



# Cisco Community Community Live event

Popup Hotspot Using ISR 1000 with WiFi/LTE for Teleworkers  
and Micro Branches

Abhishek Keswani  
Technical Marketing Engineer

May 28<sup>th</sup> 2020

# News & Upcoming events



# Ask Me Anything following the event

Now through Friday June 5<sup>th</sup> 2020

With  
Abhishek Keswani

<https://bit.ly/ama-LTEwifi-may2020>



Abhishek Keswani  
Technical Marketing Engineer

# Special Cisco Community – Ask Me Anything

## How to Enable Network Connectivity to Remote Workers

Till Friday  
May 29<sup>th</sup> 2020

Karla Cisneros, Rafael  
Enriquez & Jhosbell  
Verdesca



Community Ask Me Anything  
Karla, Rafael & Jhosbell



MAY 13 – 29

“How to Enable Network  
Connectivity to Remote Workers”

<https://bit.ly/AMAconnectivity>

# Become an event Top Contributor!

Participate in Live Interactive Technical Events and much more

<http://bit.ly/EventTopContributors>



Cisco Community / Events Top Contributors

## Events Top Contributors



This program recognizes Cisco experts in the Cisco Community (CSC) that host technical events (Webcasts, Ask the Experts, Tech Talks, and Facebook Forums.) With this program, Cisco recognizes the positive, valuable influence that our top Cisco experts exert on the communities. To learn more, please visit our [FAQs](#)

2014 2013



Julio Carvajal



Ryota Takao



## Cisco Designated VIPs

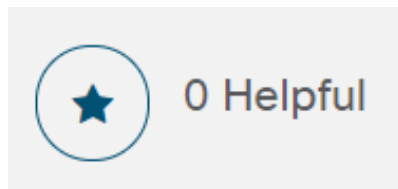


The Cisco Designated VIP program recognizes the top external individual contributors in Cisco's online communities, including the Cisco Support Community (CSC), Cisco Learning Network (CLN) and the Cisco Developers Network (CDN). Cisco Designated VIPs are recognized by their peers for their expertise and tireless contributions, and their abundant participation is vital to community success. With this program, Cisco formally recognizes the positive, valuable influence our top individual members exert on the communities overall. [FAQs](#)

# Rate content at the Cisco Community

Help us to recognize the quality content in the community

Rate documents,  
Videos & blogs!



Encourage and acknowledge people who  
generously share their  
time and expertise



# Cisco Community Expert



Abhishek Keswani  
Technical Marketing Engineer

# Question Manager



Kureli Sankar  
CCIE #35505



Thank You For  
Joining Us Today!



Download Today's Presentation  
[https://bit.ly/cl-slides-may28\\_2020](https://bit.ly/cl-slides-may28_2020)

# Submit Your Questions Now!

Use the **Q&A** panel to submit your questions and the panel of experts will respond.

They will be answered eventually



Please take a moment to complete the survey at the end of the event



# Teleworker & Microbranch Solutions

Abhishek Keswani

Technical Marketing Engineer, IBNG Routing BU

May 2020



# Secure, Automated Connectivity using Cisco

## Remote Workers



Providing **remote teleworkers with on-demand internet connection** for high-quality voice, data and video

## Pop-up Relief Camps



**Cloud connectivity** for pop-up medical facilities, health & relief camps, urgent care & more

## Quarantined Users



**Secure access** in make-shift facilities connecting quarantined individuals with family, using **cloud apps over Cellular**

# Benefits of Cisco for Teleworker and Microbranch

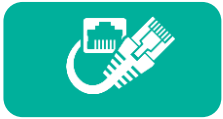
## Zero Touch Provisioning (Plug-n-Play)



Order submission



Device arrival at Remote facility

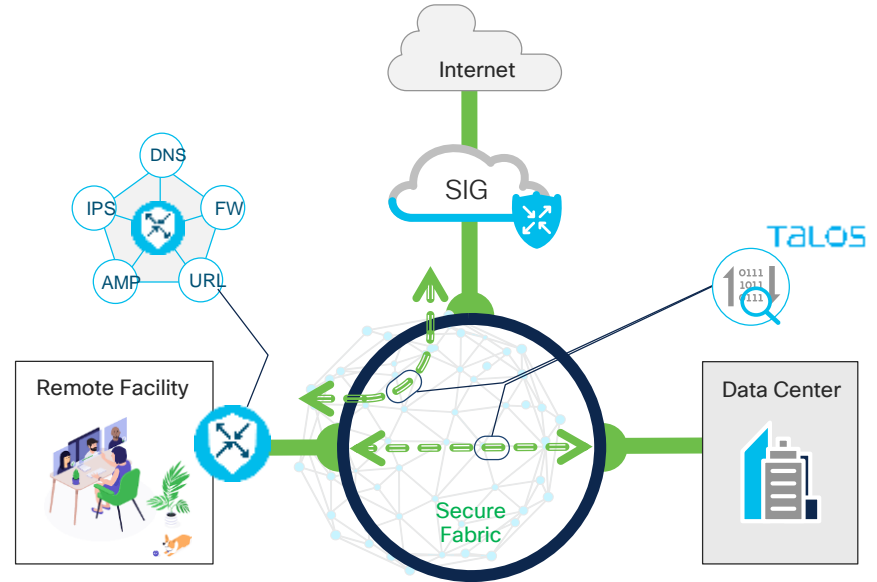


Plug cable/Insert SIM



Device is ready to be configured

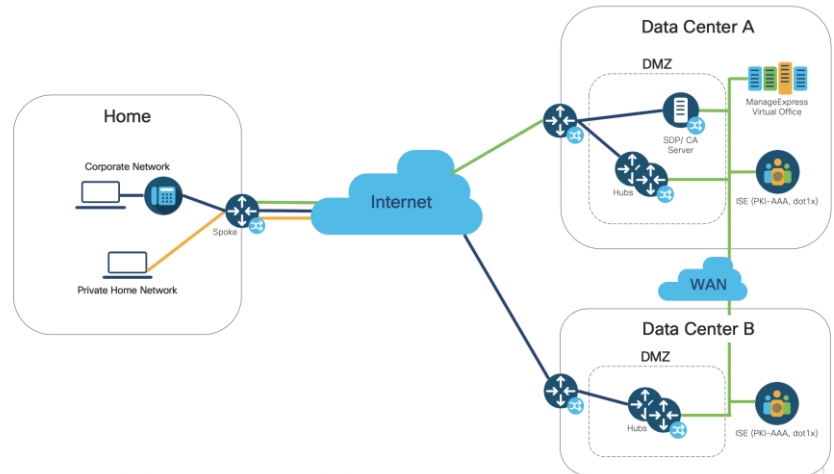
## “No Compromise” Secure Solution



Using a single management console for networking and security with zero-trust fabric authentication and end-to-end segmentation

# Connectivity Options with ISR1K

- Remote-office ready with auto provisioning
  - Multi-cloud
  - Multi-layered security
  - Zero Touch (Plug-n-Play)
- **Next-gen LTE (CAT18/6/4)**
  - Integrated LTE and Pluggable Options
- Investment protection and Future-proof (5G Ready)
- 4/8 GE LAN with PoE/PoE+
- Integrated Wi-Fi: 802.11ac with Mobility Express
- Optional extended temperature support for extreme environment (For Temporary Camps)
- DSL option (EMEA/Canada)



# Polling Question 1

Do you have a need for Zero Touch Provisioning in your enterprise today?

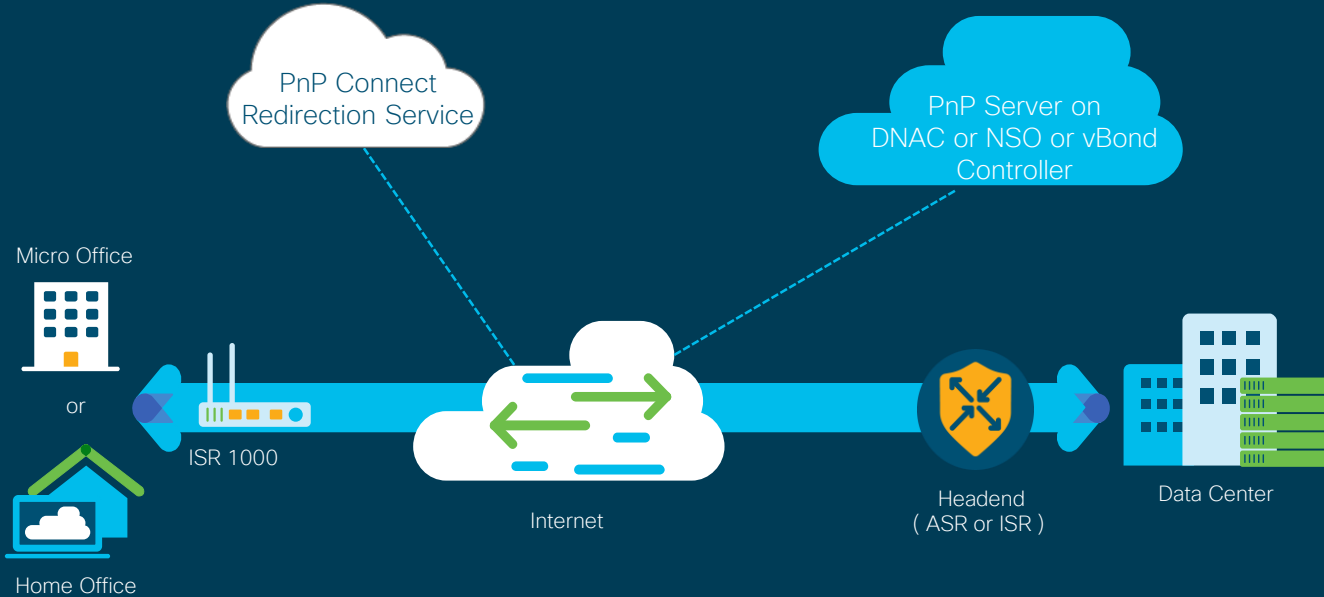
- A. Yes
- B. No
- C. Maybe
- D. Need more information

Pre-requisites



# Enabling Microbranch & Virtual Home Office with Zero Touch Onboarding

## Cisco PnP Solution



- ✓ Easy Deployment and Management within Minutes
- ✓ Increased workforce productivity
- ✓ Multi-layered, proactive security

# Wireless WAN

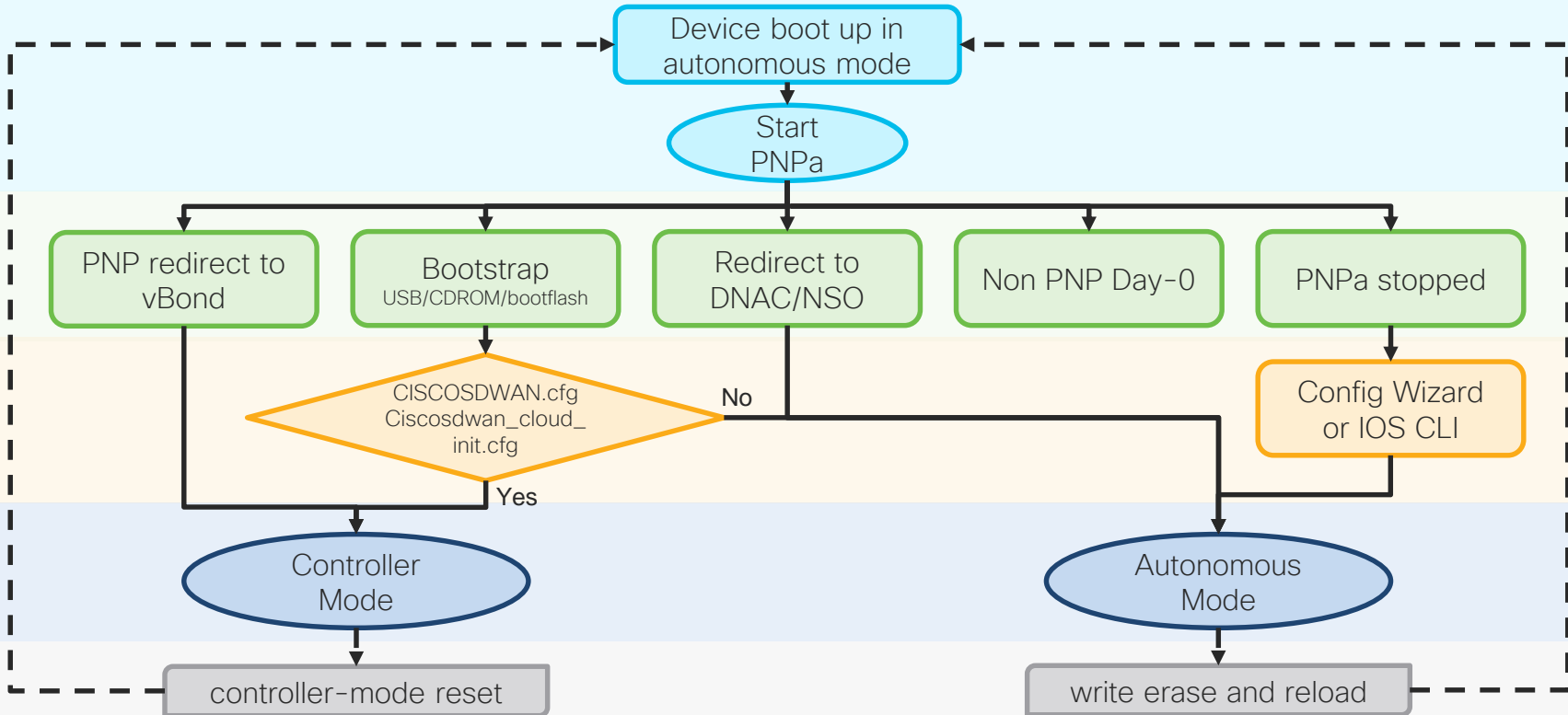
## LTE-Advanced Pro CAT18 LTE PIM

- 1.2 Gbps DL & 150 Mbps UL
- Active/Standby
- CBRS – Band 46, 48, 66, 71
- Dying gasp
- Auto SIM switching
- IPSec VPN over LTE



Wireless Specification	UE Category	Maximum data rate (DL/UL) (Mbps)
LTE (3.9G)	Category 1	10/5
	Category 2	50/25
	Category 3	100/50
	Category 4	150/50
	Category 5	300/75
LTE Advanced (4G)	Category 6	300/50
	Category 7	300/150
	Category 8	1200/600
LTE Advanced Pro	Category 18	1200/150

# Single Image: Boot Up Sequence



# Use Cases

# PnP over LTE: SD-WAN

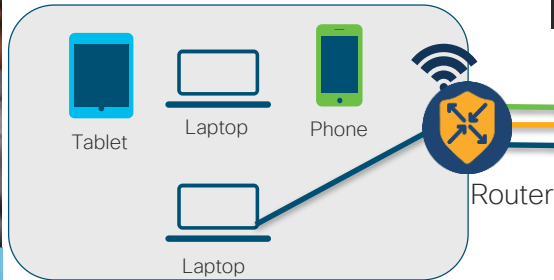
Remote Worker Home Office

I want to...



Provide remote teleworkers with on-demand internet connection for high-quality voice, data and video.

Private Home Network



Internet



Data Center



PnP Smart Account

aws

Office 365

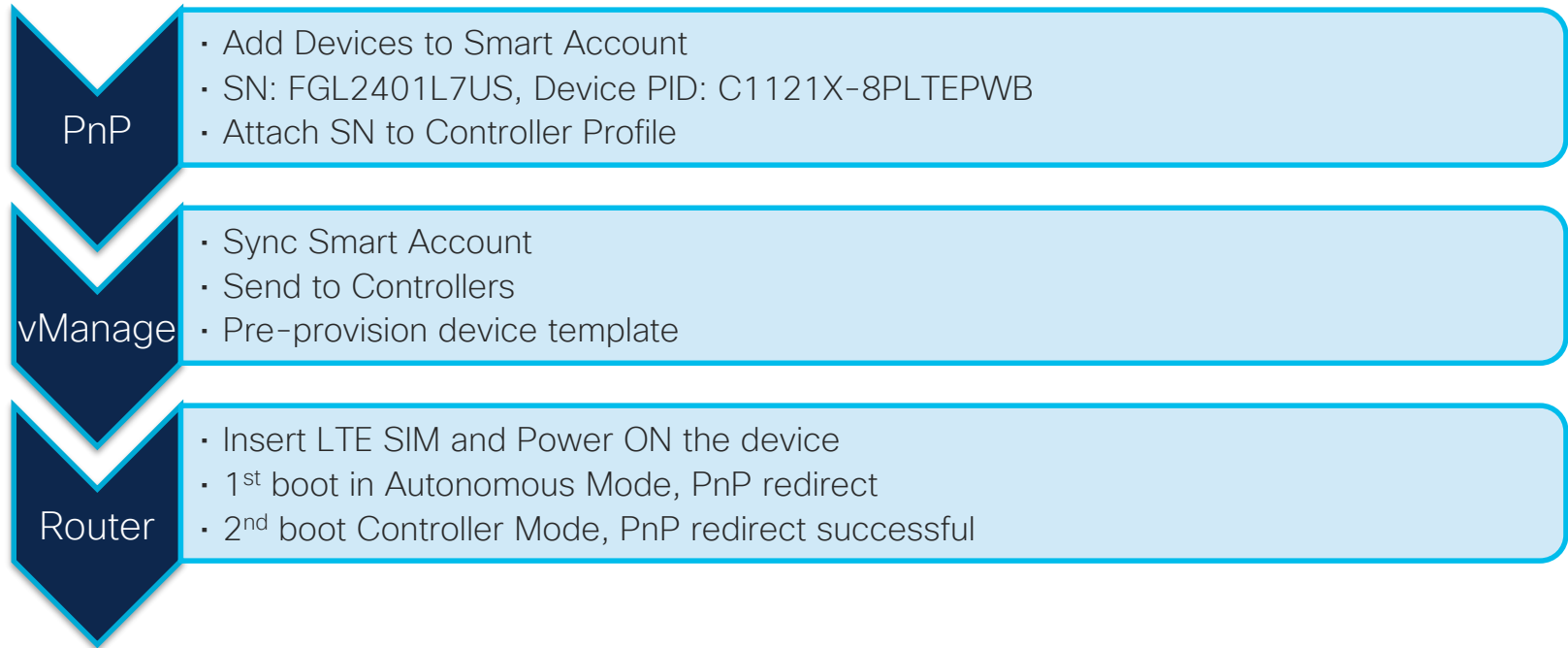
Google Cloud

IaaS, SaaS & Websites

# PnP over LTE: SD-WAN - Demo

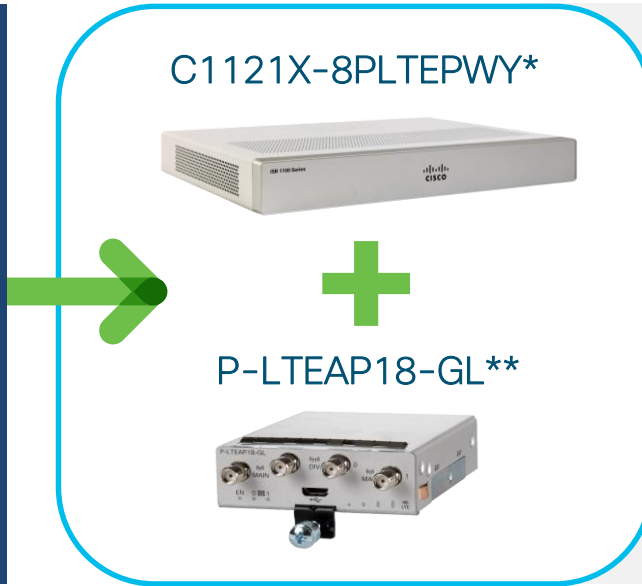


# PnP over LTE: SD-WAN - Summary



# LTE Connectivity to On-Demand Locations

ISR 1K
Router
Security
Switch Ports
Wireless (Wi-Fi)
Cellular (1.2 Gbps LTE Advanced Pro)



Routing, switching, LTE and wireless



Integrated security



Speed and performance



Integrated management tools



Multi-connectivity



PID	LTE Bands
P-LTEAP18-GL	1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 29, 30, 32, 38, 39, 40, 41, 42, 43, 46, 48, 66, 71

\*\* P-LTEAP18-GL available Europe & US only. For global CAT6 LTE options please visit [ISR1K Datasheet](#)

C1121X-8PLTEPWY\*  
\* Wi-Fi domain WY; Y = A, E, B, Z



# PnP over LTE: NSO (non SD-WAN)

Temporary Healthcare

I want to...



Establish cloud connectivity for pop-up medical facilities

Private Home Network



Tablet



Laptop



Phone



Laptop



Router

Internet



Data Center



aws

Office 365



Google Cloud

IaaS, SaaS & Websites

## Polling Question 2

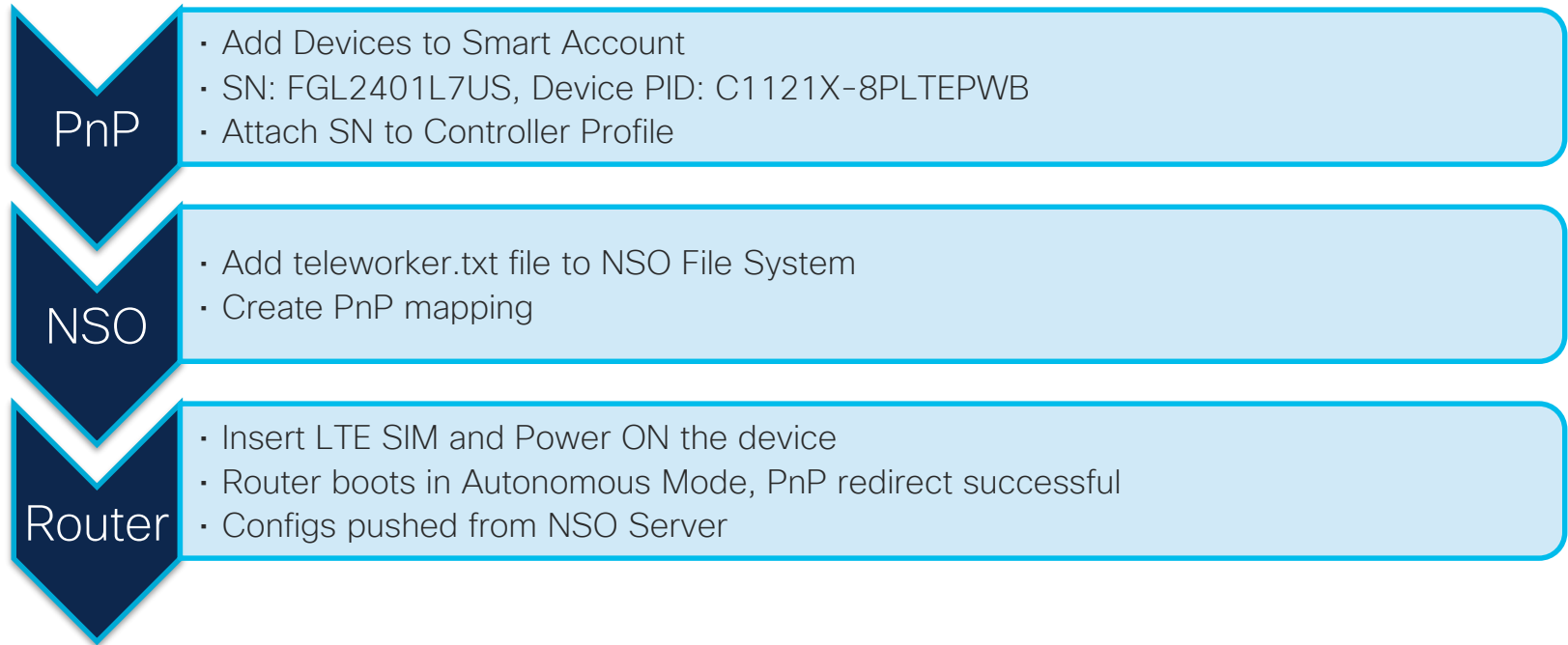
Does your enterprise rely on an LTE based solution for primary or backup purpose?

- A. Yes
- B. No
- C. Planning to implement
- D. There is no need for a backup

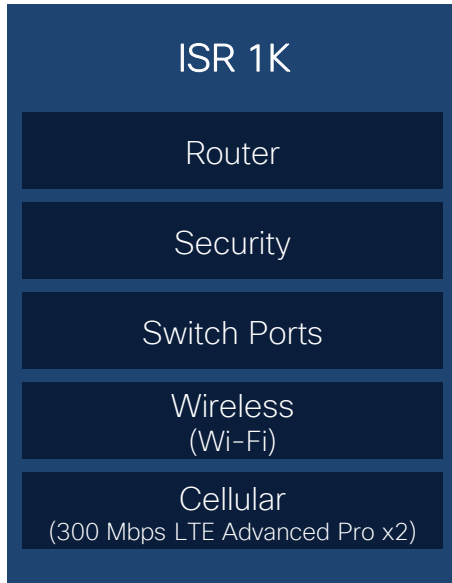
# PnP over LTE: NSO - Demo




# PnP over LTE: NSO (non SD-WAN) - Summary



# ISR 1109 with Active/Active Dual-Pluggable LTE + WiFi



- Routing, switching, and Wireless 
- Integrated security 
- Extended temperature for extreme env. 
- Integrated management tools 
- Multi-connectivity 

PID	LTE Bands
P-LTEA-EA	1-5, 7, 12, 13, 20, 25, 26, 29, 30, and 41
P-LTEA-LA	1, 3, 5, 7, 8, 18, 19, 21, 28, 38, 39, 40, and 41

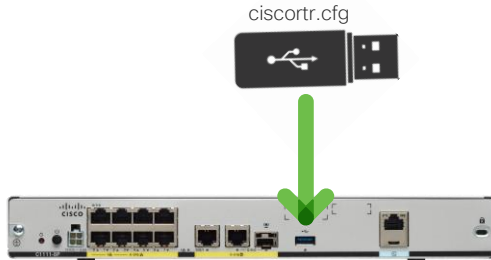
C1109-4PLTE2PW\*

\* Wi-Fi domain W\* =A, B, D, E, Q, R, Z

# Bootstrapping using USB/bootflash

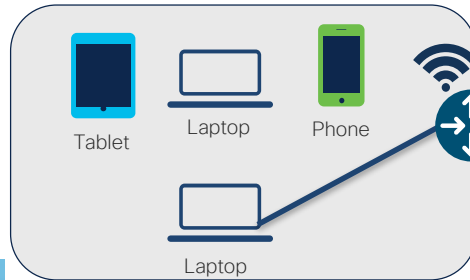
Remote Worker Home Office

I want to...



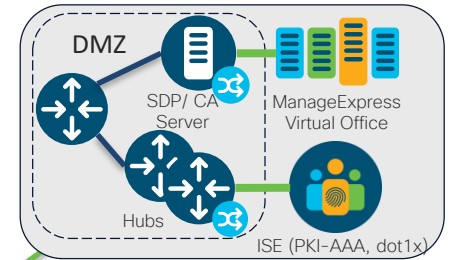
Quick, secure access  
configuring home router  
locally

Private Home Network



Internet

Data Center



# Bootstrapping using USB/bootflash - Demo



# Bootstrapping using USB/Bootflash - Summary

USB

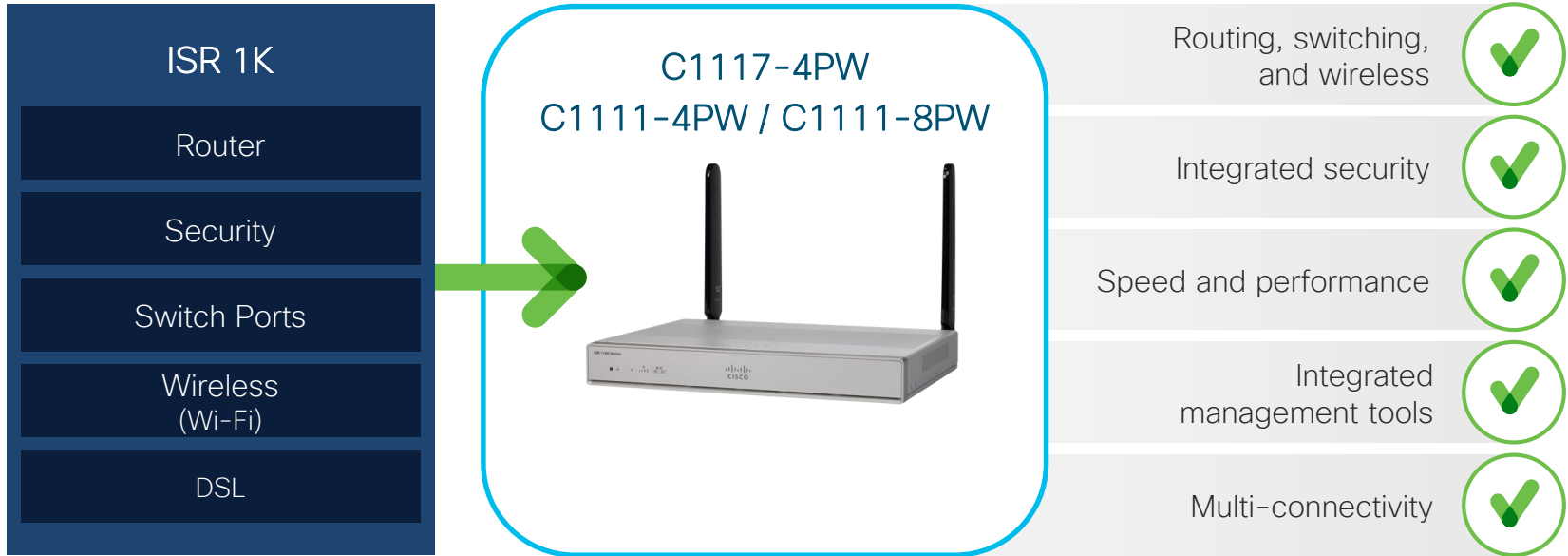
- Copy Provisioning Config file 'ciscotr.cfg' to USB device

Router

- Power ON the device with USB, LTE SIM inserted
- Router boots in Autonomous Mode, configs pushed from USB/bootflash



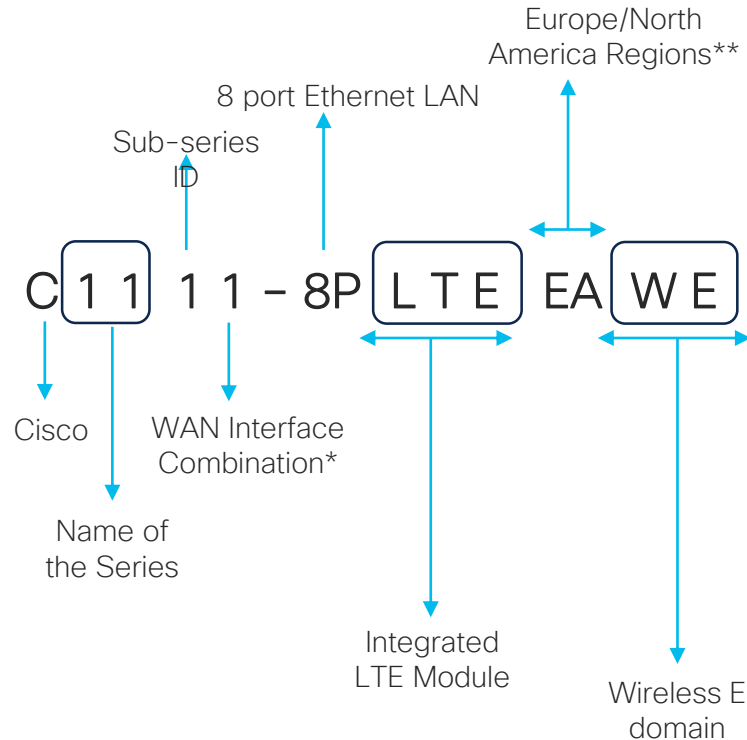
# Secure Connectivity to Remote Teleworkers



# How to read a router PID - C1111-8PLTEEAWE

Series Variants	
C1101	1 x GE WAN
C1109	1 x GE WAN M2M router
C1111X	C1111 with 8GB DRAM/FLASH

Series LTE	
LTEEA/LA	Integrated LTE
P-LTE-EA/LA	Pluggable LTE
LTEP	LTE Pluggable



DSL PIDs	
C1116	DSL Annex B/J
C1117	DSL Annex A/M
C1118	G.SHDSL
C1112	G.FAST Annex B/J
C1113	G.FAST Annex A/M

\*See backup slides for detailed explanation

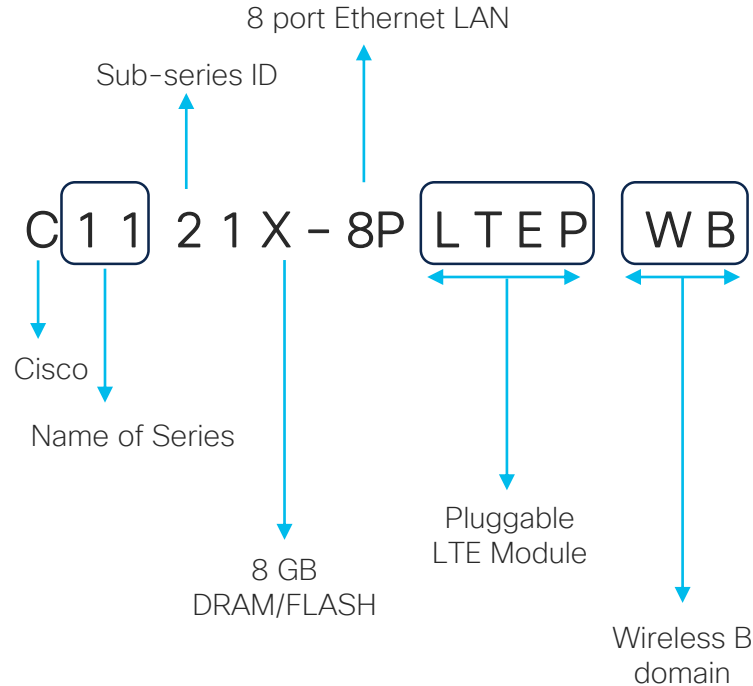
\*\* EA : Europe/North America

\*\* LA : Latin America/ APAC

# How to read a router PID - C1121X-8PLTEPWB

Supported Wireless Domains for C1121 *	
E	Europe
B	North America
Z	Australia/Brazil New Zealand
Q	Japan

Supported Wireless Domains for C1121X *	
E	Europe
B	North America
Z	Australia/Brazil New Zealand
A	Canada



DSL PIDs	
C1126	DSL Annex B&J
C1127	DSL Annex A&M
C1128	G.SHDSL

Series Variants	
C112x	CPU 1.2 GHz
C1161	CPU 1.6 GHz

\*For full list of country support for wireless domains, check backup slides

## Polling Question 3

Which solution would be most ideal for your enterprise?

- A. PnP using SD-WAN
- B. PnP using NSO
- C. .cfg file using USB drive

# Useful Links

ISR1K Datasheet: <https://www.cisco.com/c/en/us/products/collateral/routers/1000-series-integrated-services-routers-isr/datasheet-c78-739512.html>

Cellular WAN Datasheet: <https://www.cisco.com/c/en/us/solutions/collateral/enterprise-networks/4g-lte-solutions/datasheet-c78-743503.html>

ISR1K Configuration Guides: <https://www.cisco.com/c/en/us/support/routers/1000-series-integrated-services-routers-isr/products-installation-and-configuration-guides-list.html>

SD-WAN Ordering Guide: <https://www.cisco.com/c/dam/en/us/products/collateral/software/one-wan-subscription/guide-c07-740642.pdf>

Step-by-step guide to setting up Teleworker and Microbranch Solutions - XE SD-WAN:  
<https://community.cisco.com/t5/networking-documents/teleworker-and-microbranch-solutions-xe-sd-wan/ta-p/4049385>

Step-by-step guide to setting up Teleworker and Microbranch Solutions - IOS-XE:  
<https://community.cisco.com/t5/networking-documents/teleworker-and-microbranch-solutions-ios-xe/ta-p/4046810>

*Thanks!*

Submit Your  
Questions Now!



Use the Q&A panel to submit your  
questions, our expert will respond.

# Ask Me Anything following the event

Now through Friday June 5<sup>th</sup> 2020

With  
Abhishek Keswani

<https://bit.ly/ama-LTEwifi-may2020>



Abhishek Keswani  
Technical Marketing Engineer



# Collaborate within our Social Media



## Twitter

- @Cisco\_Support
- <http://bit.ly/csc-twitter>

## Facebook

- Cisco Community
- <http://bit.ly/csc-facebook>

Learn About Upcoming Events

# We invite you to review our Social Media Channels

## YouTube

- Cisco Community
- <http://bit.ly/csc-youtube>



## App

- Cisco Technical Support



## LinkedIn

- Cisco Community
- <http://bit.ly/csc-linked-in>



# Cisco has support communities in other languages!

If you speak Spanish, Portuguese, Japanese, Russian or Chinese we invite you to participate & collaborate





# More IT Training Videos and Technical Seminars on the Cisco Learning Network

View Upcoming Sessions Schedule  
<https://cisco.com/go/techseminars>

Thank you for Your  
Time!

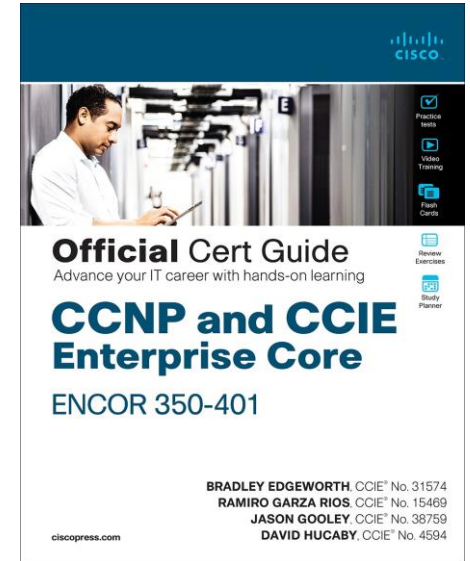
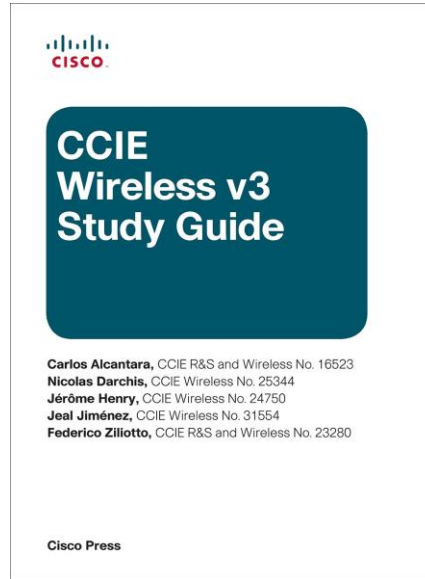
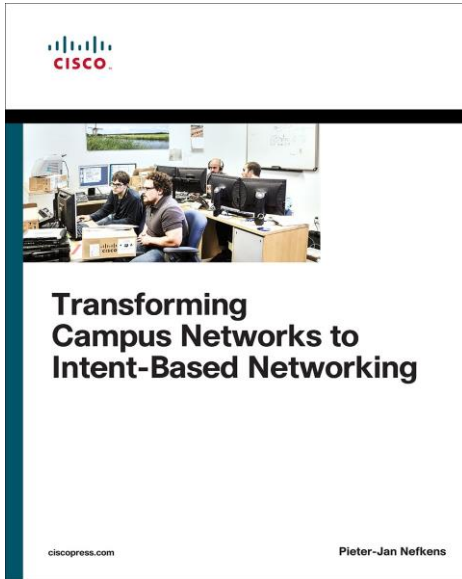
Please take a moment to complete  
the survey



# Thank you for participating, you earned a discount!

Redeem your 35% discount offer by entering code: CSC when checking out.

<http://bit.ly/Community-CiscoPress2020>



*Thanks For Joining today!*





Backup Slides

# How to read a router PID - WAN interface combinations

1 = Single Copper/SFP Ethernet port + single Copper Ethernet

2 = Single Copper/SFP Ethernet port + G.FAST DSL port (Annex B)

3 = Single Copper/SFP Ethernet port + G.FAST DSL port (Annex A)  
(M modifier indicates Annex M support)

6 = Single Copper/SFP Ethernet port + ADSL2 / VDSL2+ port (Annex B/J) (ISDN)

7 = Single Copper/SFP Ethernet port + ADSL2 / VDSL2+ port (Annex A) (POTS)  
(M modifier indicates Annex M support)

8 = Single Copper/SFP Ethernet port + G.SHDSL port

9 = Single Copper, hardened platform built for wider temperature range and tougher environments

# Wireless LAN Regulatory Domain

A	Argentina	Bolivia	Brazil	Canada	Chile	Colombia
	Costa Rica	Equador	India	Paraguay	Peru	Philippines
	Puerto Rico	Uruguay	Venezuela			
B	U.S					
D	India					
E	Algeria	Austria	Bahrain	Belgium	Bosnia & Herzegovina	Bulgaria
	Croatia	Czech Republic	Denmark	Estonia	Finland	France
	Germany	Ghana	Gibraltar	Greece	Hungary	Iceland
	Iraq	Ireland	Italy	Jamaica	Kenya	Latvia
	Lebanon	Libya	Lichtenstein	Lithuania	Luxemborg	Malta
	Monaco	Mongolia	Montenegro	Netherlands	Nigeria	Norway
	Oman	Poland	Portugal	Romania	Russian Federation	Saudi Arabia
	Serbia	Slovakia	Slovenia	South Africa	Spain	Sri Lanka
	Sweden	Switzerland	Thailand	Tunisia	Turkey	Ukraine
	United Arab Emirates	United Kingdom	Vietnam			
F	Indonesia					
H	China					
N	Australia	Barbados	Brazil	Dominican Republic	Fiji	Hong Kong
	India	Mexico	New Zealand	Panama		
Q	Japan					
R	Russian Federation					
Z	Australia	Brazil	New Zealand			