

# Architecting for the Future

### - Building an Innovative Digital Health Enterprise in NS

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# To Build a Skyscraper

- Healthcare is the one of the largest and fastest growing industries in the world
- Healthcare in Nova Scotia is a multibillion dollar business
- Information technology is the main enabler of innovation and efficiencies in health care
- Enterprise Architecture (EA) connects needs and goals of business with capabilities and possibilities of IT at the enterprise level
- "Health enterprise" refers to the whole health care sector







# The Vision

- An information-powered health care system in NS
- A health care system that puts patients first
- Streamlined and optimized administration
- Reinvesting in frontline health care

*Source: NS Deputy Minister of Health & Wellness announcing the restructuring plan (March 2016)* 



# "Arche-tekton (gr.) = Chief Builder"

### **An Architect:**

- Makes dreams and visions concrete
- Is involved in the whole lifecycle of a building
- Aligns goals and working parties
- Will be consulted frequently

*"Form ever follows the function." An American architect Louis Sullivan (1856-1924)* 





### NOT Architecting is not an Option





### Creating a Relevant Health Care EA Framework

Preliminary					
Architecture Principles	Business Technology Strategy Strategy		Business Principles, Architecture Objectives, and Drivers Vision		Stakeholders
		Architecture	Requirements		
Requirements Constraints		onstraints	Assumptions		Japs
Busine	ss Architecture		Information System	ems Architectures	Technology
Motivation		Data	Application	Architecture	
Drivers Goals	Objectives	Measures	Data Entities	Information System Services	Platform Services
Organization					
Organization	Location	Actor, Role	Logical Data Components	Logical Application Components	Logical Technology Components
	Function				
Business Services, Contracts, Service Qualities	Processes, Events, Controls, Products	Functions	Physical Data Components	Physical Application Components	Physical Technology Components
		Architecture	e Realization		
pportunities, Solutions	& Migration Pla	nning	Implement	ation Governance	

\* The Open Group Architecture Framework

**TOGAF\*** content metamodel





# Defining and Providing Capabilities





### Architecture as an Alignment



# Aligning Goals, Priorities and Agendas





# The Roadmap





# The Vision: Our Golden Skyscraper

#### A health care system that

- Produces health and wellness for the population
- Provides universal and accessible health services
- Focuses on an engaged individual
- Embraces the family and communities
- Utilizes resources effectively
- Is carried out by motivated workforce
- Is grounded in evidence
- Implements privacy by design

*"Healthy people, healthy communities for generations"* 





# Current State: A Force Field Analysis





# Strategic Transitions Needed

for generations" Operationalizing the vision into concrete and actionable plans Mandate Strategy Standardizing clinical processes, terminology, and registries Services V Organization Establishing "information stability" and "pervasive analytics" S Information 0 Procurement and implementation of the "OPOR Megasuite" Data Ν Applications Redesigning Health Information Exchange platform and services S Integration т Α Platforms Consolidating and standardizing IT infrastructure and desktops т Infrastructure Ε Finalizing the division of IM/IT work and leveraging the Cloud IT Service production **Knowledge and Skills** Partnering with higher education for securing the future workforce





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*"Healthy people, healthy communities"* 



### Illustration 2: OPOR CIS and Strategy

#### **Clinical Applications Portfolio Management**





### Implication – IT moves to a bimodal organization

	Mode 1		Mode 2		
	Reliability	Goal	Agility		
	Price for performance	Value	Revenue, brand, customer experience		
Think Marathon Runner	Waterfall, V-Model, high-ceremony IID	Approach	Agile, kanban, low ceremony IID	Think	
	Plan-driven, approval-based	Governance	Empirical, continuous, process-based	Sprinter	
	Enterprise suppliers, long-term deals	Sourcing	Small, new vendors, short-term deals		
	Good at conventional process, projects	Talent	Good at new and uncertain projects	M	
	IT-centric, removed from customer	Culture	Business-centric, close to customer		
16	Long (months)	Cycle Times	Short (days, weeks)	Gartner	

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### Illustration 3: Data and Analytics



#### = Bimodal Data Warehousing and BI/Analytics

"Pervasive analytics" requires "data stability" and empowers the health care system and front line people with access to information they need



### EA Must Be in the Right Place at the Right Time





### Our Journey to the Future

- Finalize the "1st generation" work (DIS) and invest in projects that reap value from the previous investments (analytics, PHR)
- Facilitate transitioning by investing *only* in projects that build readiness for OPOR era (standards, HIE, consolidation)
- 3. Implement *only* net new systems that will *not* be replaced by the "OPOR Megasuite" (SIMS)
- Enter the "Megasuite" era by replacing existing EHR components (HIS/CIS) with new ones as available ("Mode 1")
- Along the way, innovate according the roadmap and the level of readiness ("Mode 2")



### Questions

• Q&A

