Mobile Enterprise and IPv6 Consumerization of IT

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Mobility is a business problem

Mobility is the new interaction model

Mobility is all about making it look **simple**

Unfortunately making it look simple is still **hard work**.

And someone still has to do that hard work…

Mobility cannot be ignored

Now

Mainstream

Mobility has always been a separate topic for IT professionals, but it is **now influencing mainstream strategies and tactics**[1]

Impact on IT staff

Approximately

4.5 B

Personal client devices will be on the network in 2015[2]

Pervasive mobility

Extreme

Pressure

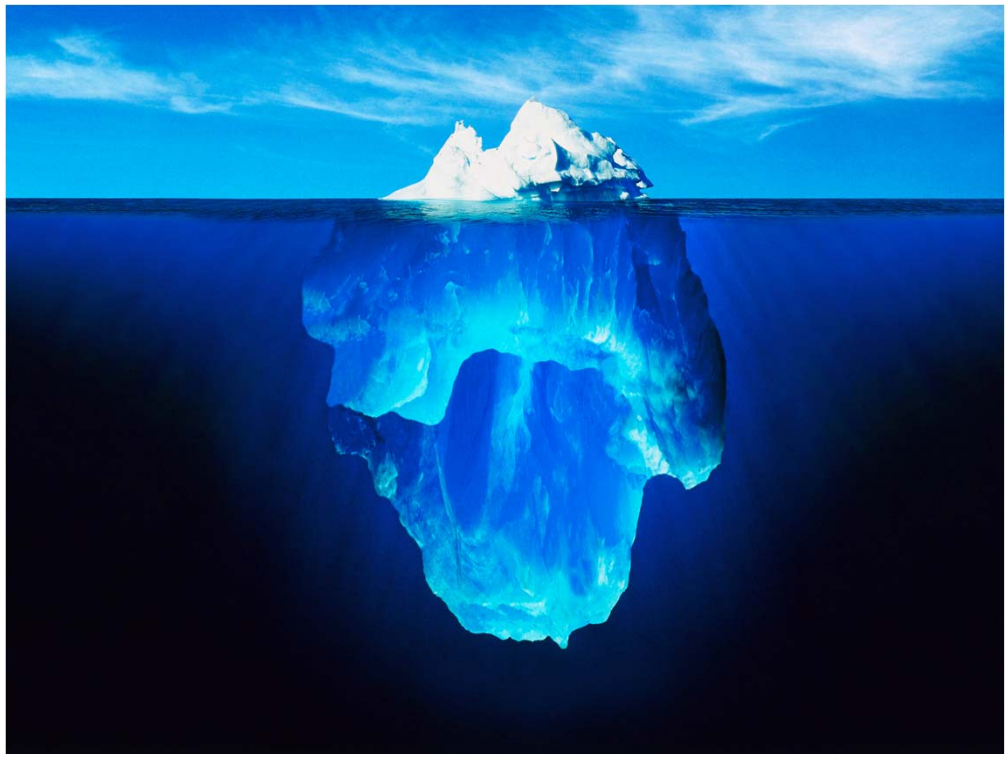
…on enterprises to develop and deploy mobile apps to accommodate the **mobile work styles of employees** and to deliver consumer-facing apps that are **compelling and drive increased customer engagement**[1]

Dual mobility objectives

1 Gartner Predicts 2013: Mobility Becomes a Broad-Based Ingredient for Change (November 2012)
2 IDC: The Empowered IT User: How Individuals Are Using Technology & Redefining IT (March 2012)

BYOD - Disrupting Trend

Tip of the iceberg



"The business (prosumer) has been driving the device agenda, forcing the introduction of less secure platforms and non-enterprise grade cloud services"

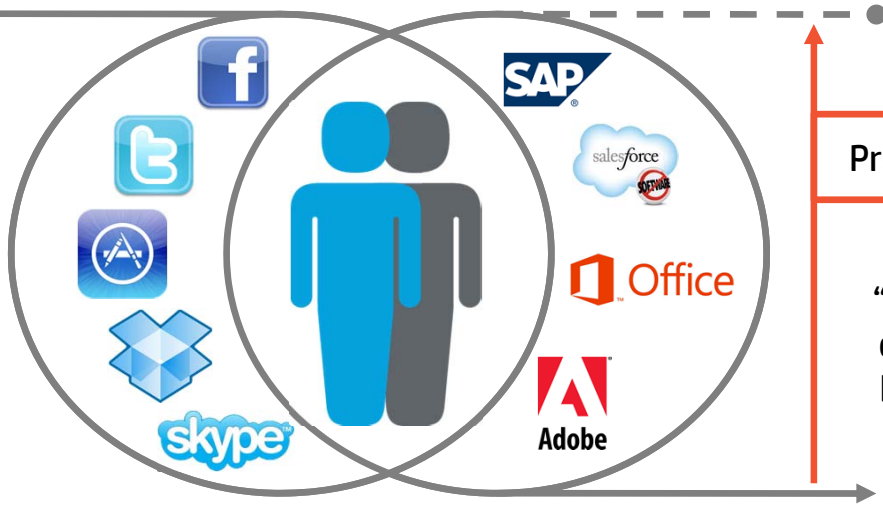
BYOD / Consumerization

The “pressure gap”

Consumer Experience

“Universal access, always connected, self service, immediate, no barriers”

FREE



Pressure on IT

“Siloed access, legacy connectivity, request based access, VPN’s”

Enterprise Experience

How do I connect everything? Securely and seamlessly?

(Future) End User Productivity

Constant movement across a spectrum

IT's role is changing as IT becomes increasingly more critical to the fabric of the business

- **Is IT up to the challenge?**
- **Does IT bring all the needed skills?**

Q: Can Enterprise IT close the gap on the "Consumer Benchmark"?

"Seamless context switch between identities / devices / apps / applications"

Universal Access Demands New Levels of Connectivity

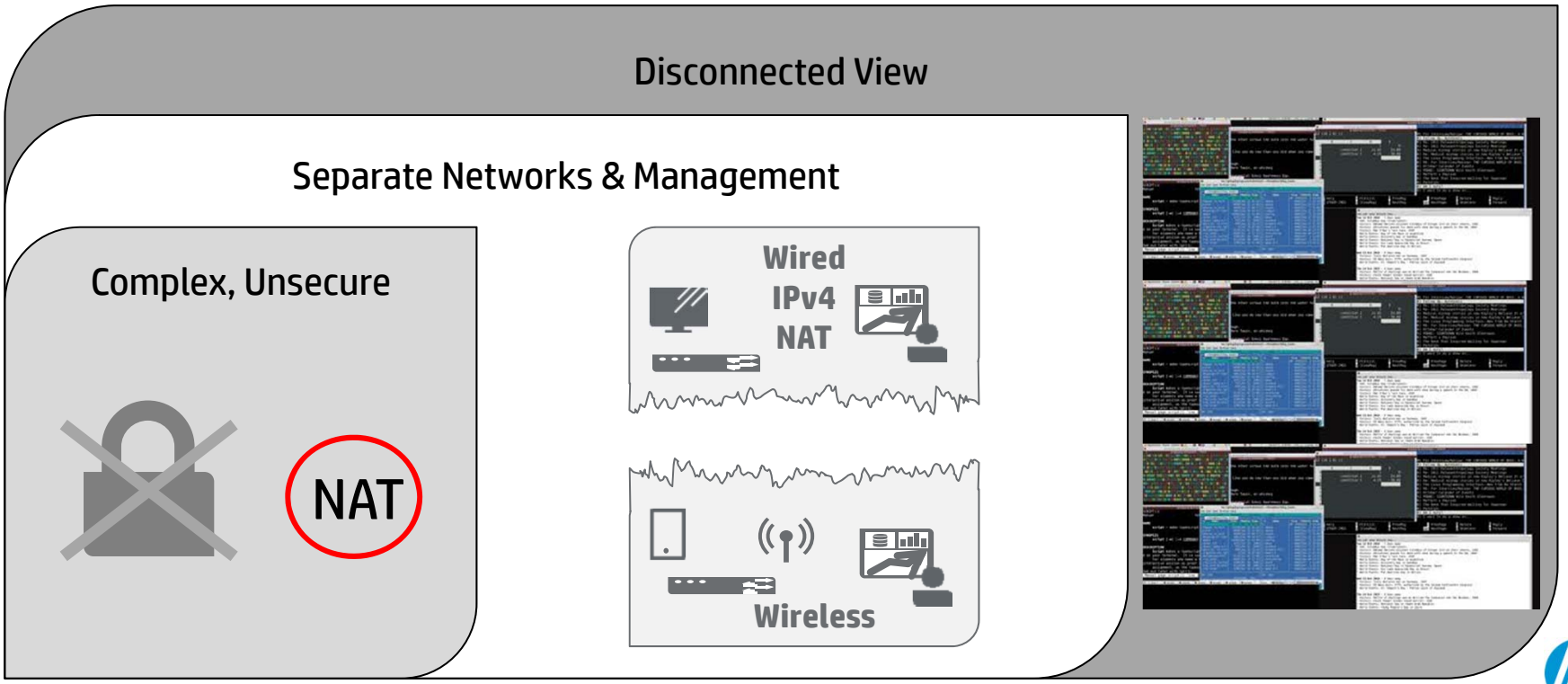
Define your next generation network

At least	More than	Up to	Only	However
50 billion	**25 %**	**10 X**	**34 %**	**69 %**
devices will connect to wireless networks by the year 2020	of all daily business comm. will be video or multi-media by 2013	Increase in capacity required for new business video applications	Of CIOs think employees are accessing the network with personal devices[3]	Of users say they are !

Is YOUR network ready for the mobile enterprise?

Today's Reality – Legacy networks unprepared for BYOD

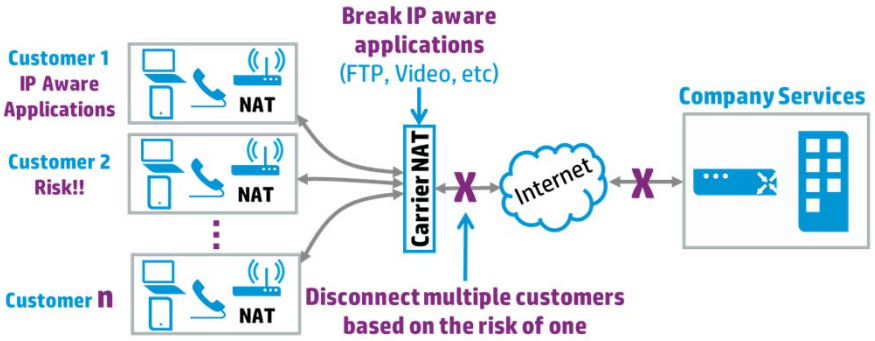
Complex, Limited, disconnected and Vulnerable



Today's Reality – Mitigation Techniques

Quality of Experience is evermore critical

Mitigation techniques (like NAT) to handle the address pool depletion are now inherent as a dominant business model



Address sharing issues

- Traceability of network usage and abusage
- Geo-location and Geo-proximity services
- Multiple levels of NAT may make impossible to establish secure connections (in addition to break end-to-end security)
- Address sharing application impacts
- Fate sharing
- Frequent NAT Keepalives reduce battery life
- ....

Verizon CGN Enablement Announcement:

- However, there are some applications such as online gaming, VPN access, FTP service, surveillance cameras, etc., that may not work when broadband service is provided via a CGN.
- **To "opt out" you must:** Have already been transitioned to the **Carrier Grade Network** by Verizon.

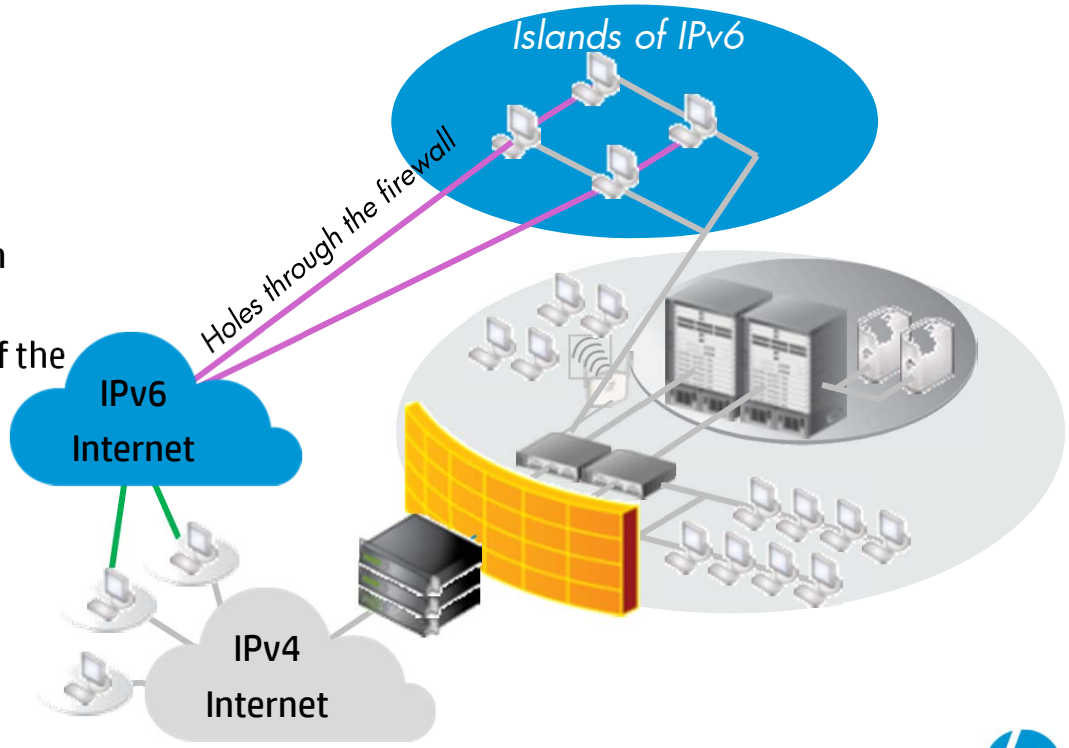
Today's Reality

IPv6 is already on a network close to you

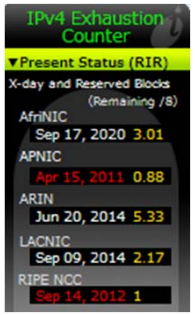
IPv6 is very often unmonitored

Security Operational Challenges

- Complexity due deployment of IPv4 transition techniques
- IPv6 deployed along IPv4 increases the size of the attack vector



Today's Reality – IPv6 is the new Normal



World IPv6 Launch

Facts

- There is a proliferation of IPv6 enabled mobile devices, appliances, home networks, etc.
- Content is NOW served over IPv6
- More and more users are operating in an IPv6 world UNKNOWNINGLY!
  - AND these users are having a better Quality of Experience
- Companies that have not deployed IPv6 can't get to these users and these users can't get to them over IPv6

IPv6 adopters have a distinct competitive advantage!

Multi-Dimensional Mobility

Multiple Networks

IPv4, IPv6, etc.

Multiple Access Networks

3G/4G, Wi-Fi, Bluetooth, NFC, etc.

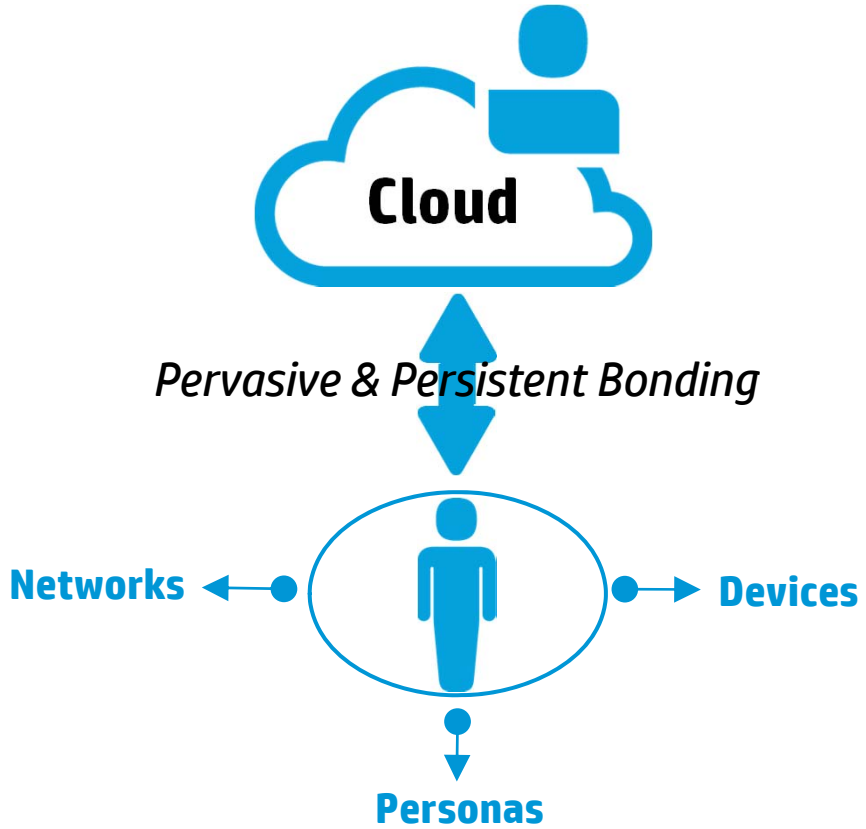
Multiple Devices

Smartphone, tablet, laptop, sensors, printer, display, etc.

Multiple Personas

Different contextual environments:

Work, private, public persona



An Architecture for Seamless Mobile Experiences

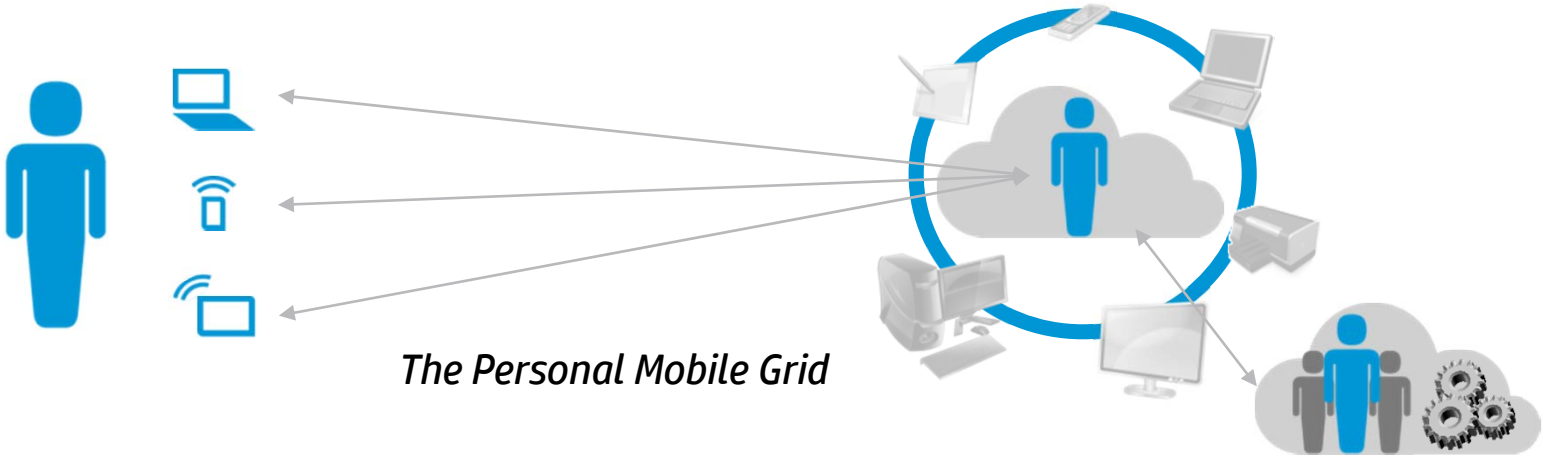
Enabling the ***Mobile Personal Grid***

Create a *Mobile Personal Grid*

A personal controller to tame complexity – your *Avatar* in the cloud

Persistent digital presence that preserves your privacy

Needs basic connectivity to create useful and effortless connectivity



The Personal Mobile Grid

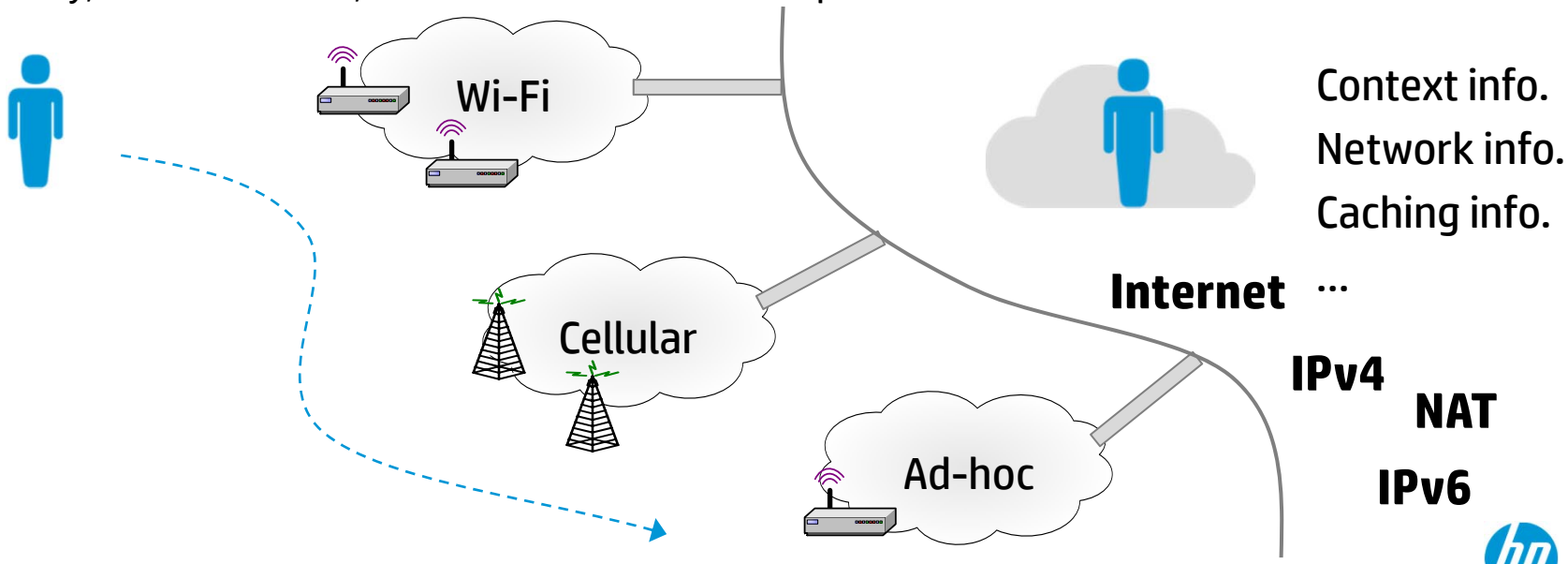
Context Aware Network Access

Context-aware interworking

- Use of context info (e.g., location, app type) to configure key access network parameters (frequency, transmission rate, etc.)

Interaction with the cloud

- Network can pre-populate per-user network cache/content/configuration with the help of personal Avatar in the cloud



Benefits of the architecture

Searching for the holy grail

What we want

One single (mobile) device

Always connected

Instantaneous response

Effortless and free

Infinite battery life

Totally secure and private

What we get

Coordinated use of heterogeneous devices

Always-on digital representation (Avatar)

Best connection based on context

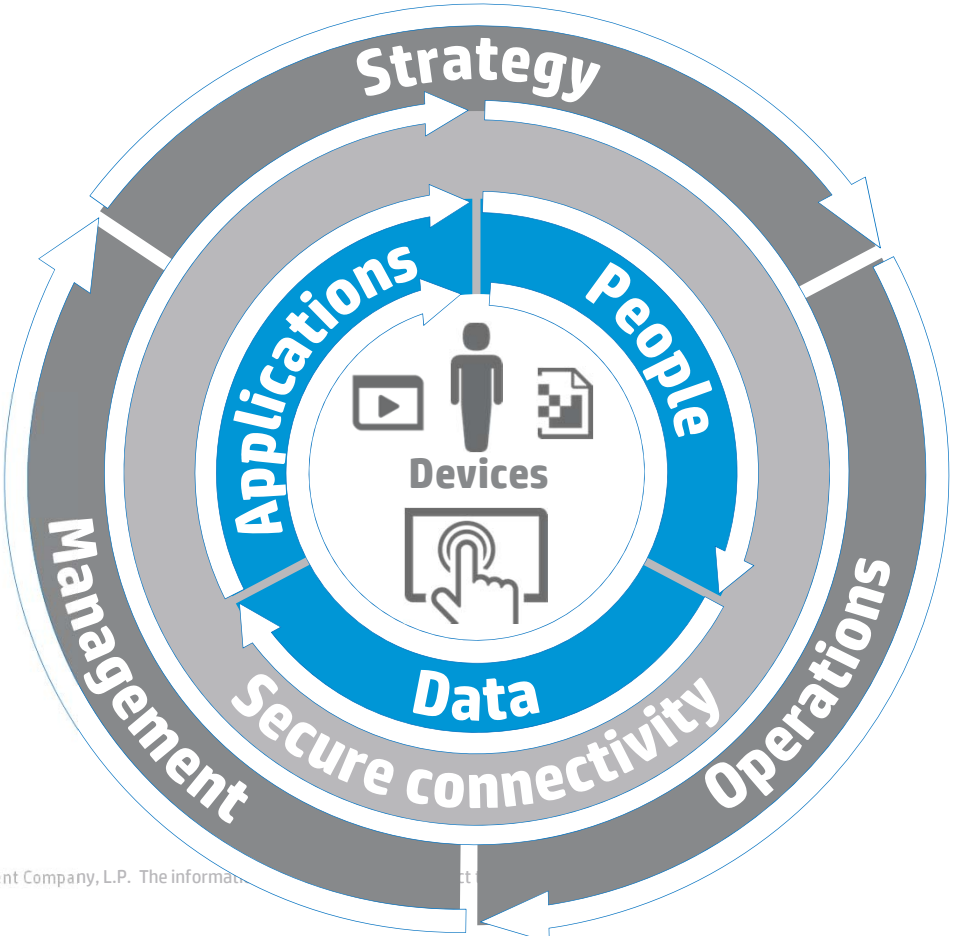
Automated connections with global view

Well… offload to the cloud to save power?

Single interface to collect, preserve and use data

HP Enterprise Mobility Framework

The way forward



IPv6

UNIVERSAL
ACCESS TO
PEOPLE
APPLICATIONS AND
DATA

Enabling Connectivity

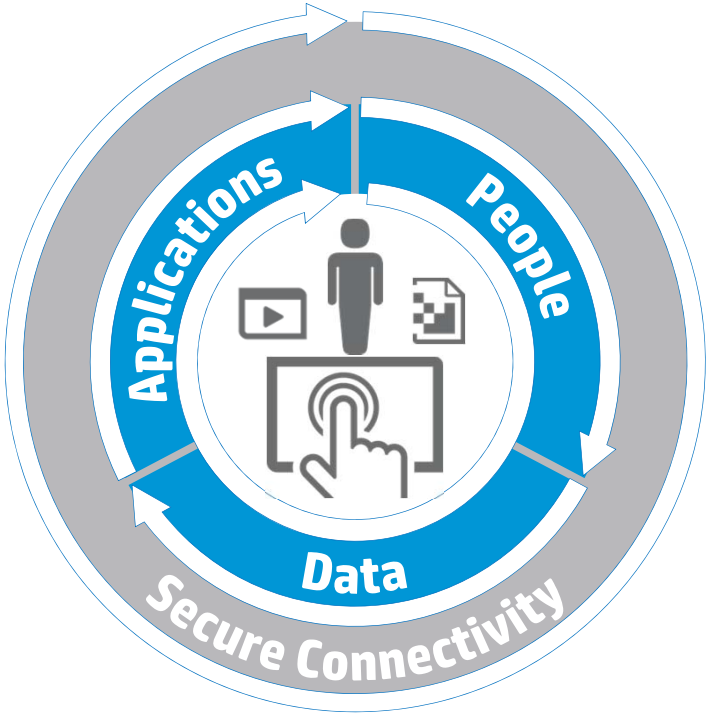
Delivering secure connected services

Secure wireless device access

Rebalance, secure and **strengthen** your network

IPv6

Universal access for mobile apps, Web services and infrastructure



Network optimization

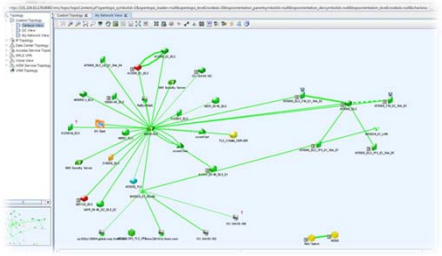
Delivering a **consistent user experience** on any end-point device

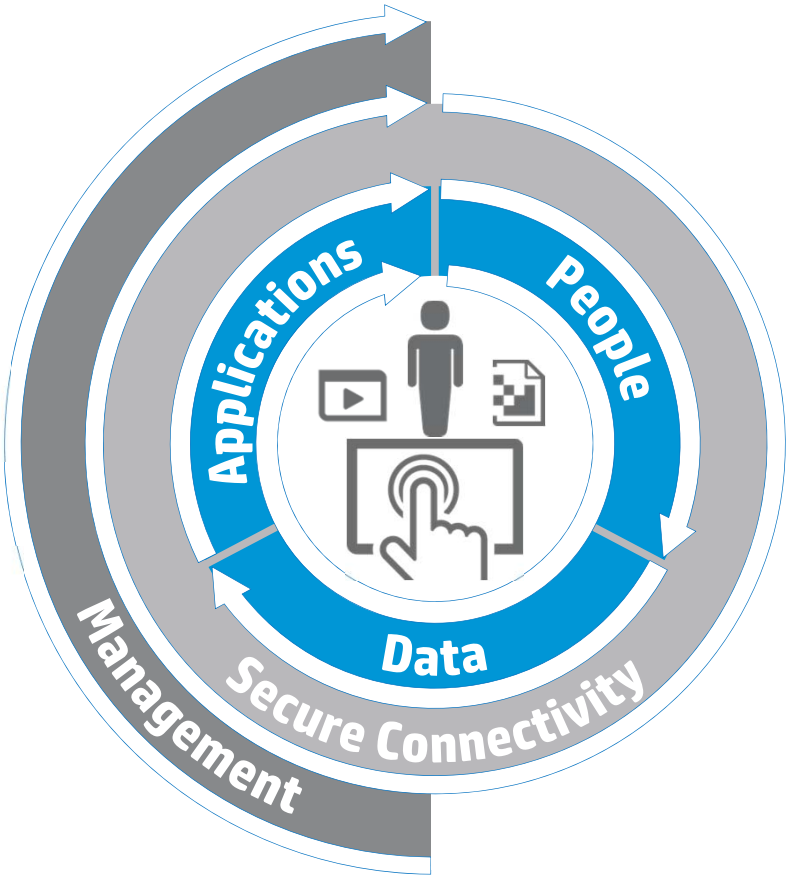
Fixed mobile convergence

Integrate and **cost optimize** cellular and wireless voice / video services

Mobility Operations

HP Intelligent Management Center



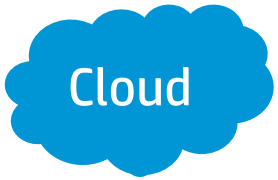


Secure Management
Core IT services

- **User Persona:** Across aggregated systems
- **Device:** Enterprise Device Management & MDM policy
- **Apps & Data:** Enterprise Application Management & MAM / MCM policy
- **Network:** Through HP IMC solution

The time is NOW

Unlock the potential of IPv6



Optimizing the delivery of **ALL** IT services

If you don't – your competition will …

New engagement for consuming **ALL** IT services

Thank You