BYOzzzz: Focusing on the Unsolved Challenges of Mobility, An Industry Perspective

Kit Colbert
CTO, End-User Computing

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VMware: Addressing the Market From Data Center to Device

End-User Computing

Desktop | Mobile | Content

Workspace Services

Software-Defined Data Center

Management & Automation

Compute
Storage
Networking

Virtualized Infrastructure

Hybrid Cloud Computing

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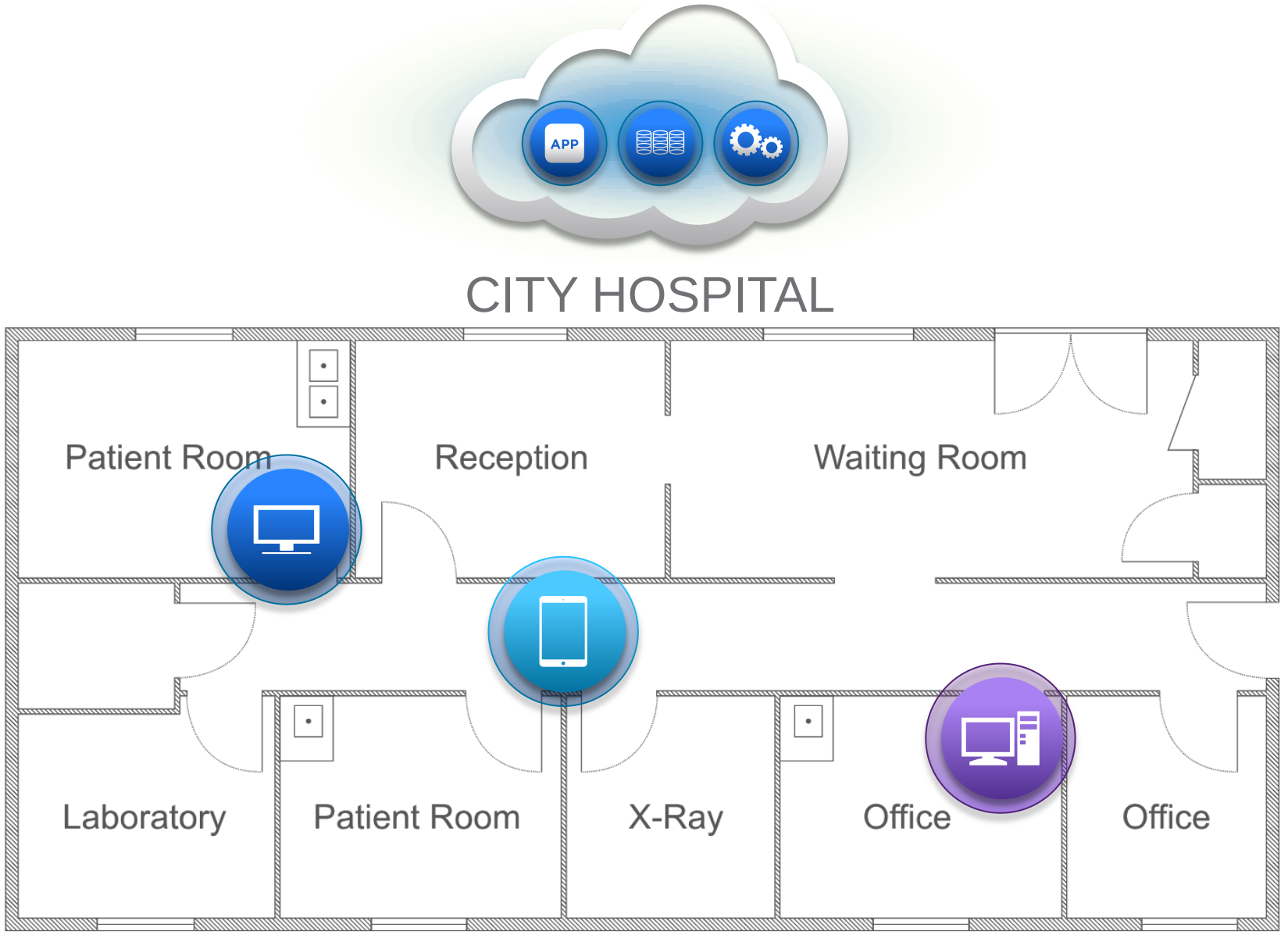
What Do They Want?

End-User

Goal: Flexibility of devices, ability to switch between devices seamlessly without compromise.

IT Admin

Goal: Simplified and unified management across all devices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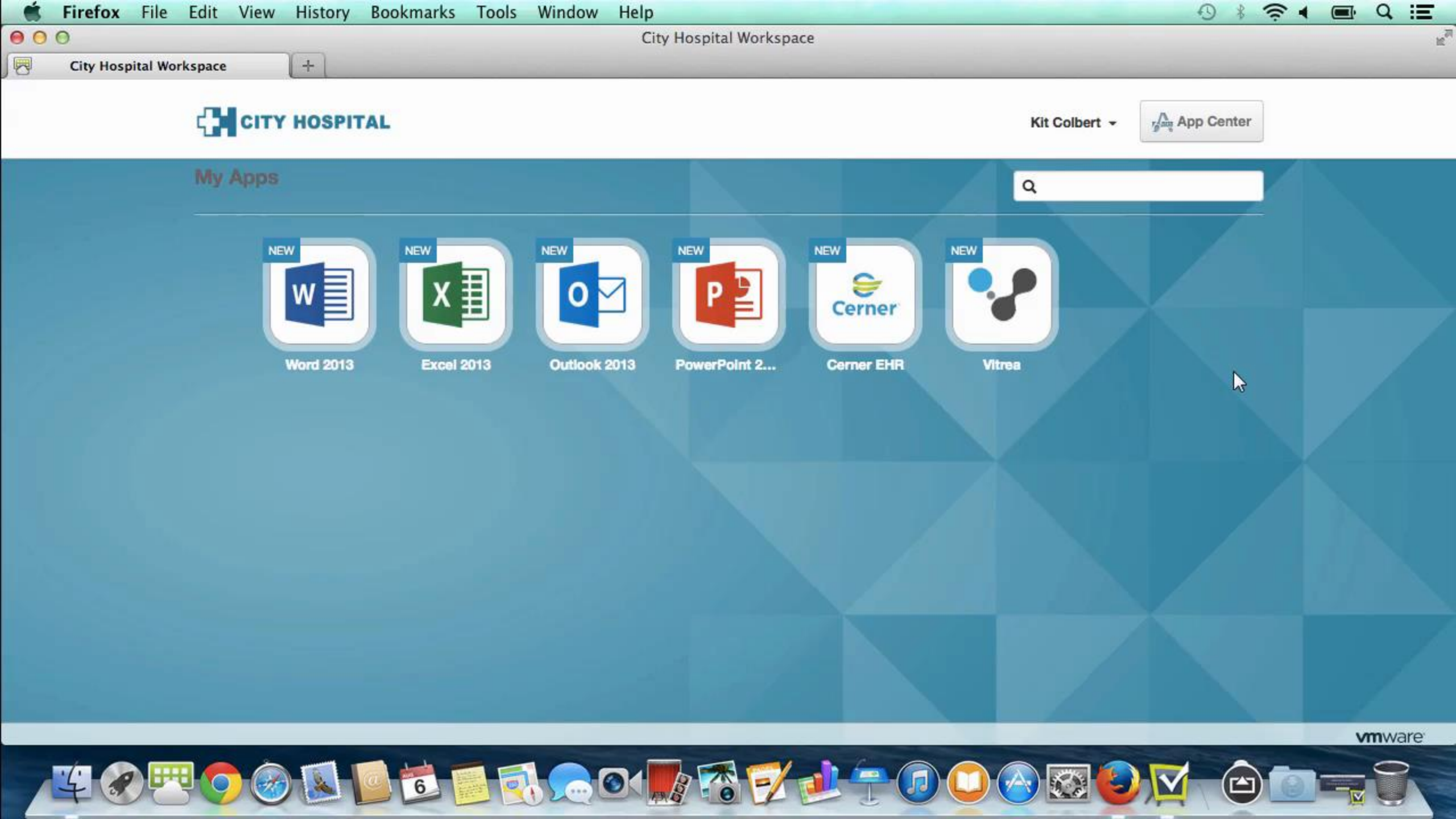
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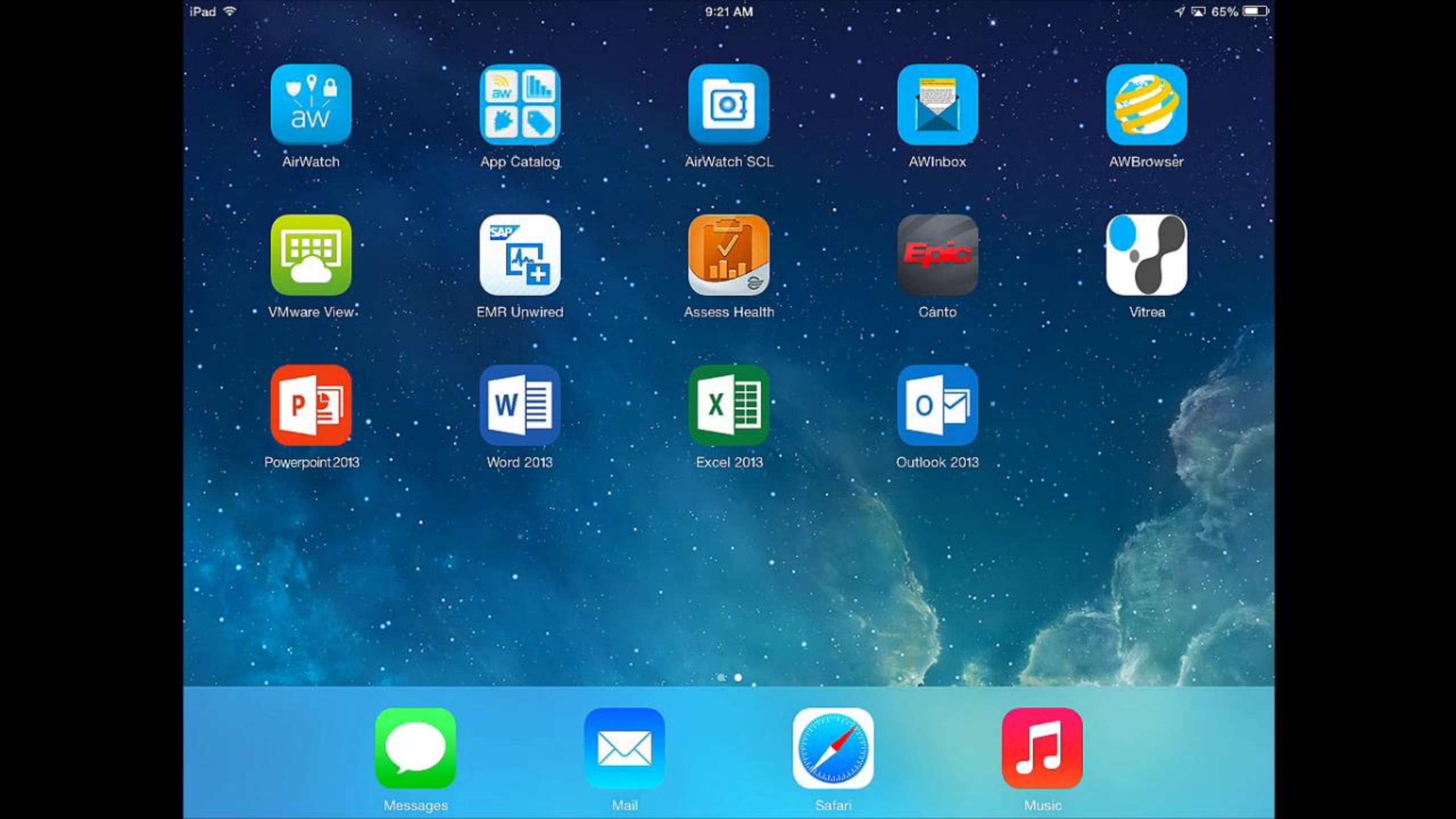
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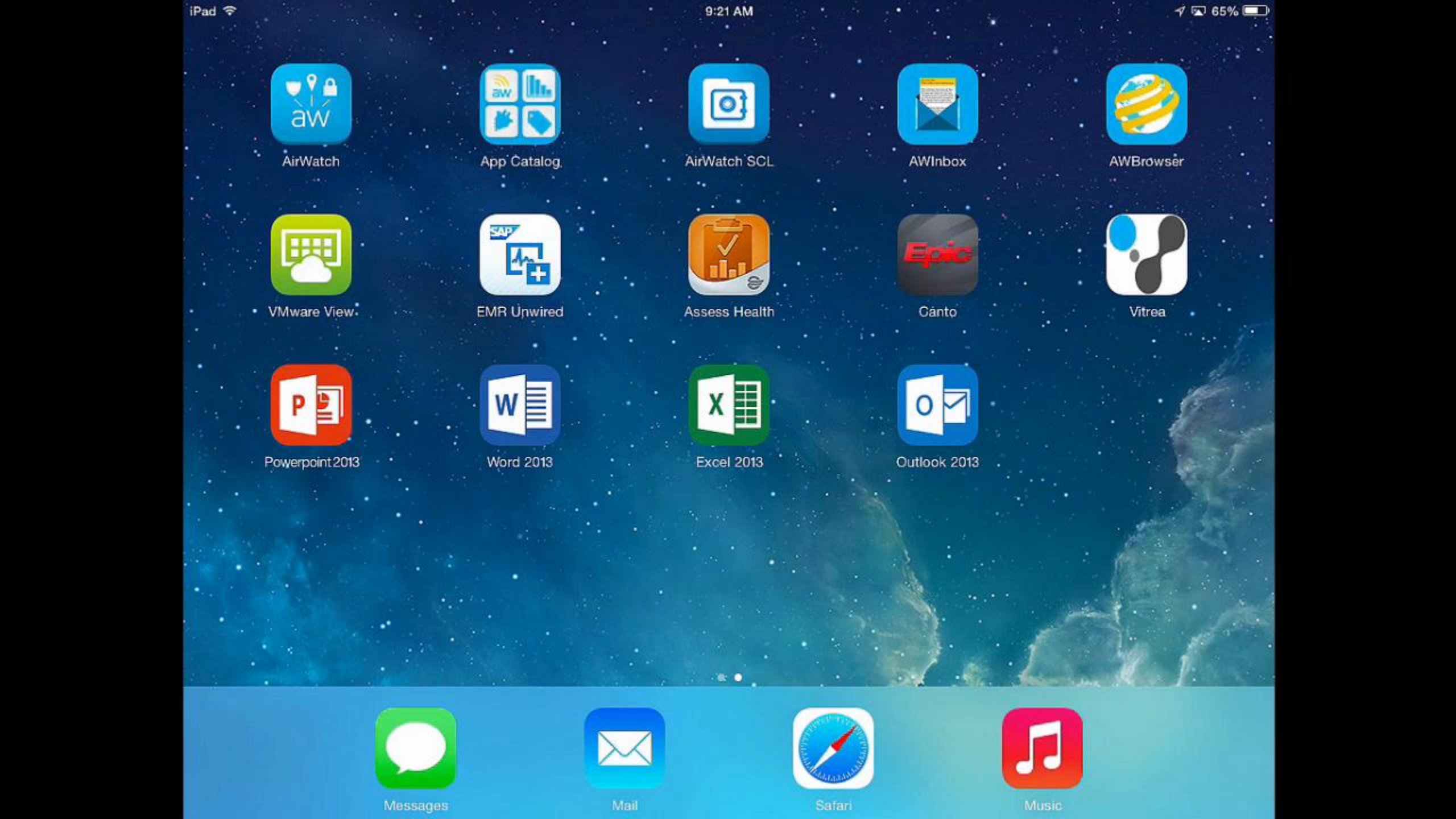
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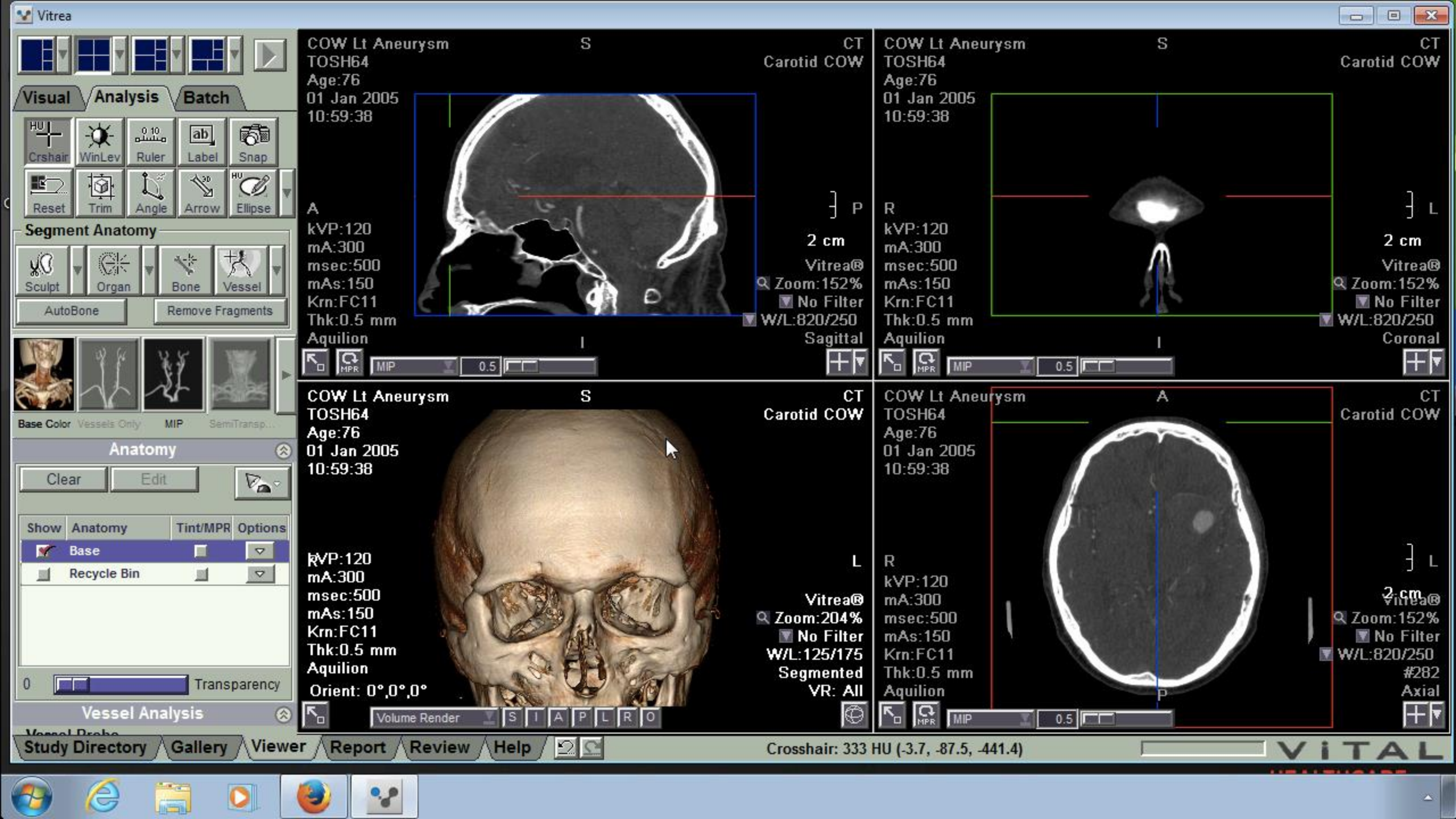
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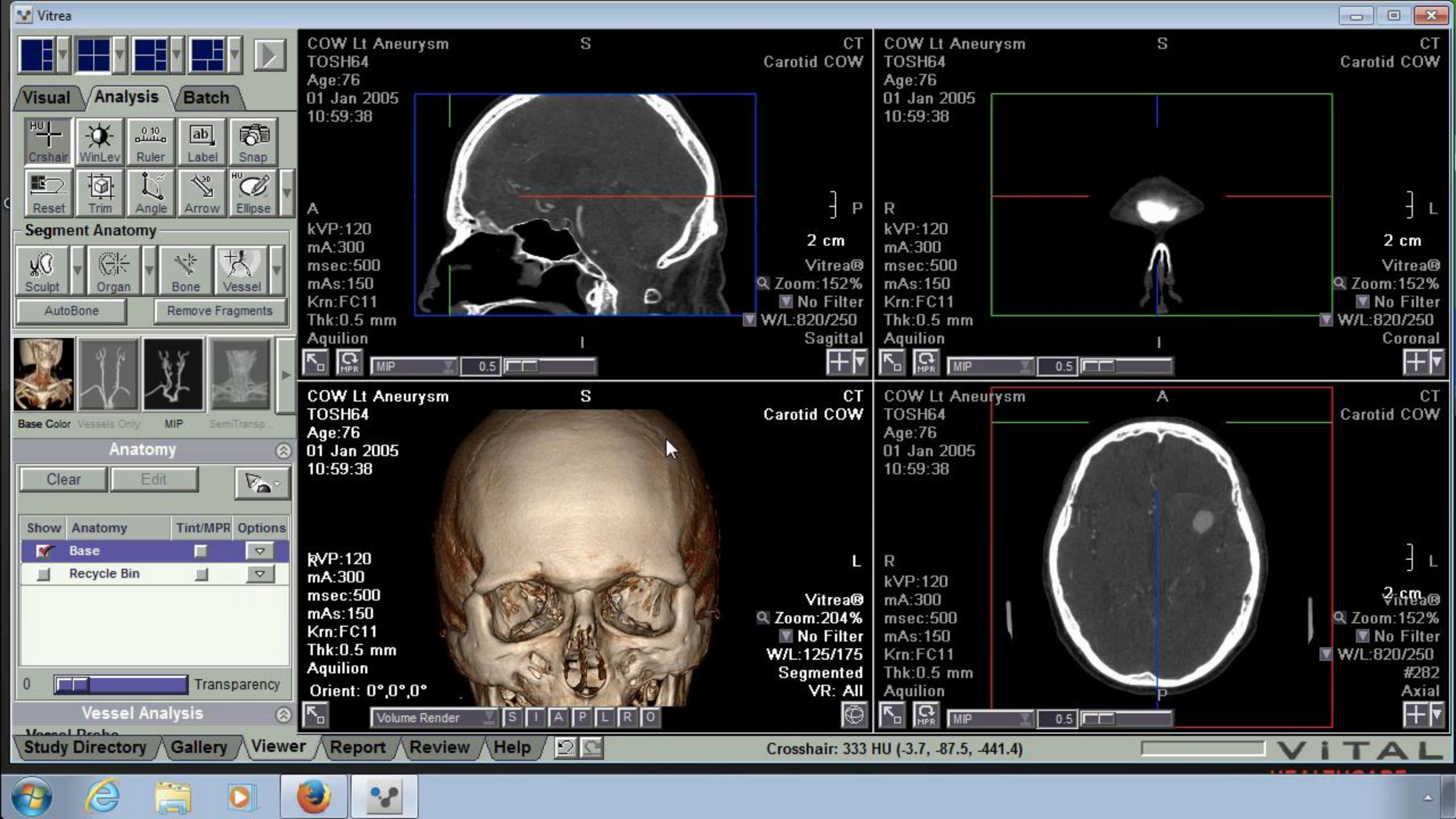
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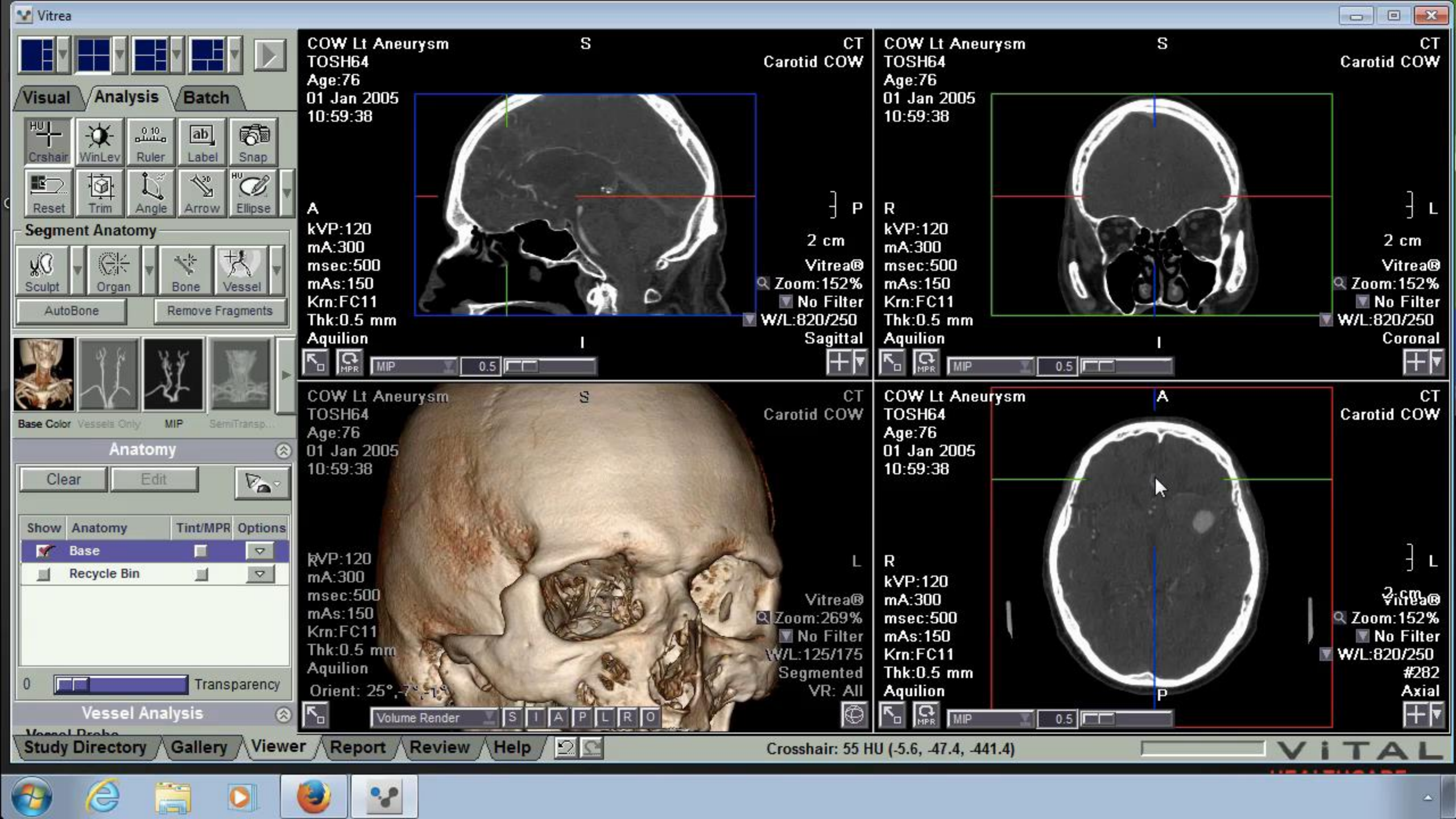
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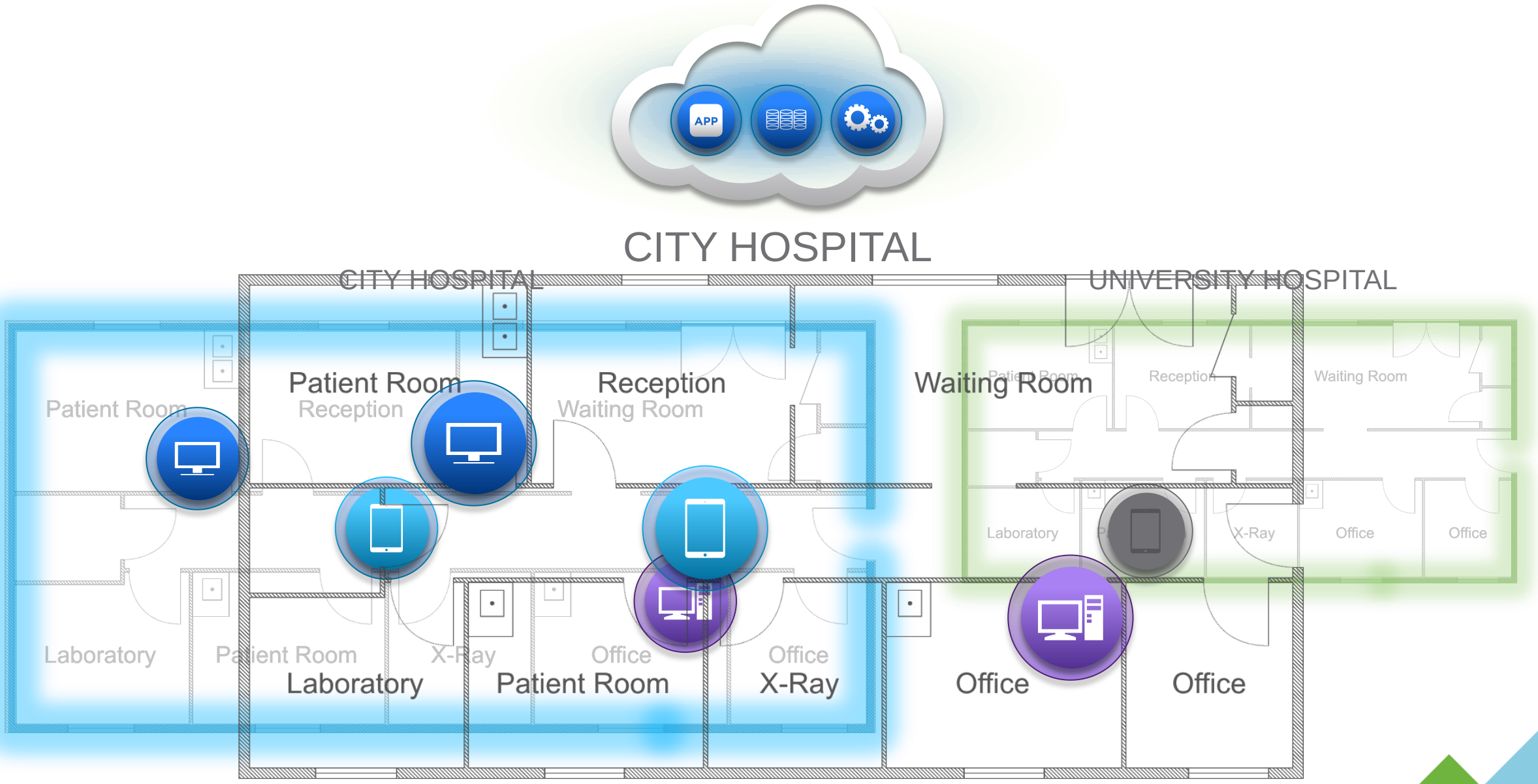
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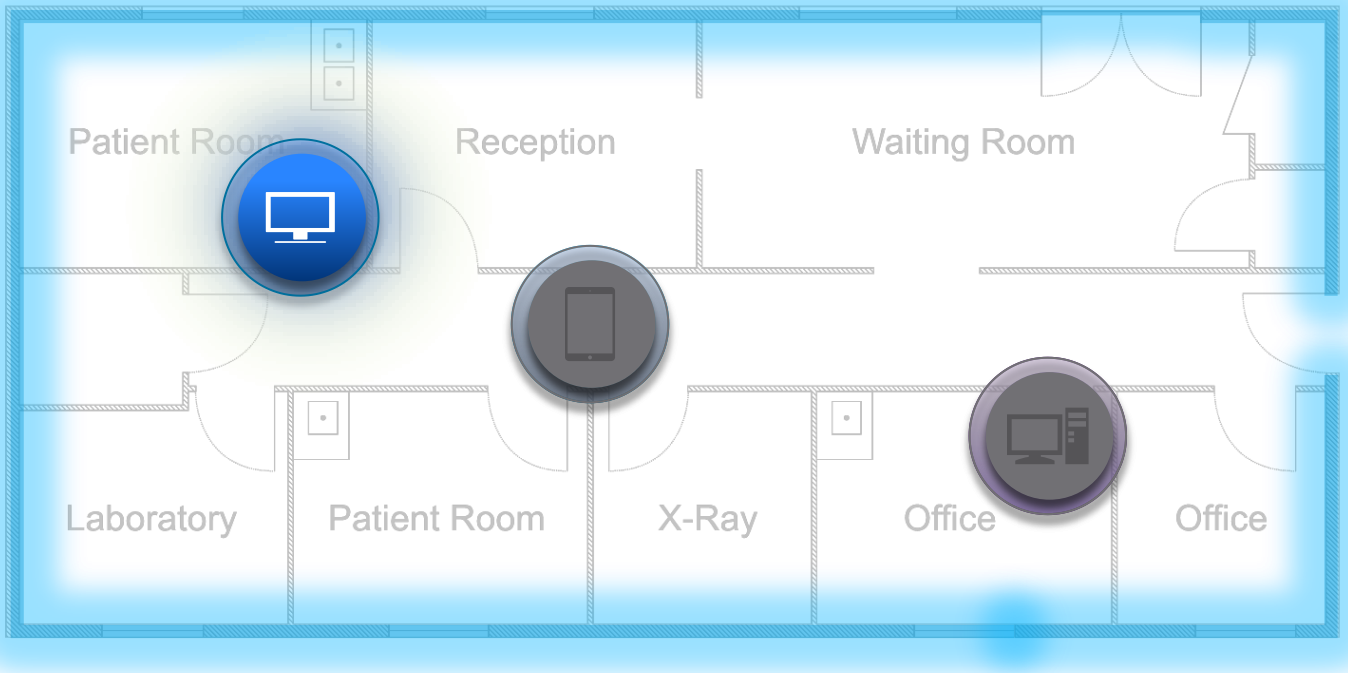

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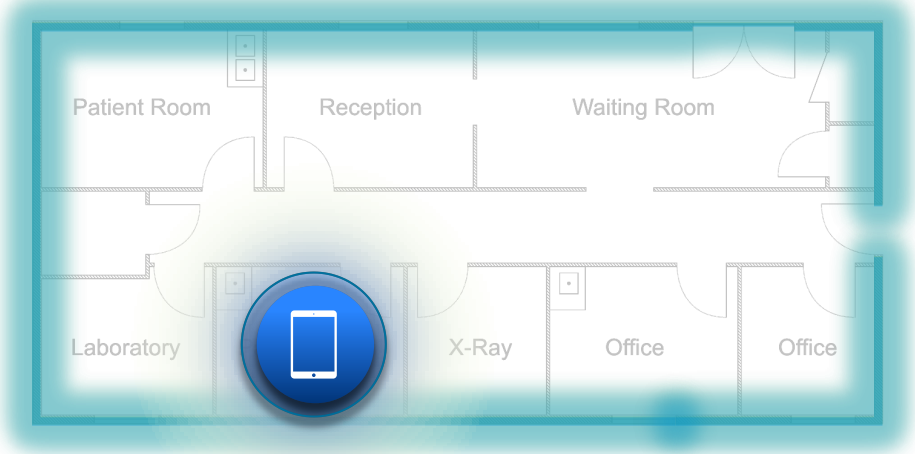

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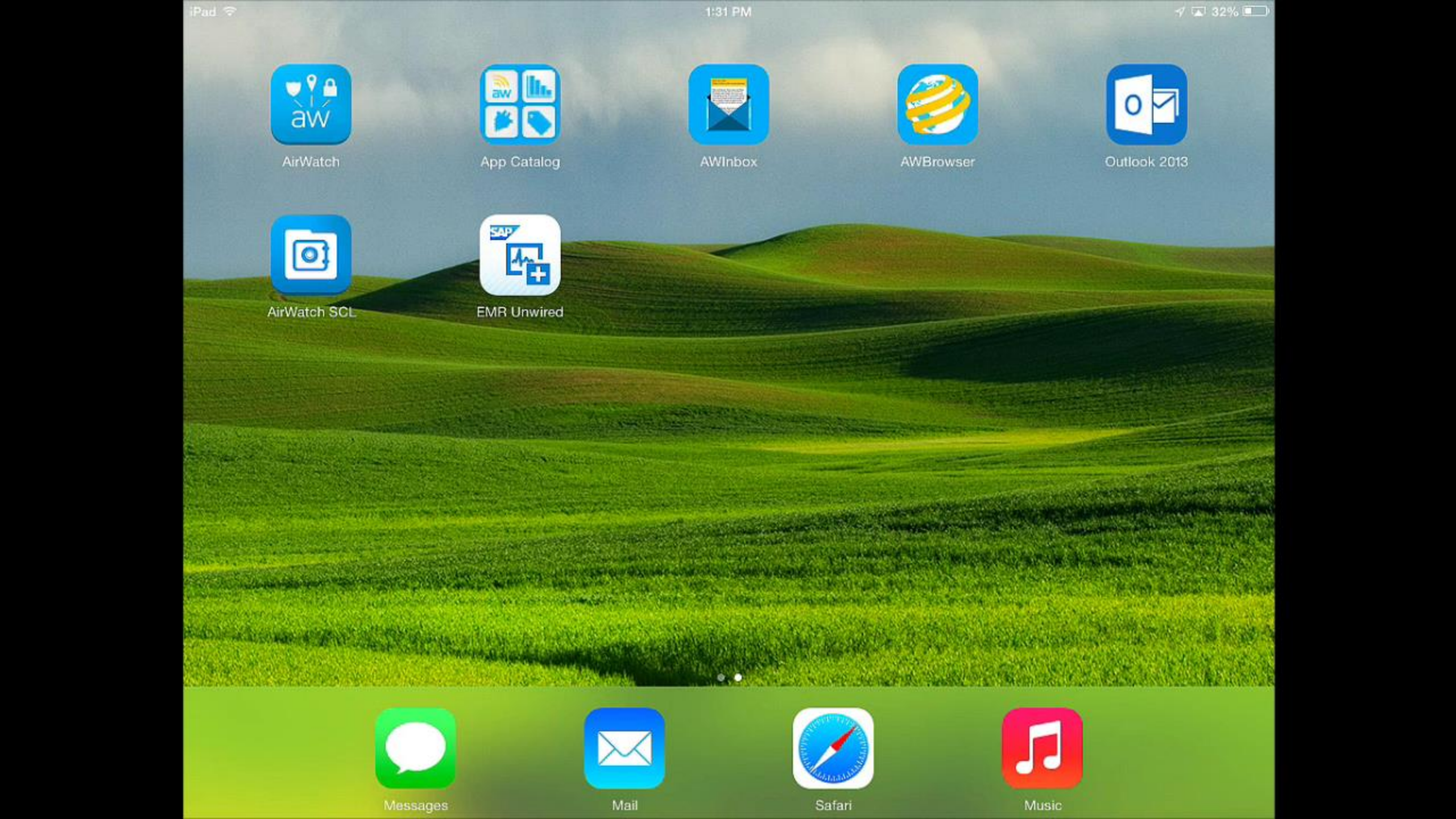
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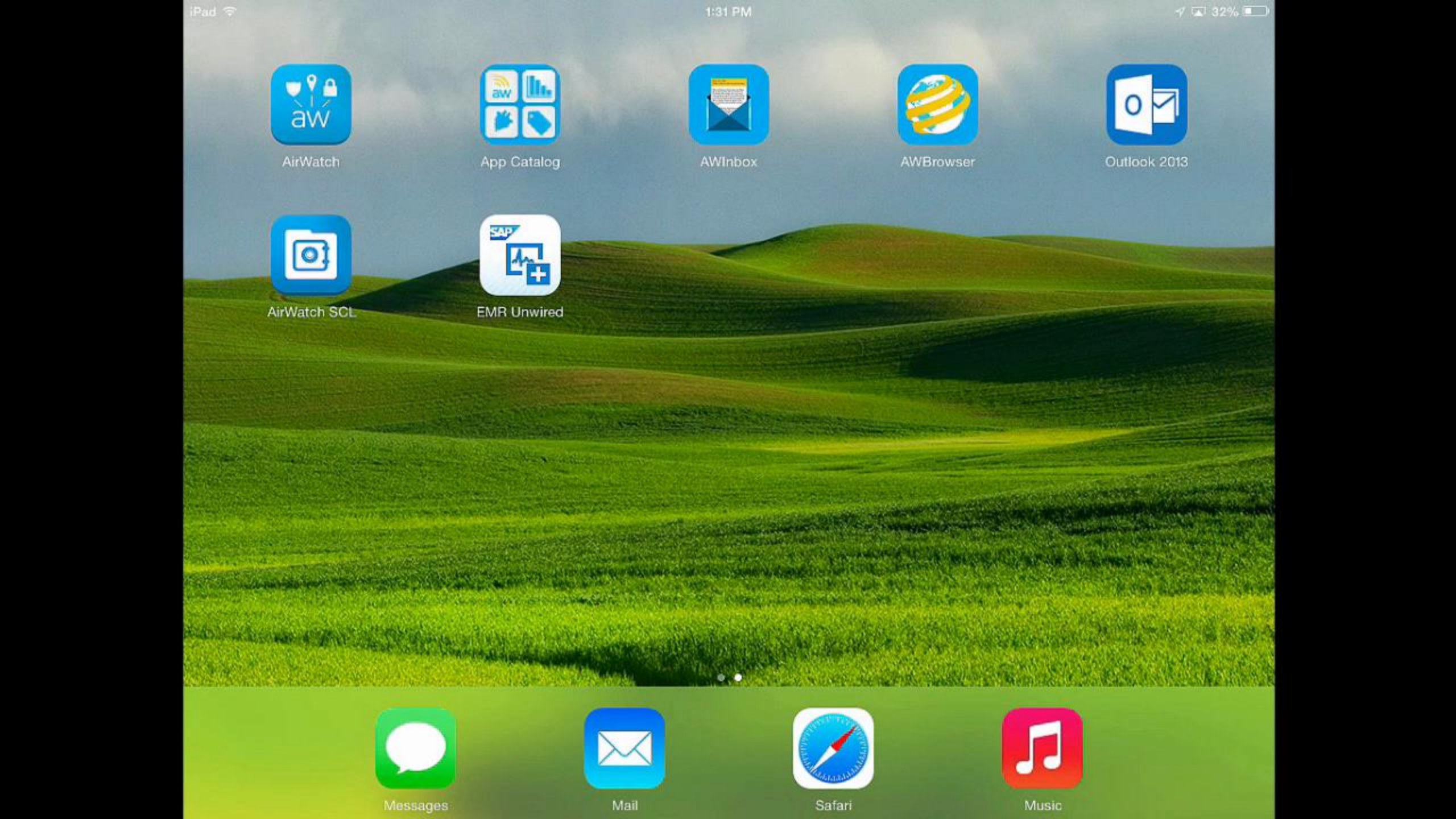
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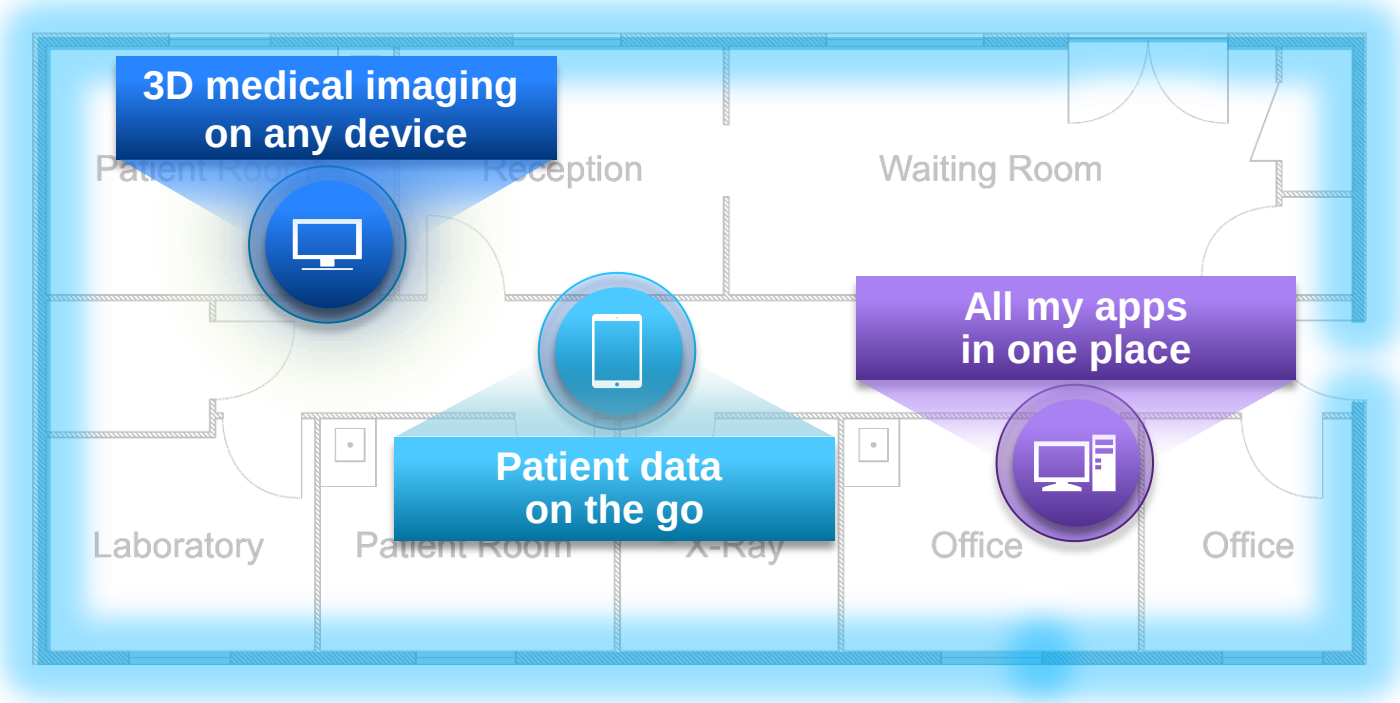

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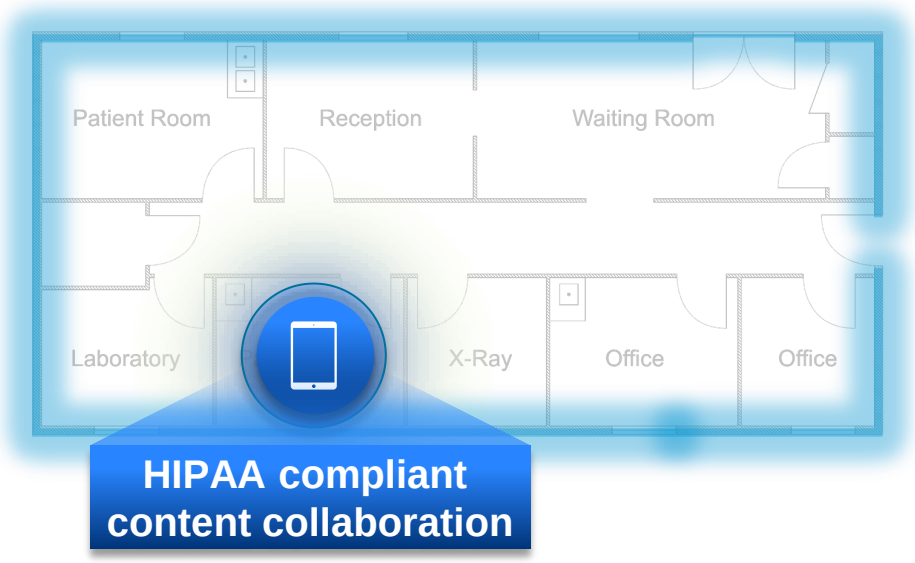

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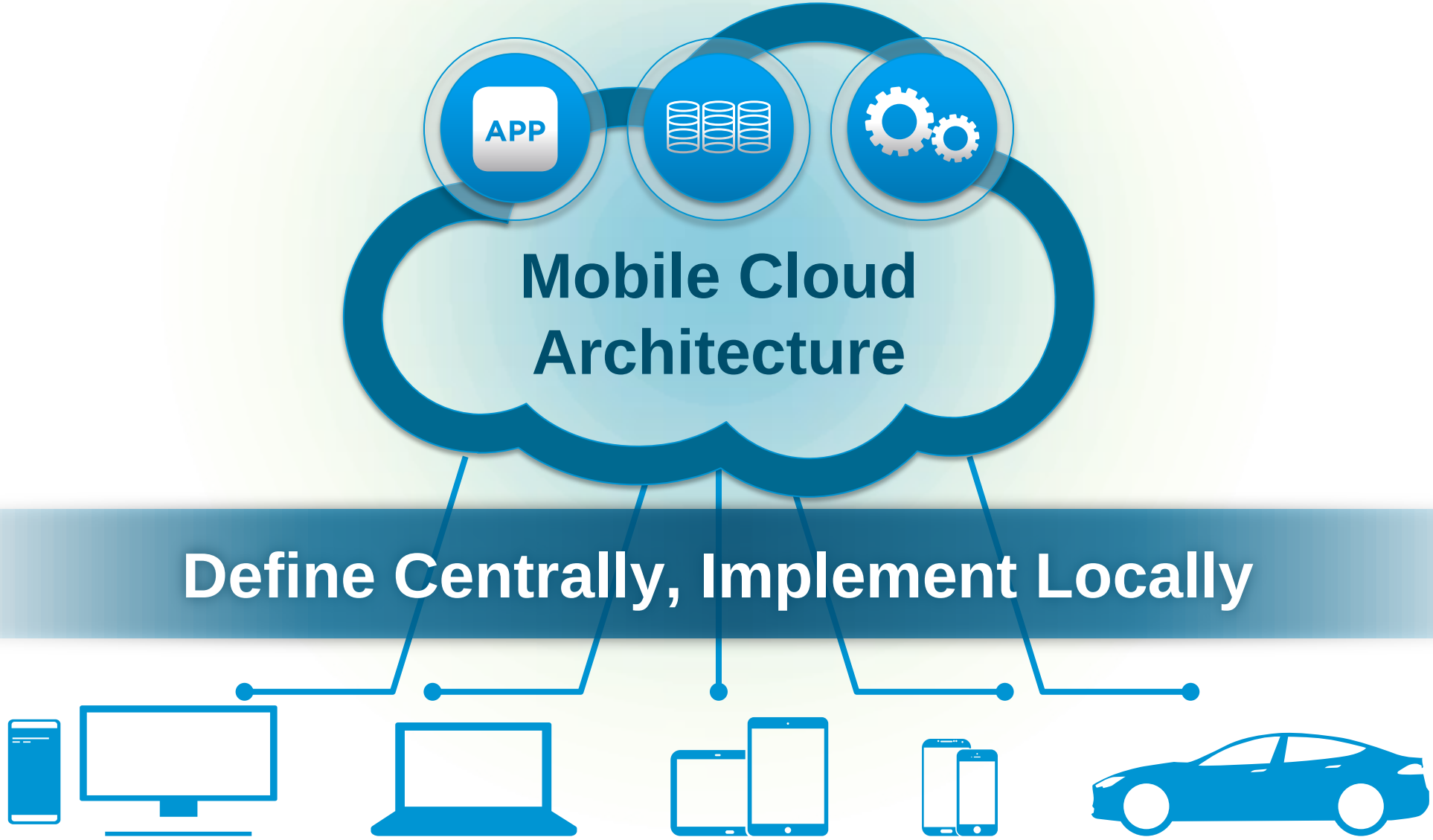
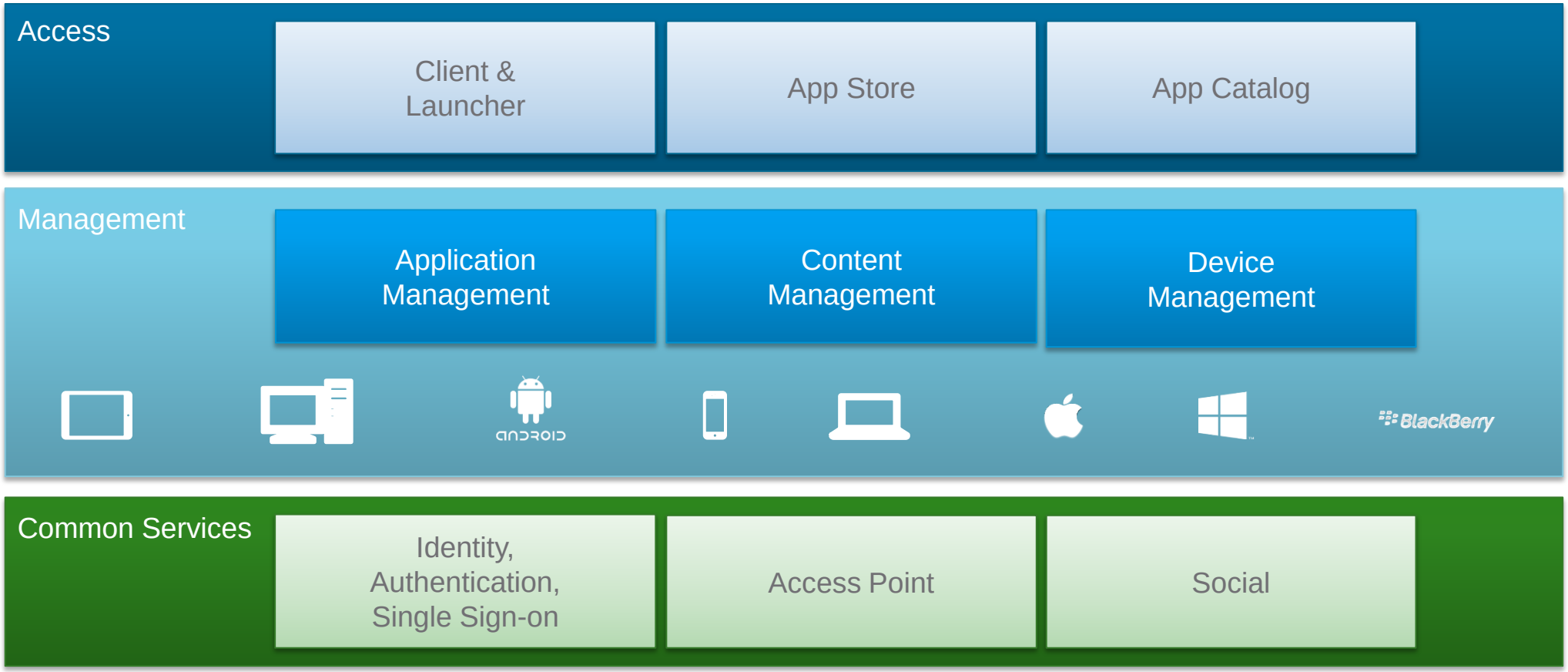


Define Centrally, Implement Locally

Where We are Headed – The Virtual Workspace



Unsolved Problems with Mobility

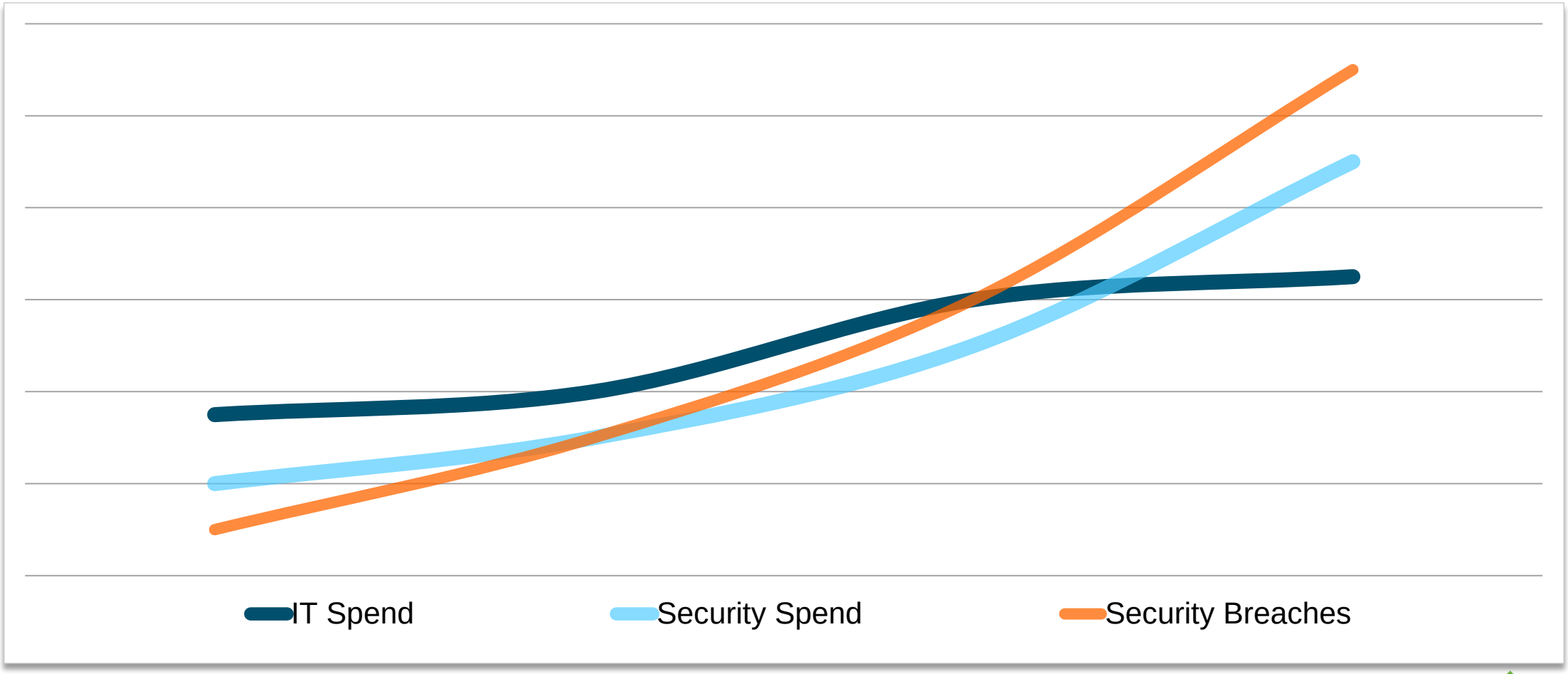
Security

Context

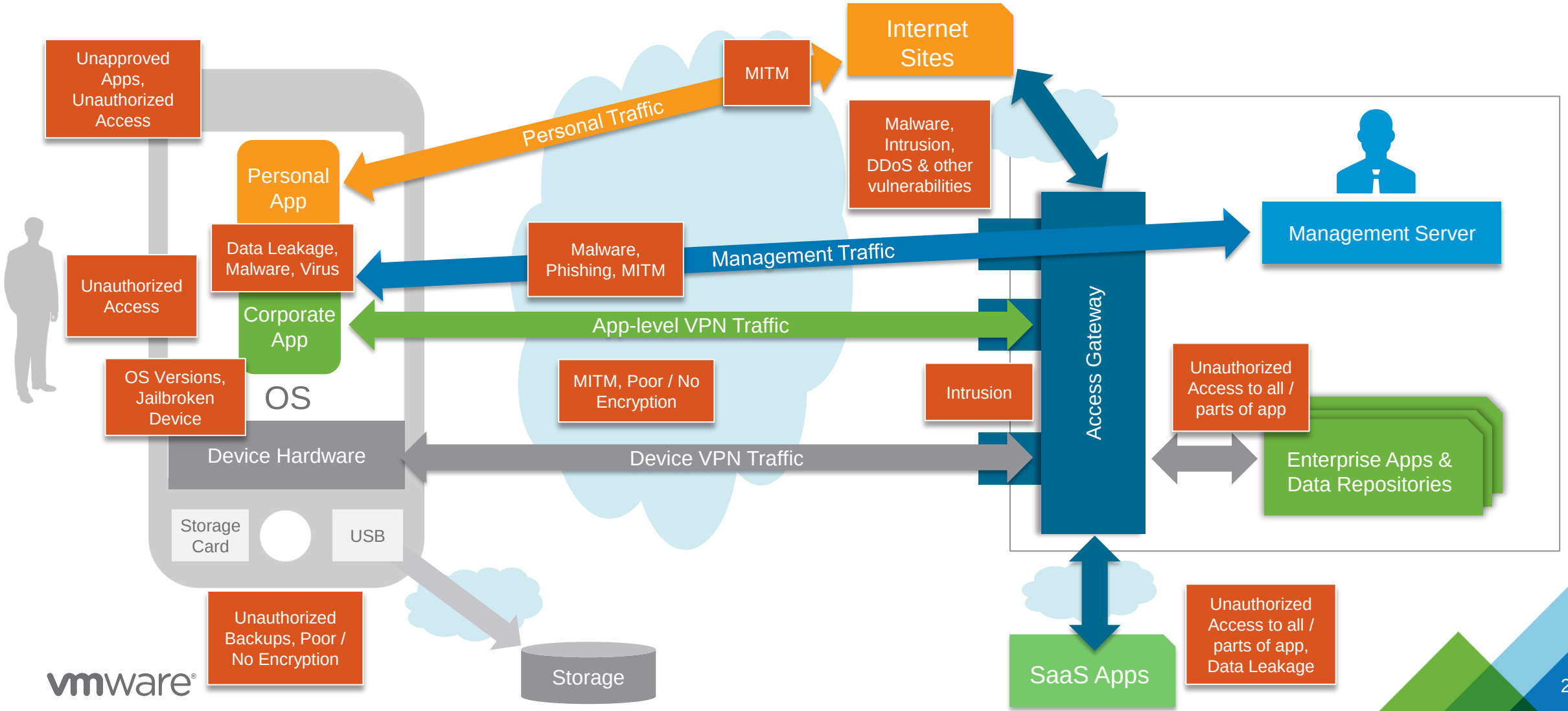
Internet of Things

A Picture of Diminishing Returns

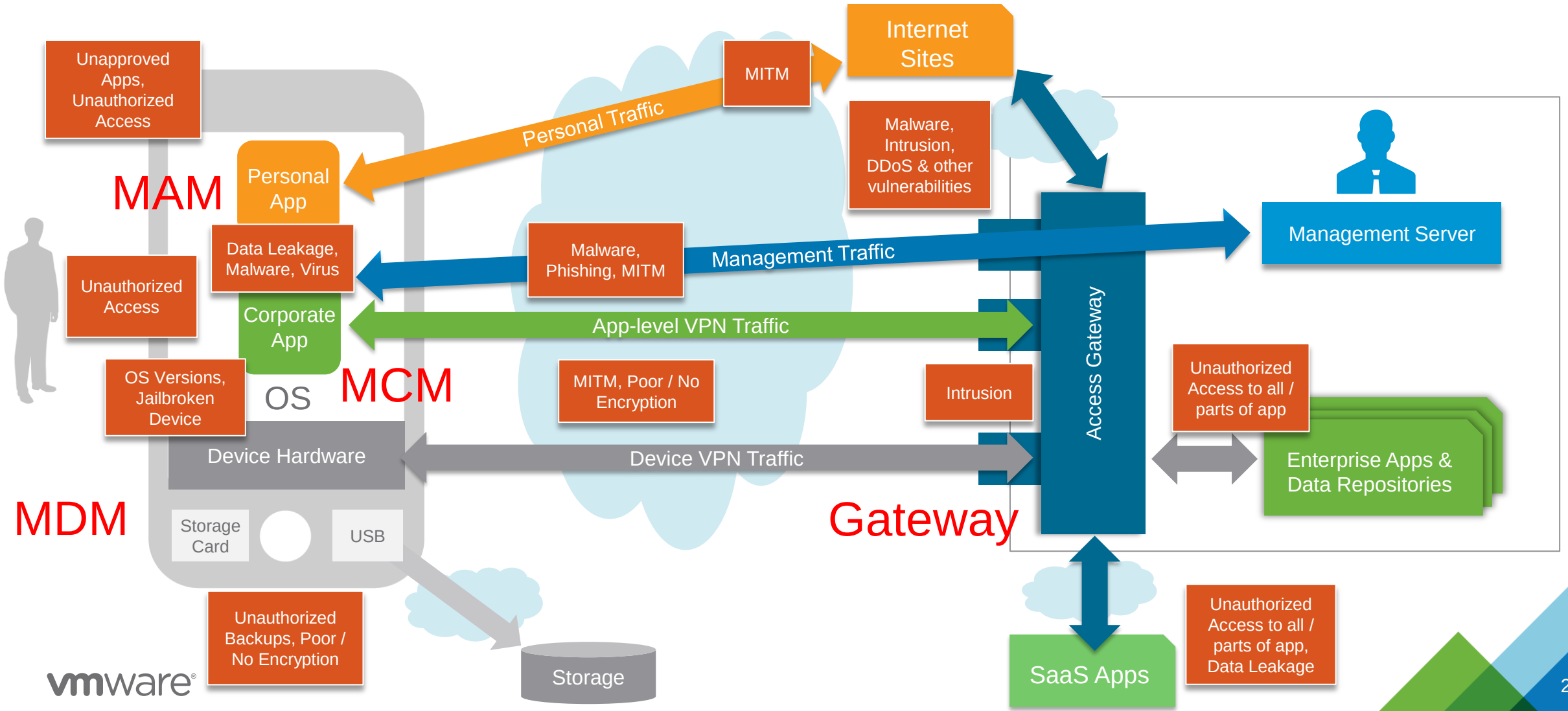
The Only Thing Outpacing Security Spend… Is Security Losses



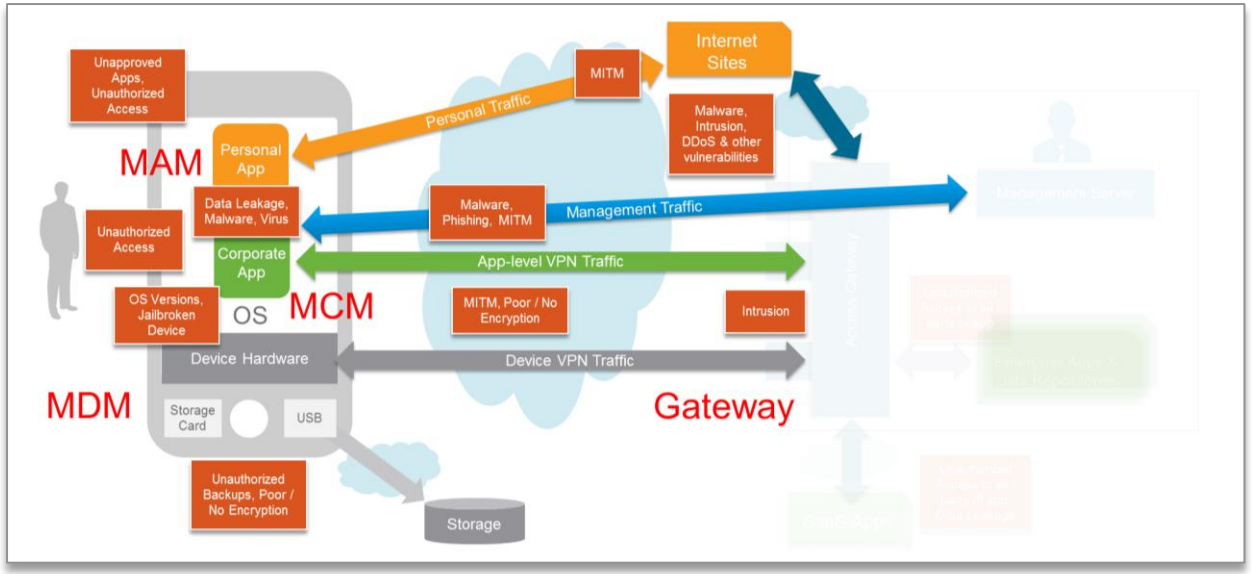
Many Aspects of Enterprise Mobility Security



Security Outside the Firewall



Open Problems with Security Outside the Firewall

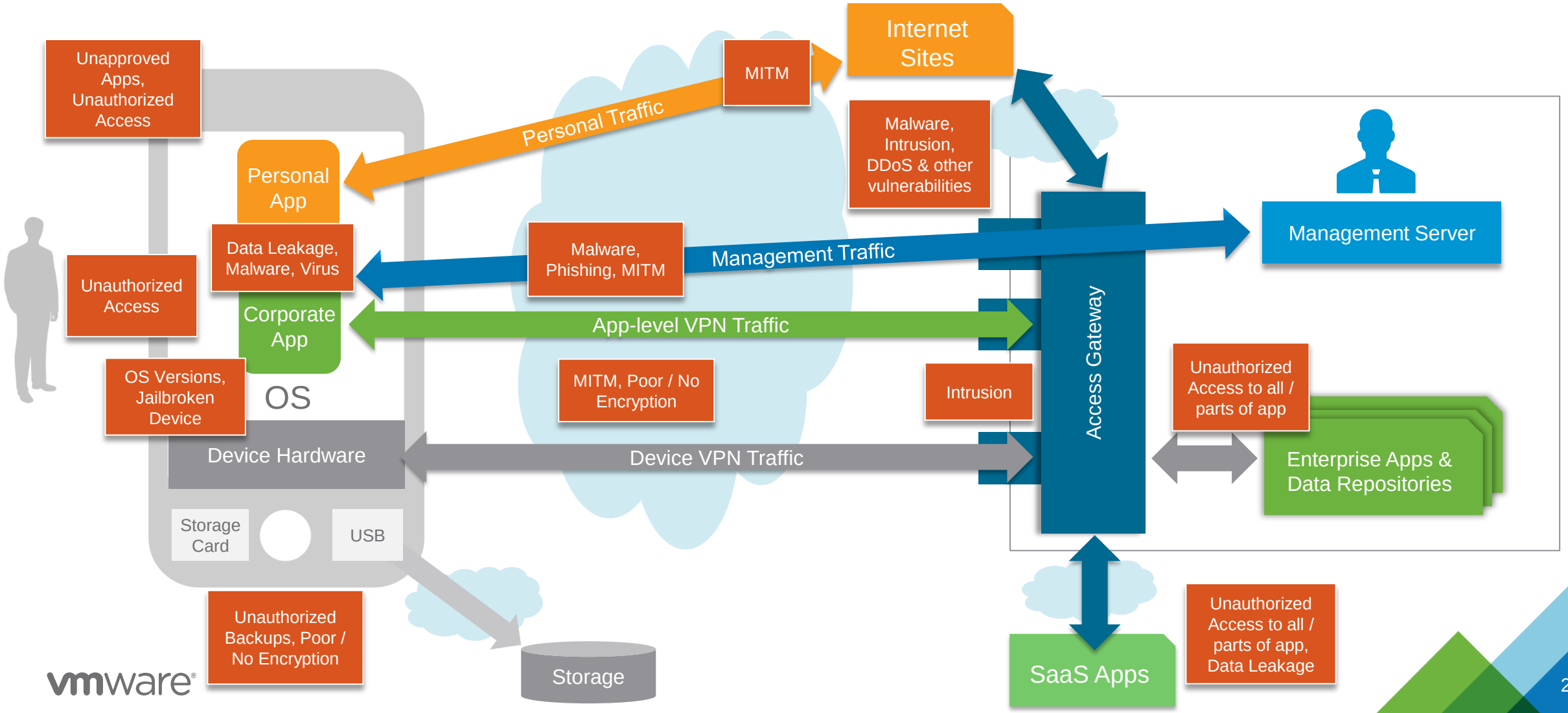


Are there other layers for enforcing app and data security?

How can IT balance security with ease of use?

Can we take risk-based approaches?

Security of the App: App Scanning/Behavior Analysis



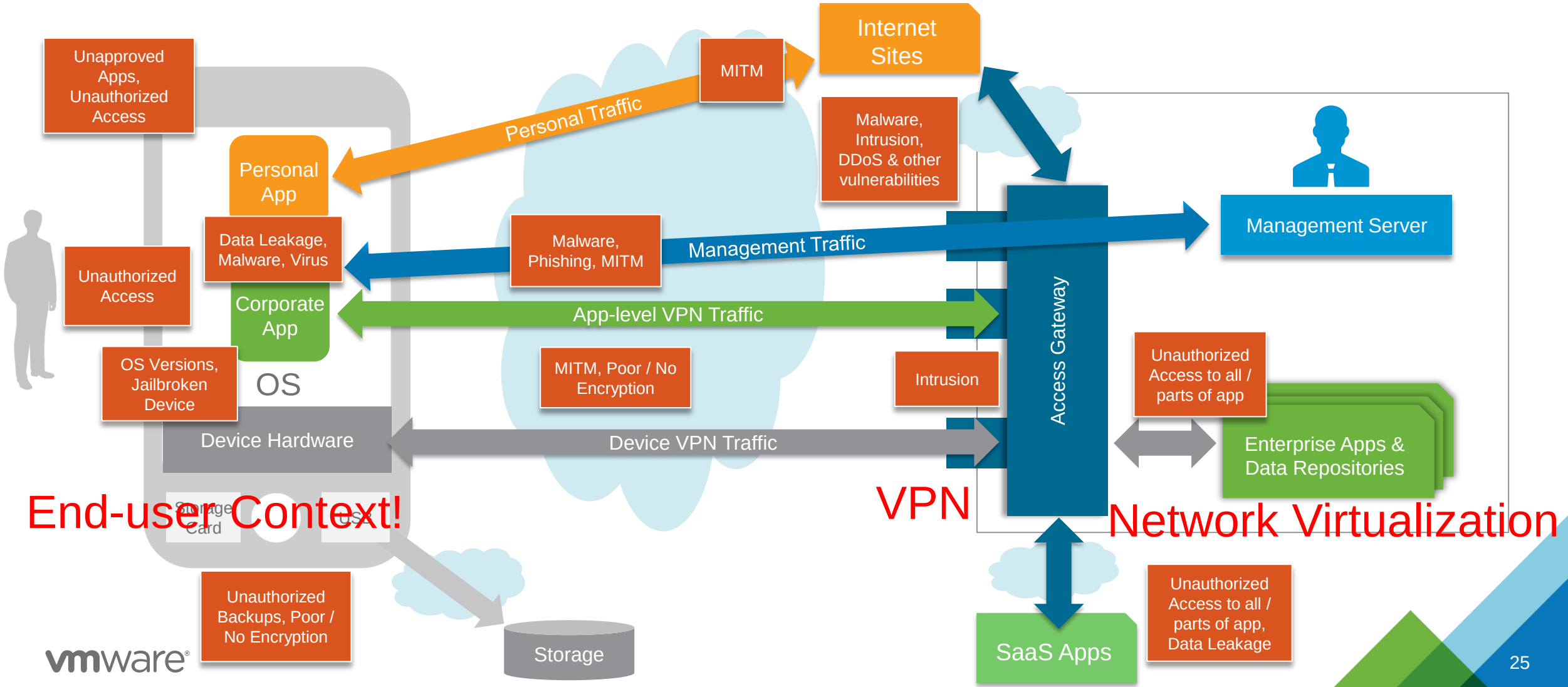
Open Problems with App Scanning

What is the right way to characterize app behavior?

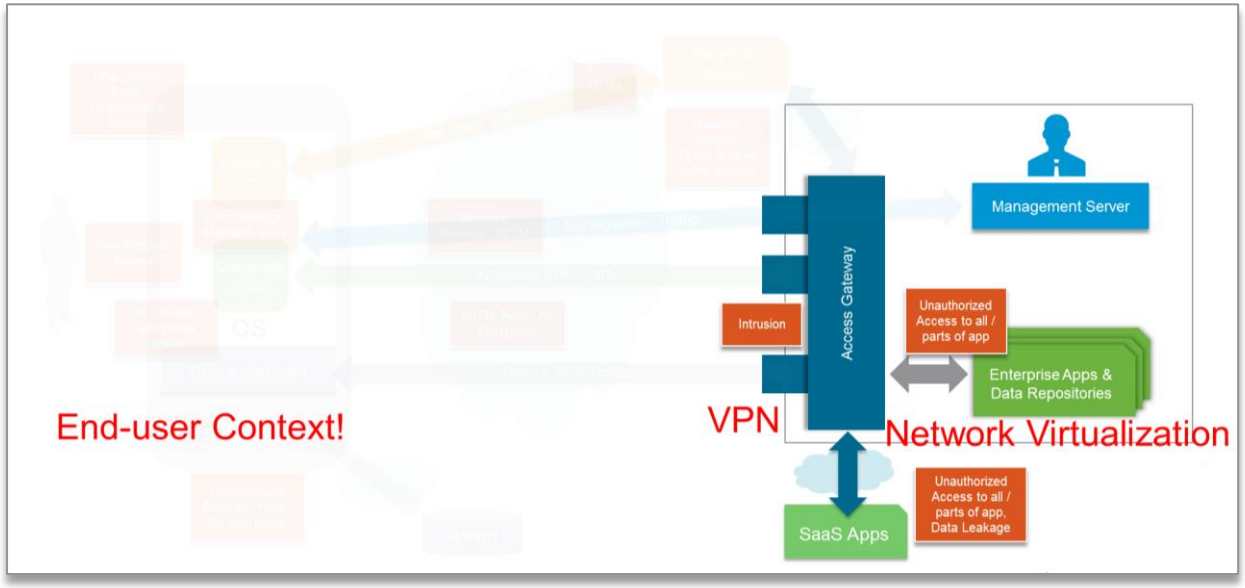
How generic can these behavioral algorithms be?

Is app scanning even the right approach?

Security Inside the Firewall



Open Problems with Security Inside the Firewall

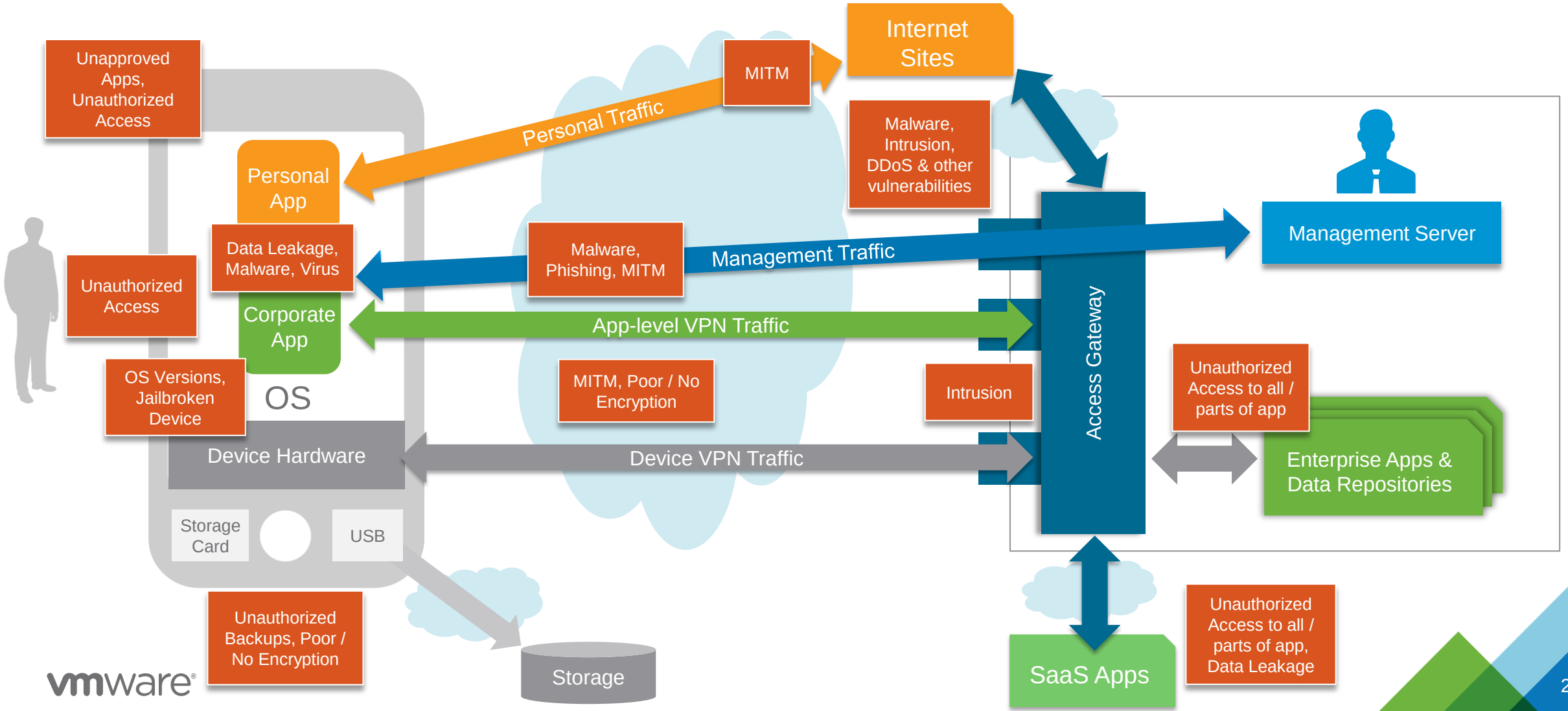


How we can automate the creation of micro-tunnels to segment traffic?

Can we detect suspicious activity based on behavior analysis?

Can we transparently modify app behavior based on risk/threat?

Securing the Data Itself



Open Problems with Securing the Data Itself

How do we automatically identify important content that shouldn't be leaking?

Is the container or encryption route the better choice? Is there a 3rd option?

Can we enable *any* app to open or edit an encrypted document?

Unsolved Problems with Mobility

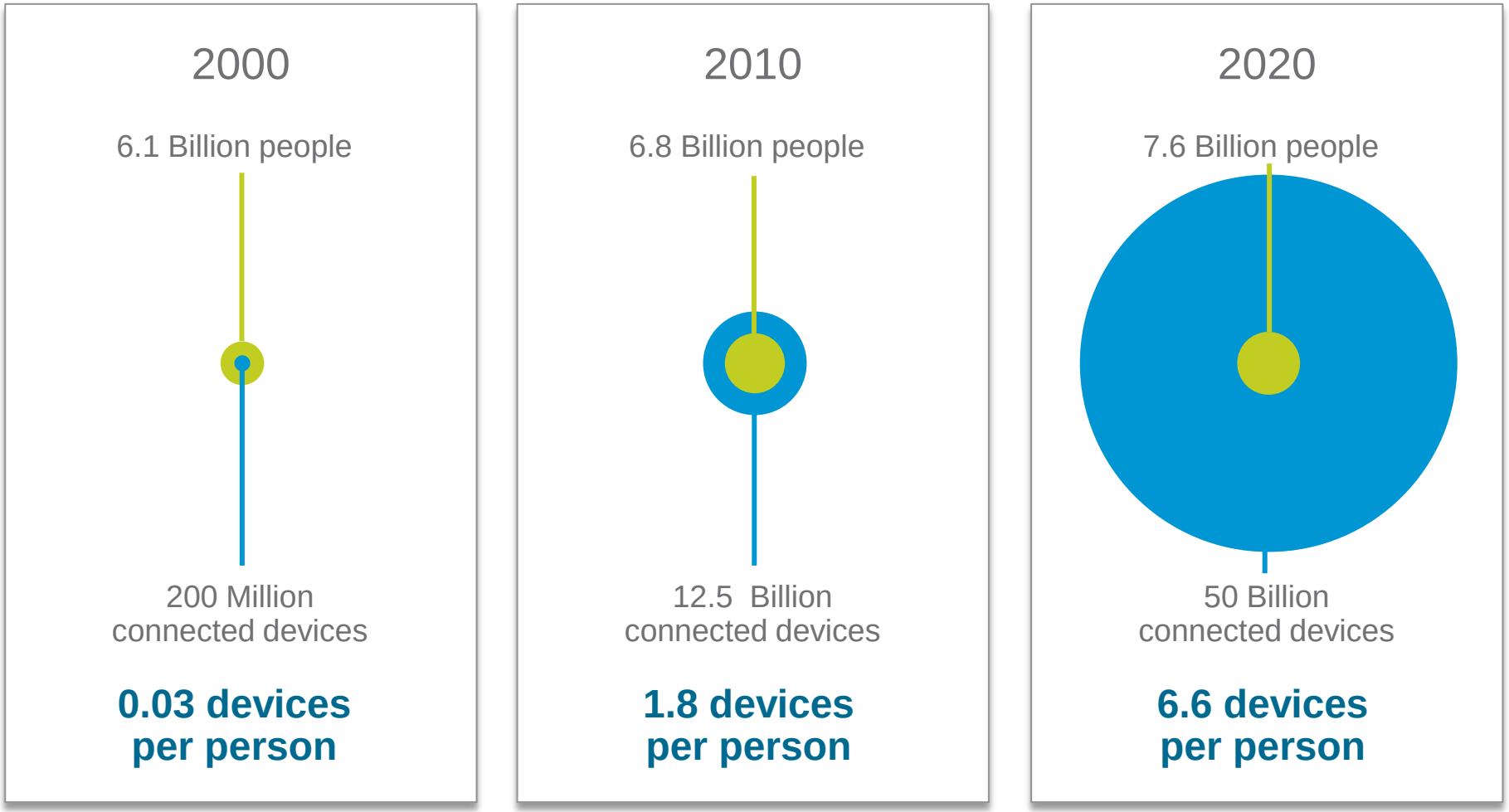
Security

Context

Internet of Things

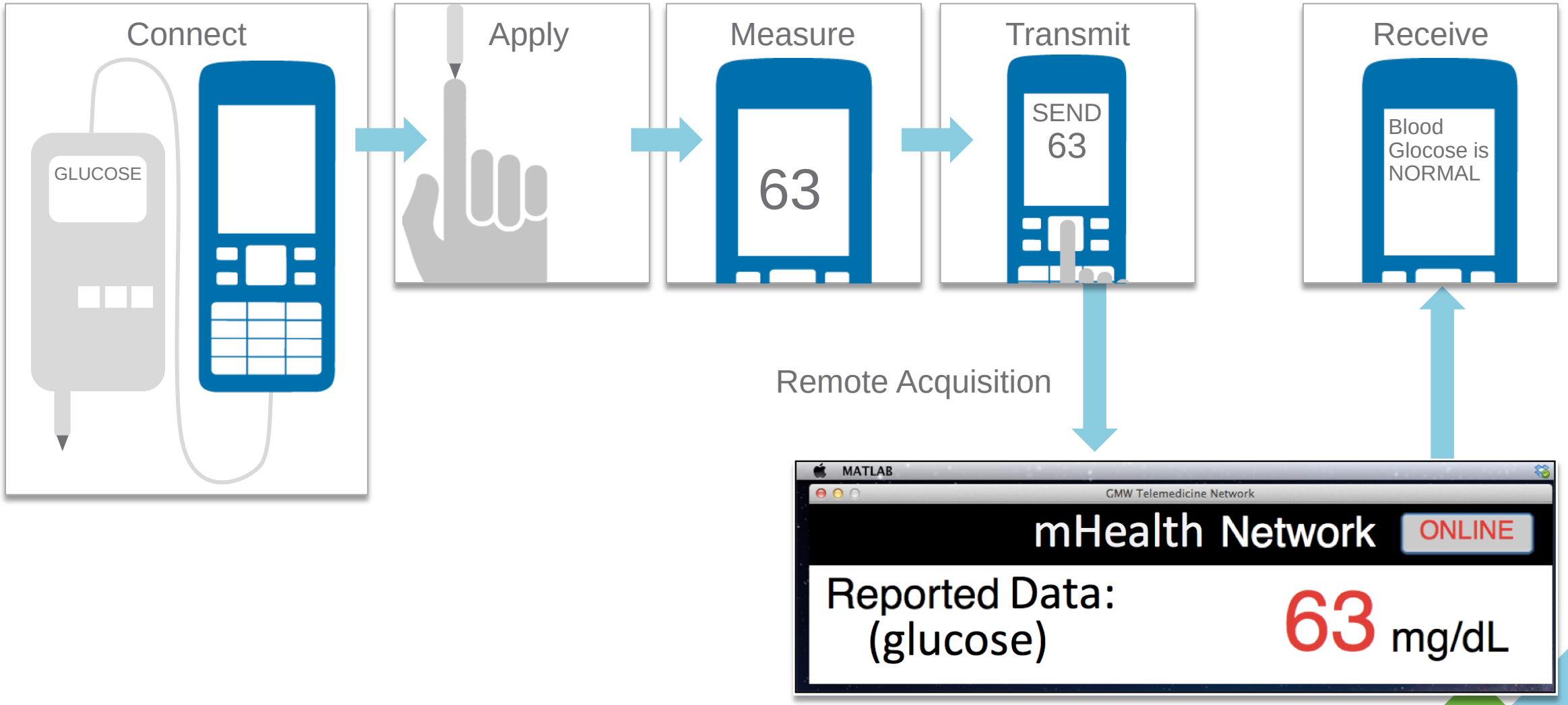
IoT Growth

Connected “Things” Exceeds, and Growing Much Faster Than, Number of People



Source: Cisco IBSC 2011

IoT Bettering Lives



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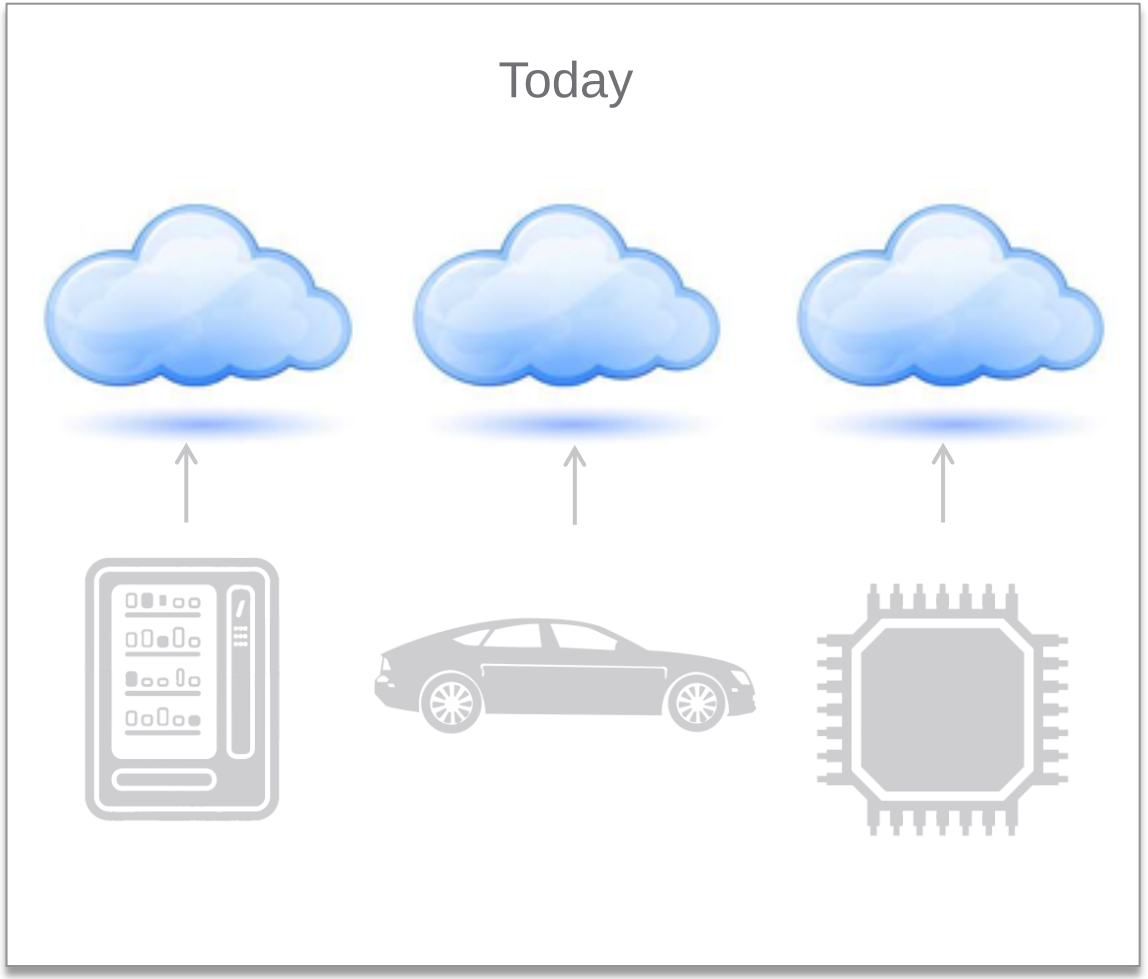
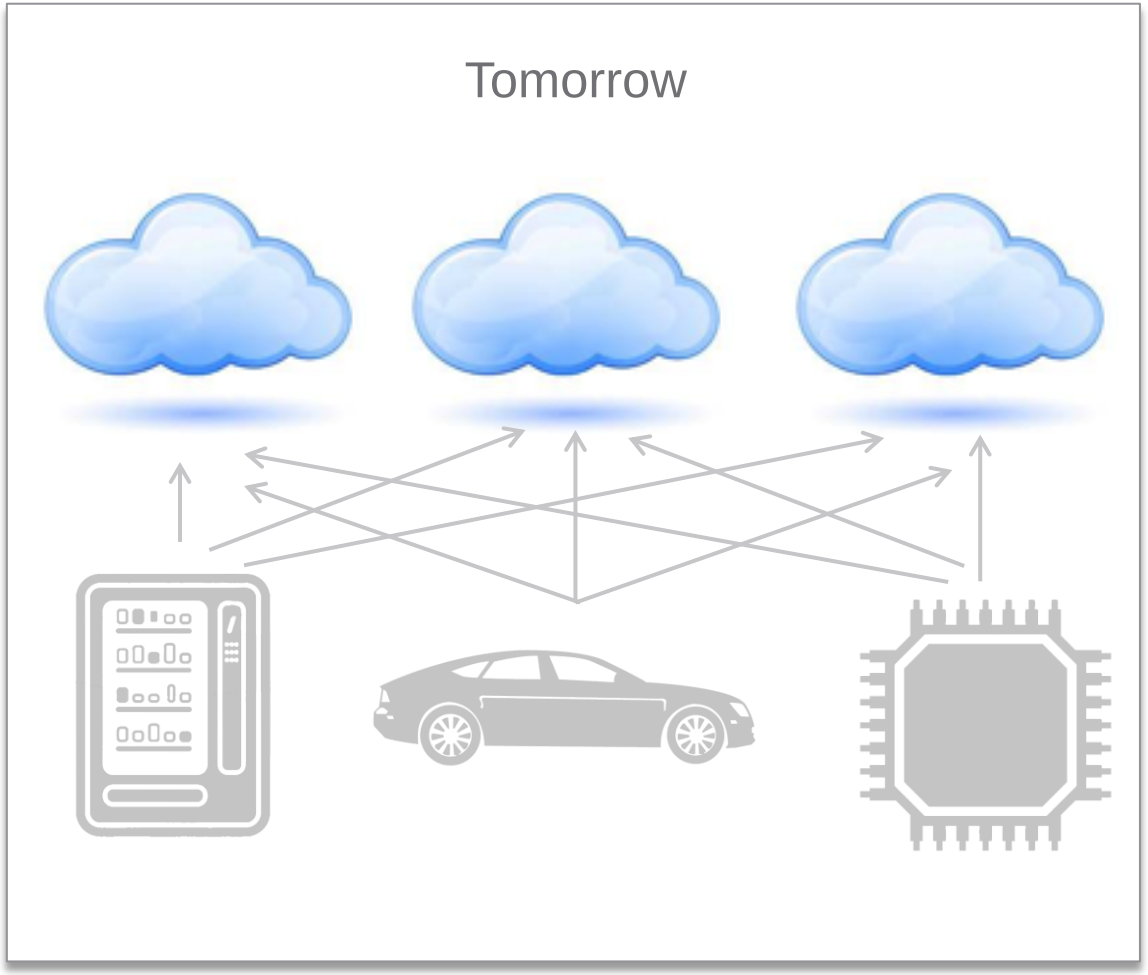
IoT Use Cases

Healthcare	• Patients with non-life-threatening conditions can be monitored remotely/from home by medical staff • Smart Asset ID & Tracking used across drug supply chain to prevent drug counterfeiting
Industrial & Manufacturing	• Intelligent commercial aircrafts accurately predict which parts need replacement and when, and optimize inventories & maintenance schedules across entire fleet • Smart manufacturing process respond quicker to changing customer demand, with self-organized logistics automatically optimizing production rates and inventories
Electricity	• Smart power generation & transmission grid analysis status updates and performance data for preemptive actions, reducing number and duration of outages • Smart buildings and homes analyze real time arrival and usage data to turn on/off electric devices, reducing waste and impact of “energy vampires”
Urban Infrastructure	• Smart traffic management uses city-wide visibility, smart signals, and traffic flow adjustments to help alleviate congestion and rapidly respond to incidents • Smart grid aggregates data from metering devices

Biggest Challenge for IoT – Lack of Standards





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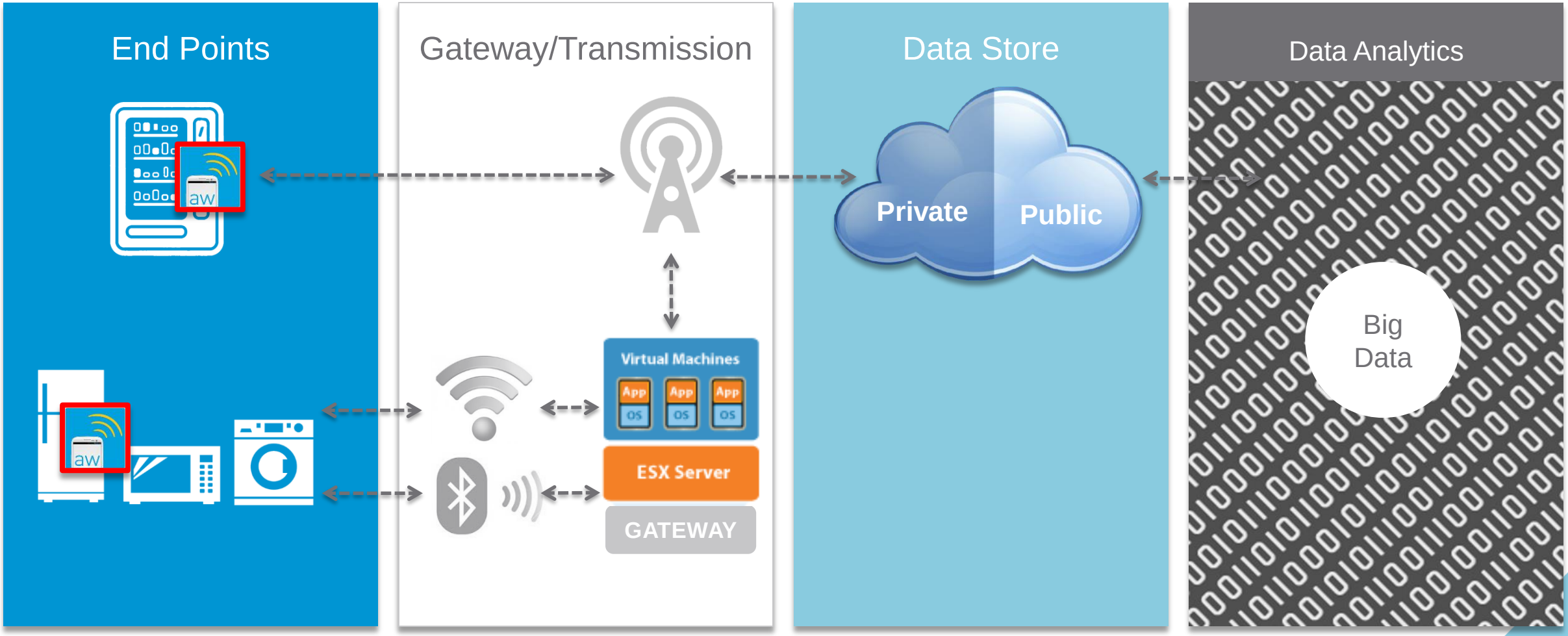
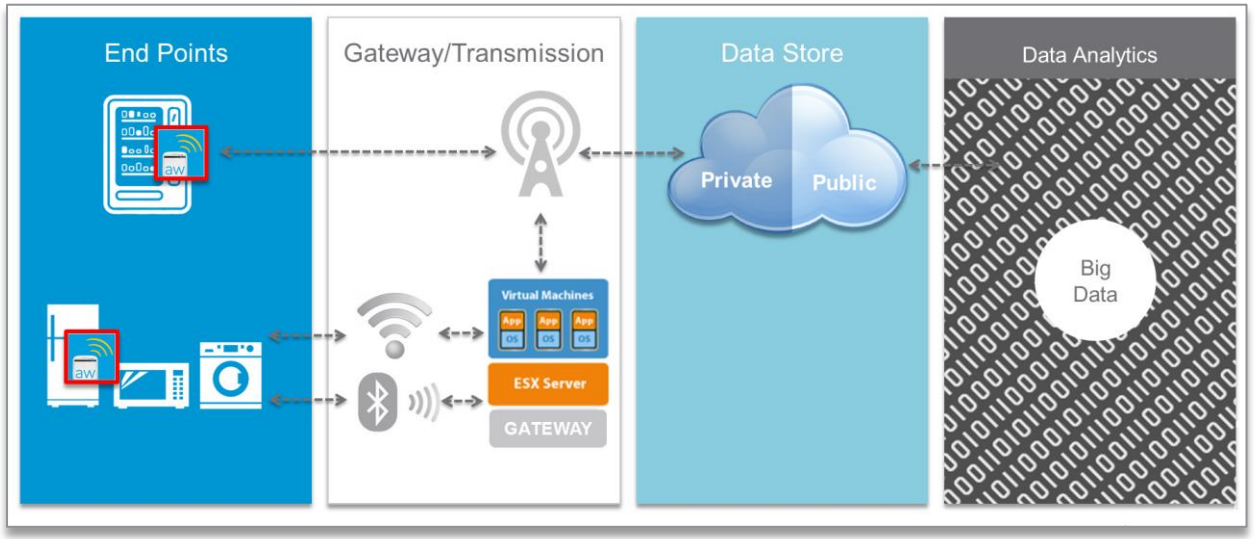
End-to-End Integration: Eliminate Silos



Open Problems with End-to-End Integration



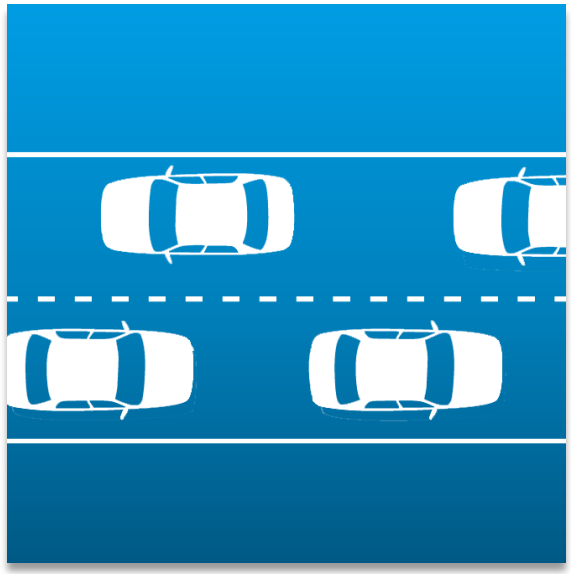
How can we achieve common standards, APIs, and definitions for each area?

Is there a general approach, or does it need to be more specific, e.g. by industry vertical?

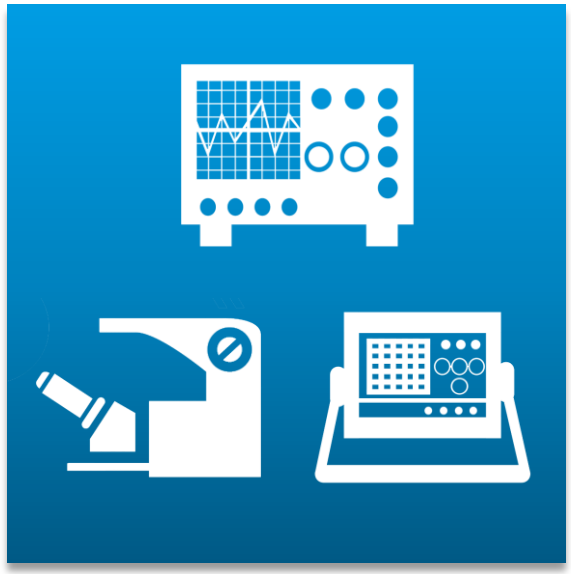
How can we handle the privacy implications of this always-on big data collection and analysis?

M2M Integration: Connecting End Points Locally

On a factory floor

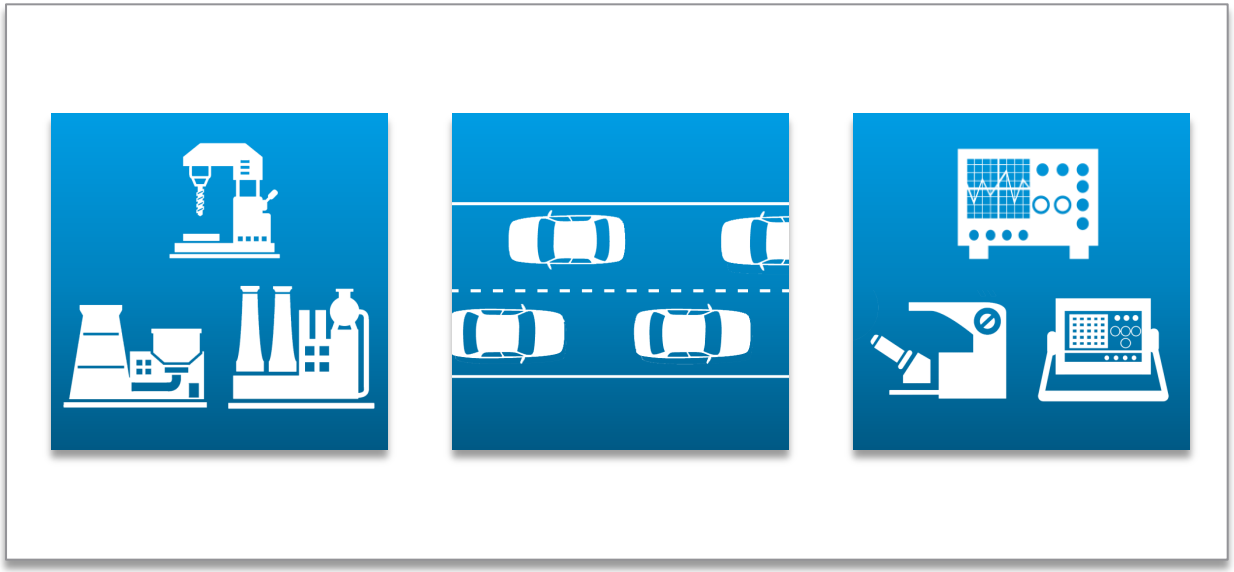


On a highway



In a hospital

Open Problems with Local M2M Integration



How can we achieve common standards, APIs, and definitions for these interactions?

How do we establish trust between local devices?

How do we ensure the protection of data as it moves between devices?

Shifting Landscape

Mobile/cloud architecture
driving new and compelling architecture

Changing industries, and
industries adapting rapidly

Many unsolved challenges
around security, context, and
Internet of Things

How You Can Help

Security innovation from many different angles

New insights by analyzing all the data at our fingertips

Driving IoT standards at all levels

Thank you!

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