



Evolving Enterprise Architecture and Digital Transformation in a Small Agency

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Speaking about but not for the:
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Abstract

- Crises and transformation both require adaptability and creativity
 - How can an Enterprise Architecture (EA) group evolve its approach to be a valuable partner when everything is being questioned?
 - How can EA in small organizations take advantage of their influence to steer major projects, shape governance and set the pace of digital transformation?
- This session will describe how the Enterprise Architecture team at the Public Service Commission has been able to evolve and contribute effectively to the organization's ability to respond to new challenges

About the Public Service Commission

- Founded in 1908 with the mandate of protecting merit in the federal public service
- “Small” organization: 800 employees, 100 of them in IT
- One headquarters (Gatineau), four regional offices (Halifax, Montreal, Toronto, Vancouver)
- What do we do?
 - The public knows us for: The GCJobs hiring site
 - Federal Public Servants know us for: Second-Language Assessments
 - Other departments know us for: Staffing policies, investigations, audits

Enterprise Architecture at the PSC

- A first failed attempt in 2008-2011
 - One Manager/Architect, doing traditional Enterprise Architecture
 - Death by Shared Services, reallocation to overwhelming priorities
 - Lesson to learn: How to prevent another dismantling?
- Current incarnation created in 2016
 - One manager (IT-4), three technical specialists (IT-3)
 - Responsibilities extend to Client Portfolio Management
 - Administers two governance committees:
 - IT-focused Architecture Review Committee (ARB equivalent)
 - Partner-focused Business Operations Review Group

Stages of EA Practice development

Stage 1: Understanding the environment (2016-2019)

- “Formal” Enterprise Architecture practice
- Drafting of foundations documents: standards, blueprint, roadmap

Stage 2: Adapting to the enterprise: processing intake (2019-2022)

- Operationalizing Enterprise Architecture as a set of processes
- Unexpected consequences: intake funnelling, prioritization, post-EA process definition
- Stress-test: Operations-focused pandemic crisis, MS Office 365 implementation

Stage 3: Focusing on a partner portfolio approach (2022+)

- Gate 0 involvement in project proposals and definition
- Earlier, ongoing business input in architectural plans

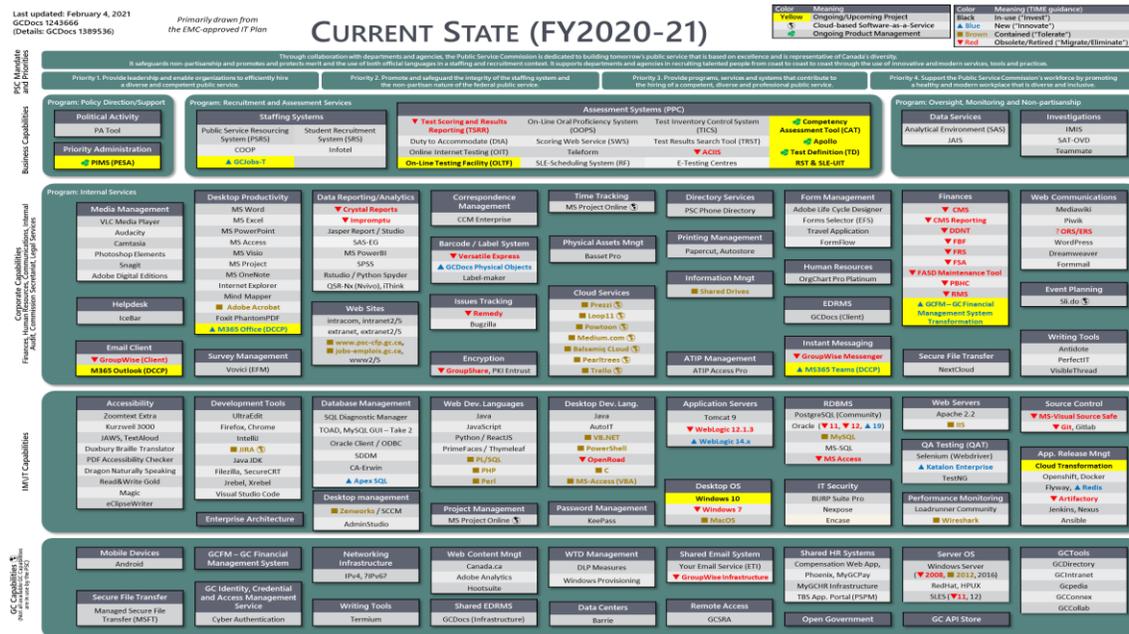
Stage 4? *Maybe* Enterprise digital planning

- To be detailed at an upcoming Digital Transformation in Government Conference

Stage 1: Reading the rulebook

- When in doubt, rely on the framework
 - Attend TOGAF training, analyse the reality of the organization
 - Draft the essential documents: Standards (“Bricks”), blueprint, roadmap
- Gather allies
 - Take over EA-adjacent functions: APM review cycle, documentation of standards, administration of a technical-level governance committees
 - Become a *predictable* Enterprise Architecture function via documentation
 - Develop relationships with IT/business colleagues: Do the work no one else wants, provide added value to other projects, become a sponge for information you can then share

Stage 1: Essential documentation



Architecture Blueprint / Roadmap

Server Operating System

Description: A server operating system (OS), is an operating system specifically designed to run on servers, which are specialized computers that operate within a client/server architecture to serve the requests of client computers on the network.

Business capability: Operating Systems Software / Server Operating System Software
 IT Capability: Application Platform / Operating System Services / Operating System and Virtualization / Server Operating System

Standards table

Status	Product	Comments
Emerging	Red Hat Linux	Emerging SSC standard
Approved (Strategic)	SLES 15	Current version of Server Linux
Approved (Tactical)	Windows Server 2019	
Contained	Windows Server 2016	
	SLES 12	Incompatible technology
Retired	Windows Server 2012	Slightly older technology; still supported, but should be upgraded to newer version if possible. Will soon be actively decommissioned.
	HPUX	Still being used for Oracle – multiple obstacles to decommission. (licensing, technology, etc.)
Retired	Windows Server 2008	Currently being actively decommissioned (No Microsoft support)
	SLES 11	Still being used, but scheduled to be replaced

General comments:

- Server Operating Systems are controlled by SSC standards.

Last EA/SME revision: 2021-04-28

ARC Review: 2021-05-10

Authority: Infrastructure manager

Technology Bricks

From Stage 1 to Stage 2: Adapt

- Remain practical
 - If it's not useful to your organisation and your colleagues, does it need to be done?
- Build in the open
 - Work in Word, PowerPoint, Excel for the benefit of your colleagues
 - Don't use EA repositories unless there's an irresistible justification to do so
- Consider not hiring Enterprise Architects, but *people ready to become* EAs
 - Look for IT experience, analytical skills, communications abilities – test in interview!
 - It takes time, but it takes months to train architects in any organization *anyway*.
- Get involved in governance
 - Position Enterprise Architecture review as a regular habit, not an exceptional event

Stage 2: Shifting to an analytical capacity

- “Architect” is another word for “analyst”
 - Able to gather data, synthesize information, recommend a course of action and communicate this conclusion to others
 - Skillsets > job descriptions: Can your architects manage projects?
- Don’t go hiring pre-made architects when there’s a wider pool of analysts ready to become architects
 - A hiring process that reflects reality: ask candidates to think, analyze, recommend, present and reflect on the analytical process
- Become The X-Files
 - If nobody knows what to do with it, it should go to EA
 - When EA is done with its recommendation, it’s clear and actionable

Stage 2: Shifting to intake

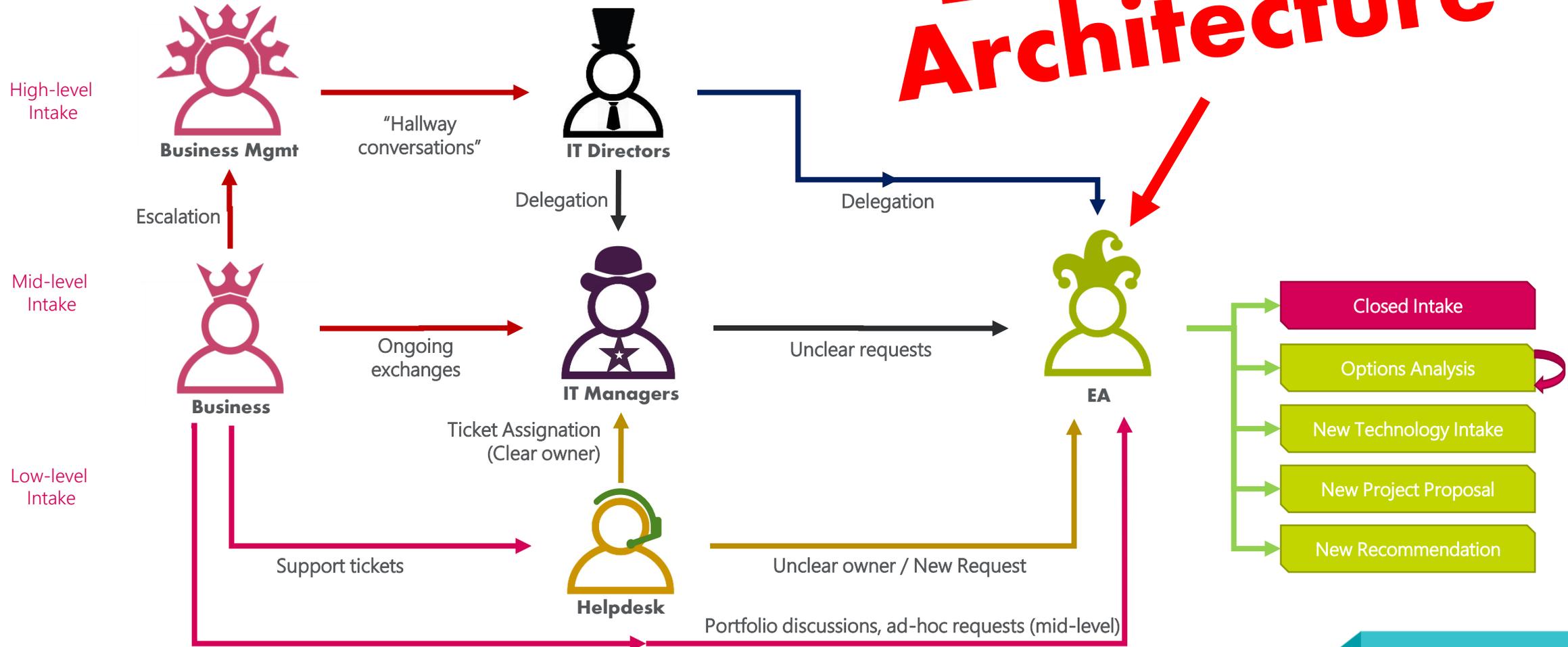
- The single most efficient use of EA dollars in a small organization is at the intake level
 - Become a rallying point for the analysis to be completed before any new piece of technology is introduced – integrate domain-specific questions in an intake template
 - EA coordinates, does first-pass analysis for architectural compliance, then consults domain experts on any potential red flag (Process: Slide 22)
 - Formalize the process until everyone can anticipate your next question
- EA can be involved in the decision-making process through the intake
 - Understanding what is required for prioritization helps define the intake
 - EA can represent the business partners' perspective at the IT management table
- Remaining practical, business-centric is the key to relevance in times of crises
 - How can EA provide value in an operations-focused early pandemic?

Stage 2: Unexpected consequences of Intake Management

- If you position EA at the intake, a few things will happen:
 - You will be asked to clarify the intake funnel to EA
 - You will be asked to provide a prioritization framework
 - You will be asked to present new intake *regularly* to IT management
 - You will be asked to develop a post-approval implementation process
 - You will be asked to take care of the outtake.
- All of this reinforces the role of Enterprise Architecture in all IT operations, including a semi-regular presenter's seat at the management table
- Alas, another unintended consequence: "Where's my technology?"

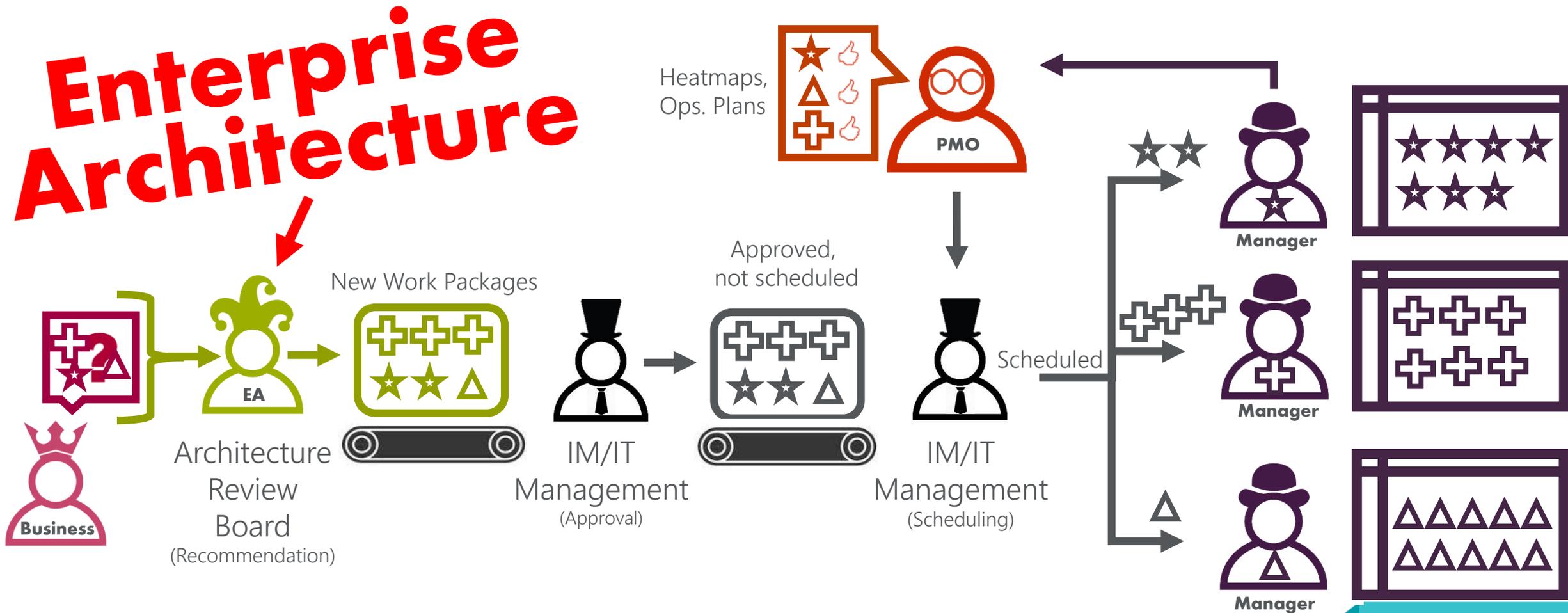
Intake Funnelling

Enterprise Architecture



Post-Intake Process Definition

Enterprise Architecture



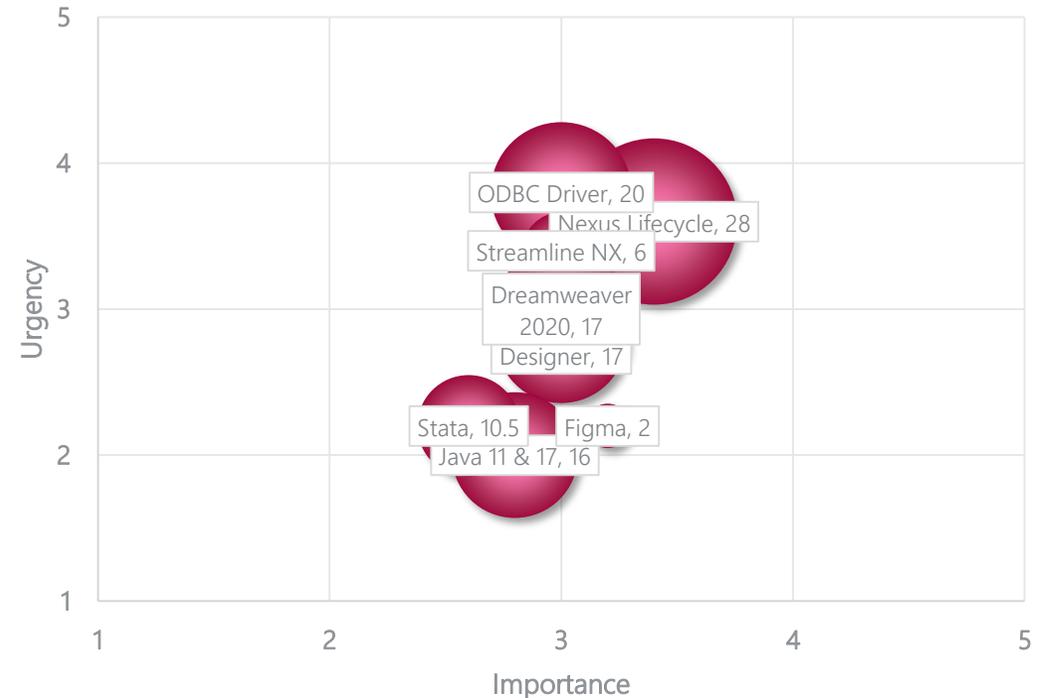
Prioritization Framework (Sub-Projects)

New Technology Intake documentation presented for approval to IT management includes...

- An Importance Rating, based on six factors (Slide 23)
- An Urgency Rating, based on six factors (Slide 24)
- A preliminary assessment of the implementation Level of Effort, in days

These three factors are combined in a bubble chart (right: sample) as a decision-making instrument for implementation scheduling

IT Prioritization Overview



Outtake Management

- In order to understand and document the architecture, you must take in account what gets taken out as thoroughly as what gets taken in
 - Otherwise, years later: “Are we still using this?” goose chases
- Decommissioning technology is rarely as simple as deleting files
 - If a server application is removed, is the server still useful?
 - Is there information to keep in case of legal obligations?
 - Are there cost savings (some indirect) from not renewing licenses?
 - ...and so on: Every viewpoint has something to bring to the decommissioning
- Applying “New Technology Intake” method to the “Old Technology Outtake”
 - Formal documentation to identify red flags based on domain-specific concerns
 - Similar process to gather information, seek consensus, get approval
 - Build a solid base of information and awareness for the decommissioning crew

Stage 2: Pandemic stress-test

- Gartner says: Focus the EA practice on the Strategic Enterprise quadrant. Don't believe them.
 - You need to remain relevant to everyone, and demonstrate added value to a broad number of people/partners
 - You also need to shift according to the current priorities. Hyper-focus on Enterprise Strategy will prevent you from doing that.
- Enterprise Architecture remained relevant through the worst of the pandemic crisis by:
 - Focusing on operational activities support
 - Supporting priority projects as client portfolio specialists, business analysts, change managers, and communication consultants
 - Providing and adapting the governance framework

Case Study: Introducing M365

- In 2020, the PSC sped up its plan to implement the MS Office 365 ecosystem
 - GCCollaboration (April-September 2020) as pilot project
 - M365 (September 2020) as foundational enterprise technology
 - A measured approach, each new module as separate intake
- EA helped:
 - June 2020: Consultation with business partner to draft requirements
 - April-October 2020: Change management, communication work
 - October 2020+ : New Technology Intake for new M365 modules
 - Summer 2021: Roadmap for M365 module pathfinding and implementation
 - Late 2021: Recommendation to re-use Justice's Office Entry M365 tool

Stage 3: Moving toward Portfolio Management

The Goals

- Being part of the business's early planning process
- Building enterprise-level proposals based on scattered requirements
- Seamless service from idea to execution

The Methods

- Gate 0 involvement in IM/IT project proposal definition
- Soliciting broader business input in architectural roadmaps
- Business Analysis integration

In the meantime: Enterprise projects such as eTesting room renewal, enterprise reporting solutions, client relationship management solutions, ticketing systems, etc.

So, what have we learned?

Don't be limited by the traditional definition of EA

- Frameworks/tools are there to help you, not enslave you

Go where your needs lead you

- Focus on what's practical, useful, understood

Iterate, adapt, re-evaluate

- Plan for change, change your plans

Make friends

- EA is useless on its own, unstoppable in collaboration

Questions/Comments



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Appendices

Appendix: The New Technology Intake (NTI) Process

1. Initial Analysis

- The NTI process aims to provide enough information to understand the introduction of new technology and its consequences
- The process begins if a valid business requirement can best be resolved using a specific new technology
- Enterprise Architects work with requestors to detail the proposed solution and build the initial draft of the document

2. SME Consultation

- Based on risks assessed in the Initial Analysis phase, Subject Matter Experts (SME) are consulted in specific areas of concern
- Enterprise Architects discuss high-risk areas with IT/IM managers prior to presentation to the ARC

3. ARC Recommendation

The ITSD Architectural Review Committee (ARC), composed of ITSD managers, meets weekly

- ARC members examine and discuss the NTI proposal based on their areas of technical expertise
- Recommendation to DMC is made if consensus is met; objections are noted and may lead to a re-work of the document
- The ARC chair sends the recommendation to the Corporate IM/IT Management director for DMC presentation

4. DMC Approval

The ITSD Directorate Management Committee (DMC), composed of the CIO and division directors, meets weekly

- DMC members discuss the NTI proposal from a perspective of funding and prioritization decisions
- Approval by DMC is granted if consensus is met; questions may lead to a revised presentation of the document
- Further Governance approvals or Implementation conditions can be specified. IT Security assessment usually required.
- DMC designates an OPI for the implementation of the approved New Technology

New Technology Intake Priority Assessment

Mandatory - Is this initiative Mandatory?

100 – Yes: The initiative is mandated at the PSC level and can be documented by a new Act of Parliament, directive, Memorandum of Understanding, Service agreement or other

Scope - What is the Primary Impacted Audience for this initiative?

- 5 - *General Public* - The initiative affects the general public
- 4 - *Other GC Departments* - The initiative affects government employees in other departments
- 3 - *Across the PSC* - (Default) The initiative affects PSC employees in many areas of the organization
- 2 - *Within a Sector* - The initiative affects PSC employees in one Sector
- 1 - *Within a Division* - The initiative affects PSC employees in one Directorate

Tech Debt - What is the impact of this initiative on PSC Technology Debt?

- 5 - *Decommission Old Tech* - The initiative allows the GC/PSC to move away from an old technology in favour of one that is standard or fits with the organization's long-term plans.
- 4 - *Introduce New Tech* - The initiative allows the GC/PSC to introduce a technology fitting with the organization's long-term plans.
- 3 - *Standard Tech* - (Default) The initiative involves standard technology supported by the GC/PSC.
- 2 - *Maintain Old Tech* - The initiative involves the maintenance of technology that is outdated or doesn't fit in the GC/PSC's long-term plans.
- 1 - *Introduce Old Tech* - The initiative involves the introduction of technology that is not in use at the GC/PSC and does not fit in the long-term plans of the organization.

Strategic Alignment - Is this initiative aligned with the strategic objectives of the GC/PSC?

- 5 - *Strong multiple alignment* - The initiative strongly and directly supports more than one GC/PSC priority
- 4 - *Significant alignment* - The initiative strongly and directly supports one GC/PSC priority
- 3 - *Alignment* - The initiative directly supports one GC/PSC strategic priority
- 2 - *Slight alignment* - (Default) The initiative contributes, sometimes tangentially, to a GC/PSC strategic priority
- 1 - *No alignment* - The initiative does not seem to support GC/PSC strategic priorities

Effort/Complexity - Is this an initiative that requires exceptional complexity?

- 5 - *Simple* - Requires the involvement of one ITSD group
- 4 - *Under Average* - Requires the involvement of 1-3 ITSD groups
- 3 - *Average* - (Default) Requires the involvement of 2-4 ITSD groups
- 2 - *Over Average* - Requires the involvement of 3-5 ITSD groups
- 1 - *Complex* - Requires the involvement of 5+ ITSD groups

ROI - What is the Return on Investment of this initiative?

- 5 - *High and immediate ROI* - Return on Investment is expected to exceed 100% cost of implementation within the next year
- 4 - *High or immediate ROI* - Return on Investment is expected to exceed 100% cost of implementation OR to be effective within the next year
- 3 - *Medium ROI* - Return on Investment is expected to exceed cost of implementation, but without clear date of positive return
- 2 - *Low or undefined ROI* - (Default) Return on Investment is low or undefined at the moment
- 1 - *Negative ROI* - Return on Investment is expected to be negative -- the PSC will clearly spend more in implementing this initiative

New Technology Intake: Urgency Assessment

Emergency - Is this Initiative an Emergency?

100 – Yes: The initiative must be initiated as soon as possible, and the emergency can be documented through senior management decisions or operational requirements

Readiness - Is the initiative ready to begin?

- 5 - *Ready now* - ITSD and partners are ready to start work on this immediately, including having stable requirements and available resources
- 4 - *Ready within 8 weeks* - ITSD and partners need up to 8 weeks to be ready to proceed, including obtaining complete requirements and sufficient capacity
- 3 - *Ready within 3 months* - (Default) ITSD and partners need 2-3 months to be ready to proceed, including obtaining complete requirements and sufficient capacity
- 2 - *Ready within 6 months* - ITSD and partners need 4-6 months to be ready to proceed, including obtaining complete requirements and sufficient capacity
- 1 - *Readiness unknown* - ITSD and partners are not ready to proceed and will require more time for planning

Potential Loss - What will be the risk of not approving this initiative?

- 5 - *High Impact* - Inaction will have a high-profile impact on the PSC's budget or reputation (e.g.: Media attention, non-compliance to legislation)
- 4 - *Significant impact* - Inaction will have a significant impact on the PSC's budget or reputation (e.g.: Criticism from other departments)
- 3 - *Moderate impact* - Inaction will have a moderate impact on the PSC's budget or reputation (e.g.: The PSC does not comply with accepted best practices)
- 2 - *Slight impact* - Inaction will have a slight impact on the PSC's budget or reputation (e.g.: "The PSC should be doing this")
- 1 - *No Impact* - (Default) Inaction will have no measurable impact on the PSC's reputation or budget

Recency - How long has it been since it was approved?

- 5 - *18+ Months* - Over eighteen months
- 4 - *6-18 Months* - From six to eighteen months
- 3 - *3-6 Months* - From three to six months
- 2 - *1-3 Months* - From one to three months
- 1 - *<1 Month* - (Default) Less than a month

Deadline - Is there a deadline, imposed by others, for completion of the initiative?

- 5 - *As soon as possible* - Must be completed as soon as possible due to pressing necessity
- 4 - *Within the next 3 months* - Must be completed within the next quarter
- 3 - *Within the next 6 months* - Must be completed within the next six months
- 2 - *Within the next year* - Must be completed within the year
- 1 - *Beyond a Year* - (Default) No specific time frame required for the initiative

Dependency - Do other initiatives depend on the completion of this one?

- 5 - *Yes, significant* - Other significant initiatives (i.e.: EMC priorities) cannot go forward if this is not completed
- 4 - *Yes, moderate* - Other moderately important initiatives (i.e.: DMC priorities) cannot go forward if this is not completed
- 3 - *Yes, slight* - Other initiatives cannot go forward if this is not completed
- 2 - *No, but significant* - The initiative is independent, but its implementation would result in significant improvements difficult to capture on specific projects (e.g. overall efficiency improvements)
- 1 - *No* - (Default) The initiative is completely independent, with modest results