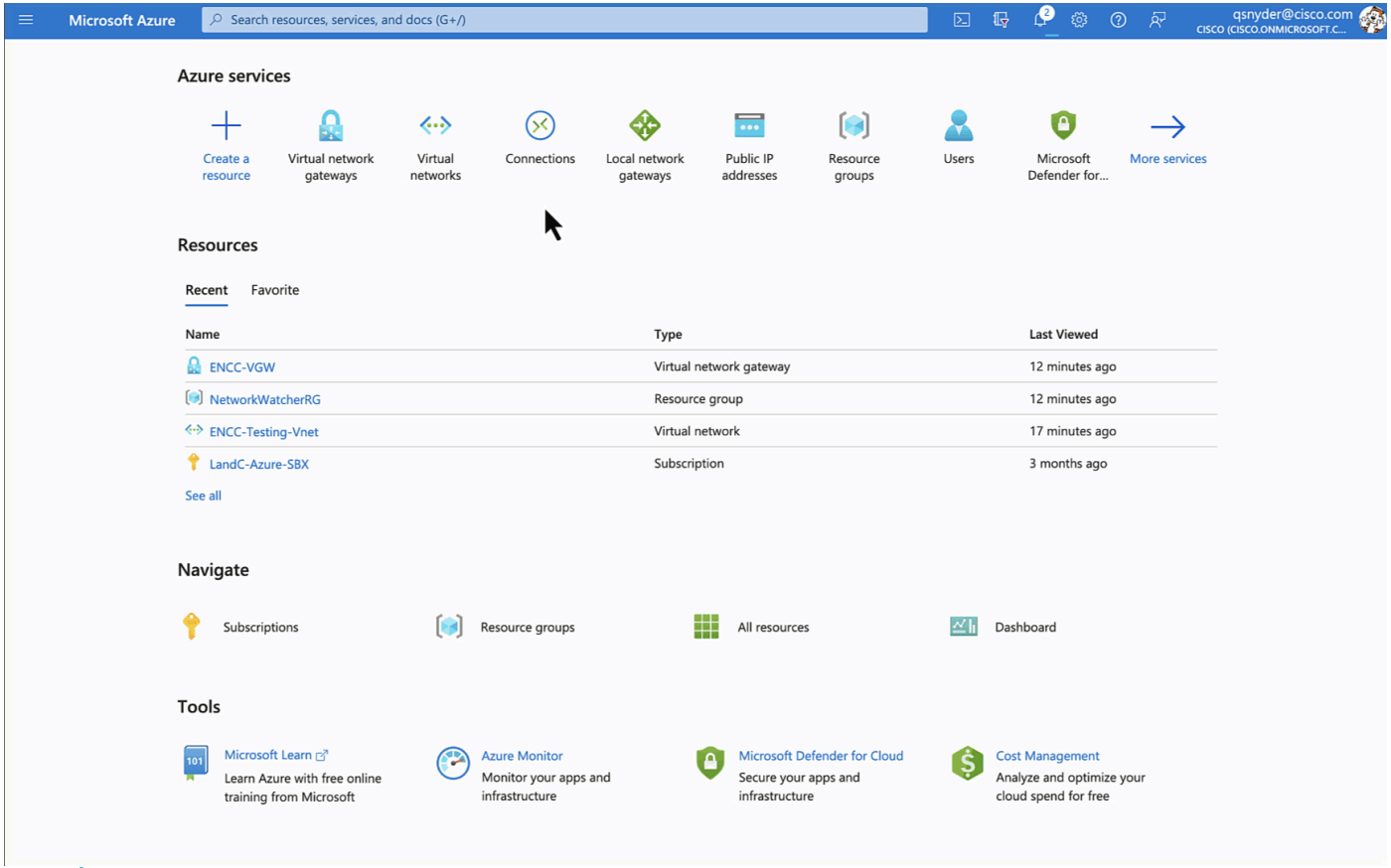
Building an Azure VPN: Local Network Gateway



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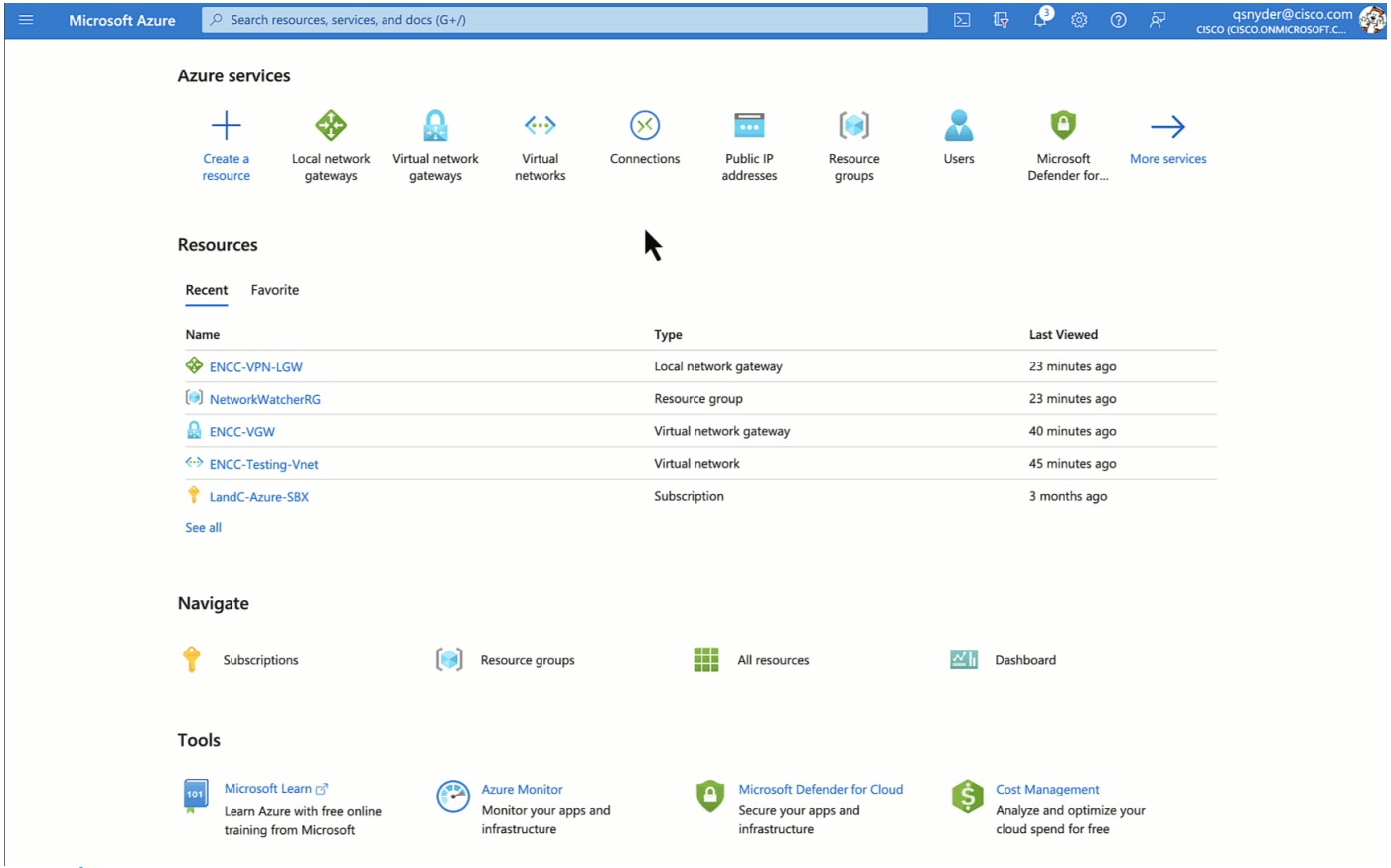
Building an Azure VPN: Connection



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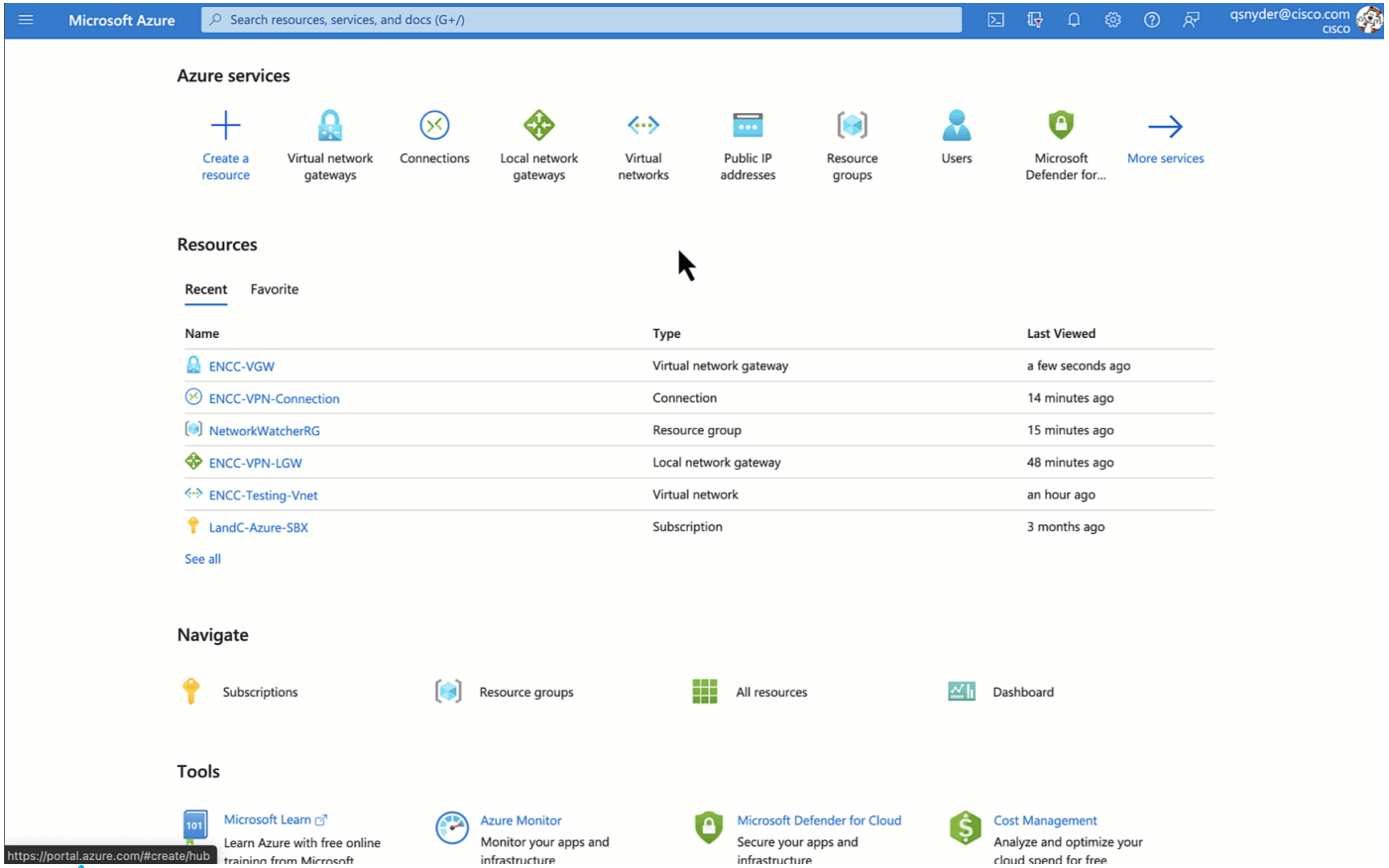
Building an Azure VPN: Finding Information



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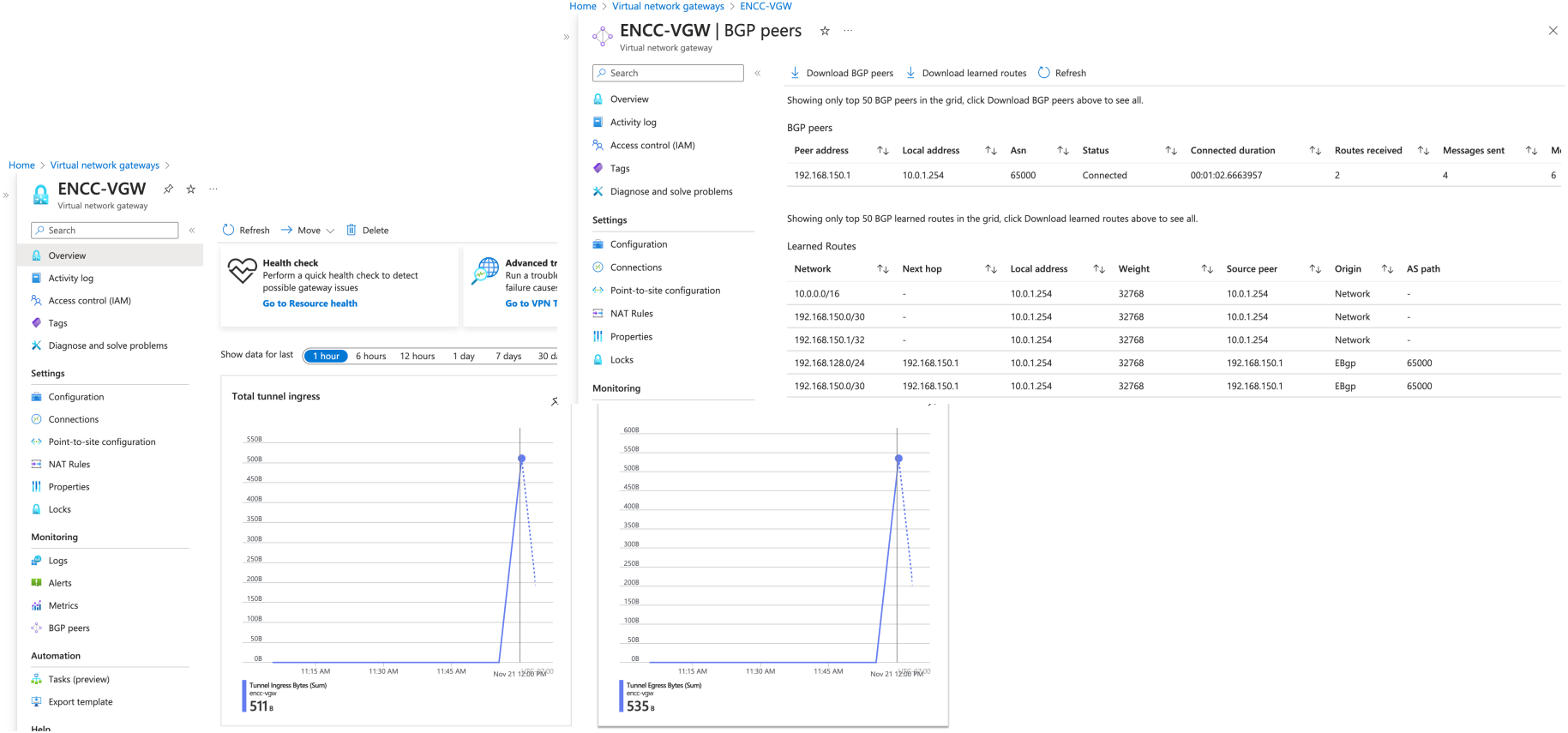
Building an Azure VPN: Success!



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So, Where's the Troubleshooting?

- First step: configuration template applied successfully
- Second step: Find ways to "break" the configuration and review CLI output from both router ***and*** cloud provider
  - Sounds like a problem for automation
  - What declarative, cloud-centric IaC tool could we use here?

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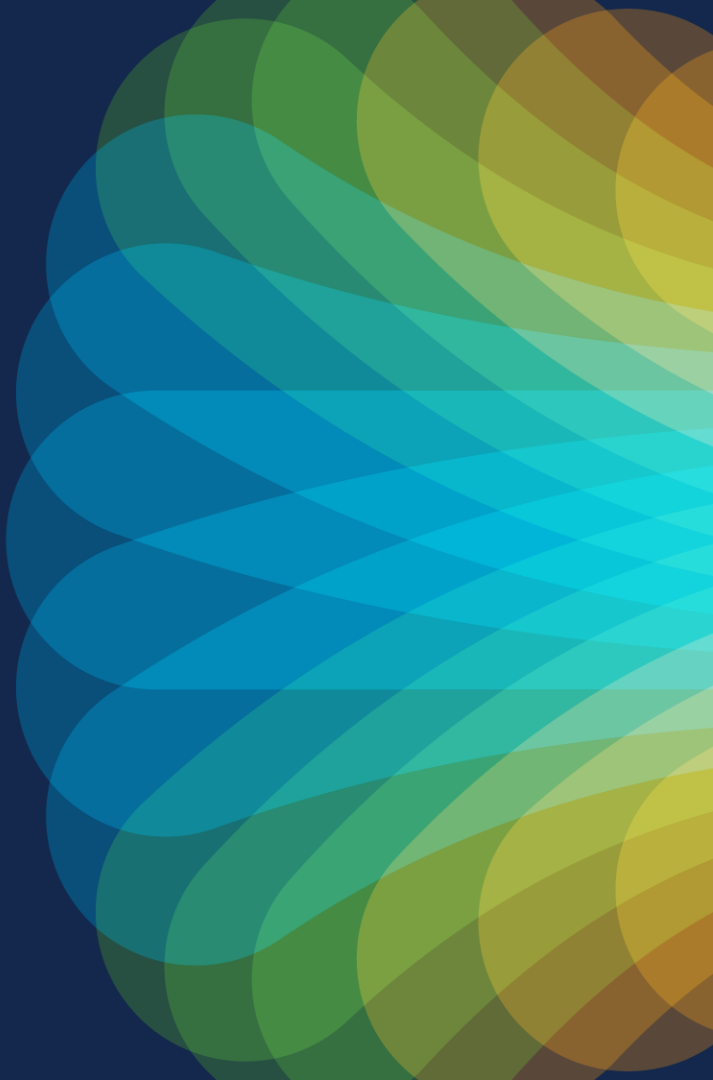
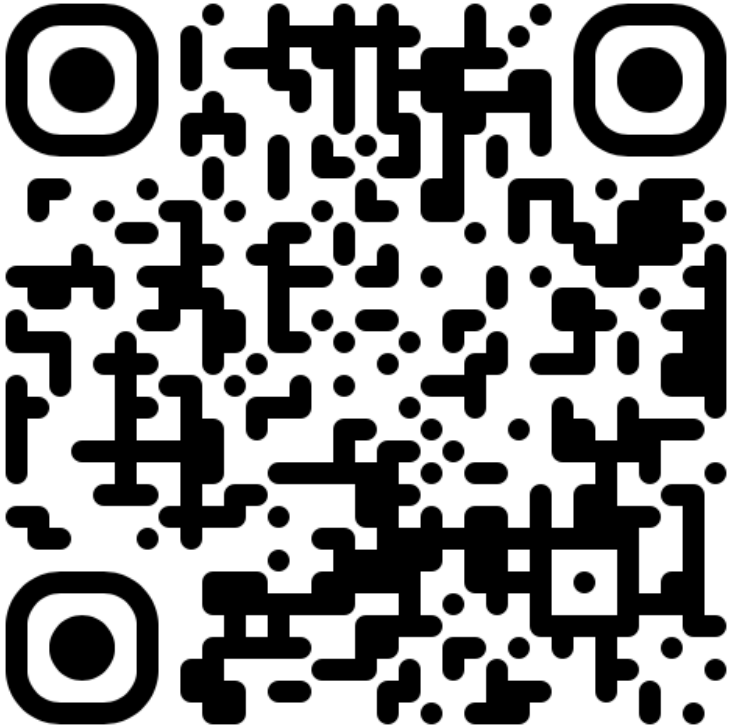
IaC Demo

Bringing It All Together



In conclusion...

- https://github.com/qsnyder/ciscou-1814
  - QR code is nextdoor
- Contains sample Terraform, configs
- PDF of presentation
- Includes README with cross-links to other software as appropriate



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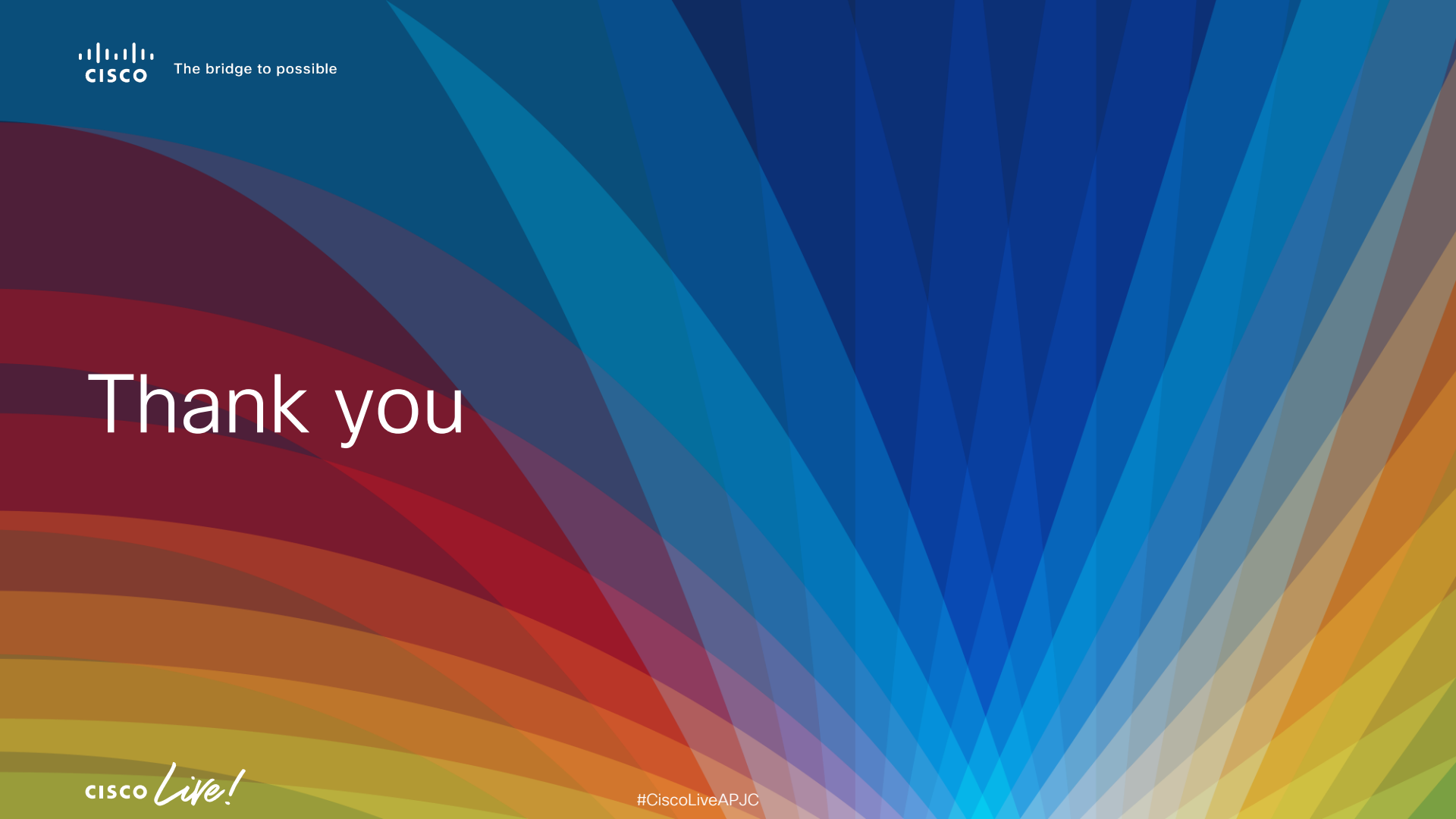
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The bridge to possible
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Let's go

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