



## **Charting the Skilling Journey to Build the IT Services Talent of Tomorrow: Replacing the Commodity IT Services Role Definitions**

August 2020: Complimentary Abstract / Table of Contents



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## **Background and introduction of the research**

#### Background of the research

IT roles and their definitions are evolving at a swift pace driven by rapid technology advances and need for stronger "business orientation" of IT teams. The expanse and nature of technical and non-technical competencies that constitute IT roles are undergoing a massive shift. Consequently, the roles of yesterday are redundant today, and the roles of today will be redundant tomorrow. Demand-supply gap for next-generation IT services skills has been a huge talking point for the IT industry over the past few years. Prior to the COVID-19 crisis, 58% of enterprises mentioned that they have insufficient internal resources to drive digital transformation programs. Post the onset of the COVID-19 crisis, this proportion of enterprises has in fact increased to 69% – enterprises realize that digital transformation is no longer a choice but a necessity, and that access to the right talent is pivotal to execute this mandate.

The COVID-19 disruption is creating a new talent dynamic – while generic IT talent supply is currently overpowering demand, the market for emerging roles remains supply constrained:

- About 75% of enterprises believe that, despite COVID-19, there will still be a talent shortage for key roles across next-generation IT and analytics
- About 67% of enterprises believe new skill gaps will emerge due to structural changes in businesses as a result of the current disruption

The "pause" created by COVID-19 provides an ideal opportunity for enterprises to take stock of their IT strategy and requirements, and correspondingly build a robust skilling program focusing on emerging IT roles ("roles of tomorrow").

#### This report delves into the need and considerations for skilling programs for the roles of tomorrow. The coverage includes:

- Key drivers for rapid evolution of IT roles
- The IT roles evolution continuum roles of yesterday, today, and tomorrow
- The criticality of internal skilling programs for talent development for the roles of tomorrow
- Framework to design skilling journeys for roles of tomorrow
- Detailed skilling journeys for 14 roles of tomorrow

#### Scope of this report:





#### Industry

Communication, energy and utilities, financial services, healthcare and life sciences, hi-tech, manufacturing, and retail and consumer processed goods





## **Overview and abbreviated summary of key messages**

This report examines the need for enterprises to move away from traditional IT roles definition to create multi-functional roles of tomorrow. Enterprises need to take stock of existing skills in their organization and assess the gap that exists to build these roles of tomorrow by modeling internal demand and external market factors such as competition and industry- and geography-specific demand-supply gap for these skills. This report provides tools, data and insights, and case studies to help enterprises craft their unique skilling journeys.

Some of the findings in this report, among others, are:

#### The perfect talent storm

- Rapid technology evolution is consistently shrinking the shelf life of IT skills, while creating new roles
- Collapsed IT stacks resulting from enterprise digital transformation and modernization initiatives require a new talent profile
- New operating models in a post-COVID-19 world will lead to redefinition of existing job descriptions and emergence of new roles
- About 75% of enterprises believe that, despite COVID-19, there will still be a talent shortage for key roles across next-generation IT and analytics

#### IT roles evolution continuum

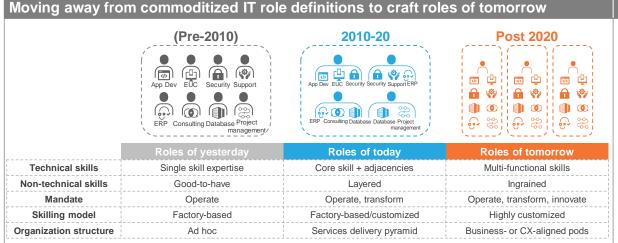
- Pyramid model of services delivery organization and commoditized definition of roles will fade as enterprises adapt to the evolving business models shaping the IT roles continuum
- The IT services roles continuum is being shaped by emergence of new technologies and need for better business alignment across all the IT services lines

#### Charting the skilling journey

- The business case for reinventing the enterprise skilling journey for IT services is evident in the technology proliferation and the acute shortage of ready to deploy skilled resources
- The first step to build roles of tomorrow requires building skills passport and building unique skilling journey based on base skills already available in the organization



## This report delves into the need and considerations for skilling programs for building the roles of tomorrow; below are four charts to illustrate the depth of the report



#### Skills passport to understand the skills needed for each role

						Extent of dema	
Skill family / competency	Top skills in demand <sup>1</sup>	Ease of hiring	Demand in 2020 (FTEs in 000s)	CAGR (2019-24)	Current demand- supply gap	High (>25% Share of dema	
	Java	High	478-483	2-4%		High (>25%)	
Application development	Node.js		41-43	28-30%		🛄 Must have s	
	Python		215-220	4-6%		Demand vie	
IoT platforms	AWS IoT	Low	18-20	63-65%		North Americ	
	Azure IoT		19-21	79-81%	-	Continental E	
	PTC ThingWorx		4.6-5.6	27-29%		APAC	
	Ansible	High	175-180	10-12%		UK	
CI/CD and containers	Kubernetes		100-105	30-32%		Others	
CI/CD and containers	Docker		200-205	23-25%			
	Puppet		118-123	10-12%		Demand vi	
	Apigee	Medium	8-9	27-29%		Financial ser	
API management	Azure API		14-16	21-23%		Energy and u	
	MuleSoft		10-12	28-30%		Manufacturi	
letwork monitoring	Riverbed	High	33-35	1-3%		Communicati	
and management	Solarwinds	55-60	0-2%		Hi-tech		
Advanced analytics		Edge computing		5-6	22-24%		Healthcare a
	Hadoop	Low	41-43	15-17%	<b>—</b>	Retail	
	Hive		10-12	22-24%		Others	

Extent of demand-supply gap High (>25%) Medium (10-25%) Low (<1)	0%)
Share of demand by geography or industry High (>25%) Medium (10-25%) Low (<10	%)
TT Must have skills TT Good to have skills TT C	ross-skill
Demand view of role – by geography	
North America	
Continental Europe	•
APAC	
UK	
Others	
Demand view of role – by industry	
Financial services	
Energy and utilities	•
Manufacturing	
Communication	•
Hi-tech	
Healthcare and life sciences	
Retail	
Others	

#### Definitions for 14 roles of tomorrow

#### Role description

- Programming: Should have knowledge in microservices architecture; designing and developing applications in different cloud environments; have expertise in programming languages such as Python C, Java, and Node js; low code / no code programming (ThingWorx mashup): AWS Azure compute services (including serverless); and augmented reality programming
- IoT platforms: Experience as a cross-platform architect in IoT with expertise in designing complex IoT solutions on platforms such as AWS IoT, Azure IoT, and PTC ThingWorx
- IoT protocols: Should be able to provide guidance around design principles, standards, and best practices. Hands-on in internet protocols and development using protocols including MQTT, NB-IoT, 6LoWPAN, etc. Industrial IoT protocols (modbus, OPC-UA, OPC-DA, etc.), IoT protocols (BACNET and coAp), and 5G
- Advanced analytics: Should have experience of working with big data technologies and in leveraging real-time data solutions such as Hadoop Kafka, Spark, Storm, Amazon Kinesis, AWS Azure Analytics, Data Access Services (Sagemaker, Time series insight, Glue, and Athena), AWS, and Azure Edge
- Integration: Should be able to define and develop APIs and integration strategy of the IoT platform/product. data ingestion and data access APIs
- Design: Design and architect complex non-functional features including end-user experience, security, scaling, and disaster recovery

#### Understanding of ISA 95 stack and its application in industry; relevant industry knowledge

#### Key non-technical competencies in demand

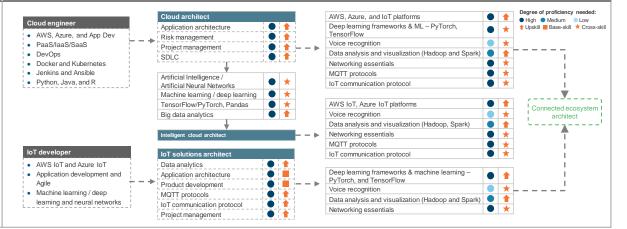
Industry domain-specific knowledg

- Story-telling
- Critical thinking
- Project management
- Simple and impactful communication
- Strong bias for action; proactively driving problems to long-term, scalable solutions
- DevOps methodologies and CI/CD strategies

#### Problem solving

- Key emerging skills in demand
- Behavioral analytics
- IoT data management
- AI/ML solutions/modules
- Augmented Reality (AR) design
- Blockchain integration with IoT data

#### Skilling journeys to build roles of tomorrow





## **Research calendar Application Services**

Current release **Flagship application services reports Release date** Application Transformation Services PEAK Matrix<sup>®</sup> Assessment 2020 December 2019 Application Transformation – Business Pioneering the Agenda – State of the Market February 2020 Next-generation Quality Assurance - State of the Market February 2020 Winning the War for Talent: An Enterprise Guide to Building a Sustainable Workforce Strategy July 2020 Cloud-Native Application Development Services PEAK Matrix<sup>®</sup> Assessment 2020 August 2020 Application Services State of the market Q3 2020 Cloud-Native Application Development Service Provider Compendium Q3 2020 Cloud-Native Application Development Services State of the market Q4 2020 Next-gen Application Management Services PEAK Matrix<sup>®</sup> Assessment 2020 Q4 2020 Thematic application services reports **Release date Breakthrough Transformation** October 2019 Talent Readiness for Next-generation IT Services PEAK Matrix<sup>®</sup> Assessment 2020 – Closing the Demand-Supply Gap December 2019 Upcoming Contract Renewals – Application Services 2020 March 2020 Rapid Application Development Platform Trailblazers: Top 14 Start-ups in Low-code Platforms – Taking the Code Out of Coding May 2020 Strength in Adversity: Enterprise Service Resilience During the COVID-19 Crisis June 2020 **Cloud-based Application Modernization** July 2020 Charting the Skilling Journey to Build the IT Services Talent of Tomorrow: Replacing the Commodity IT Services Role Definitions August 2020

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