



**Cisco** *live!*

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# Future of the Network Engineer Job Role

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BRKCRT-1010

# Cisco Spark

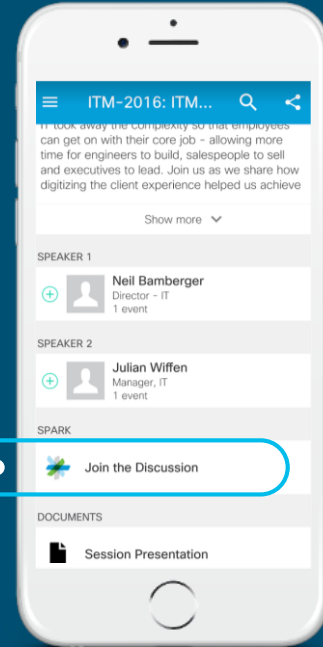


## Questions?

Use Cisco Spark to communicate with the speaker after the session

## How

1. Find this session in the Cisco Live Mobile App
2. Click “Join the Discussion”
3. Install Spark or go directly to the space
4. Enter messages/questions in the space



# Agenda

- Digital Transformation
- Survey Results
- Job Role Evolution – Top of Mind Priorities – Individuals, Hiring Managers
- Technology Evolution – Key Skills for the Digital Practitioner
- Career Evolution – A Blueprint for Success

# Digital Transformation

An abstract graphic on a dark blue background. It features several red and blue geometric shapes, including circles and rounded rectangles, arranged in a dynamic, overlapping pattern. In the upper left, there are red binary digits (0s and 1s) and lines, suggesting a digital or data theme.

# The Race is on to Digitise

By 2020

75%

of businesses  
will become  
fully digital



Only

30%

of these digitisation  
efforts will be  
successful



Failure to Innovate

#1

reason companies  
don't succeed

# Digital Transformation Disrupting All Organisations

IDC predicts the direct digital transformation spend from 2017 to 2020 to equal \$6.3 Trillion

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Half of all CEOs expect their industries to be transformed by digital



## Enterprises Must Adopt and Embrace this Disruption

# Data Is Critical for Successful Digital Business Transformation

According to the 2016 [Cisco Global Cloud Analysis report](#):

By 2020, data generated by Internet of Things workloads will reach

**600 ZB**  
A YEAR



The data stored in data centres globally will grow

**5x**  
by 2020



Big Data needs will reach **247 EB by 2020**, up almost

**10x**  
from 2015



Modern data centre infrastructure is key to supporting new business models



# But Isn't Digital All About the Technology?

## The CEO does NOT think so!

### Most significant challenges to meeting priorities for digital programs



Q: How concerned are you about the following potential economic, policy, social and business threats to your organisation's growth prospects?

### Top three threats

Over-regulation

78%

▲ 72% 2014

Availability of key skills

73%

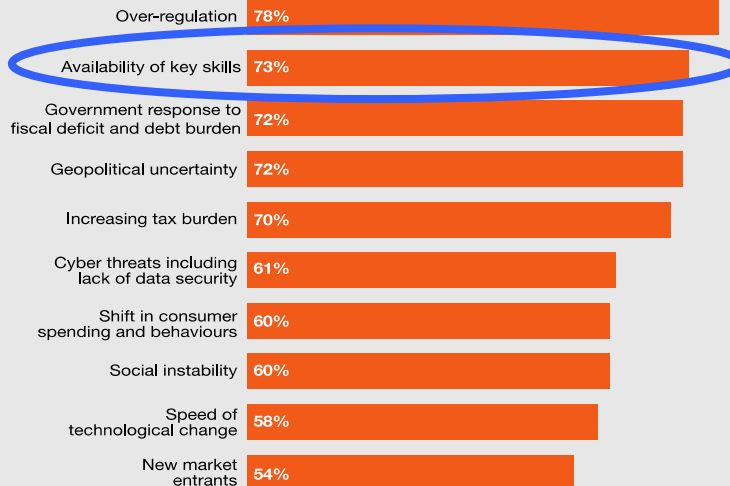
▲ 63% 2014

Government response to fiscal deficit and debt burden

72%

▲ 71% 2014

### Key threats



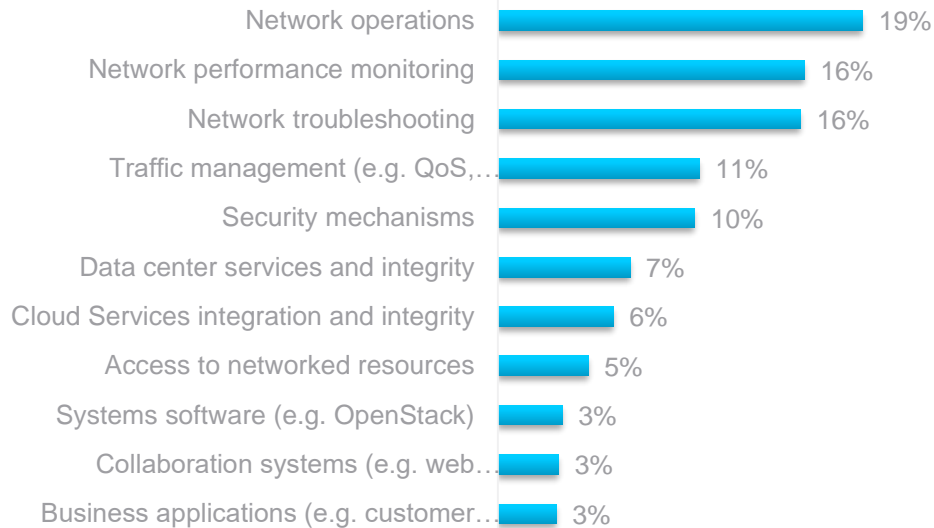
Source: Cracking the Digital Code, McKinsey, 2015, N = 987

Source: 18th Annual Global CEO Survey, PwC, 2015

# What are the top 3 Areas Your Organisation is Looking to Improve Upon with Automation?

## Top Areas to Automate

% of respondents (n=501)

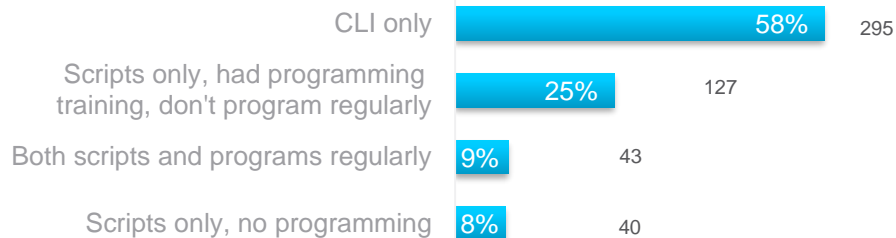


| CCENT | CCNA | CCNP | CCIE | Network Program m-ability | No Cert |
|-------|------|------|------|---------------------------|---------|
| 12%   | 17%  | 22%  | 26%  | 13%                       | 16%     |
| 14%   | 18%  | 16%  | 15%  | 9%                        | 16%     |
| 12%   | 18%  | 16%  | 15%  | 9%                        | 13%     |
| 10%   | 10%  | 10%  | 11%  | 13%                       | 12%     |
| 14%   | 13%  | 9%   | 6%   | 9%                        | 11%     |
| 10%   | 5%   | 8%   | 9%   | 17%                       | 5%      |
| 2%    | 6%   | 6%   | 7%   | 13%                       | 7%      |
| 12%   | 4%   | 4%   | 4%   | 4%                        | 6%      |
| 2%    | 3%   | 3%   | 3%   | 0%                        | 8%      |
| 6%    | 3%   | 4%   | 3%   | 13%                       | 2%      |
| 6%    | 3%   | 3%   | 2%   | 0%                        | 4%      |

# Which of the Following Statements Most Closely Describes the Scripting or Programming Skills Used by You or Your Team?

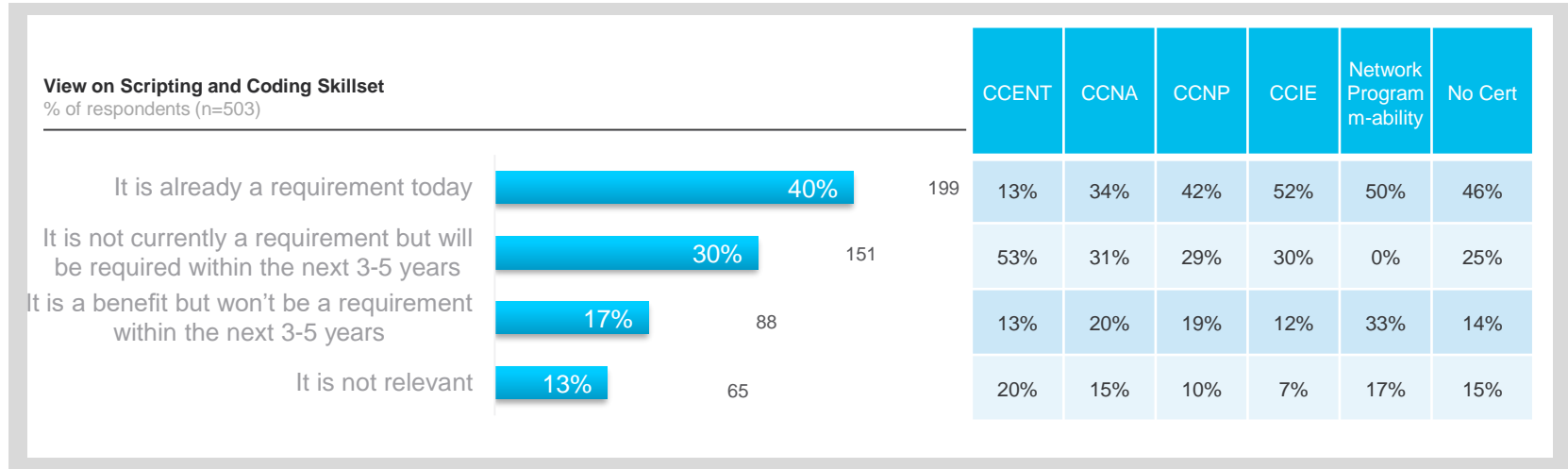
## Current Scripting and Coding Skillset

% of respondents (n=505)



| CCENT | CCNA | CCNP | CCIE | Network Program m-ability | No Cert |
|-------|------|------|------|---------------------------|---------|
| 67%   | 65%  | 54%  | 60%  | 67%                       | 47%     |
| 33%   | 20%  | 28%  | 22%  | 17%                       | 31%     |
| 0%    | 8%   | 7%   | 8%   | 17%                       | 11%     |
| 0%    | 6%   | 11%  | 10%  | 0%                        | 10%     |

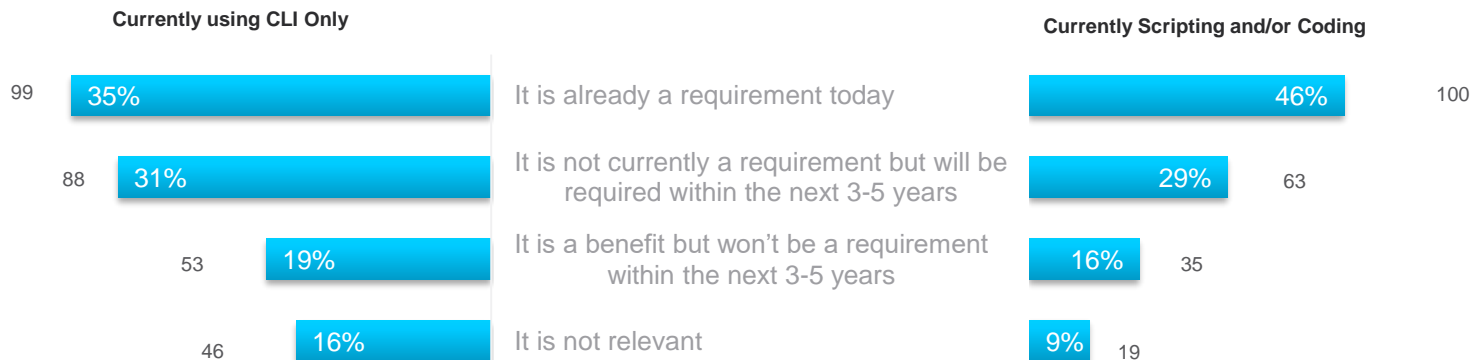
# What is Your Viewpoint on Advanced Scripting or Programming Skillsets, such as PERL Scripting or Python, as they Relate to Networking for Technology Professionals?



# What is Your Viewpoint on Advanced Scripting or Programming Skillsets, such as PERL Scripting or Python, as they Relate to Networking for Technology Professionals?

## View on Scripting and Coding Skillset

% of respondents (n=503)



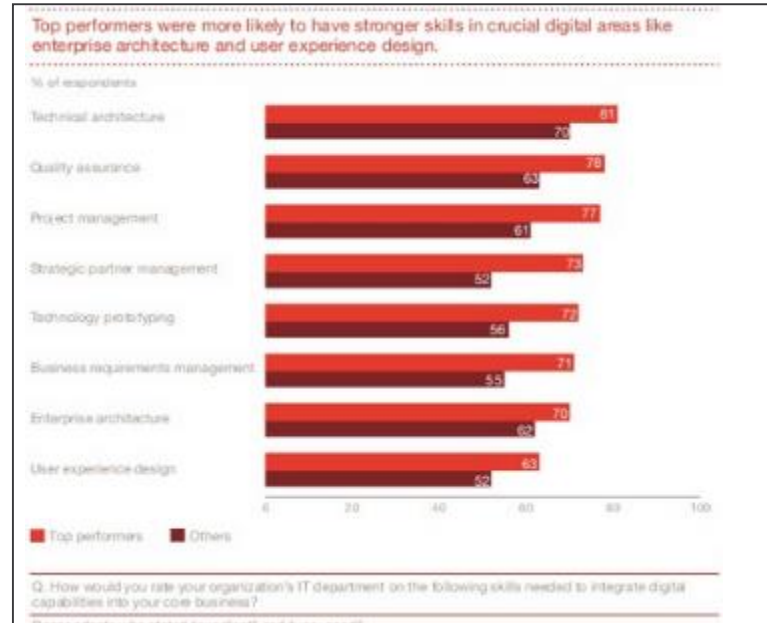
# Key to Success: Manage Talent Precisely.

## Where is the Talent Focus for Digital Transformers?

### Digital Drives:

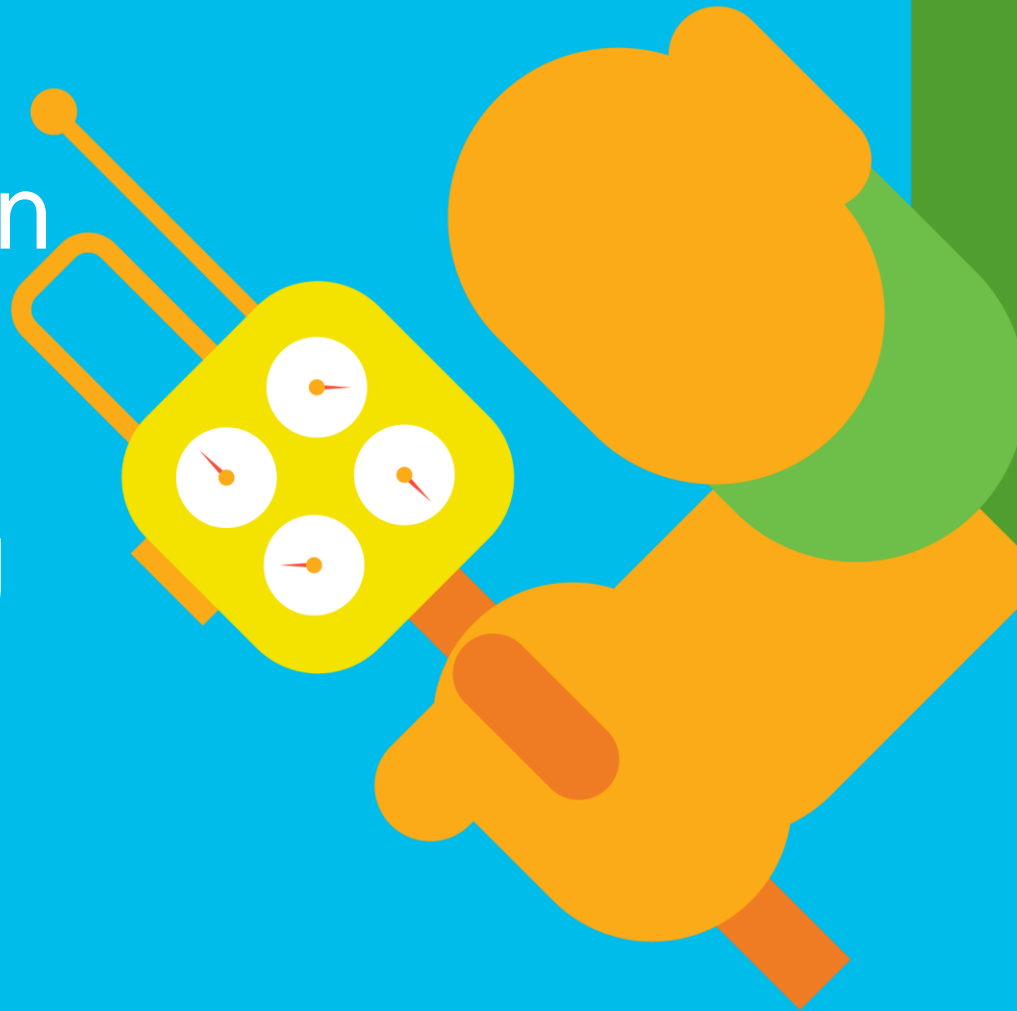
- New “Double-Deep” Skillsets
- New Job Roles/Responsibilities
- New Teams and Interactions
- New Learning & Development
- New Hiring Approaches

Digital capabilities require a blend of traditional and new IT skills.



Source: Digital IQ Survey, PwC, 2014

# Job Role Evolution Top of Mind Priorities – Individuals, Hiring Managers



# Preparing for the Jobs of The Future

**Are you Ready?**





Digital Experience Architect



Platform Developer



Robotics Specialist



Cloud Broker



Business Transformation Practitioner



Data Scientist



Cyber Security Analyst



Cognitive Engineer



Customer Success Manager



Industrial Network Engineer



Network Programmer (SDN)



Customer Makers



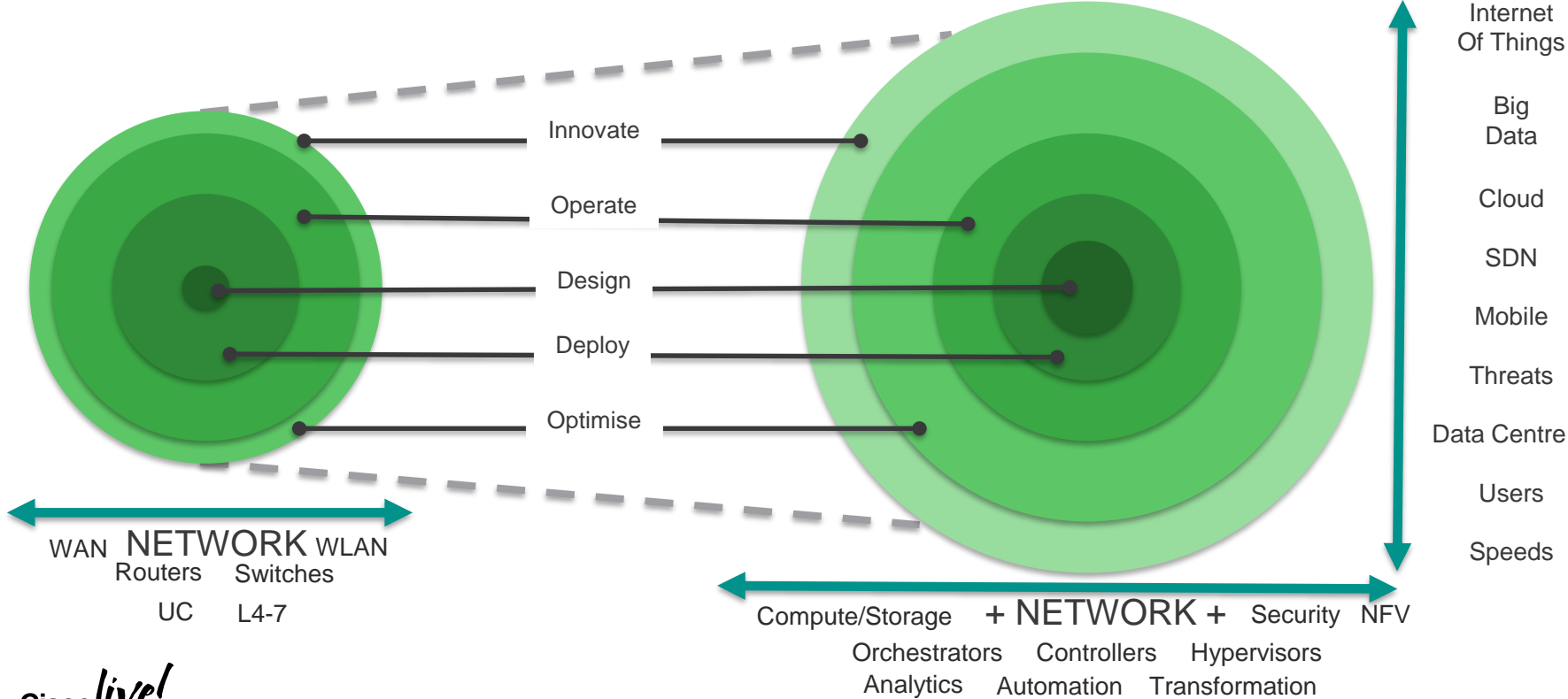
Enterprise Architect

Machine Learning Scientist

Social Intelligence Manager

# Job roles of 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 & optimisation
- 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 tech 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 optimisation focus
- Top-down application perspective
- Technology innovation
- Software best practice experience
- Cloud integration or provisioning

# Rewriting the Networking Playbook

Hardware Centric



Software Driven

Manual



Automated

Closed



Programmable

Reactive

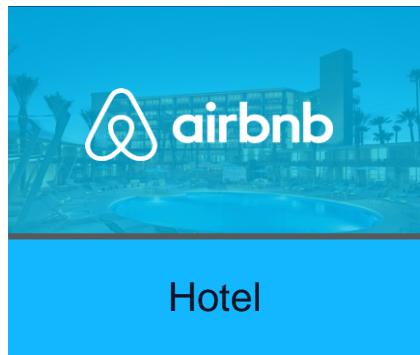
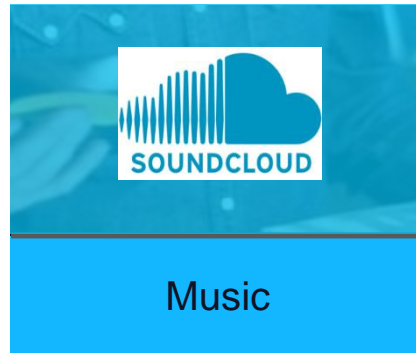


Proactive

Legacy Networks Will Not Scale

# Technology Evolution Key Skills for the Digital Practitioner

# Digitisation Is Changing The World



# Building a New Network for the Digital Era



Simplicity &  
Automation



Security &  
Compliance



Analytics &  
Insights

## Cisco Digital Network Architecture



# Digital Business Transformation— A Broad Perspective

Data



Everywhere



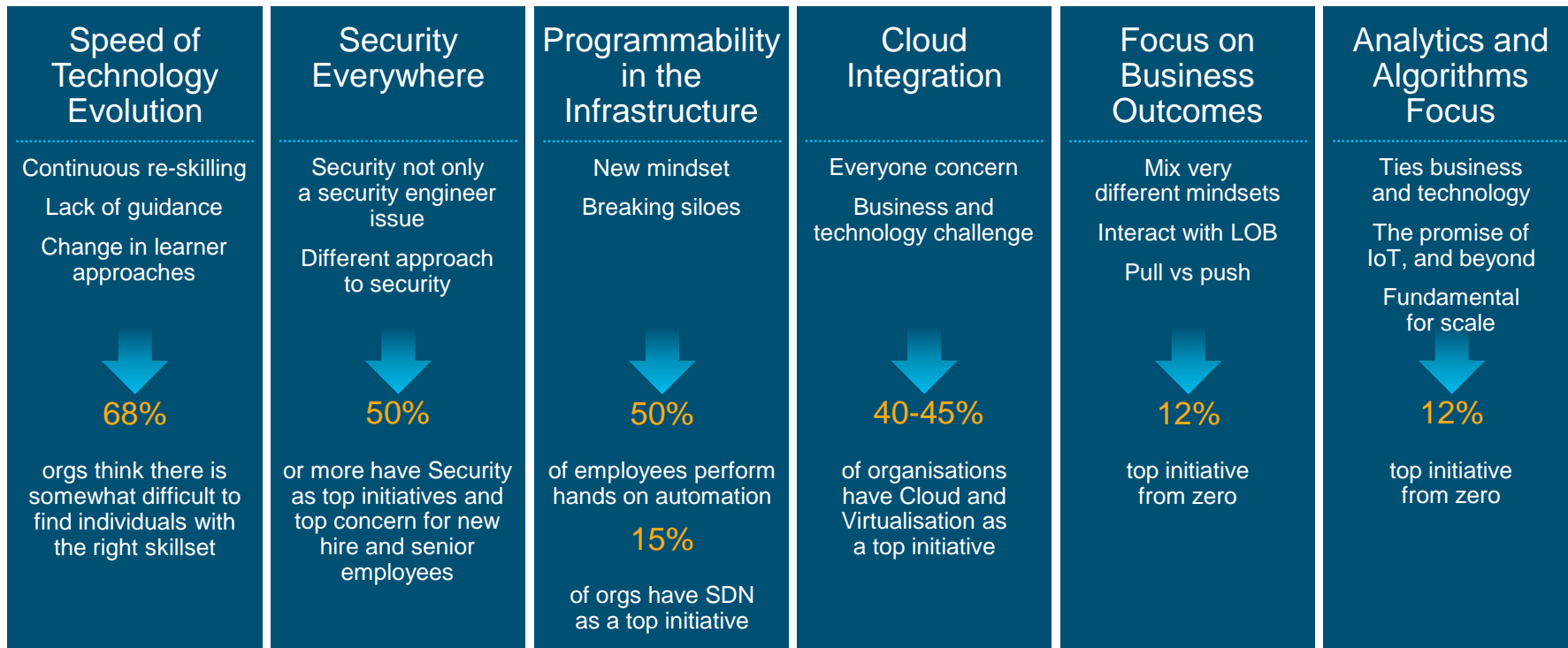
Business  
Outcomes

Security



Everywhere

# Factors of Digitalisation



# Technology Changes are Accelerating ...And the Business Skills are Critical

**Internet of Things**

**Software-Defined Networking**

**Cloud**

**Cyber-Security**

**Big Data**

**Business Skills**

- Project management
- Business/Industry analysis
- Best practice adoption
- Stakeholder satisfaction
- Communication/Collaboration
- Customer Success

# Career Evolution A Blueprint for Success

# Challenge: Talent Shortage

A Major Barrier to Digital Goals



**Lack of qualified professionals** to drive digital transformation, innovation, and the expected business benefits



**Rapidly evolving, and non-traditional roles**



**Training and Certifications** must reflect and represent these new roles



**Successful digital talent** will be continually improving their skills and capabilities; “just enough training, just in time”

Source: 18th Annual Global CEO Survey, PwC, 2015

# Job Roles are Evolving

## Traditional skills

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



## New skills

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

## The Hybrid Engineer

# Transitioning our Community, Building a New Workforce

## Adding New Digital Skills

- Business Skills
- Data and Analytics
- Cybersecurity
- Internet of Things
- Network Programmability
- DNA\*

Architect

CCIE

CCNP

CCNA

CCENT

## Evolving Certifications

- CCNA Cyber Ops
- CCNA/CCNP Cloud
- CCNA Industrial (IoT)
- Network Programmability
- Business Architecture
- Customer Success
- CCIE Next Gen

## Expanding Learning Options

Virtual Labs | Learning Libraries | Social Platforms | Custom Training

# Learning@Cisco: Creating Talent for a Digital Economy



Resulting in **competitive advantage**  
for our customers and partners...



# Technology Tips

SDN

Threats

Cognitive Networks

Data Analytics

Linux Distro.

Segment Routing

IPv6

Cybersecurity

Virtualisation

IoT/IoE

Cloud

OpenStack

Container

Fog Computing

SD-WAN

Data Centre

Network Programmability

Virtual Reality

ACI


NFV/AFV

REST API

Python



## 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?
- 

# Q & A

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