

MINISTRY OF EDUCATION

K12-NGN

Business Automation – MS Dynamics

Business Requirements

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K12-NGN

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# Background

The Ministry of Education collaborates with several external stakeholders including students and parents, as well as teachers, K-12 administrators, and vendors. The Ministry vision is for a collaboration and stakeholder management platform that can serve multiple audiences (including different Ministry program areas) and leverage economies of scale.

While this first phase focuses on business process management for the Next Generation Network (K12NGN), proponents must be mindful of and provide a solution that will align with and accommodate the long-term goals of this platform.

The K12NGN is a large network providing connectivity and security services to over 1,600 BC public schools grouped in 60 school districts with over 20 contracts. The delivery of the services is carried out through a group of vendors that are contracted by the Province.

Key business processes such as service requests and ordering, managing changes and incidents have been developed and implemented to support the delivery of these key services. Today, the service delivery of NGN is carried out manually using basic productivity tools (Words, Outlook, Excel). The current legacy application does not adequately capture NGN District information nor support the NGN business processes and needs to be replaced. The following section provides business requirements consisting of functional and non-functional requirements.

# User Roles and Non-Functional Requirements

The user roles and high-level non-functional requirements described below in the form of Epics and stories have been gathered and documented by conducting requirements sessions with the NGN team.

## Epic 1 – User Roles and Access

This section provides high-level requirements/stories about user roles, user types and their corresponding user access details.

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| **REQ ID** | **Requirement Description** |
|  | The system shall provide following user types:   * System Admin Users (primary actors) * Customer Portal users (supporting actors) * Vendor Portal Users (supporting actors) |
|  | Number of users:   * The system shall have the capability of supporting approx. 20 system users with admin access * The system shall have the capability of supporting approx. 200 portal users, including both customer portal and vendor portal users |
|  | System Users shall have following user roles:   * NGN system user team (admin access) * NGN Management system user role (admin access) shall have same capabilities as NGN team role plus in addition, this role shall also have the ability to approve expenditure (EA) on a service request and access to some additional reports * System Users with admin access shall have Create, Read, Update, Deactivate/Delete, Print, Download, Upload & Export capabilities |
|  | Portal Users shall have following user roles:   * Customer Portal Users   + This user role will include Schools and School District users   + Customer portal users shall have capabilities to initiate service requests and update contacts   + A certain customer portal user type (School District) shall have the capability to assign roles to other portal users. For example, Secretary Treasurer/NGN Lead role can assign IT contacts * Vendor Portal Users   + Vendor Portal users shall have access to the portal as well as limited access to the system   + This user role shall include Helpdesk users as well as service providers such as Telus   + Helpdesk - Helpdesk portal users shall have capabilities to create/submit change form, upload monthly incident summary report and have the ability to read knowledge base articles and their access to articles may differ from customer users and system users. Fujitsu currently manages the Helpdesk.   + Telus is one of the main vendor and Telus portal users shall have capabilities to view/update Order dates/status and tracking spreadsheet * All portal users shall be able to access the portal by logging in with their IDIR and/or BCeID accounts. |

## Epic 2 – High Level Non-Functional Requirements

This section shall provide high-level non-functional requirements related to the expected performance and features of the automated system.

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| **REQ ID** | **Requirement Description** |
|  | Security   * All system, server, database, access or error logs should not contain personally identifiable information, except contact information which is considered business information * All system and user passwords should be encrypted or otherwise secured. * System users shall be able to login using IDIR pass through authentication, same as current version of CRM, meaning when system users hits the application, the system recognizes the logged in IDIR ID and logs the user automatically * User accounts must be locked after three failed login attempts * The System should meet with the government security requirements and validated with a PIA and STRA |
|  | Availability   * The system shall be available to use on 24/7 basis * The expected usage shall happen during normal business hours (7AM – 7PM Monday to Friday excluding holidays) |
|  | Recoverability   * The system database (all environments) must be restorable back to any point in time in the previous 24 hours on demand and the previous 90 days in special cases * A Disaster Recovery Plan (DRP) must be formulated and tested once a year |
|  | Reliability   * The system availability for the Database must meet or exceed 99.99% during the supported hours of operation. * This is applicable for core system, its various modules, portal access as well as reports. |
|  | Scalability   * The system shall capability to be scalable to approx. 20 core users and 200 portal users |
|  | Interoperability   * System shall have capability to connect to, and exchange and process data from, other systems. |

## Epic 3 – Integration of Systems

This section provides high-level requirements for the system integration with other systems.

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| --- | --- |
| **REQ ID** | **Requirement Description** |
|  | The system shall have the capability to integrate with Microsoft Outlook so that:   * Communications can be initiated/received * File attachments can be inserted/downloaded * Group emails/communications can be sent * Send out auto generated emails based on system alerts |
|  | The system shall have the capability to integrate with Microsoft Office Suite so that files of various types can be initiated/updated/attached from within the system. |
|  | The system shall have the capability to integrate with internal SharePoint site so that various documents can be accessed/uploaded/downloaded from within the system. |
|  | The system shall have the capability to provide some integration with CAS system in order for users to upload daily files (nice to have feature) |
|  | The system shall have the capability to provide some integration with Telus Sonar and Telus Billing portal for users to exchange files/updates (nice to have feature) |
|  | The system shall have the capability to provide some integration with helpdesk (Fujitsu) in terms of providing portal access helpdesk users to upload monthly incident report |
|  | The system shall have the capability to provide some integration with School Districts in terms of providing portal access to their users to initiate service request, update contacts. |

# Product Backlog/High Level Functional Requirements

The product backlog/high level requirements described below in the form of Epics and user stories have been gathered and documented by conducting requirements sessions with the NGN team.

## Epic 4 – Account Management

This section list down high-level requirements/user stories about different types of accounts (schools, school districts, and vendors) and capabilities to serve as reference point for providing status updates and generating reports related to accounts.

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| **REQ ID** | **Requirement Description** |
|  | As a system user, I shall be able to access Account Management module from the main dashboard. |
|  | As a system user, I shall be able to create new accounts of different types. |
|  | The system shall have the capability to create accounts of different types by using “Account Type” filter and providing custom fields to capture relevant information for each account. The Account type may include values such as:   * Schools * School Districts * Major Vendors * Alternate Vendors |
|  | As a system and/or portal user, I shall be able to view/update basic account information, including but not limited to, account type, account description, physical address, and mailing address. |
|  | As a system user, I shall be able to view/update account profile information, including but not limited to, overall profile, account status, service details, timelines, account validity dates and description of recent activities either linked via other modules or manually added notes. |
|  | As a system user, I shall be able to deactivate accounts of certain types that are no longer in use. |
|  | The system shall have the capability of assigning Parent and Child account relationship between different accounts. |
|  | As a management system user, based on service request received from different sources (schools, school districts, MoE or helpdesk), I shall be able to approve the order request for:   * Creation of a new account * Deactivating an existing account * Upgrading or downgrading an account |
|  | As a system user, I shall be able to check the status updates of account’s most recent activities. |
|  | As a system user, I shall be able to generate reports related to accounts activities such as reports for milestone dates, reminders and activities status. |
|  | The data migration of existing accounts shall be done by making use of mapping of fields to be migrated using existing Excel files |
|  | As a system user, I shall be able to import/download following files from vendor portal:   * Billing File * Inventory File |
|  | As a system user, I should be able to download the vendor reports from helpdesk (Fujitsu). |
|  | As a system user, I shall be able to access following Epics:   * Case Management * Financial Management * Communication Management |

## Epic 5 – Case Management

This section list down high-level requirements/user stories about incident tickets, service request tickets and change requests created/captured by third party (helpdesk, school district, and ministry) and the capabilities to generate related reports.

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| --- | --- |
| **REQ ID** | **Requirement Description** |
|  | As a system user, I shall be able to access Case Management module from the main dashboard. |
|  | As a system user, I shall be able to create new case tickets. |
|  | As customer portal users, School District users shall be able to create new tickets for “Service Requests” |
|  | As vendor portal users, helpdesk shall be able to create new “Incident Tickets” and upload the monthly incident summary report |
|  | As vendor portal users, Telus users shall have capabilities to view/update Order dates/status and tracking spreadsheet |
|  | The system shall have the capability to create case tickets of different types by using “Case Type” filter and providing custom fields to capture relevant information for each ticket. The Case type may include values such as:   * Incident tickets * Service request * Change request   Case Type dropdown values may vary based on the user type. |
|  | The system shall have the capability of changing the “Case Type” of tickets after certain change in status value. For example, Incident ticket may lead to creation of Service Request. |
|  | As a system user, I shall be able to monitor the time spent and track the status of case tickets that are created internally |
|  | As a system user, I shall be able to generate and download the reports for case tickets that created internally |
|  | The system shall have capability of receiving/importing service request forms generated by the helpdesk or school districts portal users |
|  | As a system user, I shall have the capability of sending/uploading FRED template spreadsheet file to Telus Portal or by email. |
|  | As a system user, I shall be able to access the monthly case/incident report provided by helpdesk (Fujitsu) via Import or download link. |
|  | As a system user, I shall receive notifications generated by the system, when a new monthly case ticket report is available for download |
|  | The system shall provide the capability of generating ad hoc reports to the system users, as and when required. |
|  | The system shall have capability of providing custom work flow to the system users for case/service request routing related to alternate vendors |
|  | The system shall have capability of generating order request by reading standard email templates |
|  | As a system user, based on service request or incident ticket received from different sources (schools, school districts, MoE or helpdesk), I shall be able to create order request for:   * Creation of a new NGN service * Deactivating an existing NGN service * Upgrading or downgrading a service |
|  | The system shall have capability of sending notifications to accounts/vendors linked to case tickets, when nearing the milestone dates, based on pre-set date reminders. For example, system shall send auto generate email to School District the next day after the scheduled completion date to check about the status of work. |
|  | The system shall have capability of receiving notifications of case/order status and order dates updates from the vendors (Telus), by reading standard email templates |
|  | As a system user, I shall be able to generate reports related to:   * Case status * Milestone dates such as Schedule Date and Completion Notification * Weekly summary reports * Reports aligning with Fujitsu Monthly Incident Summary Report |
|  | As a system user, I shall be able to access following Epics:   * Account Management * Financial Management * Communication Management |

## Epic 6 – Budget Management

This section list down high-level requirements/user stories about the process of invoice reconciliation and budget forecasting and the capabilities of generating financial reports related to billing, reconciliation and actual vs budgeted.

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| --- | --- |
| **REQ ID** | **Requirement Description** |
|  | As a system user, I shall be able to access Financial Management module from the main dashboard. |
|  | As a system user, I shall be able to upload the invoices (excel format) received files received via email or by downloading from the vendor portal |
|  | As a system user, I shall be able to upload the invoices paid amounts to this module |
|  | The system shall have capability to store historical invoice data |
|  | The system shall have capabilities to perform data reconciliation based on actual and expected numbers from excel file/invoices received and invoices paid and also to reconcile the invoices against the assets in the accounts (master list) |
|  | The system shall have the capability to perform data forecasting based on input in the form of:   * Historical data * Orders placed * Invoices created * Price trends * Contract agreements |
|  | The system shall have capability to generate letters based on output of data reconciliation numbers |
|  | As a system user, I shall be able to generate reports, including but not limited to, such as:   * Monthly billing reports * Reconciliation Reports * Budget Forecast Reports * Milestone Reminder Reports |
|  | The system shall have the capability to produce reports using visual representation such as:   * Graphs * Pie Charts * Bar Charts |
|  | As a system user, I shall be able to access following Epics:   * Account Management * Case Management * Communication Management |

## Epic 7 – Contacts Management

This section list down high-level requirements/user stories about the process of managing contacts details and profiles, integration with Microsoft Outlook, and related reporting requirements.

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| --- | --- |
| **REQ ID** | **Requirement Description** |
|  | As a system user, I shall be able to create/edit/deactivate contacts. |
|  | The system shall store contact basic information such as first name, last name, contact role, parent account, address, phone and email information. |
|  | The system shall store contact profile information such as recent activities, case tickets and notes. |
|  | The system shall have the capability of creating/maintaining a contact with or without a parent account. |
|  | The system shall have the capability of assigning one-to-many relationship between accounts and contacts. |
|  | The system shall integrate contact details with Microsoft Outlook, so that changes are synchronized at both places. (Updates in CRM would be preferred) |
|  | As a school district portal user, I shall be able to update contacts related to school district account by accessing the web portal |
|  | The data migration of existing contacts shall be done by making use of mapping of fields to be migrated using existing Excel files |
|  | The system shall have the capability of sending group emails/communications by making use of standard email templates. |
|  | As a system user, I shall be able to generate reports related to contacts recent activities and associated case tickets. |
|  | As a system user, I shall be able to access following Epics:   * Account Management * Case Management * Communication Management |

## Epic 8 – Asset/Inventory Management

This section list down high-level requirements/user stories about the process managing and updating inventory details, linking inventory to orders, file exports and related reporting requirements.

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| --- | --- |
| **REQ ID** | **Requirement Description** |
|  | The system shall have the capability to store the list of inventory items such as site details, service description, WAN and circuit details. |
|  | As a system user, I shall be able to view/update inventory details based on individual or group selection of sites |
|  | As a system user, I shall be able to view existing orders related to a site |
|  | The system shall provide the search functionality based on key values such as site ID, site name, service ID and vendor. |
|  | The system shall have the capability to update the “Master Sites and Services List File” based on updates to order status values. These updates shall be linked by “Order ID” and/or “Site ID” |
|  | The data migration of existing inventory data shall be done by making use of mapping of fields to be migrated using existing Excel files |
|  | As a system user, I shall be able to create/view invoices related to sites |
|  | As a system user, I shall be able to generate reports, including but not limited to, such as:   * Inventory Details Report * Site Orders Report * Change in School Category and School Enrollment * Comparison Report of new changes vs existing Master Sites & Services List * Ad hoc Reports |
|  | As a system user, I shall be able to access following Epics:   * Account Management * Case Management * Budget Management |

## Epic 9 – Communication Management

This section provides high-level requirements/user stories about all forms of communications related to service requests, incident tickets and account profiles and capabilities to search & categorize the communications.

|  |  |
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| **REQ ID** | **Requirement Description** |
|  | The system shall have the capability to store communications related to:   * Incident tickets * Service requests * Account profiles |
|  | The system shall have the capability to store communications in the form of:   * Email Communications * Electronic copies of bills and invoices * Electronic copies of sales orders & service requests |
|  | Customer and/or vendor portal users shall be able to view communications related to their respective accounts and case tickets. |
|  | The system shall have the capability to store copies of order files such as “Sales Order” received from vendor (Telus) and shall let system users view and approve the Order files and send approved files back to Telus |
|  | The system shall have the capability for system and portal users to import/attach email communications to case tickets |
|  | The system shall have the capability to categorize and search Communication based on subject line, sender information. |
|  | The system shall have the capability to produce distribution emails based on contact groups |
|  | The system shall have the capability of integration with Microsoft Outlook and Microsoft Office Suite. |
|  | As a system user, I shall be able to generate reports based on recent Communication related to a case, account and Budget updates. |
|  | As a system user, I shall be able to generate reports based on ad hoc queries. |
|  | As a system user, I shall be able to access following Epics:   * Account Management * Case Management |

## Epic 10 – Knowledge Management

This section provides high-level requirements/user stories related to system capabilities to store knowledge-based articles related to incident resolution, lessons learned, root cause of issues with capabilities to categorize/search and publish them to portal.

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| **REQ ID** | **Requirement Description** |
|  | The system shall provide the capability to store knowledge-based articles at one place with the potential to publish/share those articles on portal. |
|  | The system shall provide the capability to store:   * Incident Resolution * Lessons Learned * Root Causes of Issues |
|  | The system shall have the capability to categorize and search knowledge articles based on title, uploaded by and category. |
|  | The system shall have the capability to limit the content being shared to customer and vendor portal users |
|  | External portal users such school districts, Helpdesk & Telus shall have access to knowledge base content but it can be limited by system users. |
|  | The system shall have the capability of integration with Microsoft Outlook and Helpdesk portal to import existing monthly incident report. |
|  | As a system user, I shall be able to access following Epics:   * Account Management * Case Management * Budget Management |

## Epic 11 – Contract Management

This section shall provide high-level requirements/user stories about performance metrics related to fulfilment of service requests and resolution of incidents as well as related reporting requirements.

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| --- | --- |
| **REQ ID** | **Requirement Description** |
|  | The system shall have the capability to store information related to performance metrics associated with SLAs and SLOs |
|  | As a system user, I shall be able to create/update SLAs related to:   * Order fulfilment * Incident resolution * Financial activities |
|  | The system shall provide capability to verify that orders, invoices and incidents comply with defined SLA/SLO metrics and measure variances against them. |
|  | As a system user, I shall be able to generate reports, including but not limited to, such as:   * Contract Performance against baseline * Incident Resolution Report * Order & Financial Activities Report * Ad hoc Report |
|  | As a system user, I shall be able to access following Epics:   * Account Management * Case Management * Budget Management |
|  | The system should maintain of list of all active contracts and send notifications as to when a contract is about to expire. |