Digital First Architecture and CRM Review

Synopsis Report

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Version History

Version #	Date	Prepared By	Prepared For	Comments
1	2021-10-03	Ben Perry	Project Sponsors	
2	2021-10-07	Ben Perry	Release	
3				
4				
5				

Figure 1: Version History

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1.0 Introduction and Context

1.1. Introduction

Following the completion of the Region's digital strategy, which recommended work on a digital first architecture, the Region was successful in obtaining funding for this project – a digital first Architecture and CRM review – from the Province's Audit and Accountability Fund.

Perry Group Consulting Ltd. was selected to work with the Region, and work began in April 2021.

The project was led by a team of staff from STG, and in a first test of the governance model recommended in the digital strategy, an advisory group was struck to oversee the work. The advisory group was chaired by the Commissioner of Social and Community Services, with the participation of the Commissioner of Public Works and representatives from Economic Development, Social and Community Services, and STG.

This report provides a high-level synopsis of the work undertaken as part of this project and the recommendations of the consulting team. A more comprehensive report prepared by the consultants has also been shared with staff.

1.2. Digital Strategy Context

The digital strategy identified digital first services as a core objective for the Region, setting out a plan to offer 125 of the Region's most used customer facing and 50 of the top internal processes as complete digital services by 2025.

The strategy focuses upon the following five workstreams

1. **Digital Services** – setting Halton Region's standards for online service delivery, establishing a digital first technology architecture including a Customer Relationship Management System (CRM) that can support our digital service requirements, and delivering a range of new digital services.
2. **Digital Workplace** – making it easier for staff to get work done, find and access information, collaborate with others inside and outside the organization, and connecting all staff to the digital tools that they need to be effective.
3. **Service and Process Transformation** – shifting Halton Region to a product management approach for Halton Region's major systems and laying out the work plans for our major platforms including SAP, Hansen Maintenance Management System, Customer Relationship Management System, and POSSE (land development management) systems.
4. **Modern Technology** – modernizing Halton Region's approach and underlying technology, including Cloud, Automated Meter Reading, and Advanced Traffic Management Systems, and investing in its cybersecurity program.
5. **Geographical Information System (GIS), Data, and Information Management** - building more effective GIS and data programs to enhance use of data and analytics to inform policy setting, and strategic and operational decision making. Enhancing document management capacity to support information access, storage, and retrieval.

This project is focused on, and directly supports the first workstream – Digital Services.

1.3. Project Goal

The Region requires a set of digital capabilities and solutions to deliver on the Digital Services workstream and meet the objective of 125 complete digital services.

Thus, the goal of this project was to determine a) what technology and digital solutions, capabilities and features are required to enable digital first service delivery b) to assess whether the Region's existing technology solutions can meet the needs, and c) to determine how new and existing solutions should designed, configured, and integrated. The project was also to provide an implementation plan that the region can follow to implement the digital first architecture.

1.4. Project Approach

The project approach (illustrated below) was designed to identify needs, conduct a fit gap assessment, design a recommended digital first architecture, and develop a plan for the implementation of the architecture.

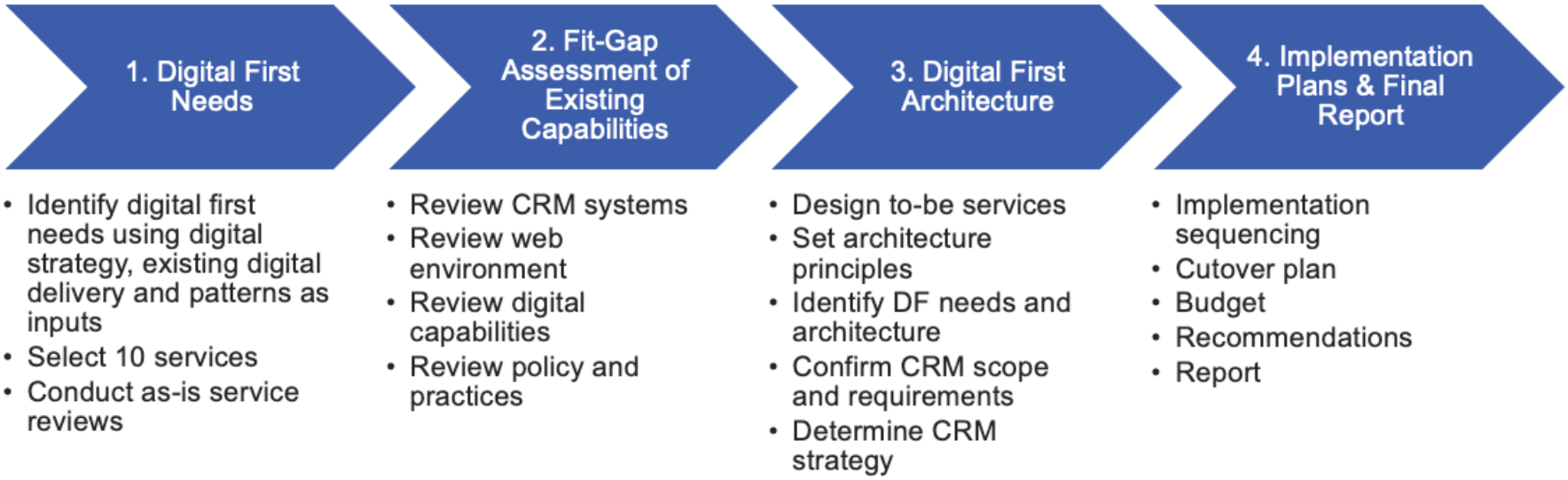

Figure 2: Project Approach

2.0 Service and Process Reviews: Designing for Digital First

In building out the requirements for the Digital Architecture, the consulting team examined a subset of the Region's services to validate and extend the understanding of the digital requirements, and to demonstrate the value of a service-design based approach to re-thinking services for the digital age.

2.1. Service Selection

The digital strategy originally identified a set of over 40 high profile candidates for digital delivery. The consulting team used data from Access Halton and website analytics to identify high volume transactions and select 25 candidate services from the 40 for review. Then working with the advisory group and Management Committee, 10 services were selected for the detailed review and re-design as a digital first service. The selected services were:

- 01 – Water Meter Repair Request
- 02 – Water Meter Installation Request
- 03 – Sanitary Lateral Subsidy Program
- 04 – Schedule Metal/Appliance Pickup
- 05 – Report Missed Garbage Pickup
- 06 – Tenant Maintenance Issue
- 07 – Subsidized Housing Waitlist
- 08 – Low Income Financial Assistance
- 09 – SPLIT Financial Assistance
- 10 – Small Business Centre Intake

The services chosen were intended to be representative of the types of services, and service patterns, that are in operation across the Region. The notable exception being the Health Department who were unable to participate due to their ongoing commitments with Covid Immunization.

2.2. Service Review and Design Process

For each of the 10 services, the consulting team worked with service owners, managers, and frontline staff to understand how the service is currently delivered, and to identify opportunities to streamline and simplify the process while applying digital first principles. In doing so, the consulting team was able to confirm and expand the understanding of digital service needs.

The service-re-design work included the following activities:

- **As-is process review:** workshops and meetings to understand the current mode of service delivery and identify opportunities for improvement
- **Customer research:** telephone interviews with recent customers of services to understand their experiences and perspectives
- **To-be process design:** workshops and meetings to design new, digital first processes

2.3. Key Learnings and Observations

The following is a summary of the key observations drawn from the service review and design work. These are anticipated to be common themes and characteristics of all services across the Region:

- **Delivering online is central to service improvement.** For every service, providing self-service functionality online is a central part of simplifying the process, reducing workloads, eliminating process steps, and increasing customer satisfaction.
- **Duplication and unnecessary steps currently exist.** In every case, for the services we reviewed, processes feature unnecessary steps, duplication of data into various systems and complexity that could be reduced.
- **Systems fragmentation inhibits service delivery.** In almost every case, multiple systems and sub-systems are used to manage processes creating duplication of effort, re-keying of data, need for reconciliation, errors, and confusion.
- **Legacy inhibits change.** There are numerous service simplification (fee structure, access, eligibility) opportunities. In most cases, there is a lot of legacy "cruft" that determines how the service is delivered today. Services (and associated processes, forms, contracts) should be significantly simplified (e.g., HATCH) before digitization.
- **Common process patterns.** Numerous processes, e.g., subsidies, could be managed consistently through a common process – suggesting value in working on process standardization and implementation of technology around the common process and highlighting the importance of focusing on commonalities not differences.
- **Business model changes may be necessary.** In some cases, long-term business model changes (e.g., long-term service contracts or service delivery arrangements) will need to be made to deliver a simpler, more streamlined process. While these seem like "impossible" changes to make, the Region must take the opportunities to make change.
- **Over-reliance on email, spreadsheets, and file shares.** Many processes rely on email and spreadsheets which cannot be delivered digitally without moving the processes into a core system.
- **Lack of access to systems inhibits service**. In various cases, staff don't have access to data (in Access Halton or in the field) or visibility into the ways services are managed or processed which inhibits the ability to resolve inquiries at the first point of contact (e.g., multi-res / ICI garbage collection) or to complete work efficiently in the field.
- **Contractors or partners as agents of the Region.** In many situations contractors or partners are involved or lead service delivery. Contractor/partner access to the Region's systems is a common requirement – to reduce process delays and the requirement for re-keying data.
- **Identity and circumstance verification.** For similar or complementary services, customers must provide the same information multiple times. There would be benefits to sharing this information between services. Verification of customer identity (e.g., by presentment of driver's license or health card) could be done once and shared between services.

- **Digital signatures vs. digital approvals.** During Covid, the requirement for physical signatures has been significantly relaxed – we need a broad-brush policy to set out advice to service owners.
- **Review and automate renewals.** Many services rely on renewals – this creates peaks and troughs of service demand. There would be value in smoothing service demand by staggering renewals and automating the renewal process.

2.4. Common Needs

In looking across the 10 services, a set of common digital needs were identified. These include:

- In all service areas there are opportunities to improve **web content, search functionality** and introduce targeted **knowledge bases** to ensure that customers are clear about the service, the requirements, and expectations.
- The 10 services reviewed were all dependent upon **online forms** which can enable customers to self-serve. Forms can collect data, ensure mandatory values are completed and confirm and look-up information in region systems to support a request. Forms must be conditional, supporting the branching and routing of a customer journey.
- Forms, in some cases, can be used to guide customers through a **wizard-like process** to help determine what their request is.
- **Consents** (to collect, to share, to contact CRA, to contact 3rd parties, location services, etc.) are a consistent requirement across services and should be (where possible) standardized and integrated into online forms.[1]
- Some services are address-based; thus, forms must validate against **a known address database** (and/or map interface) to confirm either service availability, type of service, eligibility, appointment availability. Also related to address, the ability to flag an address with known/specific requirements or flags (abusive, violent dogs, etc.) would be valuable across all services.
- **eligibility checkers** are required in several situations (e.g., waste, low Income Financial Assistance, subsidized housing, etc.) and should be available before a customer begins a request / application, as part of an integrated workflow.
- Ability for staff to see all issues related to a customer, statuses, and **customer history** (**customer 360°**) in real/near-real-time as staff interact with the customers is required across services.
- Front-end **payments** are required as part of several the services and **fee calculations** must be managed as part of the forms process. Payments to customers are less common but are a key part of some processes – in these cases, the payments process should be automated (requiring integration to SAP).

[1] https://dpl-bmd.alpha.service.canada.ca/patterns/opt-in.html

- **Bookings** (inspections, appointments, etc.) are required for numerous services, including the ability for customers to reschedule and cancel, as well as providing integration between staff Outlook calendars and systems. Bookings may be for a virtual or a physical/in-person appointment. Where a visit is required, **reminders/notifications** are required to alert customers to the visit ahead of time, and/or the expected time of arrival of the representative at the customers location. When a virtual meeting is required, it should be setup automatically as part of the booking process. Bookings often include registrations for courses that may be delivered online. **Learning Management System** integration is important.
- Notifications and alerts/reminders are required by all services, and these should be via **email, calendar invitations, SMS, and telephone.** Reminders for renewals (annual) is a common messaging requirement.
- All messaging between the Region and customers should be integrated so that a **complete customer interaction history** (**customer 360°**) is maintained in one place. It should be simple to draw in email correspondence into the Customer Relationship Management (CRM) system.
- There is a need to **replace various standalone databases** with case management functionality. In many cases, **consolidation of standalone back-office systems** (MS Access, Excel worksheets, etc.), discrete or sub-systems for specific functions (e.g., parking, laundry, rents, etc.) is required into key platforms (Infor IPS, Yardi) to support integration between front and back-office, simplification of staff / user experience, streamlined workflows, disconnects and data duplication.
- Seamless and **bi-directional integration** hand-off from front-end systems to the Region and external party (e.g., SAP, Infor IPS, Yardi) back-office systems in a timely manner is a consistent requirement for each of the services.
- Look-up via **web services, APIs** and into back-office and partner systems is a common requirement (CRA, agencies, SAMS).
- Information look-up / access required to systems to which there are not real-time interfaces available (e.g., SAMS) will require look-up in a **data store / data cache**.
- Where **digital signatures** are required, it must be integrated into the process, not as a separate process.
- Customer **checking a status** of request is a common requirement.
- Once a case / service request is completed / handled, there is a requirement to request **surveys** and **ratings** from customers about their service interaction.
- Existing **portals** (e.g., Yardi) could be made available to customers to allow them to self-serve.

- **Partners** (e.g., local hydro distribution companies, after hours service, contractors, transit agencies) are consistently involved in the delivery of services on behalf of the Region. To effectively manage the customer experience, we must continue to own the customer relationship and thus there is extensive requirement for partners to use regional systems and our systems of engagement with customers.
- **Field access** to customer data / interaction data in the field is required for staff (on mobile devices) for Yardi, CRM, etc.
- **Reporting** and **visualization** of SRs by assignment, resolution status, request to closure timelines, etc. is consistently required across services.
- Numerous services require **customer authentication** (proof of identity). There are varying levels of customer authentication. Suggest some opportunities to standardize (Photo ID, proof of address, Notice of Assessment, immigration status if required, ODSP member ID, OW ID). Similarly, varying levels of circumstance verification (verification of need (e.g., letter of support from Occupational Therapist), ADP eligibility, medical verification).
- Numerous services require **document attachments** (attach a document / file / photo) to a case and attachments management must be possible in a secured manner.

2.5. Important Concepts

In addition to the common needs, the following important concepts also drive the Region's technology requirements.

Concept	Meaning	Needs
Resolution at the First Point of Contact	Increase levels of resolution at first point of contact (digital, phone, face-to-face).	• Customer self-service via improved web content, public facing knowledgebase, live chat and chatbot services • Increased ability for Access Halton staff to provide fulfillment of service requests • Increased back-office functions pulled into or accessible by Access Halton staff to resolve customer inquiries • Back-office systems integration with CRM
Customer 360°	Region staff are expected to be able to see customers' previous transactions and call up	• Region's CRM systems should pursue a customer 360° view to establish a single view of all interactions with customers in the CRM system.

	customer history to help customers deal with inquiries.	• The customer record will include base details about the customer (name, contact details and preferences). • Interactions and cases (service requests, work orders) where possible and appropriate, should be linked to a customer so that a complete history of interactions can be created. This creates the single customer view of interactions. • All information about the customer and previous interactions with the Region should be available to CSRs unless legally prohibited. • An “open by default” approach whereby customer information and case history is open to all Access Halton staff unless there is a legislated reason that is not possible.
Tell us once	A customer should only have to submit the same piece of information or verification of circumstances once (along with consent if required) – this information should be available for use by other departments without the customer needing to be involved.	• Streamline and simplify the customer consents model • Configure technology to support sharing of structured and unstructured content in a way that respects privacy and legislative requirements, but that is open by default • Establish master data sources for customers and property to enable information sharing
Shared technology, digitized workflows operating in real-time	Where possible, connecting customers, front, back and field staff through shared systems allows transparency, simplification of process and real-time data sharing Minimizing the number of systems required to operate a process simplifies staff experience and learning	• Implement platforms that provide customer, staff, and mobile staff access • All processes must be digitized and actively managed in real time – those that do the work should record the work • Systems integration technology is required to reduce data re-keying and support lookup • Application rationalization program

Halton always owns the customer relationship	Even for services that are contracted to third parties, the relationship with the customer is still Halton's and must be designed.	• Consider business model and customer service delivery model as part of contracting arrangements. • Enable secure contractor / partner access to regional systems • Implement and support data exchange and interfaces with contractor / partner systems. • Build the requirement to use regional systems or provide data exchange into contracts • Provide training and education around contract management requirements.
Equitable and transparent access to service	Ensure that customers can find out about all regionally offered programs and increase transparency around wait times.	• Increased information online about service availability • Provide online eligibility checkers to help customers determine what services are applicable • Provide online portal and access to waiting list status.

2.6. Common Service Patterns

By breaking down services into their component parts, common interactions and tasks across services become clear – actions like reporting a problem, applying for something, or checking eligibility. These are service patterns. Building solutions for these common patterns will help the Region to re-use their work and productionize the delivery of new digital services.

A small example may be illustrative here:

> Asking a user for an email is something that many of our services will need to do. We should do this in a consistent manner every time we ask for an email and each new service should not need to "invent" new ways of asking a user for an email address.

In fact, there are many good practices around asking customers for email addresses. For instance, ensuring there is an @ sign and a period in the email address, asking a customer to enter the email in twice to make sure they got it right, verifying the email address by sending the customer an email and asking them to click a link to confirm receipt.

These good practices can be built into a reusable component for collecting email addresses that all digital services should use.

This is, at a small scale, the concept that we are describing around service patterns – build once, re-use many times – saving time and attention that can be focused on other important aspects of service design.

As part of the consulting team's work on the re-design of services, the following common service patterns were identified as being important to the Region.

Pattern Name	Pattern Description
Apply for something	Enables the user to complete an application process. In most cases, this pattern is linked with a "Check" pattern to assess the eligibility (e.g., is the user being asked to submit a type of application to complete a task?).
Book something	Enables the user to book things such as a course, appointment, a room, an item, or a person's time. In most cases, a specific date and time need to be selected.
Check something	Enables a person who needs to understand if it applies to them or helps them find something (e.g., the status of something, the closest location, or their eligibility to a service).
Consent or authorize	Enables the user to provide consent to something such as sharing data within the organization, with a 3rd party, or with the CRA. Provide approval, or acknowledgement on the use of personal information and acceptance of the process.
Get Information	Find information (read text on website, access a knowledgebase article, watch a video, listen to audio, download a document or a guide) about services or a service, when to use, how to use, requirements to use, communicate expectations of use.
Get Notified	Receive an alert / notification about something.
Internal Workflow	Enables staff (including municipality, contractor, partners) to handle requests, cases, manage processes and workflows, and secure approvals and signoffs.

Pattern Name	Pattern Description
Pay for something	Enables the user to complete a monetary transaction toward the Municipality.
Register for something	Enables the user to complete a process (like booking something). By registering, users will create an account with personal and sensitive data that they can return to.
Request something	Enables the user to ask for something specific in order to get to some tangible outcomes (e.g., a copy of a certificate, a pass or a record digitized).
Tell us something	Enables a person who needs/wants to give some information to the Municipality, like a referral or to report something.

Figure 3: Service Patterns

A service is typically built using a single pattern or a combination of patterns (e.g., Apply for Something, Pay for Something, Get Notified). So, by building solutions for each pattern and then daisy-chaining patterns together, as illustrated below, the Region can build and deliver services that are consistent. This becomes key to how we can rapidly deliver new digital services across the Region – and positions us to meet our target of 125 new online services.

So, a key concept baked into the architecture and the requirements for the CRM/portal is the notion of service patterns, and how re-using shared, common solutions the Region will be able to rapidly transform the delivery of services to digital first.

3.0 The Digital Architecture

3.1. Digital Capabilities

In totality, the following digital capabilities were identified as being needed to deliver the service patterns and meet the digital needs.

1. 360º Customer Profile (Contact Management / Customer Relationships)
2. Access / Privacy / Security
3. Accessibility
4. Advanced Analytics and AI
5. Anonymous Access
6. Bulk Mailing, Subscription Management and Email Archiving Technology
7. Chat – Live
8. Chatbot
9. Consents
10. Context Aware Location-Based Mapping Services
11. Cross-Service Recognition Functionality
12. Customer Experience
13. Customer Portal
14. Dashboards – Public
15. Data Access, Privacy and Security
16. Data Entry Validation
17. Digital Approvals
18. Digital Signatures
19. Disaster Recovery and Backup
20. Document and Content Management System (DCMS)
21. Events / Booking
22. Extranets and Data Exchange
23. Feedback
24. Identity Management / User Account
25. Integrated GIS Service
26. Integration
27. Knowledge Base
28. Learning Management
29. Login – SSO (Single Sign On)
30. Long Term Storage
31. Look-up / Check
32. Address / Property – Master Data
33. Central Events Calendar / Booking
34. Customer – Master Data
35. Notifications (Customer facing)
36. Notifications / Service Reminders System Integrations (Internal)
37. Omni Channel
38. Online Forms
39. Online Wizards
40. Open Data
41. Password less Login
42. Payments
43. Performance Measurement / Dashboards – Internal
44. Personal Portal
45. Policy / Procedures
46. Practices
47. Proactive Information
48. Provincial and Federal Identities
49. Query / Search
50. Responsive Design
51. Service Group Staff Portal
52. Service Request / Case Management / Public Interaction
53. SLA Service Standards
54. Social Media, Ingestion and Integration
55. Subscriptions
56. Surveys & Engagement
57. Telephony
58. Transaction History (Including Contact Management)
59. Virtual Assistant Integration
60. Virtual Meeting Capability
61. Web / CMS Integration
62. Web Content Personalization
63. Workflow / Workflow Automation

Figure 4: Digital Capabilities required to support digital first

3.2. Target Conceptual Digital Architecture

With a strong understanding of the capabilities required the consulting team worked closely with STG staff to develop a target conceptual architecture to meet the requirements. This architecture (illustrated below) identifies the key technology components and solutions which must be implemented and integrated to build out the digital first architecture.

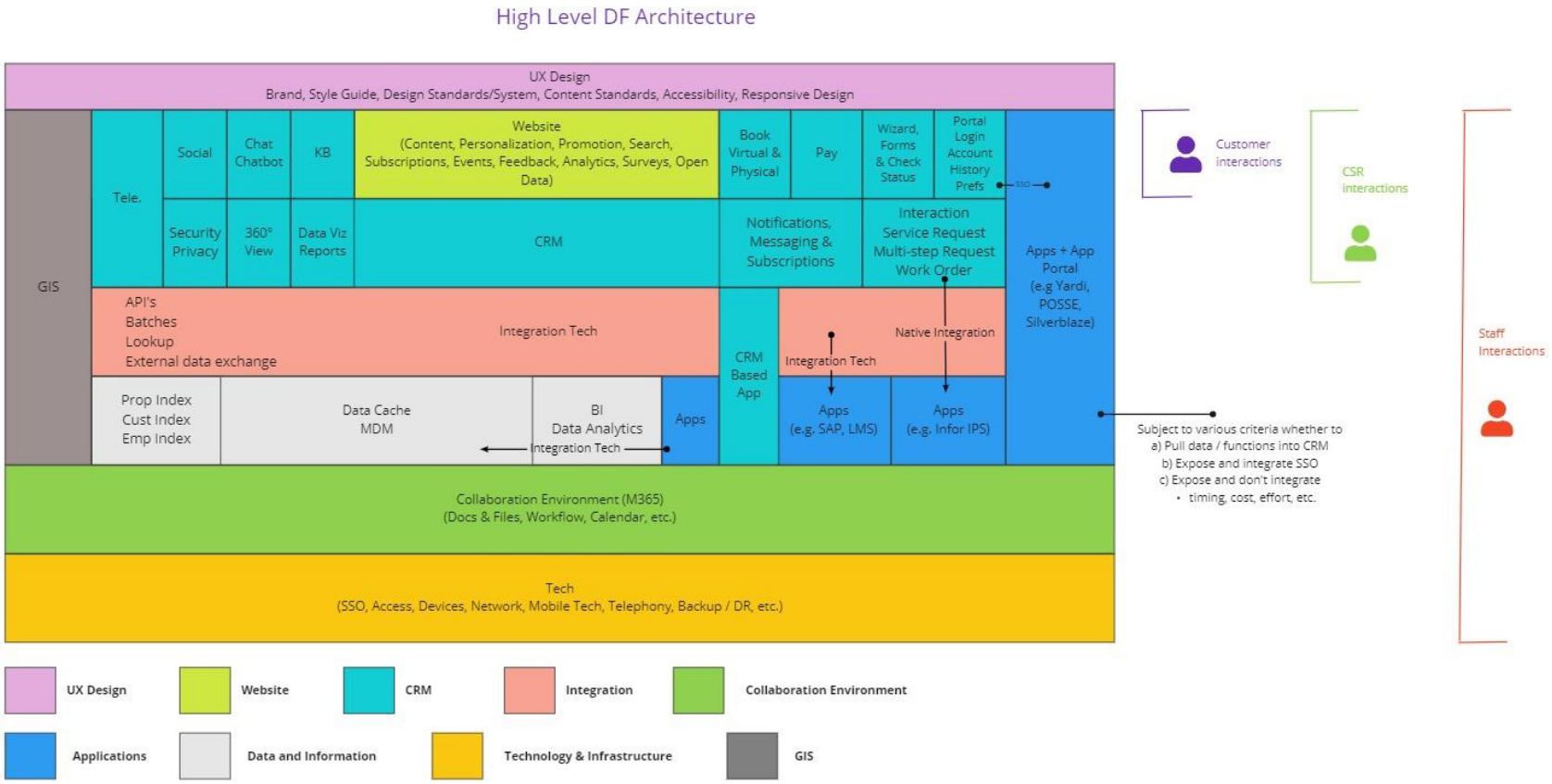

Figure 5: Conceptual Digital First Architecture

The main components of the architecture, and the scope of each are described in the table below.

Component	Function
User Experience Design	Standards for user interface and user experience that provides the framework for presentational integration.
Website	A CMS that handles the content management lifecycle, supports personalization, and manifests the UX standards through the application of templates, search.

Customer Portal	Provides via the website, customer identity and login, account management and history, online forms, payments, bookings, and provides SSO service support. The customer portal exposes to customers the re-usable service patterns – book, pay, tell, request, etc.
CRM System	A CRM provides customer record and the 360° view, generalized case management, support across channels (social, chat, email, digital, phone and counter) notifications and messaging capabilities – it also provides the capabilities to implement the re-usable service patterns.
Telephony	A telephony system that can seamlessly integrate with the CRM to caller identification, screen pops, handle in-bound and outbound queues and calls in an integrated manner.
Back-office Systems / Apps	Specialized back-office systems (such as Yardi and Infor IPS) with specific functions, that must be integrated with CRM and digital services.
Standalone Portals	Unique and business specific portals provided by vendors that support digital service delivery. Must be integrated into core portal using SSO and common UX application.
GIS	A GIS data and mapping service that allows customers to tie requests and inquiries to locations, addresses, points of interest, and assets.
Operational Data Store	A local, data cache that stores data from back-end systems for integration and reporting purposes.
Customer Index	A customer look-up capability that supports client / customer matching across the Region's systems.
Integration Technology	Integration hub technology to support internal and external integration hub and messaging queue capabilities, as well as hand-off between CRM and back-office systems.
Collaboration Technology	Ability to attach files, photos, video, and documents to cases in the CRM.
Enabling Technology	Ability for staff to access CRM and back-office business systems reliably, securely, and remotely wherever they are, on whatever device they have in real-time.

Figure 6: Components of the Digital Architecture

4.0 Fit Gap Assessment of Current Solutions

4.1. Technology Fit Gap Assessment

With an agreed target architecture in place, the consulting team worked with STG staff to assess the needs articulated in the architecture against the current technologies in place at the Region. The diagram below illustrates the results.

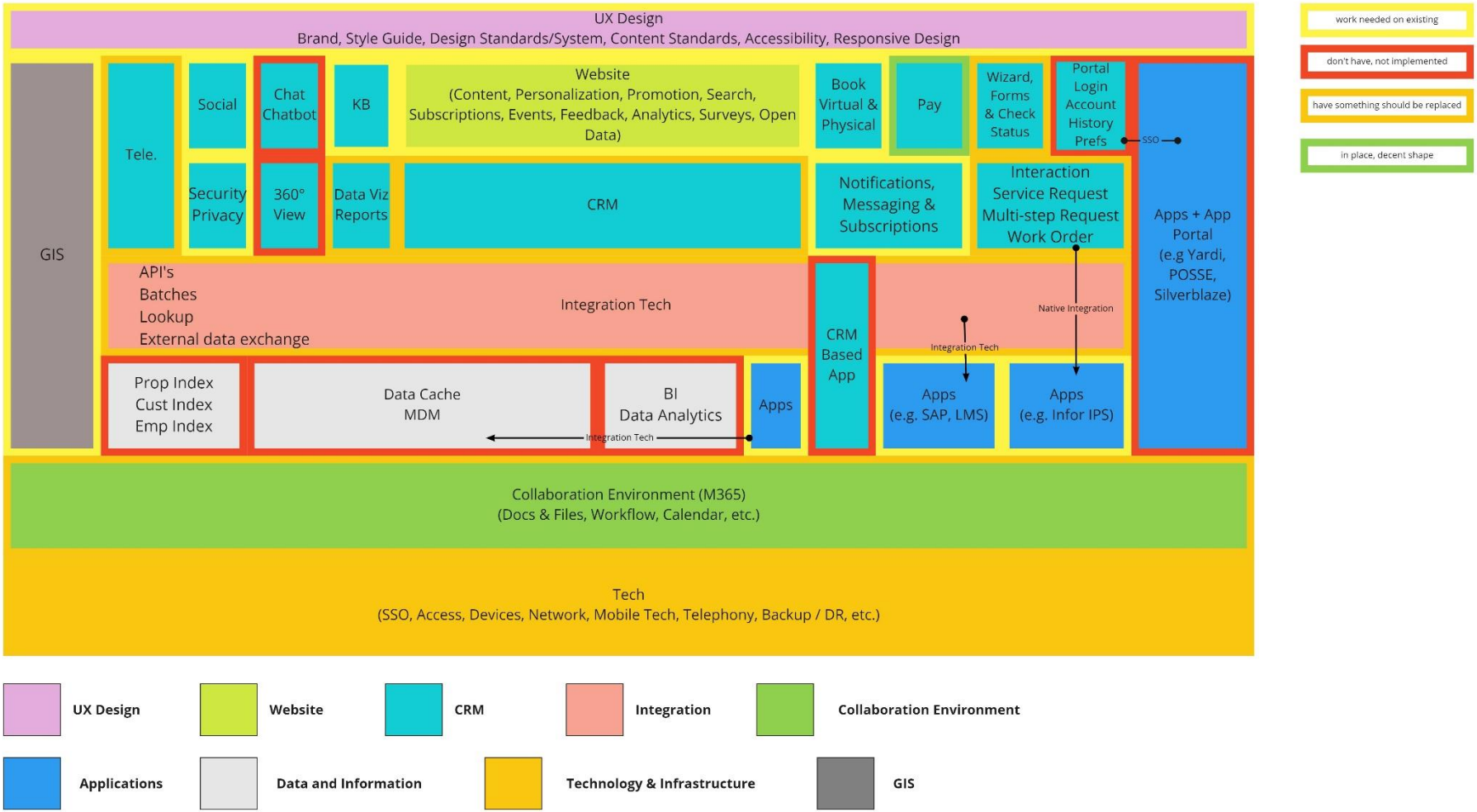

Figure 7: Visual Representation of the Current State

The table below describes the current state illustrated above and the need indicated by the assessment.

Component	Current State	Need
User Experience Design	Current UX and brand standards that apply predominantly to the web. Opportunity to expand to all web, applications, and digital services.	Enhance Existing
Website / CMS	Existing Kentico CMS platform is robust platform and can meet current and future requirements. Opportunities for increased personalization.	Enhance Existing
Customer Portal	No customer portal/login solution currently in place. Modernized, integrated forms and payments solutions required.	Gap, New Solution Required
CRM System	3 CRM systems in place (Siebel, SF, and Dynamics). Siebel solution, corporate standard in use since 2000, no longer meeting current internal requirements (e.g., chat, public knowledgebase, telephony integration) or support needs identified within the DFA.	Replace Existing
Telephony	Technology is end of life and there are plans to replace as part of the SOGR program.	Replace Existing
Back-office Systems / Apps	Core back-office systems are in place. Some applications built in Siebel represent opportunities for application rationalization. Bi-directional integration between back-office and CRM are gaps.	Enhance Existing
Standalone Portals	No customer portals available to customers at this time. Various opportunities to implement online portals (planning, housing, water billing), but these should be integrated in a suitable fashion with the Region's customer portal.	Gap, Implement New
GIS	Enhancements required to core GIS platform to support DFA requirements.	Enhance Existing
Operational Data Store	Currently not in place.	Implement New

Customer Index	No current corporate master data for customer records.	Implement New
Integration Technology	Current integration technology (Biztalk) end of life and must be replaced.	Replace Existing
Collaboration Technology	Current Document and Records Management solutions not meeting needs. Office 365 implementation identified as part of digital strategy. Email and Calendar integration is critical.	Enhance Existing
Enabling Technology	Need to replace the Telephony system and ensure the technology infrastructure, security, and policies will support the introduction of digital first field services and customer self-service.	Enhance Existing

Figure 8: Description of Current State and Recommended Actions

A key message here is that while the CRM is a critical component of the Region's ability to deliver on its digital first aspirations – and is one aspect of focus for this study (discussed further in the next section), it is not the only one. Numerous other components (listed in the table above) must be implemented in an integrated and coordinated manner to support digital service needs. Coordinating and sequencing the implementation of the architecture and reuse of the components will be critical to success of the digital strategy.

4.2. CRM Deep Dive

Given that the CRM is intended to play such a central role in the Region's digital first architecture, the consulting team conducted a deep dive assessment of current CRM capabilities.

The Region currently uses three CRM solutions for various program and service offerings.

- Siebel CRM is considered the corporate standard and has been in active use at the Region since 2000 (324 licences). It is used within Access Halton. Seibel was last upgraded in 2018 and is not set up to be customer-facing, so the system currently only supports internal functions.
- Microsoft Dynamics, which is used by the Small Business Centre and Economic Development (15 licences), is limited in its implementation scope and capability at this time.
- Salesforce, which is being used by Halton's Public Health and has supported Covid Vaccine Management (127 licences).

This scenario is unusual. A typical CRM strategy is for a single solution to be an enterprise-wide technology operating as support across services areas and an enabler of consistent customer service.

4.2.1. Comparing Existing CRM's

Two fit gaps were conducted – the first to compare the existing state systems of Dynamics, Salesforce, and Siebel. This comparison helps illustrate the inconsistency of service delivery amongst the three systems and reaffirms the need to move to a single CRM solution for the Region.

The conclusion from the first assessment is that:

- Siebel does not and is not capable of meeting the DF requirements envisaged in the target architecture without a major reimplementation.
- Dynamics is currently implemented in a limited fashion, with few features and capabilities implemented, and would not meet the requirements without a major reimplementation.
- Salesforce has many of the capabilities required which have been implemented during the last 18 months, but an expansion of the existing implementation would be required to meet the requirements identified.

The upshot is that, building from what the Region has, in Dynamics and Siebel is not advised. Building upon Salesforce is possible.

The second assessment against a new CRM implementation of Dynamics, Siebel or Salesforce indicates that they all can meet the majority of the digital first architecture requirements, with Salesforce and Dynamics demonstrating complete ability to meet the Region's requirements.

4.2.2. Recommended CRM Strategy

At this time, the consulting team recommends moving forward with Salesforce to become the Region's corporate CRM and case management solution because of the following factors:

- Halton's experience during COVID, which amounts to a long-term and successful prototyping / test, which has demonstrated the ability to rapidly develop, iterate, evolve use of Salesforce based solutions
- The Region has developed 18 months of staff / employee familiarity in Access Halton, Public Health, etc. and in-house development capabilities, which would ease/speed broader adoption
- Salesforce provides an extensive/expansive ecosystem of add-ons (e.g., DocuSign, Payments, integrated telephony) that Halton has used as part of COVID, as well as municipal solutions built upon Salesforce that provide good opportunities for Halton
- Salesforce is pre-integrated with a number of the key Halton Region solutions (e.g., SAP, Infor, Esri, etc.)

- Peel, York, Toronto, and others have conducted detailed RFP evaluations and selected Salesforce – Halton requirements are near identical to their requirements.
- Salesforce is adjudged to be a clear market leader by a significant margin in the CRM and case management space by Gartner.
- Salesforce currently has over 50 municipal customers in Ontario and is rapidly expanding.
- Salesforce is currently finalizing arrangements with the Government of Ontario to provide municipalities and the broader public sector in Ontario with preferential licensing costs for Salesforce products. Halton would be able to take advantage of the provincial agreement.

5.0 Solutions Strategy and Recommendations

5.1. Recommended Strategies for All Digital First Components

The following table outlines the recommended go-forward strategy for each of the components.

Component	Recommended Action	Recommended Approach
User Experience Design	Enhance Existing	Revamp internal standards to become a design system, drawing from Ontario Digital Service and other leading practitioners, implement UX standards in Kentico and Salesforce customer facing portal and solutions.
Website	Enhance Existing	Upgrade Kentico to current version, implement personalization features and enable location personalization, incorporate UX standards into templates, review information architecture, review content.
Customer Portal	Gap, New Solution Required	Implement Salesforce community cloud, enable customer accounts, enable self-service requests, public knowledgebase, live chat, chatbot.
CRM System	Replace Existing	Implement Salesforce as corporate CRM and case management platform, including social and email ingestion, rebuild Dynamics and Siebel solutions in Salesforce, decommission Dynamics and Siebel, integrate Salesforce (using integration technology discussed below) with back-office solutions and telephony.
Telephony	Replace Existing	Implement a new cloud-based telephony system replacement that includes a CRM compliant CTI, voice recording and voice transcription and PCI compliant payment processing capability.
Back-office Systems / Apps	Enhance / Re-use Existing	Continue to use core solutions (SAP, Hansen, Yardi, etc.) with integration to back-office systems. For smaller systems, as part of the application consolidation program, evaluate whether Salesforce case management capabilities and internal patterns can meet the needs.

Standalone Portals	Gap, Implement New	Evaluate whether to implement Yardi/Rent café portal for Housing services, POSSE for planning, and consider integration with Silverblaze portals in LDC's, over re-developing capabilities within Salesforce.
GIS	Enhance Existing	Implement upgrades and enhancements to existing Esri GIS solution to support integration with Salesforce and to offer digital self-service solutions to staff and customers.
Operational Data Store	Implement New	In short term, use a combination of Salesforce and an interim ODS to store data required for digital service lookup purposes. Medium to long term, in context of a regional data strategy, evaluate master data management and/or data virtualization solutions.
Customer Index	Implement New	Build initial customer master in Salesforce as part of the SF implementation project. Medium to long term, consider a customer index solution.
Integration Technology	Replace Existing	Replace BizTalk with a modern, Cloud-based, Salesforce pre-integrated, and solution with connectors to the Region's main technologies (SAP, Esri, Infor) integration technology.
Collaboration Technology	Enhance Existing	Implement Office 365 and implement a Document and Records Management (ECM) system based on SharePoint Online.
Enabling Technology	Enhance Existing	Implement Single Sign On and implement recommendations of the digital strategy around IT policy, support for mobile and flexible working, establishing cloud policy.

Figure 9: Recommended Strategies for Each Component of the Digital Architecture

5.2. Review Recommendations

To realize the digital first architecture described above it is recommended that the Region:

1. **Approve principles, key concepts and digital first architecture:** Adopt and use key concepts, architecture and supporting principles outlined in this document and detailed report to guide the design and implementation of the new CRM and digital components, and for broader architecture decision making.

2. **Confirm Digital First and CRM governance:** Continue to use the existing Customer and Digital Service Advisory group to continue to oversee digital first architecture implementation.
3. **Evolve the Region's UX framework:** Evolve the Region's UX framework into a design system to guide the creation of consistent user experiences.
4. **Implement a series of website updates and enhancements:** Implement a range of upgrades and enhancements to the Region's web platform to support personalization and Salesforce integration.
5. **Procure Salesforce software:** Procure required Salesforce software and licenses through provincial agreement.
6. **Select Salesforce implementation partners:** Setup a procurement vehicle to select Salesforce implementation partners and select a lead architect and prime implementation partner to lead design and initial implementation work.
7. **Establish a Salesforce product team:** Establish an internal Salesforce core product team to lead the build out and support of the Salesforce platform.
8. **Implement Salesforce, including decommissioning of Siebel, Dynamics:** Complete systems blueprinting and implement Salesforce product environment, replacing Dynamics and Siebel functionality, and enabling community portal.
9. **Establish delivery teams;** Establish project delivery teams to support implementation of Salesforce components in phases 2 and 3.
10. **Implement supporting technologies:** Implement supporting technologies, including the operational data store, master data sources, new telephony platform, integration platform as part of phase 2 and 3 implementation initiatives.
11. **Design and implement housing digital solutions:** Determine suitable digital strategy approach for digitizing housing and implement preferred solution.

5.3. Implementation Phasing

The consulting team recommends that implementation of the digital first architecture and Salesforce platform be tackled in three primary phases:

Phase	Name	Key Activities
1	Kentico Upgrades and SF Foundations Blueprint and Core Platform Configuration	Implement Kentico (website) upgrades and updates Design and implementation of foundational Salesforce environment, including SF Core Products: Staff Service Cloud, Community portal, Central Identity, SF Reporting and Calendar and SF Add-On Modules: Shield security, Scheduling module, SF Maps add-on for ESRI GIS Integration, Outlook & Exchange direct integration, Office 365 Integration, SharePoint on-line integration for document management

2	Digital Service Expansion and Access Halton Migration	Implement Salesforce in Access Halton, migrating non-integrated case types, with Access Halton staff dual running Salesforce and Siebel. Implement SMS and 3rd party solutions, including Moneris, Fax Gateway, DocuSign. Call Center(s) Telephone System Design, Implementation, and integration with CRM. Configuration of service pattern building blocks – and enablement of new digital services using service patterns. Introduce new Access Halton / digital services including, email and social ingestion to CRM, public knowledgebase, live chat, and online service requests using the online portal.
3	Siebel Solutions Review, Application Rationalization, Back-Office integration, and Siebel Decommissioning	Redesign and reconceptualization of existing Siebel application into Salesforce platform. Internal implementation / configuration of repeatable internal and external patterns. Integration platform implementation and back-office integration. Health & Social Services Case Management using Health Cloud. Siebel decommissioning.

5.4. Implementation Timeline

The proposed implementation timeline for the procurement and implementation of the three phases is as shown in the chart below.

Initiative / Activity	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Kentico Updates / Enhancements	◆		◆									
Procurement	◆		◆									
Phase 1			◆	◆								
Phase 2				◆				◆				
Phase 3						◆						◆
Siebel Decommissioning												◆

This means that:

- The base Salesforce environment, integrated with core Halton systems (GIS, mail, calendaring, etc.), can be up and running within 12 months of the project start.
- Access Halton, small business centre and all digital patterns can be implemented and available within 2 years of project start – this will include the introduction of online service requests for a large range of regional services, Live Chat, Knowledgebase, and social and email ingestion into the CRM.
- Application review and rationalization of Siebel applications and back-office systems integration will occur between 18 months and 3 years of project start.
- Full decommissioning of Siebel can be complete within 3 years

This assumes that:

1. Procurement can be handled via the provincial VOR
2. A roster arrangement can be established that will enable multiple projects and the hiring of a general contractor / lead consultant to conduct blueprinting and design, foundations
3. Sufficient resourcing and funding can be committed by the Region

5.5. Budget Impacts

Detailed budget and staffing impacts are being developed by the consulting team working closely with Regional staff and will be brought through the Region's annual budget process.

5.6. Benefits / Quantifiable Efficiencies

5.6.1. Quantifiable Efficiencies Achieved through Digitization of 10 Selected Services

As a byproduct of the consulting team's work on re-thinking each of the 10 services and as a requirement of the AAF funding, a series of process improvements and efficiencies were identified, and quantified.

Across the 10 services assessed, considerable service and process improvement opportunities were identified that could be realized through a digital first approach. In aggregate, an estimated 30,000 person hours per year savings could be realized through the implementation of the to-be service designs, which is valued at more than $1.5 million per year.

Service Name	Potential Process Steps Eliminated / Reduced / Automated	Potential Quantifiable Efficiencies
01 W / WW – Water Meter Repair Request	28 of 68 steps	$87,500

Service Name	Potential Process Steps Eliminated / Reduced / Automated	Potential Quantifiable Efficiencies
02 W / WW – Water Meter Installation Request	43 of 125 steps	$69,167
03 W / WW – Sanitary Lateral Subsidy Program	19 of 31 steps	$35,833
04 Waste – Scheduling Pickup of Metal and Appliances	20 of 32 steps	$92,525
05 Waste – Report a Missed Garbage Pickup	20 of 57 steps	$102,083
06 Housing – Tenant Maintenance Issue	53 of 83 steps	$866,666
07 Housing – Subsidized Housing Waitlist	43 of 99 steps	$102,250
08 SCS – Low Income Financial Assistance	29 of 45 steps	$27,825
09 SCS – SPLIT Financial Assistance	51 of 82 steps	$58,650
10 LPS – Small Business Centre (SBC) Intake	38 of 65 steps	$79,075

Figure 10: Identified Quantifiable Efficiencies

It is worth highlighting that there is one significant opportunity around the digitization of the housing maintenance service which could realize over $860,000 in quantifiable savings – which the Region should pursue as a priority.

5.6.2. Potential Quantifiable Efficiencies Associated with the implementation of the Digital Architecture

Based on the work conducted on the 10 selected services, on average, re-designing a service as a digital first service eliminates over 50% of the steps or activities required to deliver the service. The median value of quantifiable efficiencies achieved through digitization across the 10 services is $83,287 per service; suggesting that over $80,000 of potential efficiencies are possible for each service digitized.

As a coarse measure, extrapolating 50% of this median value to the potential 125 customer facing services targeted by the digital strategy suggests that by 2025, $5.2 million of annual quantifiable efficiencies could be achieved through the

implementation of the digital first architecture. Of course, any efficiencies must be identified, realized, and then harvested – but the potential clearly exists for significant efficiencies.

While the goal of this project was not to establish a business case for the project, the return on investment appears to be healthy and it would appear that there is significant value to be achieved through the implementation of the digital first architecture.

6.0 Conclusion and Next Steps

This is a significant undertaking for the Region. It is a bold forward-looking strategy that manifests ideas encapsulated in the Customer Access and Digital strategies and re-orients the Region's technology architecture to the customer and around digital-first delivery.

It sets out important concepts and principles that are foundational, that will guide service delivery, and that will resonate for many years to come.

It provides a clear blueprint that leverages a modern, industry leading approach that will see the Region create the necessary building blocks to deliver digital service across all teams, divisions, and departments.

While the investment in dollars and staff effort is significant, and the changes that this will bring are major, it is a long-term investment in organization-wide productivity, agility, and flexibility which can deliver quantifiable efficiencies for the organization, and one that positions the Region to serve customers how they want to be served.

Subject to approval, the next steps for the Region are to establish the team to lead the Salesforce implementation, begin Salesforce procurement for the core products and professional services to support the initial blueprinting and solution configuration, while in parallel beginning work on website upgrades and enhancements.

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