



Wireless Options for Business Continuity and Mobility Strategies

February 11, 2015



Topics/Agenda

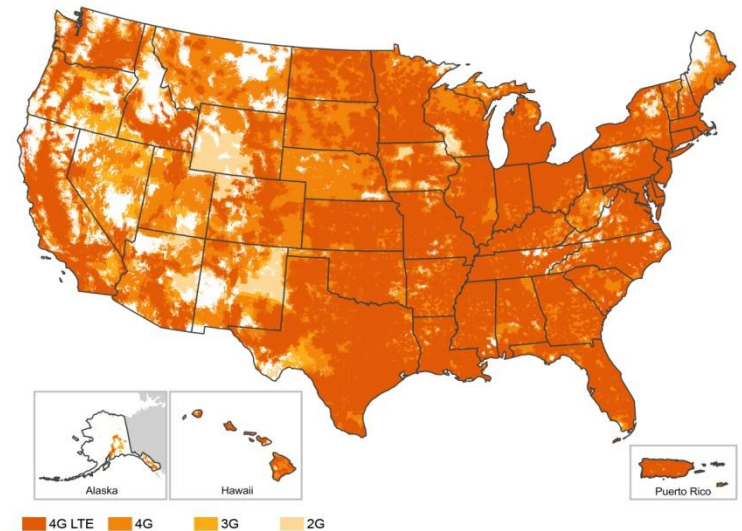
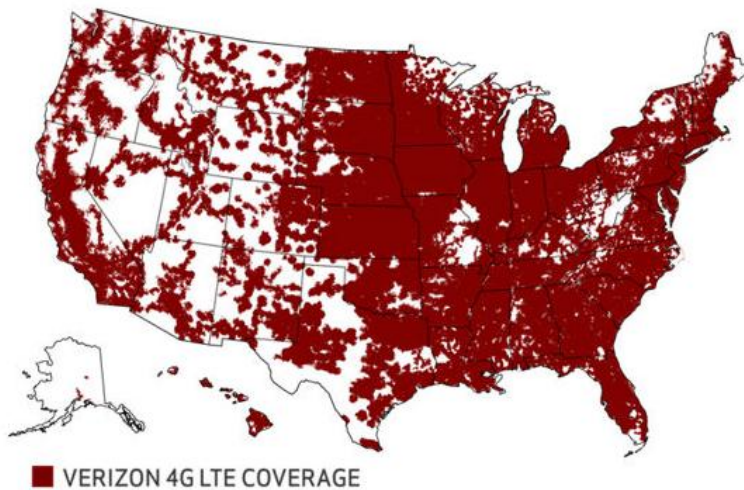
- **4G LTE Technology and Beyond**
- **Disaster Recovery/Business Continuity with wireless**
- **Mobility Strategy Development**
- **Key Applications**



Wireless Networks – Current & Future State

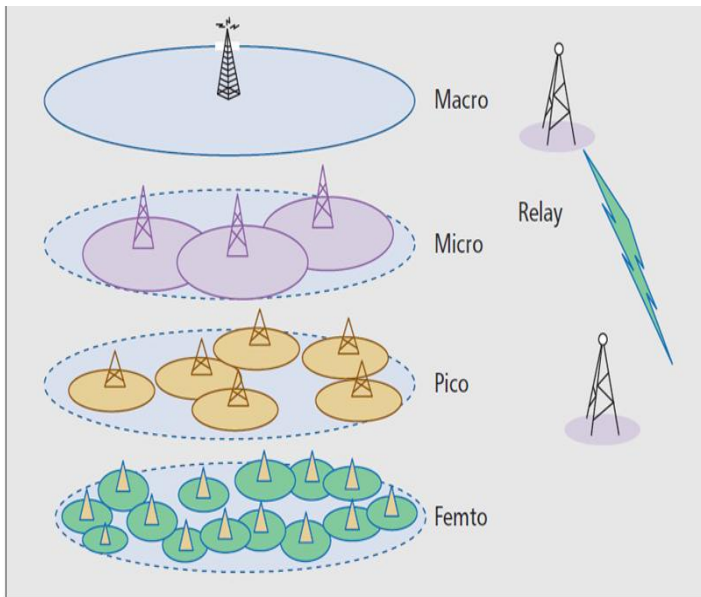


4G LTE Network Build Happening Quickly



- More video, more text, more voice, more applications
- Voice over LTE (VoLTE)
- Quality of Service (QoS)
- Internet of Things
- Internet of Self

Multiple Ways to Build Networks



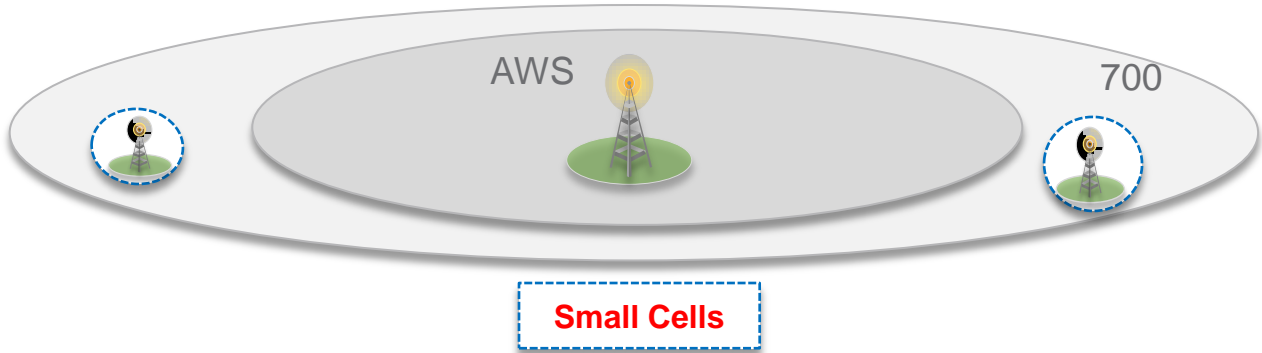
Node type	Tx. Power*	Coverage
Macrocell	10W - 60W	8 Km-30 Km
Micro/Metrocell	1W - 10W	200m - 2 Km
Picocell	250mW – 1W	100m – 200m
Femtocell	1mW – 250 mW	10m - 100m

** Representative figures*

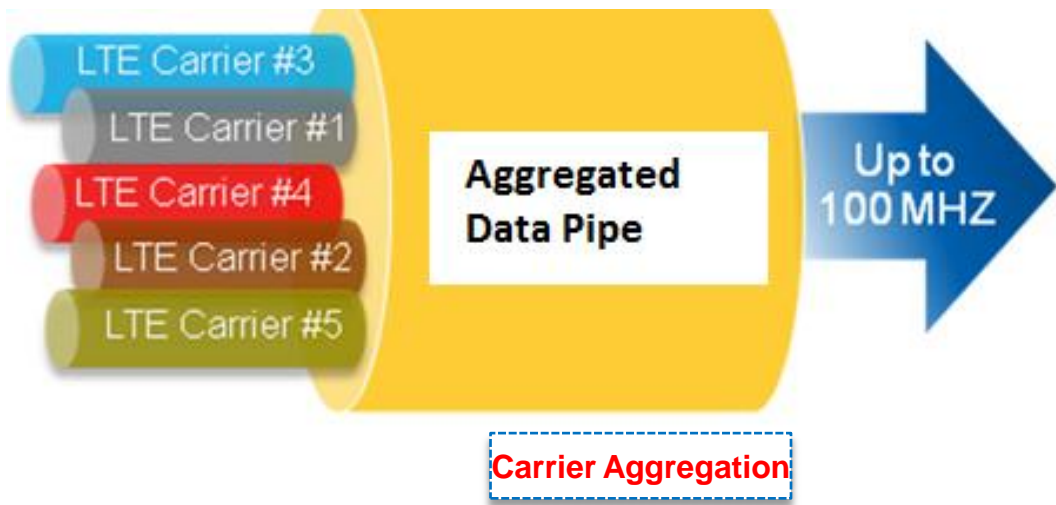


LTE Future Technology Advancements

Here now:

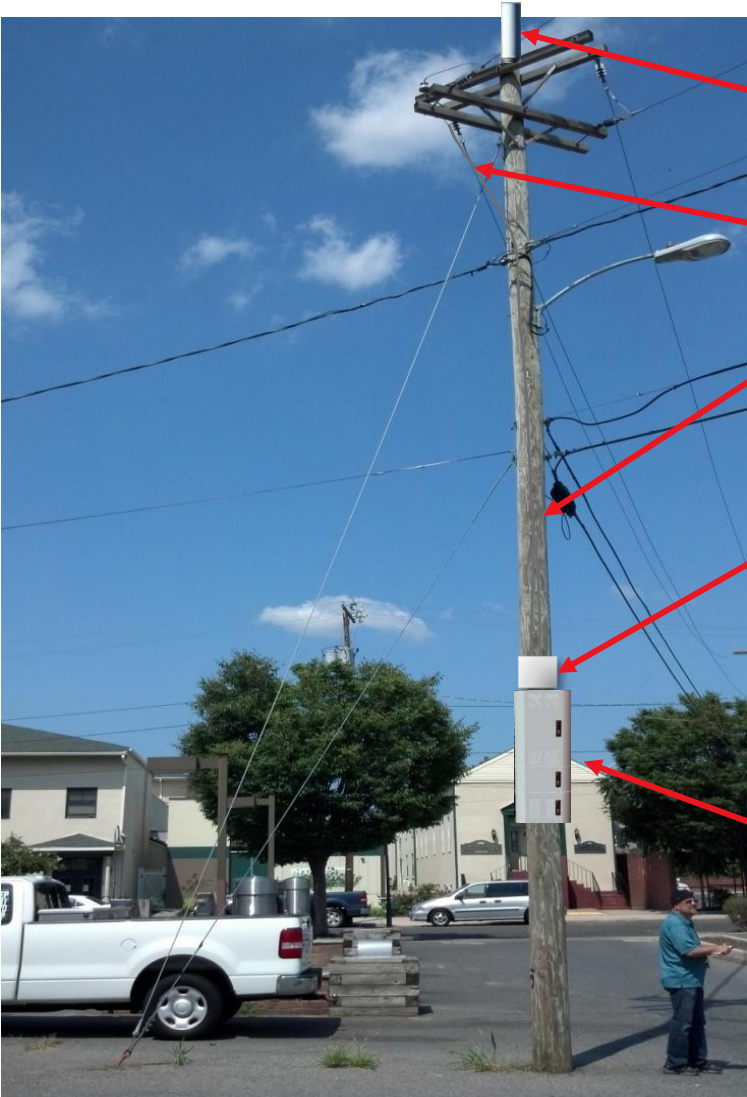


In the future:





Small Cell Examples



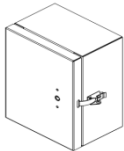
Antenna

AC Power

Fiber Backhaul

NID Enclosure

Small Cell





4G LTE Services

PRIMARY CONNECTIVITY

Provide internet connectivity where you need it, when you need it.

FAILOVER

When the primary internet connections fails, automatically move 4G LTE to handle necessary operations.

OUT OF BAND MANGAGEMENT

Secure path to devices at remote locations minimizes downtime and reduces the costs associated with truck rolls, spare devices and on-site technical resources

LOAD BALANCING

Better manage LAN resources by using 4G LTE for smaller bandwidth applications



Disaster Recovery/Business Continuity with 4G LTE

Wireless Solutions

- **Wireless Solutions Enhance Disaster Recovery**
 - **Contact Information:** Key contacts stored on device and cloud
 - **Broadband Access:** Work remotely with Aircard, Jetpack, etc.
 - **News & Information:** Access to Internet and news media
 - **Wireless Router:** Keep computers working if data circuit severed
 - **Network Extender:** Enhance wireless signal using wireline Internet



JETPACK



WIRELESS ROUTER



NETWORK EXTENDER



Mobility Strategy Development



Developing Mobility Strategy

- BYOD versus Corporate Provided Equipment
- Who and Why?
- Operating System – Windows, Android, iOS
- Basic Phone vs. Smartphone vs. Tablet
- Screen Size/Ruggedized
- Applications/Access to Corporate Systems
- Security of Mobile Devices (MDM – Mobile Device Management)
- Authentication and Verification Services (User Name and Password)



Outfitting the Mobile Worker

- Primary Device – Smartphone
 - Battery Backup
 - Vehicle Charger
 - Mobile Charger
 - Protective Case
- Secondary Device – Tablet
 - Protective Case
 - Credit Card Processor
 - Bluetooth Scanner
- Laptop or Wi-Fi only tablet (Surface)
 - Jetpack/Mi-Fi
 - Home-based 4G LTE Router (Aerohive)



Key Applications

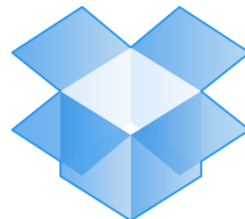


Key Wireless Applications

Energy & Shop floor Machine
Monitoring



Building Energy Management



Dropbox

Mining Site & Equipment Monitoring



Solution Development

System Integration



Data Aggregation and Intelligence (Platform Partners)



Devices (Sensors and Gateways)





Summary

Thank You!

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