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Broadband Acceleration Seminar North America
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IN COOPERATION WITH: Calix
Identity-Based Subscriber Management

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Identity-Based Subscriber Management

Wireline Made Ready for a 5G World
Agenda

What is a subscriber?
What is a 5G World?
Mobile Subscriber Management
WireLine Subscriber Management
Network Enhanced Gateway
What is a subscriber?

- **Mobile** – A device (UE) – “Who”
  - Service follows the UE
    - Authentication is (e)SIM based
    - All communications are secured

- **WireLine** – A place – “Where”
  - Service is tied to a location
    - Authentication is DHCP/PPP based
    - Last mile is physically secured
    - WiFi authentication is local
• 5G Convergence is the goal
  • IF you have a 5G Core already
• For wireline-only providers:
  • 5G core is cost prohibitive
• Partnering/Sharing is an option

Can we bring subscriber “mobility” to Wireline?
Mobile Device Authentication

- UE is authenticated based on SIM
  - VoWifi authenticates via ePDG
- Authentication is primarily with Serving Network
  - Home Network provides authentication vectors
- Each device is individually authenticated
- Devices are associated with accounts
• UE is authenticated based on SIM
  • VoWifi authenticates via ePDG
  • All communication is secured
• Authentication is service-based
  • UE can have multiple services
  • UE are associated with accounts
• Authentication is with Home Network
  • Better security versus serving network
Fixed Line Subscriber Management

- Access Line has service profile
  - May be multiple service profiles (triple-play)
- RG gets an IP address via DHCP
  - Authentication is based on Option 82
  - Alternative: PPPoE for Authentication
  - Provides NAT for devices at the location
- Devices get private IP address from RG
  - DHCP Address allocation
  - WiFi access with local authentication
  - Hardline option remains
Network Enhanced Gateway

VNF Providing Device Subscriber Management

• Device authentication (Fingerprint)
  • One-time login
• Location independence
• Single device DB
• Per-device statistics
• Multiple service profiles per device
• Flexible device groupings/accounts
• CG-NAT
  • Allows elimination of RG in home
• Traffic is L2 Tunnneled
  • VLAN, GRE, L2TP/IP-SEC
• Supports Residential and Business Services
  • Alternative to TR-317 for residential and TR-328 for business
  • Allows L2 premise
  • Reduces scaling per premise

• Supports WiFi Hotspots & Community WiFi
  • Hotspot 2.0 support
  • Interface to ePDG (VoWiFi)

• Supports NAT in CPE
  • Move towards CGNAT can be phased over time
  • Simplified premise (L2 WiFi)
Thank you.
Identity-Based Subscriber Management

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broadband forum
June 2-4, 2020
Den Haag, The Netherlands

THE DATE HAS BEEN SET!

An event by tech innovators for tech leaders!

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Thank you

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