DxCERTS™

**IT, Cybersecurity & Service Management Training Solutions
for Today's Digital Service Enterprise**

By

David Nichols & Rick Lemieux

December 2018

Copyright and Trademark Notice

Notice of Rights / Restricted Rights Legend

Notice of Liability

The Digital Service Enterprise

Three things are certain in today's business world: first, **digital services** are now at the center of all businesses; second, business is a moving target and third businesses are under attack from those trying to steal the critical information companies rely on for daily business operations and revenue generation.

The demand for a proactive, collaborative and balanced approach for managing, securing and improving digital services across stakeholders, supply chains, functions, markets, and geographies has never been greater.

To support this new digital service business model, enterprises must train its workforce with the best practice knowledge, skills and capabilities to stabilize, optimize, secure and improve an enterprise digital service portfolio.

The Digital Service Enterprise Operating Model

Before an enterprise can operate as a digital enterprise, it must demonstrate three main characteristics; an unambiguous understanding of their customer's need, repeatable processes to ensure consistency of execution, and the ability to innovate in a structured manner.

To achieve an unambiguous understanding of the customer's needs, enterprises must, in a structured repeatable manner, define and categorize the enterprise process, technology and capability requirements. The next step is to compare these requirements to the existing environment to understand what it will take to achieve and manage the required capability. The provider must do this in the context of governance based on enterprise goals and achievement measured against expected outcomes.

Repeatable processes are required to ensure consistency of execution. This is critical because day-to-day business processes rely so much on

embedded technology that failure to execute consistently directly impacts the enterprise's ability to deliver its products or services.

Finally, the enterprise must develop a utility grade delivery platform and practice management model that supports emerging utility-based architectures and applications such as Real Time Infrastructure (RTI), Service Oriented Architecture (SOA) and Software as a Service (SaaS). The delivery platform provides the portal through which the enterprise receives its business enabling technology. The enterprise brokers those services irrespective of their source, internal or external. Therefore, the enterprise can deliver utility grade, business-aligned services as needed, and manage technology investments and innovation in a structured manner.

Underpinning all of this is the need for a model that helps identify what services need to be sourced internally and what services can be sourced externally. This model will provide the guidance the enterprise needs to classify the services and processes that are critical to quality service delivery and differentiation in the marketplace. The internally sourced services are prime candidates for investment, as they are critical to the success of the business. The business may source other activities according to the capability of the enterprise using established sourcing policies and guidelines such as Carnegie-Mellon's eSCM capability model.

NISTCSF.COM – *IT, Cybersecurity & Service Management Training Consortium*

itSM Solutions NISTCSF.COM is a global consortium of academic, government and industry thought leaders working together to create digital service enterprise training solutions that help organizations operationalize the best practice programs created by the National Institute of Standards &

Technologies (NIST) and other internationally recognized institutes and standards organizations. The consortium's goal is to provide academia and enterprises with a*n affordable and* scalable way to train, skill, certify and continually improve today's Cybersecurity, IT and Service Management workforce**.**

The Digital Service Enterprise Workforce – 1998 to 2018

To support this new digital service business model, enterprises began training its workforce using a series of certification training programs from Microsoft, CompTIA, ISC2 and others to teach the engineering, operations and technology skills necessary to operationalize an enterprise digital service portfolio. Enterprises also began exploring the use of frameworks such as ITIL, PMBOK, COBIT and ISO20000 in order to operationalize the controls and management systems necessary to stabilize, optimize and continually improve the quality of an organizations digital service portfolio.

The Digital Service Enterprise Workforce – 2019

Today, due to the ever changing threat landscape created by mobile computing, the Internet of Things (IoT) and a very sophisticated network of threat actors (i.e., the bad guys) enterprises now need to expand its training portfolio to include programs that help organizations learn the knowledge, skills and capabilities to adopt and adapt frameworks such as the National Institute for Standards & Technologies (NIST) Cybersecurity and NICE Cybersecurity Workforce Frameworks, the Institute for Digital Transformation Digital Enterprise Readiness Framework, the Axelos RESILIA Cyber Resilience Framework, the FAIR Institute Risk Management Framework, the Security Innovations Software and Application Security

Framework, and the Cloud Security Alliance Framework in order to operationalize the controls and management systems necessary to stabilize, optimize and continually improve the security and risk an organizations digital service portfolio.

Digital Service Enterprise Frameworks, Methods and Standards

NISTCSF.COM integrates nine best practice programs in support of training and skilling a digital service enterprise workforce.

Digital Enterprise Training Program	Framework, Method or Standard
Cybersecurity Risk Management	NIST Cybersecurity Framework
Cybersecurity Workforce Development	NICE Cybersecurity Workforce Framework
Digital Enterprise Readiness	Digital Enterprise Readiness Framework
Cloud Security	Cloud Security Alliance Framework
Cyber Resilience	RESILIA Cyber Resilience Framework
Service Management	ITIL Service Management Framework
Governance	COBIT 5 Governance Framework
Software & Application Security	Software & Application Testing Methodology
Project Management	PMI PMBOK & PRINCE2 Project Management

NIST Cyber Security Frameworks provides guidance and training's on how digital enterprises can proactively manage and improve a cyber service portfolio in terms of cybersecurity risk and workforce development.

NICE Cybersecurity Workforce Framework provides guidance and training's on how digital enterprises can proactively manage and improve its Cybersecurity and IT workforce.

Digital Enterprise Readiness Framework provides guidance and training's on how digital enterprises can manage and improve a cyber business in terms of operational sustainability, organizational agility, strategic agility, and operating within a disruptive culture.

Cloud Security Alliance Framework provides guidance on how digital enterprises can adopt the cloud paradigm safely and securely.

ITIL® Service Management Framework provides guidance and training's on how digital enterprises can proactively manage and improve a cyber service portfolio in terms of agility, development, operations, cost, quality and compliance.

RESILIA™ Cyber Resilience Framework provides guidance and training's on how digital enterprises can proactively manage and improve a cyber service portfolio in terms of business resiliency and recovery.

COBIT Governance Framework provides guidance and training's on how digital enterprises can proactively manage and improve a cyber service portfolio in terms of risk policies and controls.

Software & Application Testing Methodology provides guidance and training's on how digital enterprises can make software systems and applications safer regardless of their operating environment (web, IoT, Cloud)

PMI PMBOK Framework & PRINCE 2® Project Management provide guidance and training's on how digital enterprises can improve the success of its cyber service projects by using knowledge and techniques that result in desired business outcomes.

DxCERTS™ - IT, Cybersecurity & Service Management Training Solutions

DxCERTS is the consortium's assessment, certification and skill training program focused on helping enterprises build the workforce to support its digital enterprise operating model. A listing of the initial programs can be found below.

Digital Enterprise Service Management			Digital Enterprise Engineering & Operations				Business Skills	
Service Management	Project Management	Cybersecurity Management	Software Programming	IT Networking	Information Security	Cloud Management	Microsoft Office Skills	General Business Skills
27 Courses	17 Courses	20 Courses	24 Courses	45 Courses	31 Courses	11 Courses	68 Courses	31 Courses
ITIL V3	PMI	NIST CSF	C+	Microsoft	ISC2	AZURE	O365 END USER	HR
ITIL V4	PRINCE2	COBIT	C++	Cisco	ISACA	AWS	O365 ADMIN	LEGAL
RESILIA	AGILE	NIST 800-171	JAVA	COMPTIA	COMPTIA	COMPTIA	O365 SHAREPOINT	ACCOUNTING
COBIT	SCRUM	CLOUD SECURITY	PYTHON	VMware	MILE2	SHAREPOINT	O365 WEB APPS	CYBERSECURITY
DEVOPS		SECURE CODING	RUBY		IoT	SQL SERVER	WORD	SOCIAL MEDIA
DIGITAL READINESS		ISO27001	HADOOP				EXCEL	COMMUNICATIONS
AGILEshift			PERL				POWERPOINT	COMPUTERS
SAFe			ANGULAR 5				OUTLOOK	INTERNET
			ASP.NET				ACCESS	SHAREPOINT
			SQL 2014				PROJECT	PROJECT MGMT.
			RESTFUL				LYNX	
			SELENIUM				DATA ANALYSIS	
			BOOT STRAP					

DxCERTS™ Enterprise Training Program

Listed below is a five-phase approach to teaching the knowledge, skills and capabilities to manage the quality and security of a digital enterprise service portfolio.

Phase 1 – Executive Team Training

Organization Role	Objective	Training Programs
CEO, CFO, CIO, CISO CRO, CCO, PMO Director, SMO Director, Governance Director	To help the executive team understand the benefits associated with operationalizing a DX program	DX Executive Overview DX Executive Simulations Digital Readiness Training

DxCERTS™ executive training and simulation services are designed to help the executive team to:

- **Understand** the benefits of adopting an Dx program
- **Understand** the value of Digital Readiness
- **Secure** funding for the Dx program
- **Select** a leadership team to drive the Dx program

Phase 2 – Program Leadership Team Training

Organization Role	Objective	Training Programs
Practice Owners, Service Owners, Change Mgrs. Operation Mgrs. CSI Mgrs. Business Analysts	To help the leadership team acquire the knowledge and skills to develop an actionable DX plan	DX Assessment Training NCSF Assessment Training Digital Readiness Training Planning to Change Workshop Internet of Things Training ITIL® Training RESILIA Training Prince 2 Training NIST Cybersecurity Training DX Simulations

DxCERTS™ leadership training and simulation services are designed to help the leadership team acquire a systemic structure for thinking and planning and the skills to:

- **Become** thought leaders for the Dx program
- **Understand** the value of Digital Readiness
- **Perform the Assessment** to identify and document DX GAPS
- **Organize and Condition** the enterprise for Dx

Phase 3 – Enterprise Awareness & Readiness Training

Organization Role	Objective	Training Program
All IT staff, senior leadership, stakeholders and supply chain partners	To help condition the enterprise for DX change through a series of online awareness and simulation trainings	DX Awareness DX Simulations Digital Readiness Training

DxCERTS™ enterprise training and simulation services enable the enterprise business stakeholders and supply chain partners to:

- **Understand** the Dx program and its value to the organization in terms of improving the quality, risk and security of an enterprise digital service portfolio
- **Understand** the value of Digital Readiness

Phase 4 – Practitioner Training

Organization Role	Objective	Training Programs
1st Line Mgrs. Practice & Service Owners Architects & Strategists Operation & System, Analysts Business & Quality Analysts Program & Project Managers Operation & Change Mgrs. Service Level & CSI Mgrs. Tool Administrators	To provide the DX practitioners the knowledge and skills to plan, design, implement, operate and improve a DX program.	DX Training NIST Cybersecurity Framework Training NIST Cybersecurity Employee Training NICE Cybersecurity Workforce Trainings Internet of Things Training ITIL Trainings RESILIA Trainings Prince 2 Trainings ISO 27001 Training Cobit Training DX Simulation Trainings

DxCERTS™ information technology training and simulation services will enable the IT organization to acquire the knowledge and skills to:

- **Plan, Design, Implement, Operate and Improve** a Dx program

Phase 5 – HR Policy & Procedure Training

Organization Role	Objective	Activities
HR Manager	To establish HR policies and procedures for training new employees and a career pathway for existing employees practicing DX	Setup both eLearning and role-based Blended Learning DX best practice training solutions for new and existing employees

DxCERTS™ HR trainings help HR departments to:

- **Establish** policies and procedures for training new employees
- **Identify** career pathways for existing DX practitioners.

Summary

Three things are certain: first, digital services are now at the center of most businesses; second, business is a moving target, third organizations are under attack from those trying to steal the information companies rely on for daily business operations.

The itSM Solutions DxCERTS™ training program enables organizations to create a workforce capable of engineering, securing, maintaining, and continually improving an enterprise digital service portfolio.

About itSM Solutions LLC

Founded in 2002, itSM Solutions LLC is the creator of the Digital Service & Security Management (DSSM) model. DSSM is a proactive, collaborative and balanced approach for adopting and adapting the best practices necessary to manage & improve the cost, quality, compliance, security, risk and business continuity of an enterprise digital service portfolio. DSSM suite of training, mentoring and certification solutions enables organizations to adopt and adapt a systemic structure for thinking when planning and designing digital services plus the skills to operate as a service provider integrated into the business value chain.

About the Authors

David Nichols is the President and CEO of itSM Solutions LLC, an ITSM consulting and training company. He has over 25 years experience in Information Technology. As an early adopter of the IT Service Management processes as described in the IT Infrastructure Library (ITIL), he has utilized his hardware and software engineering background as a foundation for implementing sweeping changes in how IT Services are delivered at several fortune 100 companies in the US. Working closely with the executive management teams, David has helped the strategic goals of the IT organization with those of the company and develop a more effective IT Strategy. Strategies that are customer focused, process-oriented and cost/performance optimized, and help business and IT organization establish the value of IT Services. David holds ITSM Service Manager certification.

Rick Lemieux is a managing partner and the Vice President of Business Development. He is responsible for overseeing the company's Sales, Marketing & Business Development programs. Rick has been involved in selling IT solutions for the past 33 years. Prior to itSM, Rick, an early proponent of ITSM and ITIL, led the Sales and Business Development teams at software companies focused on automating the best practices guidance outlined in ITIL. Rick holds a Foundation Certificate in IT Service Management and was recently identified as one of the top 5 IT Entrepreneurs in the State of Rhode Island by the TECH 10 awards.