



Intel Delivering a No Wires Experience in Healthcare

April 2015

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- The information in this document is valid for content published starting from October 2013. This material expires on June 2014. New products or information introduced during this period may result in an update to this document or a Q & A published separately.

Mobile Technology is Transforming Healthcare

- Increased productivity
- Better patient engagement
- Satisfied health care workers
- Improved quality of care



Mobility – The Future of Healthcare

86%

Growth forecasted in
clinical mobility spending
between 2011 and 2016

Source: <http://www.mobilehealthmarketnews.com/total-u-s-clinical-mobility-spending-forecast-to-reach-5-4-billion-by-2016/>

- Delight clinicians with powerful, easy-to-use mobile devices
- Mobile computing enables hospitals to meet ACA requirements:
 - Collaboration
 - Care coordination
 - Efficiency of care



“No Wires” – The Key to Maximum Mobility

Yesterday: Laptops were mobile, but still required 4 critical wired connections:

- LAN cable – later replaced by Wi-Fi
- Display cable (to connect to larger display)
- Physical docking connections
- Power cord



“No Wires” – The Key to Maximum Mobility

Today: Eliminating the wires

- Wireless Display
- Wireless Docking
- Wireless Charging



Wireless Display with Intel® Pro WiDi

Doctors can share charts and images to educate medical students and clinicians

- Enhances education
- Improves communication



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Wireless Display with Intel® Pro WiDi

Doctors can collaborate on complex cases, presenting patient charts and images on large screens

- Improved care coordination
- Better quality of care



Wireless Display with Intel® Pro WiDi

Nurses can educate patients on TVs in patient rooms or exam rooms

- Better educate patients on condition management
- Simplified communication of release instructions
- Improved patient satisfaction
- Reduced readmissions
- Reduced length of stay



Wireless Docking via Intel® WiGig

Nurses and physicians can instantly dock laptops and tablets at nursing stations and desks

- Gain the power of a fully-equipped workstation (displays, keyboard, mouse, printers, etc.)
- Improved clinical workflow
- Improved clinical productivity



Wireless Charging (future)

Hospital nurses can charge laptops or tablets at nursing station

- Improved staff satisfaction
- Seamless clinical workflow



Wireless Charging (future)

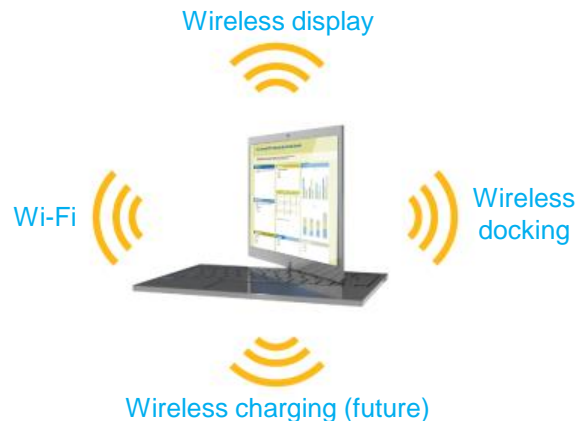
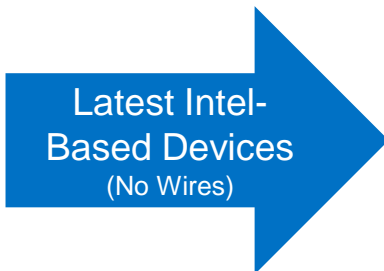
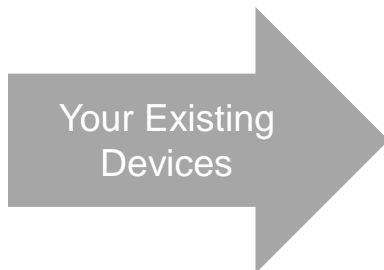
Homecare nurses can charge laptops or tablets in their car

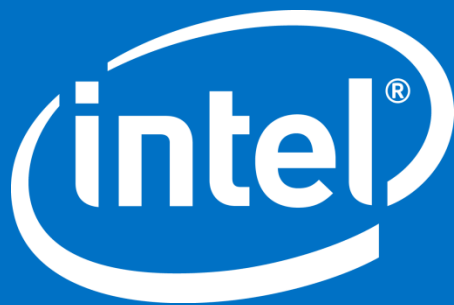
- Improved productivity
- Better clinical workflow



Why Refresh with No Wires from Intel now?

- Improved clinical workflow
- Staff satisfaction
- Increased productivity
- Patient satisfaction/engagement
- Reduced readmissions/length of stay
- Better quality of care
- Enhances medical student training
- Better collaboration





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Backup

WiGig Design Win Funnel

OEM	Platform	Availability	Dock Availability
HP	Elite x2	Now	Now
Dell	Latitude 7250	Late Mar'15	Late Mar'15
	Latitude 7450		
	Latitude 5250		
	Latitude 5450		
	Latitude 5550		
	Latitude 7350 (2in1)	Late Apr'15	

Intel® Pro Wireless Display

Creative, Productive, Collaborative Meetings

WIRELESS Stay productive in meetings

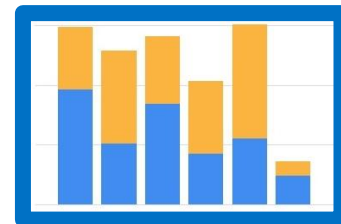
FLEXIBLE Support wide variety of devices

SHAREABLE Easily pass control while collaborating

PRIVATE Avoid sharing with the wrong person

SECURE Keep your network and laptop data protected

MANAGED Stay in control



Intel® Pro WiDi Considerations

Positioning

- Remote management of client and conference room
- Employee productivity
- Cost savings
- Safety and security
- Full guest support and broad range of devices
- Doesn't consume corporate network resources

Deployments

- Auto GO, bandwidth options, channels can be set
- Protecting the network and spectrum
- Deployment guide

Dedicated resources and experts to assist with Intel® Pro WiDi deployments and questions

ISMC References

- vPro Solutions Update for BDMs, SEG-BCPD-vPro-200, Galileo 1001
 - **9 Feb:** 1:30pm **10 Feb:** 10:30, 2:30
- Implementing No Wires, Demo-NoWires-200
 - **9 Feb:** 11am, 3m **10 Feb:** 10:30am; 2pm
- Demo Showcase, Download Bar

Deployment Resources

Planning for Intel Pro WiDi Deployments

Infrastructure Wireless

Temporary AP (Same Channel as wireless display receiver)

Intel Pro WiDi Clients

Different Channel Mode Capable

Single Channel Mode Capable

Points of Consideration

- Client inventory
- Client updates
- Wireless spectrum
- Conf. Room systems

Consumer and Business Wireless Display Difference

Consumer Wireless Display uses **Single Channel Mode (SCM)**
Infrastructure wireless band/channel is **same** as wireless display session. Client system is "Group Owner"

Example: Find Available Channel for Wireless Display

1 2.4Ghz band and channels crowded due to heavier use by infrastructure

Example solution approach for North America
Set WiDi receiver to channel 157

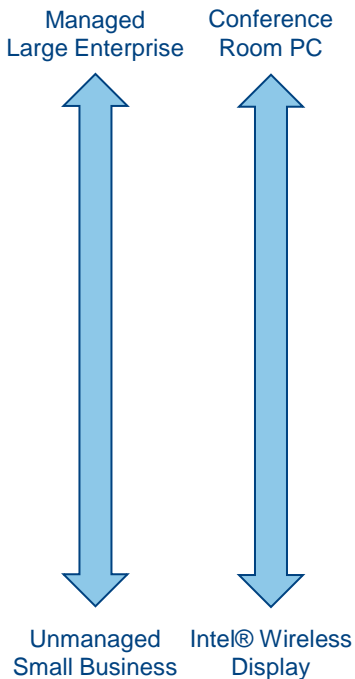
2 Lower 5Ghz band and channels used by infrastructure

3 DFS occurs on 5Ghz, channels 52-140. DFS Channels vary by country

4 Upper 5Ghz band and channels mostly open. Candidate for wireless display session

intel

Intel® Wireless Display in Business



“Campfire Creek”

- Intel® vPro™ based device
- Campfire Creek Collaboration Platform
- Intel® Pro Wireless Display Soft Receiver
- Wireless display from anywhere
- Direct peer-to-peer
- Secure and managed
- Optimized wireless network connection
- Windows and OS X
- Additional collaboration expandability

Intel® Pro Wireless Display

- Secure
- Direct with video
- Managed wireless display receiver
- Privacy screen and presenter controls
- Works on 4th & 5th Gen Core and CHT Atom tablets

Intel® Wireless Display

- One to one wireless display with video

Usages

- Campfire Creek
 - Workplace transformation
 - Environment integration
 - Extensibility
 - Future-proof
 - Collaboration beyond one conference room
 - Interactions, whiteboard, annotations
- Wireless Display
 - Content Display

Intel® Wireless Docking – Designed for Productivity

At your desk (home or office)

- Docking is complete by the time you sit down
 - Auto-dock starts when you approach your desk
- Full experience without opening the lid
 - Wake the device from the dock or peripherals
- Saves battery life when docked
 - Dock with close lid will reduce overall power consumption
- Simple to operate
 - Automatic configuration, SW updates

In the office

- Robust performance in dense environment
 - Short range & directional
- Enables multi users share same dock at different times
- Select remote management features are available
 - Centralized discovery & upgrade of dock firmware supported

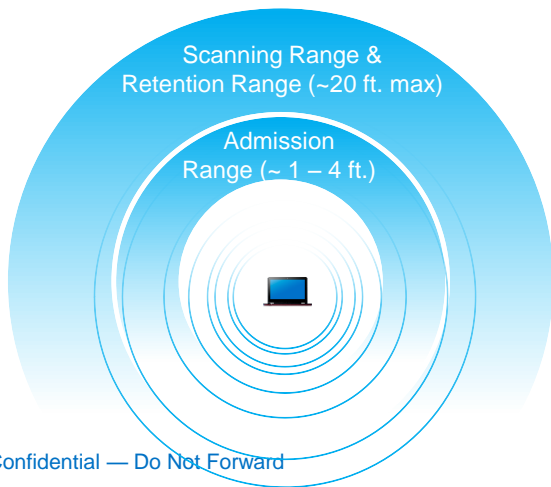
Intel® Wireless Dock – Ecosystem & Considerations



Dell® Wireless Dock D5000
Available 1H 2015
\$249 MSRP



HP® Wireless Dock
Available 1H 2015
\$TBD MSRP



Positioning

- Standardizing on mechanical docks requires support that span vendors and generations
- Freedom of orientation within their offices
- Delighting their end users with exciting usages

Security

- By nature, WiGig is a secure technology
- Wireless docking uses AES 128 bit HW encryption for all data passed between the client and dock
- User profiles are secure and saved on the client PC, not the dock.

Remote Management

- SW/FW updates can be easily pushed by IT patch tools or management consoles to WiGig-enabled clients
- Intel® SCS 10 support available for remote discovery of detailed WiGig client information via Microsoft's SCCM management console (via SCS add-on) or PowerShell

Operating in Dense Environments

- WiGig signals have limited range
- WiGig operates on multiple channels and can select the optimal channel to use based on congestion levels.
- Ranges for best performance may differ for different form factors & orientations

What is the best docking experience in 2015?



Wireless

Frequent docking and undocking

- No connector or cable dependencies
- Evolving charging methods, longer client battery life, wireless charging

Intel® Wireless Docking featuring
Intel® Wireless Gigabit

- Freedom from wires experience
- 7 Gbps transfer rate



Single Cable

Infrequent docking and undocking

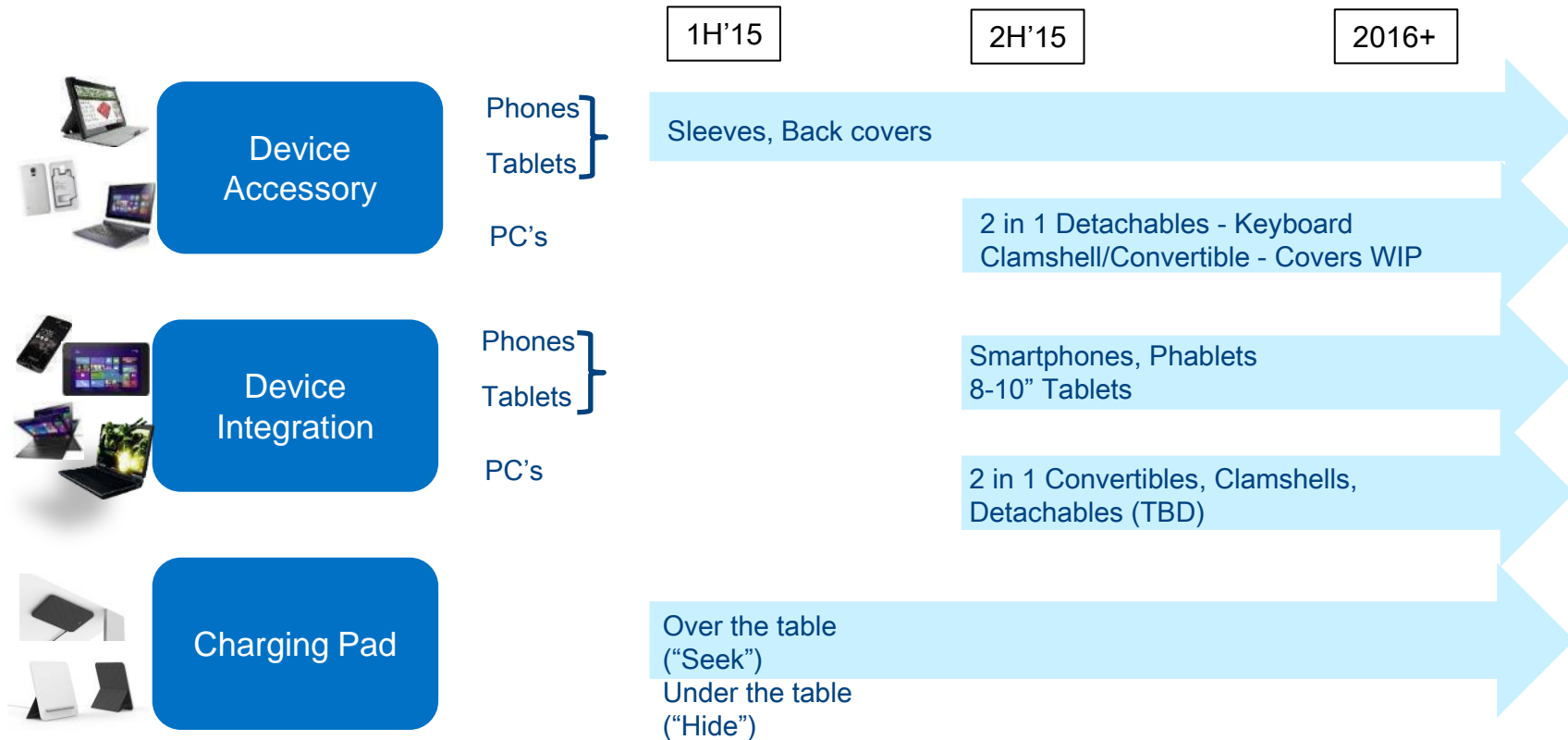
High performance monitors and peripherals

- Small, universal, USB Type-C connectors for USB and Thunderbolt™ technology docks
- Data/video and up to 100W of charging power over a single cable

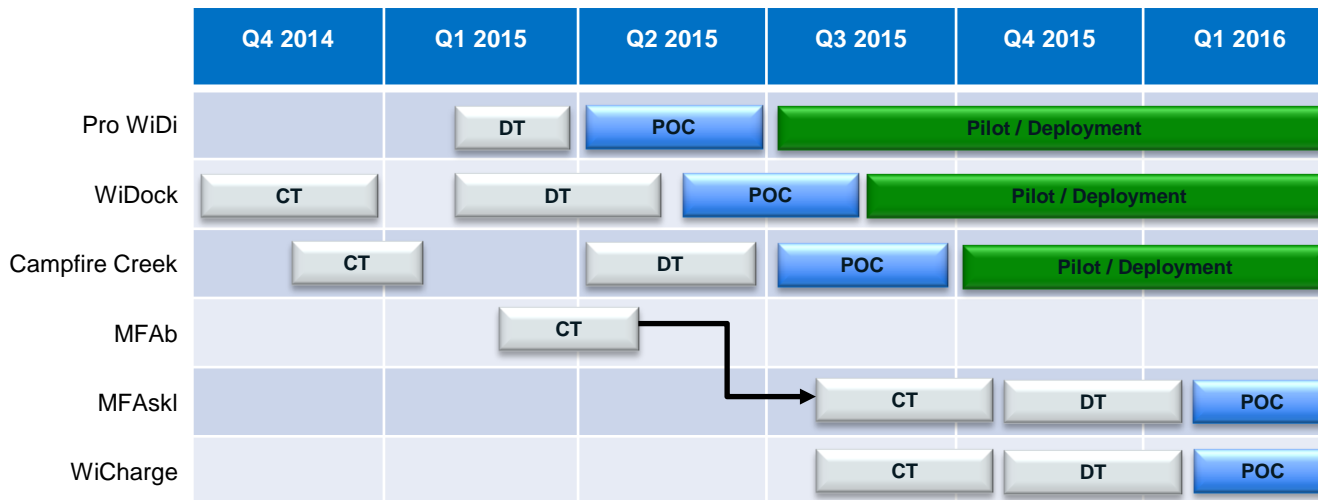
Thunderbolt™ technology
(SKL TTM)

- Thunderbolt™: 40 Gbps
- USB 3.X: 5-10 Gbps

Wireless Charging Product Strategy: Lead with Accessories



2015 Pilot/PoC Roadmap



Intel Pro WiDi Segmentation

The complete **Intel® Pro WiDi** solution requires

- An Intel® vPro™ technology platform
- An Intel® Pro WiDi-certified Receiver



		Receivers		
		Certified Intel® Pro WiDi	Certified Intel® WiDi	Miracast
Transmitters	Intel® Pro WiDi Clients <i>(with Intel WiDi app)</i>	Intel® Pro WiDi WPAN/WLAN isolation WPAN restricted to WiDi Channel Management Privacy Features Managed Meetings	Intel® WiDi Performance & Quality certified WPAN/WLAN isolation WPAN restricted to WiDi DCM	“Intel® Miracast” RX Performance & Quality optional WPAN/WLAN isolation WPAN restricted to WiDi DCM
	Intel® WiDi Clients <i>(with Intel WiDi app)</i>	“Business WiDi” Performance & Quality certified Channel Management	Intel® WiDi Performance & Quality certified DCM	“Receiver Legacy” Receiver Performance & Quality optional DCM
	Miracast Clients	“Business Miracast” Client Performance & Quality, DCM optional receiver Channel Management	“Client Legacy” Client Performance & Quality optional, DCM optional	“Caveat Emptor” Overall Performance & Quality optional, DCM optional

An Intel® Pro WiDi solution is...




Transmitter

Software

- Intel Pro WiDi Application v5.1.x

Intel Pro WiDi Capable Drivers

- GFx Pkg 15.36.x.x, Driver 10.18.x.x
- WLAN\PROset Pkg 17.13.x.x

4th Gen or Higher Intel® Core™ vPro Platform with pGFX



Receiver



Intel Pro WiDi-capable Receivers

Intel® Pro Wireless Display Experience

Several Wireless Display Solutions Today

Similar Devices to WiDi (Miracast)

Apple* TV AirPlay

- Is a set-top box for Apple* products, Apple* applications and Apple* content
- Uses the network NOT a direct connection...

Google* Chromecast

- Is a set-top box from Google* for the (non-Apple*) Service Providers: Netflix*, YouTube*, Pandora*, etc.
- In order to show anything the application needs to be ported to the Chromecast*...

Why IT is looking for a different solution...

Network bandwidth, content and security issues

- Display streaming takes up too much bandwidth from the WiFi LAN, 4-10M...
- Devices like Apple* TV and Chromecast*
 - Get their content directly from the internet, allowing malicious or undesirable content
 - Do not support the security required by enterprise networks

Network bandwidth and security issues

- Apple* TV has screen mirroring, but only in specific apps...
- Chromecast* has screen mirroring, but must have the Chrome plug-in and tab open; but poorer quality than

Intel WiDi displays ALL content (securely) to any Miracast receiver, with high quality, reliability and security on Pro WiDi receivers

Intel® WiDi vs. Competition

	Apple* Airplay	Google* ChromeCast	Intel WiDi
OS	-iOS -Mac OS X	-Windows -Android, Chrome -iOS, OS X	-Windows 7/8/8.1 -Android OS 4.2 and above
Apps	Most Apps, content	Few apps: HBO GO, Netflix, Hulu Plus, Pandora, YouTube, Google* Play Movies & TV and Google* Play Music and etc.	All apps, content
Transmitter Ecosystem	Apple* devices only: phone, tablet, laptop	Works on any phone/tablet/laptop with right OS and app support Tab/Screen casting only on PC, not supported on smartphone and tablet	Intel Core based laptop Intel Atom based phone/tablet
Receiver Cost	\$99, 1 device only, not worldwide available	\$35, 1 device only, supported in US only	Variety of WiDi adapters Free in some TVs
Ease of use /Compatibility	Single receiver with Apple* brand Easy to install and use	Single receiver with Google* brand Easy to install and use on smartphone and tablet Complicate setup on PC	End to end interoperability and compatibility with WiDi certified receiving devices
Screen Mirror	Yes	Limited via Chrome browser on PC, not supported on smartphone and tablet	Yes
Pro IT	No	No	Yes