Taking the Hype out of Hyperconnected

'The network always wins'

Fujitsu World Tour 2017
A Hyperconnected World

- Employee Satisfaction
- Retention
- Remote Skills
- Flexible

- Operational Efficiency
- Access to Data
- Insight
- Security

- Power
- Maintenance
- Connectivity
- Assets

- People

- Things

- Hyper-connected Business

- Information
The New Maslow!

- Physiological
- Safety
- Love / belonging
- Esteem
- Self-Actualisation

CONNECTIVITY!!!
Monitoring environmental Impact at Airports

- Sound analysed in Cloud to detect APU usage
- Potential to reduce pollutants by 12,455kg per annum
- Reduction in Noise pollution of 65dB for 567,000 minutes
- Detection rate of 90% vs 1% manual
- Jet fuel saving of £480,000 per annum
- Increased Revenue £164K per annum

BCS IT Industry Awards 2016: Finalist – Best IOT Project
Case Study – Sewer Sensors

Gateway

Manhole Cover

Sensor node

Thermoelectric converter unit

Water level sensor

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Case Study - Retail Location Tracking

<table>
<thead>
<tr>
<th>Route</th>
<th>Route Traffic</th>
<th>Traffic Ratio</th>
<th>Average Dwell Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mars-Kids</td>
<td>62</td>
<td>14%</td>
<td>19.15 minute</td>
</tr>
<tr>
<td>Kids-Womens</td>
<td>50</td>
<td>11%</td>
<td>20.22 minute</td>
</tr>
<tr>
<td>Women-Kids</td>
<td>49</td>
<td>11%</td>
<td>27.89 minute</td>
</tr>
<tr>
<td>Customer Service-Kids</td>
<td>56</td>
<td>7%</td>
<td>24.91 minute</td>
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<tr>
<td>Mars-Womens</td>
<td>50</td>
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<tr>
<td>Women-Kids</td>
<td>35</td>
<td>7%</td>
<td>19.50 minute</td>
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<tr>
<td>Women-Mens</td>
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<td>6%</td>
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<td>Customer Service-Mens</td>
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<td>23.89 minute</td>
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<td>Kids-Customer Service</td>
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<td>3%</td>
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<tr>
<td>Kids-Shelf</td>
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<td>16.35 minute</td>
</tr>
<tr>
<td>Mars-Kids</td>
<td>56</td>
<td>7%</td>
<td>24.91 minute</td>
</tr>
</tbody>
</table>
"Not only did the RFID technology make us more efficient in terms of finding and keeping records of our equipment, but it also transformed the way that we purchase, receive and issue equipment. We found much smoother ways of processing these things so that we can do a better job."

Jim Spivey, Police Chief, Richardson Police Department, Texas
Characteristics of a Hyperconnected Business

Networks
- Great Connectivity
- Ability to execute change quickly
- Network Analytics

Unified Communications & Collaboration
- Voice, Video, IM, Sharing from any device
- Can engage with Customers over multiple channels

Cloud
- Able to blend Traditional IT with New IT
- Mix of Public and Private Clouds

IoT
- Able to articulate challenges where IoT might fit
- A network that is fit for IoT
- Integrating IoT and OT

Analytics and Machine Learning
- Understands the value of Data
- Use Data to provide insight

Process Automation
- Ability to automate processes
- Systems linked by APIs

Transparency
- Wants to understand every aspect of how the business is running and performing
After a long period of stability the network landscape is changing dramatically.

Network Function Virtualisation is reducing costs increasing agility.

Software defined networks are making the networks more programmable and encouraging DevOps.

Bandwidth and data usage continues to grow at pace.

Zero Touch Provisioning
Orchestration of networks is now an imperative.
Network - Managed Networks & Hybrid IT

- Fujitsu Data Centres
- Private Cloud
- K5
- Carrier Interconnects to Customer sites
- FMNOS
- Public clouds: Microsoft Azure, Fujitsu, Amazon
- Hybrid Cloud Connect
- WWW
  - Google
  - Facebook
  - Twitter
  - BBC
- DDOS Protection
Software Defined WANs

- Transport / Carrier Independence
- Secure Connectivity (to the Cloud)
- Intelligent Path Control
- Application Optimisation

SD-WAN

SD-WAN Controller

Broadband

Private Networks

Mobile

Internet

MPLS

Data Centres

Public Clouds

SD-WAN

Microsoft Azure

Fujitsu

Amazon

Mobile

Internet

Private Networks

Broadband

MPLS

Transport / Carrier Independence

Secure Connectivity (to the Cloud)

Intelligent Path Control

Application Optimisation

WWW

Google

Facebook

Twitter

BBC
Virtual Edge

- Embedded Software WAN Router
- Deployment of Service Chains
- Deployment of VMs for Apps
- Edge Computing
  - IOT, POS, Video Analytics, local apps
- Application Visibility
The new Network - A disruptive 1FINITY portfolio

USP (Universal Switch Platform)
1.2 Tbps switching capacity

UTP (Universal Transport Platform)
Cost effective 10G, 40G, and 100G

ULP (Universal Lambda Platform)
Reconfigurable Optical Add Drop Mux.
96 Channels of 200G

L100 ROADM on a Blade
S100 Layer2 Switch
T200 4x100G Mux
Managed Networks 2.0 - FMNOS

Service Management

- TFSNow (ServiceNow)
- CMDB
- Service Catalogue

Customer ITSM

FMNOS

APIs

Orchestration

Portals

Single Pane of Glass

- Fault Management Spectrum
- Performance Management SevOne
- Configuration Management ManageEngine
- Vendor Tools (Meraki Viptela, ISE, IPAM)
- SDN Controller Virtuora NC

REST Interfaces

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FMNOS
Hybrid Unified Communications

Clients
- Phone
- Soft Client
- Webpage
- Peripheral

Applications
- Hybrid Bridges
  - IM & Presence Server
  - UC/ WebRTC
  - Contract Centre
  - Call Recording
  - Video Conference

Sessions
- Session Server
- Session Border Controller
  - SIP

Hybrid Bridges

Skype
SAP
Mitel
Cisco
Cisco Spark
Managed Skype for Business in the cloud

Optional Private Clouds

- Exchange Private Cloud
- Hosting
- Management
- Configuration
- 365/24/7 Support

Integration to Office365

Standard Private Cloud Offer

- Hosting
- Management
- Configuration
- 365/24/7 Support

Other UC Solutions

- Cisco HCS
- Call Recording
- Fujitsu as your Carrier
- Your Telephony Carrier
- Your Mobile Carrier

PSTN Telephony Options
The IoT Platform is a dedicated IoT cloud service for sending, receiving, storing and collecting data from the enormous number of sensors and devices required when using the Internet of Things. It enables efficient data collection through real-time decision-making, action taking and data distribution functionality.

A common platform (PaaS) that enables simple and efficient usage of data from various sensors and gateways using a standard procedure.
Building Information Modelling and IoT
Connected Home

- Vital Signs Sensor: Notify relatives if a fall
- Flood Alerts
- Temperature Sensors
- Smoke Alarm
- Panic Button
- Intruder Detection
- Remotely Managed Appliances: Van dispatched with right part in event of failure
- DSL Router & IoT Gateway
- Managed in Cloud
- Customer Portal
- Contact Centre
Hyperconnected World Offerings

- **People**
  - Social Command Centre
  - Unified Communications

- **Information**
  - Ubiquitousware
  - Managed Network Services
  - Intelligent Engineering
  - MetaArc K5
  - Virtual Network Service Provider
  - Analytics
  - SPATIOWL
  - Security
  - Retail Engagement Analytics

- **Things**
  - Internet of Things Infrastructure
  - GlobeRanger IoT Edgeware

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Creating Business Value

See More
- Knowing what’s really going on – in real-time

Predict
- Anticipate problems and be first to spot new opportunities
Don't React

Power Innovation
- Unlock new ways to create value for customers – and enable new business models

Act Fast
- Make the right decisions, quicker

Optimise Everything
- Streamline and automate key progresses – and ways of working
As the pace of change accelerates, it’s harder than ever to stay a step ahead.

Customers are expecting faster, more responsive and better quality of service, in tune with their needs.

If you can’t keep up you risk falling behind.
Rethink how your organisation operates.

Fujitsu have all the components and experience to make you a Hyperconnected Business.

We Can Help!