





SONOG

Future of Networks, Networking, and Networkers

Driving Workforce Demands



Yusuf Bhaiji
Cisco Systems

 @YusufBhaiji
 [linkedin.com/in/yusufbhaijicisco](https://www.linkedin.com/in/yusufbhaijicisco)

January 23, 2017

A satellite view of Earth from space, showing the Americas and surrounding oceans, with a semi-transparent text overlay.

The World is
CHANGING



And it's
CHANGING FAST

Market
Transitions

Technology
Transitions

Economic
Transitions

PACE OF CHANGE ²

Agenda



Job Role Evolution



Technology Evolution



Career Evolution

Job Role Evolution



Preparing for the Jobs of The Future

Are you Ready?

Digital Experience Architect



Mobile Application Developer



Medical Device Connection Specialist



Data Scientist



Cyber Security Analyst



Cloud Broker



Business Transformation Practitioner



Cloud Architect



Social Intelligence Manager



Network Programmer (SDN)

Customer Success Manager



Industrial Network Engineer

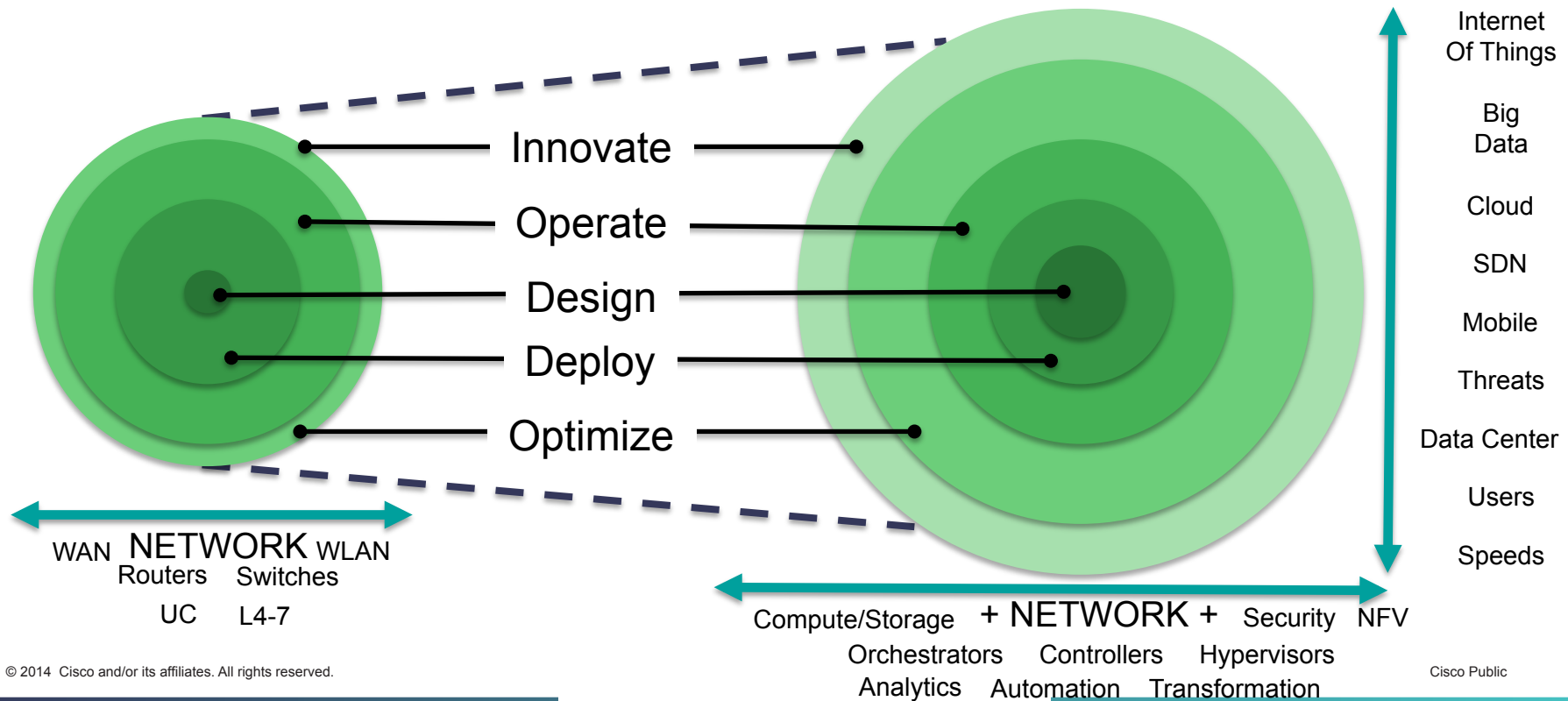


Enterprise Architect



Orchestrate Roles for the Future

Networker Responsibilities Are Growing



Job Roles Are Shifting for the Networker

Do **LESS** of...

- Device configurations
- Continuous operations
- Box deployments
- Monitoring and reporting
- CLI entries and scripting
- Hands-on repairs/deployments
- Reactive management tasks

Do **MORE** of...

- Business/IT innovation
- Architectural (End-to-End) design
- Network analytics & optimization
- Programming – API versus CLI
- Comprehensive policy mgmt
- Systems Integration/validation
- Proactive management tasks

So Are Requirements for IT Hiring Managers

Looking for **LESS**...

- Low end silo teck positions
- Strict operational focus
- Network-only interests/intelligence
- Hardware-centric expertise
- Limited integration/test skills
- Constrained private network view
- Reactive management approach

Looking for **MORE**...

- Business-IT-network analysis
- “System” design expertise
- Network optimization focus
- Top-down application perspective
- Technology innovation
- Software best practice experience
- Cloud integration or provisioning

Technology Evolution

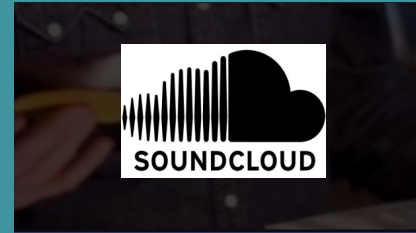
Digitization Is Changing The World



Bookstore



Taxi



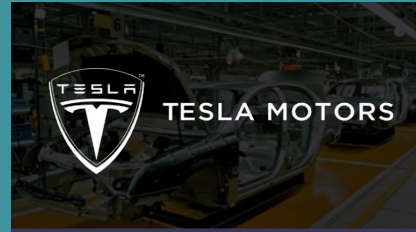
Music



Hotel



Print



Car



Point-of-Sale

Mindset: How do I Stay Competitive and Relevant

Innovation



Productivity



Globalization



Consumerization



Consumer Demands and Speed of Change Are Pushing Companies into New Business Models

The Network is Changing and Growing in Importance

Software is the Path Toward Orchestration and Outcomes



Connected Devices



Mobility



Apps

- Policy Based Networking
- Automated Operations
- New Network Services



Cloud



Data



Threats

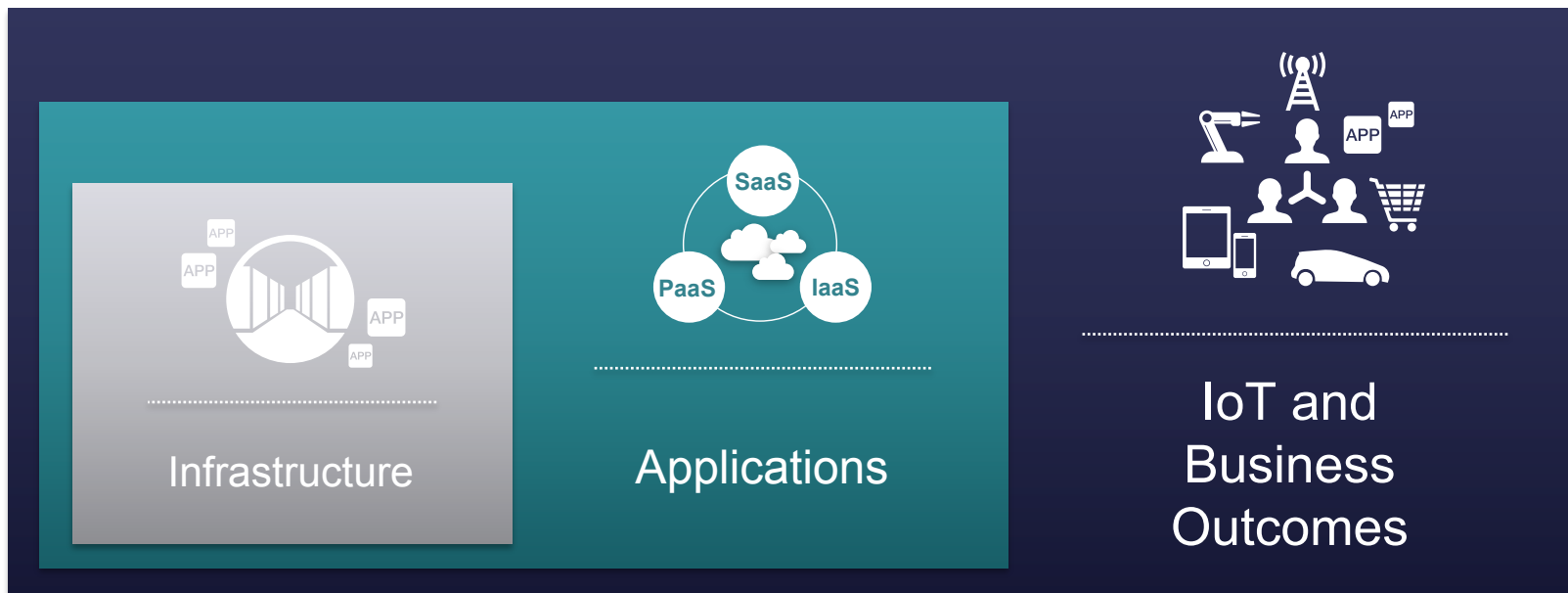
Invest in Your Talent

2013

2015

2020

A Broad Perspective Is Required...



Security



Everywhere

Technology Changes Are Accelerating...

Internet of Things

- Spending \$3.05T in 2020 (\$1.5T in 2014)
- 2018 Services-\$287B
- IoT skill shortages multiplied by big data, mobility, and security skill shortages
- Connected objects to reach 29.5B by 2020

Software Defined Networking

- Spending \$8B in 2018 (\$960M in 2014)
- 2018 Services-\$2.1B
- Software skills drive future job growth in networking
- Spending on SDN and linked technologies is 5 times SDN spending

Cloud

- Spending \$128B in 2018 (\$57B in 2014)
- 2018 IaaS - \$24.5B
- By 2020, there will be 7M cloud-related jobs worldwide
- By 2020, cloud spending will grow to 67% of the IT budget

Cyber-Security

- Spending \$89B in 2018 (\$67B in 2014)
- 2018 Services-\$46B
- Ten-year job growth projected to be 36.5%
- Exposed records grew to 823M in 2013 (264M in 2012). 97% of exposures caused by outsiders

Big Data

- Spending \$41.5B in 2018 (\$16.5B in 2014)
- 2018 Services-\$10.8B
- By 2018, the Big Data talent gap is expected to be 50-60%
- Business Analytics spending is 5 times Big Data spending

...And the Business Skills are Critical



- Project management
- Business/Industry analysis
- Best practice adoption

- Stakeholder satisfaction
- Communication/Collaboration
- Financial management

Career Evolution



“

We have entered a global economy where talent and skills shortages challenge world economic and business growth around the world.

”


Klaus Schwab
Chairman, World Economic Forum

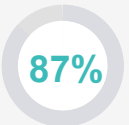


Knowledge and Skills Gaps are Constraining LoB Results

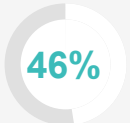
Current Approaches to Developing Digital Skills are Broken

Companies realize the **digital skills gap** and its importance

Over  **90%** of companies **lack digital skills**

 **87%** of companies feel digital transformation is a **competitive opportunity**

Yet, they are **not investing** in digital skills

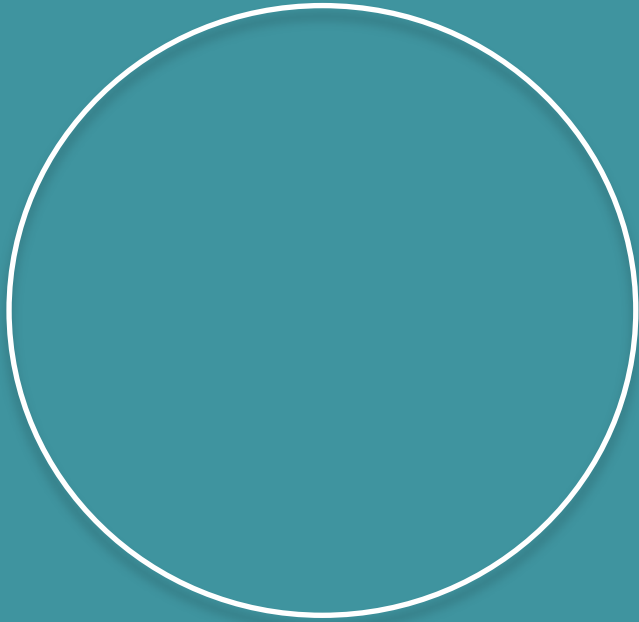
Only  **46%** are **investing in developing digital skills**

Source: Capgemini and MIT Center for Digital Business

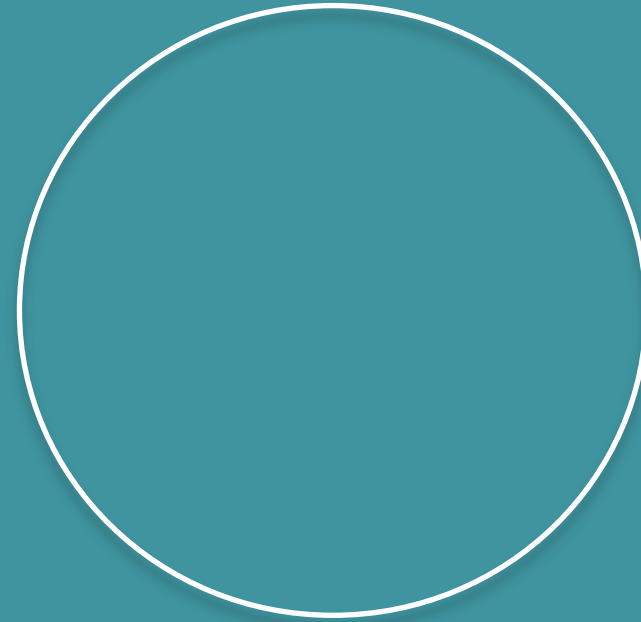
Global Rank	Challenges	Score
1	Human Capital	2.44
2	Operational Excellence	2.10
3	Innovation	1.99
4	Customer Relationships	1.72
5	Global Political/economic Risk	1.68
6	Government Regulations	1.55
7	Global Expansion	1.31
8	Corporate Brand and Reputation	0.92
9	Sustainability	0.82
10	Trust in Business	0.46

Source: Gartner

Networking
Skills



Software
Skills



The Hybrid Engineer

Technology Tip

IPv6 SD-WAN Security
Cognitive Networks Data Analytics Linux Distro.
Cybersecurity Virtualization IoT/IoE Segment Routing
Cloud OpenStack Container Fog Computing
Data Center Network Programmability
SD-WAN ACI NFV/AFV SDN Python
REST API

Questions to ask yourself...

- Do I have a complete and honest view of my talent?
- Is my talent moving in lock-step with technology advancements? And ahead of customer IT and business requirements?
- Are my customer interactions, contributions and projects expanding inside of IT? Outside of IT?
- Am I accelerating my skills, solutions, and services towards hot technology and business areas?

Thank you.

