"Do or do not, there is no try."

How IoT drives new models of Customer Care and New Business based on HPE and Micro Focus products, services and solutions

Heiko Kullack
HPE Pointnext Business Development Manager

Dirk Benecke
Micro Focus Security Products PreSales Director EMEA

Digitization impacts Social Behavior!

Digitization impacts Social Behavior – really?

Micro Focus IoT Blueprint

Functions
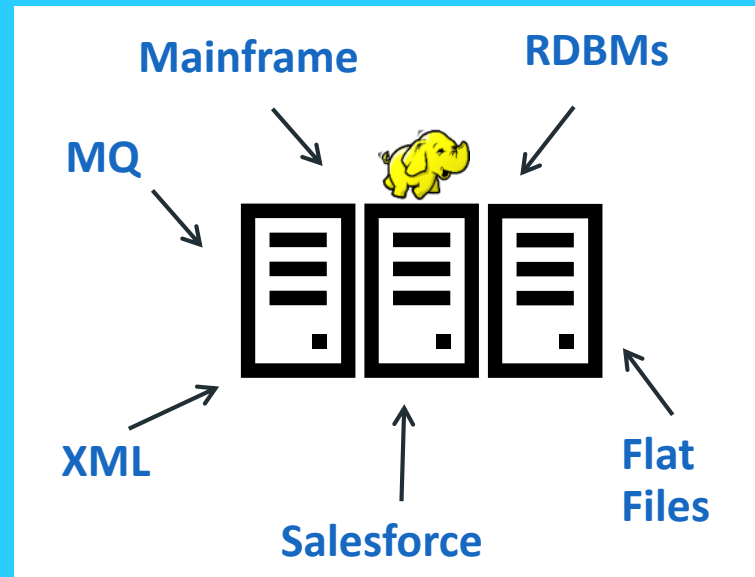
Capabilities

Infrastructure

Most IoT Data lands in Hadoop or a "Data Lake"

Why is securing Big Data difficult?

Rapid innovation in a well funded open source community

Multiple feeds of data in real time from different sources with different protection needs

Mainframe   **RDBMs**

MQ

XML   **Salesforce**   **Flat Files**

Multiple types of data combined in a Hadoop "Data Lake"

Example: securing data communication: encryption

Before: all applications and users have access to data

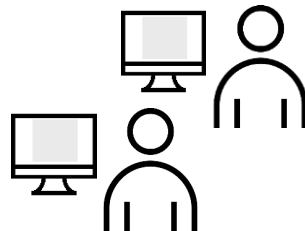**HR Application** **ETL Tool** **Mainframe App** **Malware**

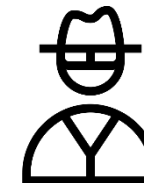| Name	SS#	Credit Card #	Street Address	Customer ID	State	Score
James Potter	385-12-1199	37123 456789 01001	1279 Farland Avenue	G8199143	NY	100
Ryan Johnson	857-64-4190	5587 0806 2212 0139	111 Grant Street	S3626248	NY	200
Carrie Young	761-58-6733	5348 9261 0695 2829	4513 Cambridge Court	B0191348	CA	120
Brent Warner	604-41-6687	4929 4358 7398 4379	1984 Middleville Road	G8888767	CA	120
Anna Berman	416-03-4226	4556 2525 1285 1830	2893 Hamilton Drive	S9298273	KY	160
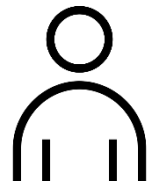
Analysts **Help Desk** **DBAs** **Malicious User**

Example: securing data communication: encryption

After: data is protected at source at "Field Level"
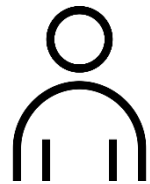
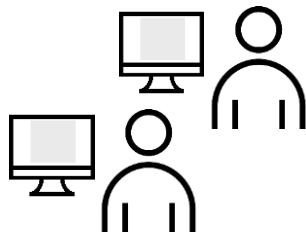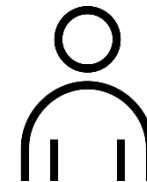**HR Application**

ETL Tool

Payments App

Malware

Name	SS#	Credit Card #	Street Address	Customer ID	State	Score
Kwfdv Cqvzgk	161-82-1292	3712 3488 7865 1001	2890 Ykzbpoi Clpppn	G7202483	NY	100
Veks Iounrfo	200-79-7127	5587 0876 5467 0139	406 Cmxto Osfalu	S0928254	NY	200
Pdnme Wntob	095-52-8683	5348 9212 3456 2829	1498 Zejojtbbx Pqkag	B7265029	CA	120
Eskfw Gzhqlv	178-17-8353	4929 4356 7432 4379	8261 Saicbmeayqw Yotv	G3951257	CA	120
Jsfk Tbluhm	525-25-2125	4556 2598 7643 1830	8412 Wbbhalhs Ueyzg	S6625294	KY	160

Analysts

Help Desk

DBAs

Malicious User

MICRO FOCUS

Example: securing data communication: encryption
Malicious users, DBAs and malware only see protected data

Malware

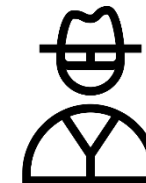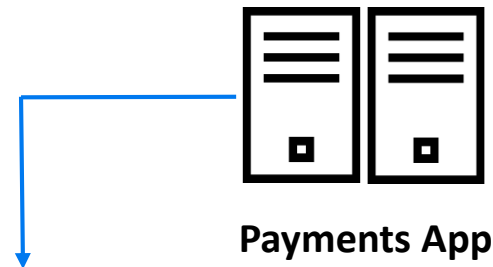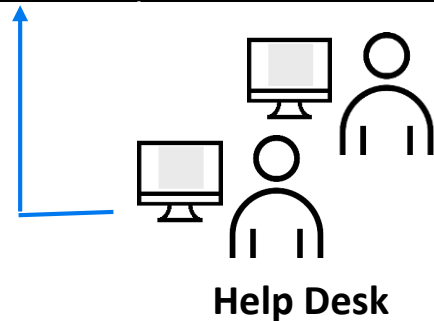| Name	SS#	Credit Card #	Street Address	Customer ID	State	Score
Kwfdv Cqvzgk	161-82-1292	3712 3488 7865 1001	2890 Ykzbpoi Clpppn	G7202483	NY	100
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Jsfk Tbluhm	525-25-2125	4556 2598 7643 1830	8412 Wbbhalhs Ueyzg	S6625294	KY	160

DBAs

Malicious User

Example: securing data communication: encryption

Help desk and payments apps: operate on partially protected data

Payments App

Name	SS#	Credit Card #	Street Address	Customer ID	State	Score
Kwfdv Cqvzgk	161-82-1292	3712 3488 7865 1001	2890 Ykzbpoi Clpppn	G7202483	NY	100
Veks Iounrfo	200-79-7127	5587 0876 5467 0139	406 Cmxto Osfalu	S0928254	NY	200
Pdnme Wntob	095-52-8683	5348 9212 3456 2829	1498 Zejojtbbx Pqkag	B7265029	CA	120
Eskfw Gzhqlv	178-17-8353	4929 4356 7432 4379	8261 Saicbmeayqw Yotv	G3951257	CA	120
Jsfk Tbluhm	525-25-2125	4556 2598 7643 1830	8412 Wbbhalhs Ueyzg	S6625294	KY	160

Help Desk

Example: securing data communication: encryption
Help desk and payments apps: analysis on de-identified data

Card	Average Score
Amex	100
M/C	160
Visa	140

Analysts

Name	SS#	Credit Card #	Street Address	Customer ID	State	Score
Kwfdv Cqvzgk	161-82-1292	3712 3488 7865 1001	2890 Ykzbpoi Clpppn	G7202483	NY	100
Veks Iounrfo	200-79-7127	5587 0876 5467 0139	406 Cmxto Osfalu	S0928254	NY	200
Pdnme Wntob	095-52-8683	5348 9212 3456 2829	1498 Zejojtbbx Pqkag	B7265029	CA	120
Eskfw Gzhqlv	178-17-8353	4929 4356 7432 4379	8261 Saicbmeayqw Yotv	G3951257	CA	120
Jsfk Tbluhm	525-25-2125	4556 2598 7643 1830	8412 Wbbhalhs Ueyzg	S6625294	KY	160

Class	# of states
G	2
S	2
B	1

Analysts
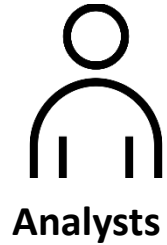
State	Average Score
NY	150
CA	120
KY	160

Analysts

MICRO FOCUS
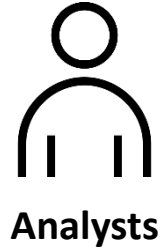
Example: securing data communication: encryption
Authorized applications access real data

Name
James Potter
Ryan Johnson
Carrie Young
Brent Warner
Anna Berman

Authorized HR Application

Micro Focus SecureData Tools

Name	SS#	Credit Card #	Street Address	Customer ID	State	Score
Kwfdv Cqvzgk	161-82-1292	3712 3488 7865 1001	2890 Ykzbpoi Clpppn	G7202483	NY	100
Veks Iounrfo	200-79-7127	5587 0876 5467 0139	406 Cmxto Osfalu	S0928254	NY	200
Pdnme Wntob	095-52-8683	5348 9212 3456 2829	1498 Zejojtbbx Pqkag	B7265029	CA	120
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Jsfk Tbluhm	525-25-2125	4556 2598 7643 1830	8412 Wbbhalhs Ueyzg	S6625294	KY	160

Authorized Fraud Analysts

Micro Focus SecureData Tools

SS#
385-12-1292
857-64-7127
761-58-8683
604-41-8353
416-03-2125

Example: securing data communication: encryption
Encrypting at connector level to comply with privacy regulations and security needs

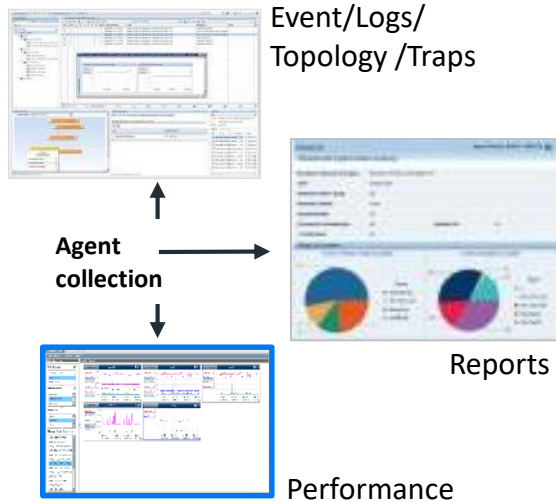**ARCSIGHT INVESTIGATE**
Search | Investigation

ARCSIGHT ESM
24x7 Real-time
Monitoring & Correlation

ARCSIGHT UBA
User & Entity
Behavior Analytics

ARCSIGHT DATA PLATFORM

ARCMC
Suite Management & Administration

EVENT BROKER
Information delivery

LOGGER
Compliance & Retention

CONNECTORS
Data Acquisition and Normalization

DATA SECURITY
KEY SERVER

User | Cloud | App | Servers & Workloads | Network | Endpoints | IoT | Physical

MICRO FOCUS

Example: improving communication reliability
Operations Bridge automated monitoring options

Agent	**Sensor**	**Agentless**
Operations Agent	Lightweight Sensors via Cloud Optimizer	SiteScope and Operations Connector

Event/Logs/ Topology /Traps

Agent collection

Reports

Performance

Web servers

Application servers

Network devices

File servers

Firewalls

Databases

SiteScope server
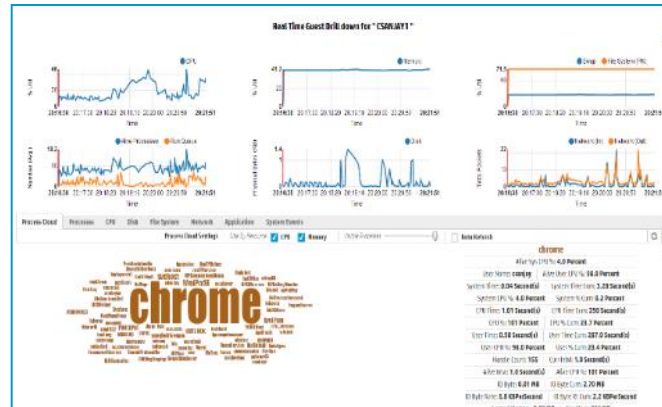
– Automated deployment and monitoring across a heterogeneous enterprise
– **Out-of-the box security (HTTPS and SSL) including Proxy/DMZ support**
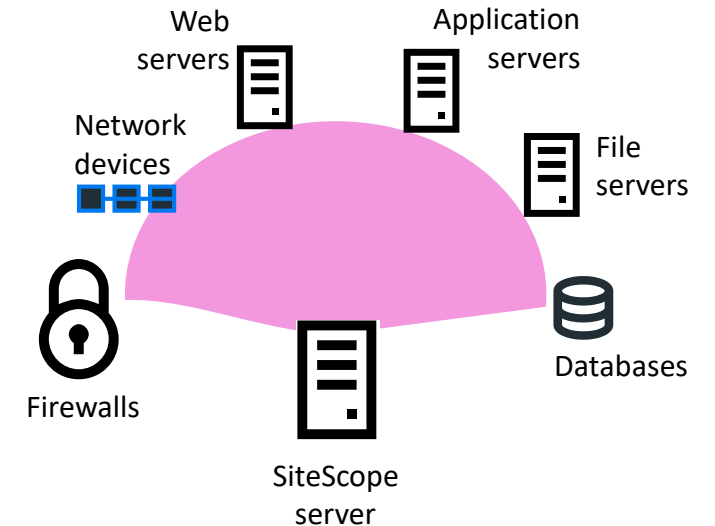– **Message buffering, heartbeat polling**
– Open and autonomous

– Capacity optimization and usage forecasting
– Tailored for virtual and cloud workloads
– Automated analytics for performance hotspots

– Fastest time to value
– Metrics and events collected
– Automatic configuration of SiteScope templates via Monitoring Automation
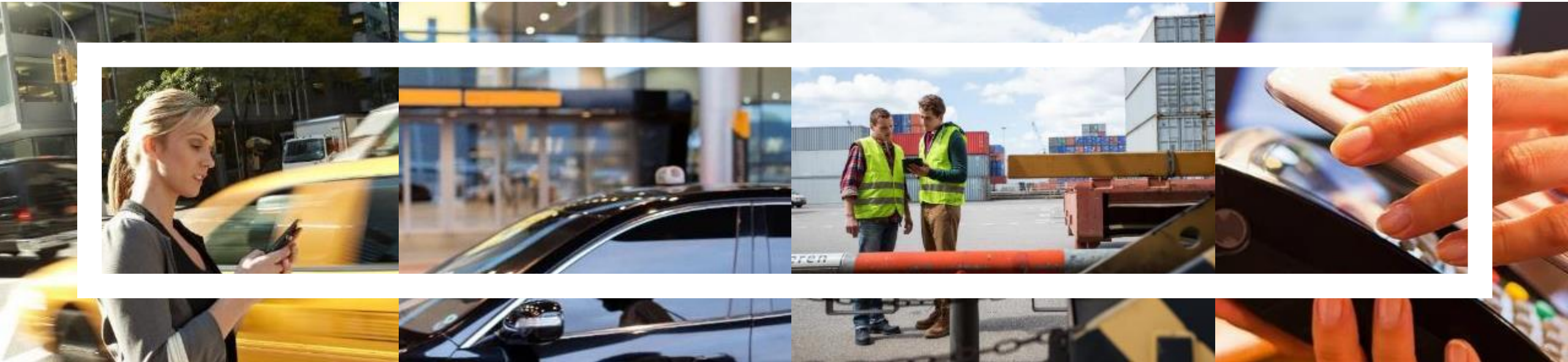
14

Do or do not, there is no try.

How IoT drives new models of Customer Care and New Business

Heiko Kullack
Manager, Business Development

November 2017

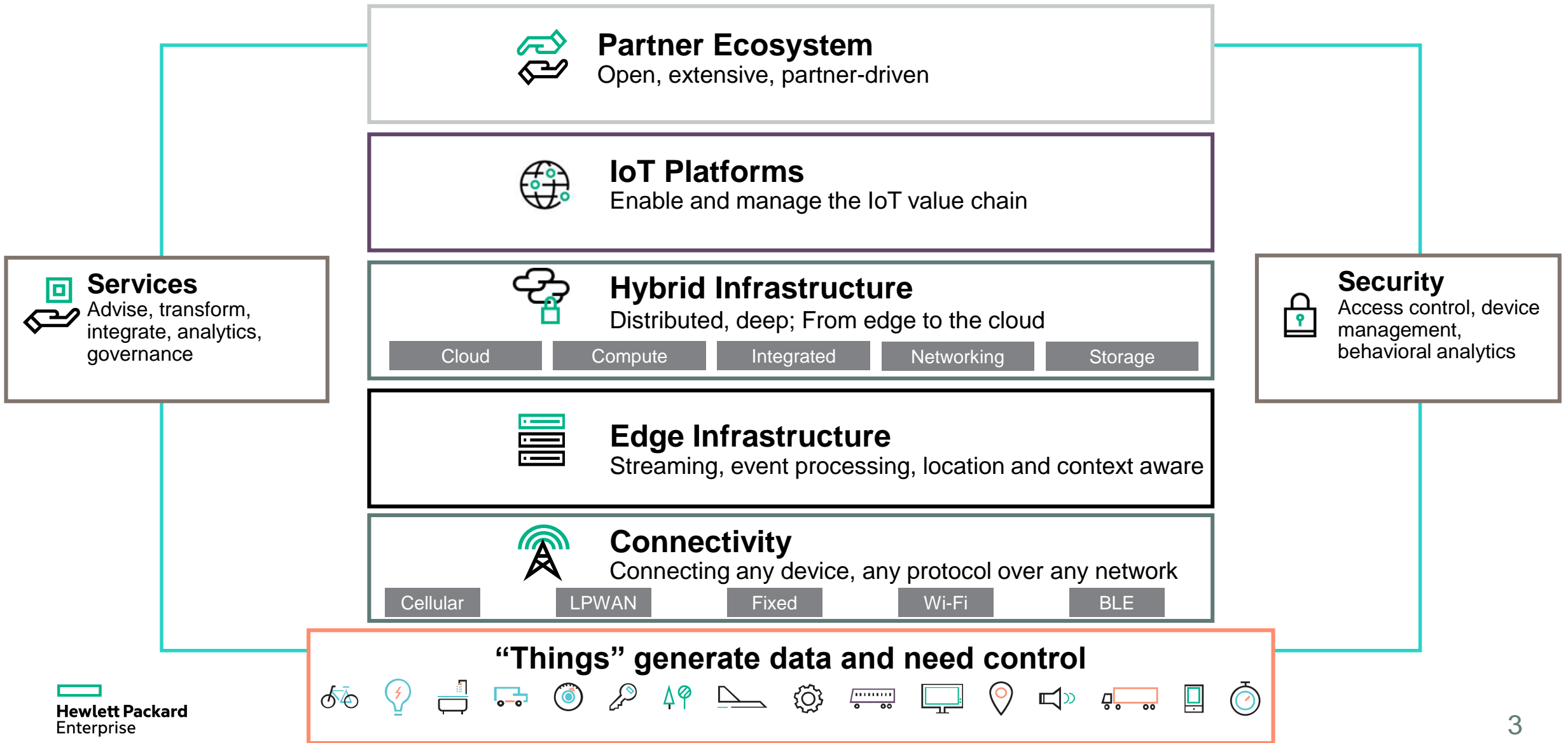# Prepare for the connected world where everything computes

| Technology will be embedded everywhere | Everyone and everything will be connected | Everything will be understood |

Hewlett Packard
Enterprise

HPE Elements for the Internet of Things

Partner Ecosystem
Open, extensive, partner-driven

IoT Platforms
Enable and manage the IoT value chain

Services
Advise, transform, integrate, analytics, governance

Hybrid Infrastructure
Distributed, deep; From edge to the cloud

| Cloud | Compute | Integrated | Networking | Storage |

Security
Access control, device management, behavioral analytics

Edge Infrastructure
Streaming, event processing, location and context aware

Connectivity
Connecting any device, any protocol over any network

| Cellular | LPWAN | Fixed | Wi-Fi | BLE |

"Things" generate data and need control

Hewlett Packard
Enterprise

IoT connects insights to transform industries

MANUFACTURING
- Condition monitoring
- Predictive maintenance
- Asset management
- Inventory management
- AR and visual remote guidance
- Improved safety
- Collaborative design
- 3D printing
- Pollution management
- Physical security

BUILDINGS
- Heating and air conditioning
- Lighting, electrical, and water
- Structural integrity
- Security
- Parking control
- Emergency alerts
- Meeting room management
- Hot desks
- Location enablement
- Digital visitor management

CITIES
- Smart metering
- Digital signage
- Water and wastewater
- Air pollution
- Waste management
- Crime mapping
- Surveillance
- Emergencies
- Public space design
- Parking
- Pothole find and fix

ENERGY
- Metering
- Smart drilling
- Grid management
- Energy conservation
- Wind farms
- Condition monitoring
- Predictive maintenance
- Asset management
- Digital records repository + AR

TRANSPORTATION
- Connected vehicles
- Traffic routing
- Safety
- Condition-based maintenance
- Self-driving vehicles
- Fleet management
- Pollution monitoring
- "Green priority"
- Precision insurance and leasing
- Parking

HEALTHCARE
- Elderly monitoring at home
- Equipment monitoring
- Hospital cleaning and maintenance
- Directions within hospitals
- Asset tracking
- Hospital workflow design
- Bio wearables
- Food sensors
- Geo-fencing of equipment
- Assisted diagnostics
- Uber for doctors

RETAIL
- Smart shopping lists
- Add-on suggestions
- Targeted promotions
- Optimal store design
- Digital signage
- Store shelf sensors
- Autonomous checkout
- Counterfeit reduction
- Inventory theft

AGRICULTURE
- Precision fertilizer
- Precision irrigation
- Animal tracking and proof
- Security, anti-poaching
- Robotic picking
- Vertical city farming
- Self-driving machinery
- Predictive maintenance
- Drone herding
- Fish farming
- Artificial insemination

Hewlett Packard
Enterprise

Industrial operations

Real-time analytics
with augmented reality

Lighting and environmental controls

Geo-fencing of hazardous equipment

Converged plant infrastructure
to share data and learnings

Repair manuals and asset locations

Where?

Chemical plant
Oil rig
Manufacturing floor
Power plant
Wind farm
Distribution center
Maintenance and repair
Engineering and design
Within connected products

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Automating innovation and efficiency in the industrial IoT

Performance dictates maintenance, not schedules

Know equipment well enough to **offer as a service**

Conditions **dictate spares inventory** levels

Time cycles are for innovating, not finding things

The extensible network **navigates you** to locations

Route materials when almost need, not when out

Identify traffic patterns, eliminate bottlenecks

In emergencies, **workers are guided** to muster points

Correlate video analytics to perimeter and crowds

Analyze data where devices live for **fast insight**

Integrate systems of record and device to **take control**

Balance analytics cost, speed, and performance, from **device to cloud**

Connect the intelligent to the intelligence in the data center and cloud

Hewlett Packard
Enterprise

Smart Waste Management | Business Perspective
Use Case description

Management of waste bins based on capturing data such as location, fill level, temperature and moisture

Target Customers

– Waste management and recycling companies

– Public sector and municipalities (in their role of the above)

Market Situation

– Low barrier for new market entrants increases competitive pressure (requires cut of CAPEX and OPEX)

– Lack of means for differentiation

– Availability of resources for service delivery

– Increasing demand of business customers and consumers

Business Driver

– Increased operational efficiency

– New flexible business models

– Increased customer experience (e.g. alerts)

– Increased quality of life (e.g. avoidance of crowded bins)

– Monetization of data (e.g. waste B2B market place)

Business Case

◗ Customer (citizen) satisfaction

● OpEx reduction

◕ Fast RoI

Smart Waste Management | Solution Demo Overview

Data and services enablement for private LORA networks

Ideation is about...

Hewlett Packard
Enterprise

... being curious

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... changing perspectives

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... doing it differently

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... having visions

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... making **things better**

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... thinking out
of the box

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... sharing ideas

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Reduce costs, reduce risk & improve operation efficiency

Resource optimization

Smart waste management

Predefined

Sales rep

Low user

Predictive maintenance

Insights → Actions → Improve efficiency

Reduced need for human intervention

Thru automation

$

Supply chain improvement
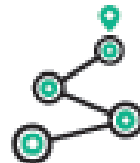
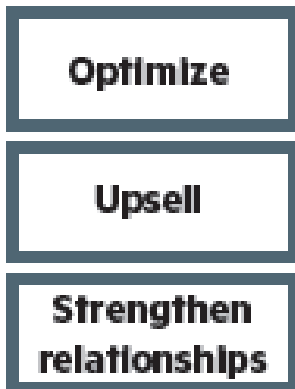Distribution optimization

Remote patient monitoring

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Improve existing revenue streams

Upsell with new services

Optimize

Instrument existing business

Insights → Actions → Optimize / Upsell / Strengthen relationships → $

Strengthen relationships
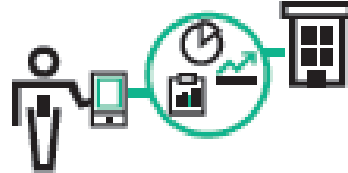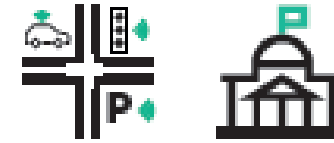Knowing your customer better

Connected car services

Hewlett Packard
Enterprise
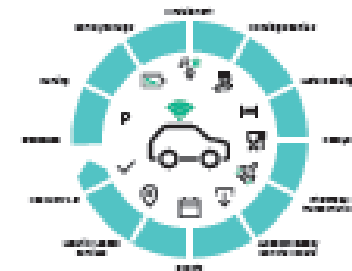
Improve Customer experience

Usage based insurance

Virtual assistant

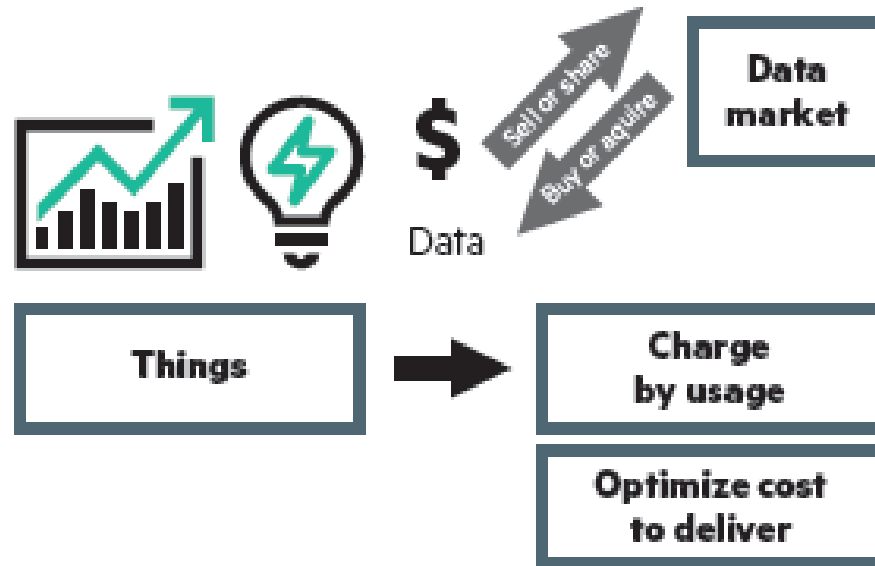Future cities
Smart parking
Smart waste management

Data

Things → Insights

Improve relationship

Align price to cost

Improve services

Smart healthcare services

Connected car

New sources of revenue/market opportunities

Data markets

Expand the ecosystem

Data

Sell or share

Buy or aquire

Data market

Things → Charge by usage

Optimize cost to deliver

Thrust-as-a-services

Air as a service

Flow as a service

XaaS – Everything as-a-service