ISE Chromebook onboarding
How to configure ISE, WLC, and Google Admin Console (GAC)
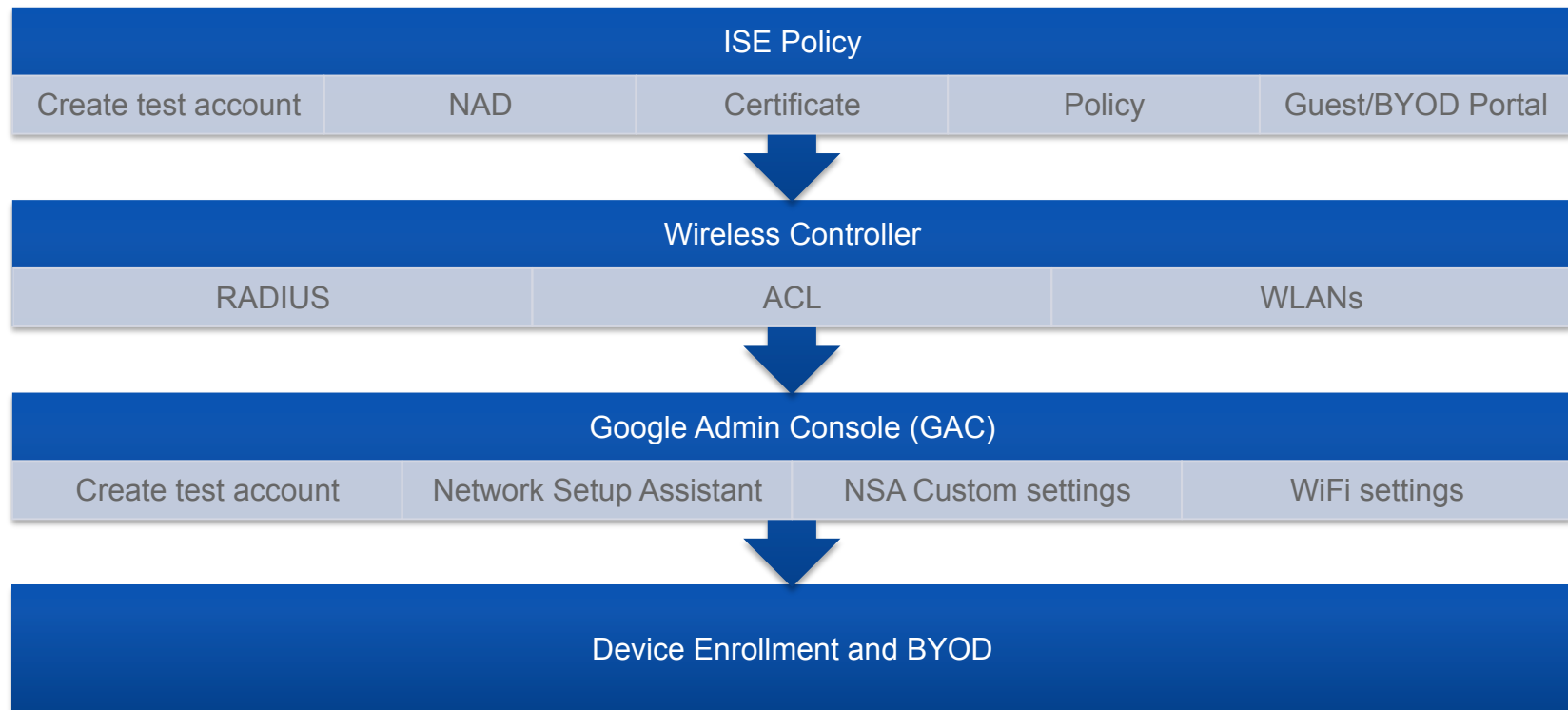
Policy & Access Team

Hosuk Won, TME
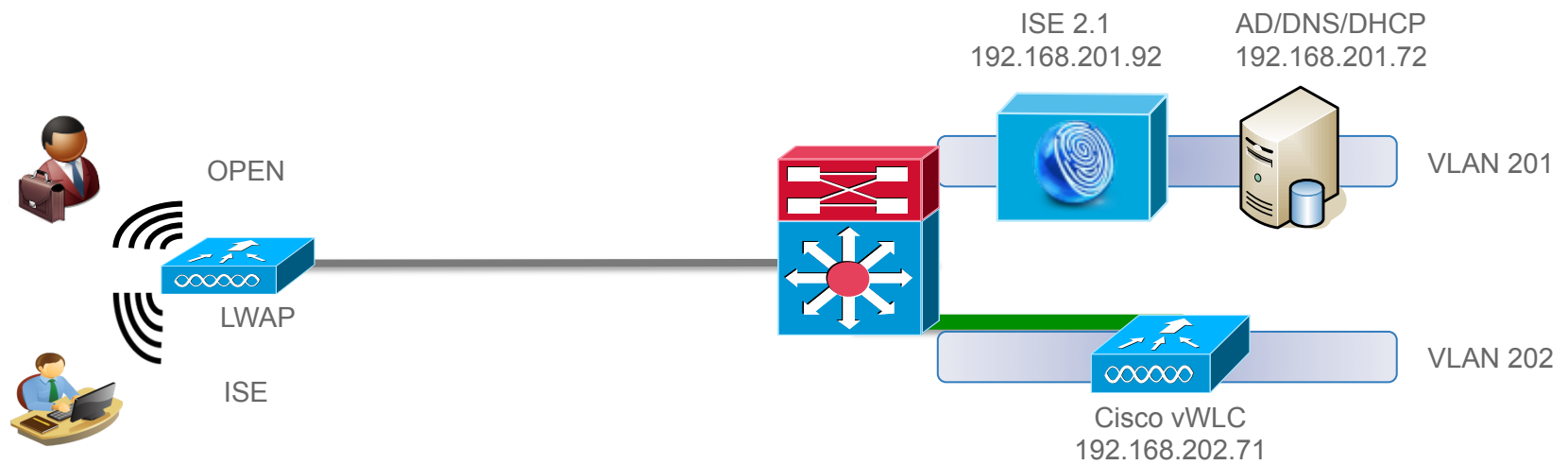
September 2nd, 2016

Note about Chromebook onboarding

- Not a TRUE BYOD as the device needs to be enrolled and managed by Google Admin Console (GAC) prior to being onboarded

- Chromebook (CB) has notion of system vs. user settings

- Google allows the certificate to be available system-wide for all users, but the EAP-TLS WiFi setting needs to be user specific

- Currently require the user to have account from google managed domain as well as account from ISE supported Identity DB

- For K-12 use case, an admin can provision the CB and once provisioned, subsequent student user does not need to have account from ISE supported Identity DB

- Supports Chrome OS 37 and above

Configuration Flow

ISE Policy				
Create test account	NAD	Certificate	Policy	Guest/BYOD Portal

Wireless Controller		
RADIUS	ACL	WLANs

Google Admin Console (GAC)			
Create test account	Network Setup Assistant	NSA Custom settings	WiFi settings

Device Enrollment and BYOD

Lab Setup

OPEN

LWAP

ISE

ISE 2.1
192.168.201.92

AD/DNS/DHCP
192.168.201.72

VLAN 201

VLAN 202

Cisco vWLC
192.168.202.71

ISE Configuration

Wireless Controller

DNS-Based ACL

- Chromebook requires access to various google related sites for enrollment. DNS-Based ACL is recommended to allow access to the google sites

- WLC 8.2+ supports 20 DNS-Based ACE per ACL, previous version supports up to 10 DNS-Based ACE

- Following list can be used to onboard both Chromebooks and Android devices

.google.co
accounts.youtube.com
gstatic.com
.googleapis.com
.appspot.com
ggpht.com
market.android.com
android.pool.ntp.org
.googleusercontent.com
.google-analytics.com

Google Admin Console

Device Enrollment and BYOD

Device Enrollment and BYOD

Connect to OPEN SSID

- Chromebook (CB) is enrolled to the GAC with student account
- Login to the CB as student user once enrollment is complete
- Download system settings from GAC including ISE NSA Chrome extension

Redirect

- Open a CB window and try to access Internet and gets redirected to guest portal
- Login using ISE local student account and BYOD flow starts

BYOD

- Once certificate is pushed, the CB disconnects from OPEN SSID and connects to SECURED SSID using provisioned certificate
- User can connect to Internet

Troubleshooting Chromebook BYOD

Troubleshooting NSA

1. Open up browser window and type in 'chrome://extensions in the address bar

2. Ensure ISE NSA is listed as one of the extensions

3. Click on 'Developer mode' on the top

4. Click on 'Details' under NSA Application
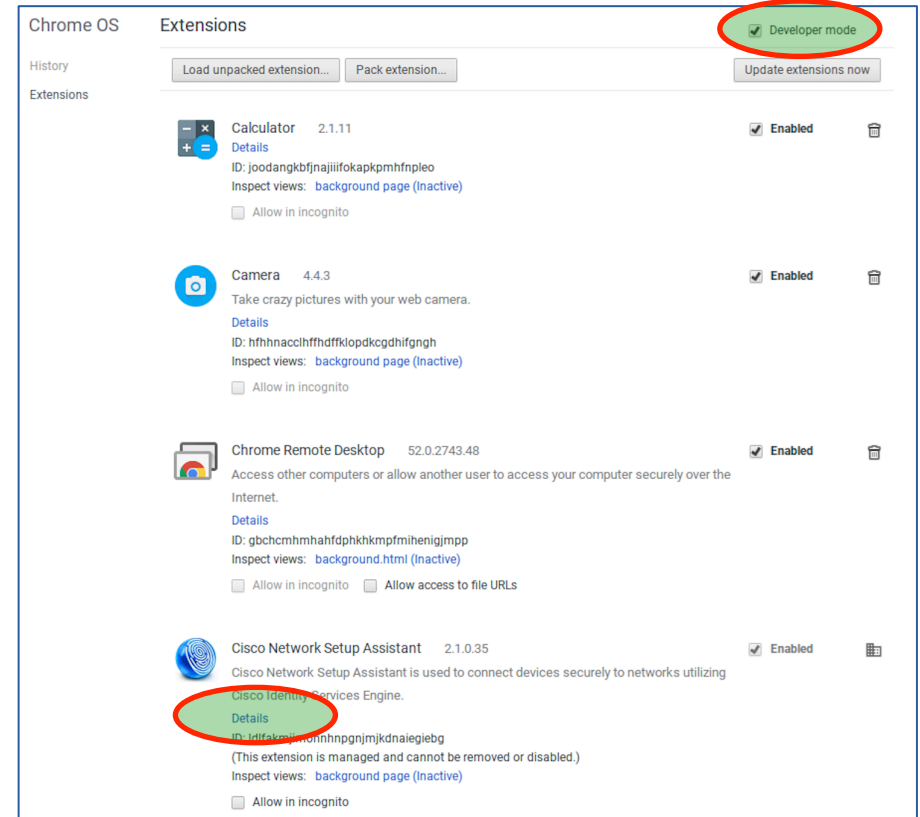
Troubleshooting NSA

1. On the newly opened Console windows select 'Console' tab

2. Run through the BYOD flow and note the error in the console