



## **GeoNOVA Portal Assessment of Current Support Processes**

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***Version 4 – Final***

Prepared by:

The Barrington Consulting Group  
Suite 2200, 1969 Upper Water Street  
Halifax, Nova Scotia  
B3J 3R7

THE **Barrington** \_\_\_\_\_  
\_\_\_\_\_ **Consulting**  
**Group**  
INC.

### Revision History

<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Summary of Changes</b>
0.1	1-Jan-2005	Steve Crouse	Initial Draft – Outline of Deliverable
2	7-Feb-2005	Deryl Armstrong	First Draft – Completion of content
3	2-Mar-2005	Deryl Armstrong	Final Draft
4	28-Mar-2005	Deryl Armstrong	Final Deliverable

## **Executive Summary**

The purpose of the Assessment of Current Support Processes is to explore and define the current situation with respect to how GeoNOVA Portal service management and support processes are being conducted.

GeoNOVA is the Province's corporate approach to the creation, maintenance, and distribution of geographic information. GeoNOVA encourages the creation of corporate geographic information resources collected, maintained, and distributed to accepted standards and shared amongst all users within the Province to support decision-making and to reduce duplication of effort.

The GeoNOVA Program has been established to implement this approach. The GeoNOVA Program has adopted a multi-level, needs-driven governance structure that includes a Steering Committee and several nodes (working groups).

The GeoNOVA Program's focus for the present five-year program cycle is to make geographic data accessible, specifically at the desktop. The primary mechanism, through which this will be achieved, is the GeoNOVA Portal.

In support of the ongoing development and evolution of the GeoNOVA Portal, the GeoNOVA Program has initiated Operational Model Planning and Development. This process will develop business models to effectively manage the operational implementation of the GeoNOVA Portal. Implementation of a service management and support process is crucial to ensuring a stable and reliable service.

This document is the result of the work conducted within this context. Specifically, this document was developed during the Business and Technical Analysis Initiative to address the need for service management and support processes. The relevant deliverables generated during this initiative include the following:

- GeoNOVA Portal Assessment of Current Support Processes
- GeoNOVA Support Processes and Procedures Manual
- GeoNOVA Exchange Agreement Template
- GeoNOVA Service Level Agreement Template

These documents provide a broad assessment of the current service management and support processes related to the GeoNOVA Portal as well as provide support processes and procedures to support operational implementation in the future.

It is important to note that although the focus of this work is related to the operational implementation of the GeoNOVA Portal, the GeoNOVA Support Processes and Procedures, GeoNOVA Exchange Agreement and the GeoNOVA Service Level Agreement Template may be used in the broader context of the GeoNOVA Program. There may be opportunities to leverage these processes and templates when considering the operational management of GeoNOVA Program activities outside the context of the Portal.

It should also be noted that at this time, the GeoNOVA Secretariat is referenced as the key organization responsible for the ownership and execution of the majority of support processes. This is due to the fact that the GeoNOVA Portal is in a state of evolution and is not fully implemented at this time. In order to ensure service support quality, the GeoNOVA Secretariat will retain control of operational support processes until the Portal is fully implemented. At that time, other support organizations may be identified that would be given ownership and execution responsibilities for these processes.

The Assessment of Current Support Processes has provided information that has allowed the following key findings to be made:

1. Many of the service management and support processes are not currently being performed. From the information gathered during stakeholder workshops, it has acknowledged that many of the service management and support processes cited within this document are either not currently being performed or are not being performed with the requisite level of rigor or formality.
2. Some of the key service management and support processes related to building and establishing relationships with clients and service providers are currently being performed but are being done so on an inconsistent and informal manner.
3. There are multiple groups involved with overall service delivery and support of the GeoNOVA Portal. These organizations currently lack a common understanding of the explicit roles and responsibilities of each group.
4. There are multiple agreement types currently in use that is used to form partnerships with data sharing stakeholders and other partners. There is a desire among stakeholders to consolidate these agreements into a single agreement type for future use.

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## **1.0 Introduction**

### **1.1 Document Purpose**

The purpose of this document is to describe the current approach to service management and support for providing the day-to-day user support and for handling Incidents, Problems and known errors. This document is intended to provide a level of understanding of the following:

- The purpose for each support process;
- The current strategy relating to each support process;
- The current roles and responsibilities of involved parties;
- The current process steps used to fulfill each support process;
- The use of any tools, techniques or automation in performing support processes; and,
- Recommendations for the improved execution of each support process.

In support of the ongoing development and evolution of the GeoNOVA Portal, the GeoNOVA Program has initiated Operational Model Planning and Development. This process will develop business models to effectively manage the operational implementation of the GeoNOVA Portal. Implementation of a service management and support process is crucial to ensuring a stable and reliable service. As the evolution of the GeoNOVA Portal continues, it will become increasingly important that an appropriate service management and support process is in place in order to support the growth of the Portal.

This document provides a broad assessment of the current service management and support processes related to the GeoNOVA Portal.

### **1.2 Situational Background**

GeoNOVA is the Province's corporate approach to the creation, maintenance, and distribution of geographic information. GeoNOVA encourages the creation of corporate geographic information resources collected, maintained, and distributed to accepted standards and shared amongst all users within the Province to support decision-making and to reduce duplication of effort.

The GeoNOVA Program has been established to implement this approach. The GeoNOVA Program has adopted a multi-level, needs-driven governance structure that includes a Steering Committee and several nodes (working groups) that are formed around specific issues.

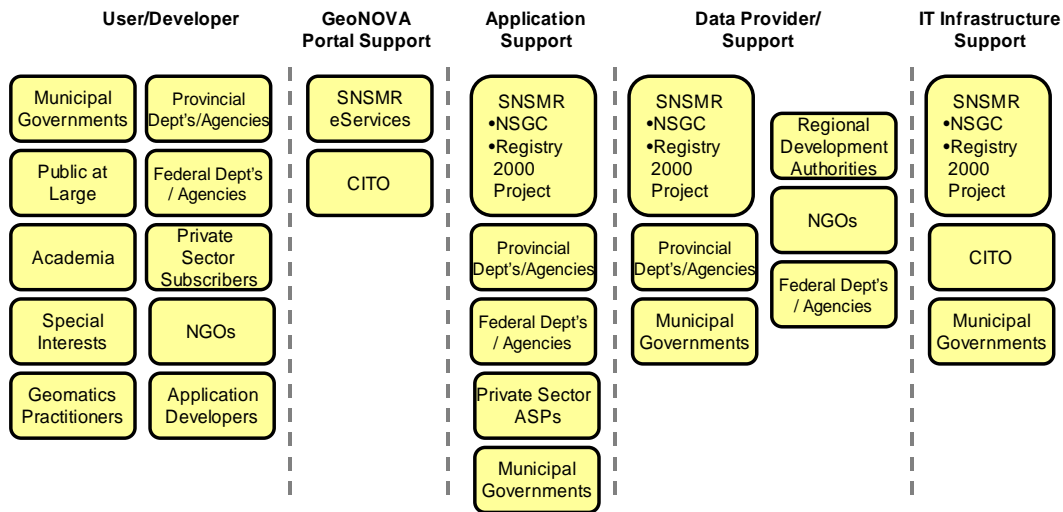
The GeoNOVA Program's focus for the present five-year program cycle is to make geographic data accessible, specifically at the desktop. The

primary mechanism, through which this will be achieved, is the GeoNOVA Portal.

## 2.0 GeoNOVA Portal Environment

The GeoNOVA Portal is an access point which allows users to find and view information and services that they are interested in without having detailed knowledge of the underlying technology or data storage locations. The GeoNOVA Portal will provide clients and stakeholders a single point of entry to search for available Geospatial data and services; display and save maps produced by a map service; download and save map data; direct access to online “Web services”; view information about map features; and develop new map/data services.

At a very high level, the following diagram is meant to illustrate the GeoNOVA Portal Environment. The representation of stakeholders is not meant to be exhaustive but to demonstrate the wide variety of relevant stakeholders responsible for service management and support of key IT components.



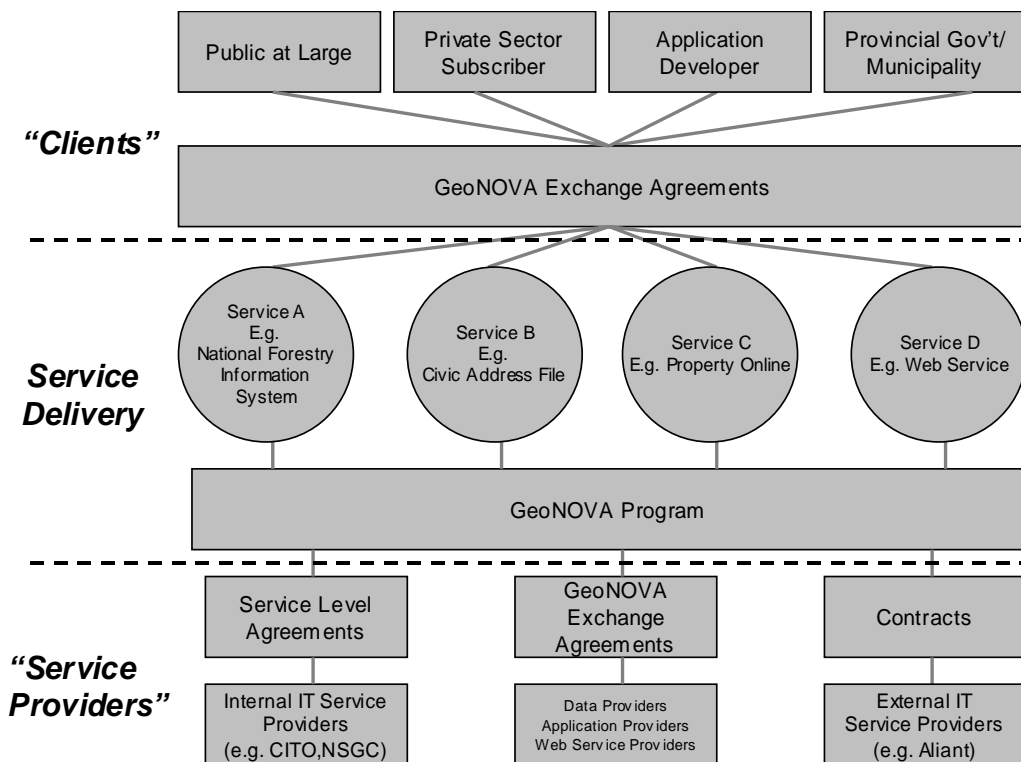
**Figure 1: GeoNOVA Portal Environment**

GeoNOVA clients are a broad group representing a wide variety of interests and needs. Clients can be users both inside and outside the provincial government firewall. In addition, users of the GeoNOVA Portal can include application developers using data or web services from the Portal. All clients gain access to the GeoNOVA Portal via the Internet.

Service providers supply applications, data, web services and IT infrastructure support to the GeoNOVA Portal environment. The Portal

exposes a variety of applications and web services supplied by stakeholder organizations such as other provincial government departments, federal departments and agencies, municipalities, academia and the private sector. These organizations have responsibility for the support of these applications and web services as well as the IT infrastructure related to these applications. The GeoNOVA Portal makes available data from a variety of data sharing partners as is stated in the Architecture of the GeoNOVA Portal initiative. This data is exposed through a variety of methods including direct access, periodic extracts and through web services.

The relationships between the various stakeholder groups are managed through establishing partnerships and maintaining agreements. The following diagram defines how various agreements are utilized to define and manage the relationships between stakeholders. Of particular importance are the GeoNOVA Exchange Agreements and the Service Level Agreements. As can be seen in the diagram below, these agreements are used to frame the relationships between the GeoNOVA Program, its clients and its service providers respectively. Because the GeoNOVA Program relies on these agreements to clearly define roles and responsibilities of necessary stakeholders, they are a critical component to the management of the Portal.



**Figure 2: Representation of Relationship Between Clients, Services and Agreements**

### 3.0 Assessment of Current Support Processes

#### 3.1 Evaluation Framework

From January 10 through January 27, 2005, workshops were held with key stakeholders regarding the GeoNOVA Portal. Invited stakeholders included individuals from federal, provincial and municipal governments, private sector representatives, IT service providers and academia. In part, the purpose of the workshops was to gain an understanding of the current support processes in place related to the GeoNOVA Portal and to gather opportunities for improvement. The results of the workshops were summarized and provided to invited and participating stakeholder groups for validation. Feedback provided from this process was also added to the results of the workshop output.

During these workshops, the Information Technology Infrastructure Library (ITIL) was utilized as the framework through which the current support processes for the GeoNOVA Portal were assessed. ITIL is an industry standard approach to IT Service Management and Support. It is the most widely accepted, comprehensive and consistent set of best practices for IT service management in the world as it is based on the collective experience of commercial and governmental practitioners worldwide. As such, it is fast becoming the de facto standard used by some of the world's leading businesses and governments. ITIL promotes a quality approach to achieving business effectiveness and efficiency through the use of people, process, technology and data.

To ensure coverage and consideration of all relevant support processes, each of the ITIL Service Management processes will be referenced and considered when assessing the GeoNOVA Portal current support processes. The following diagram shows the ITIL processes to be considered:

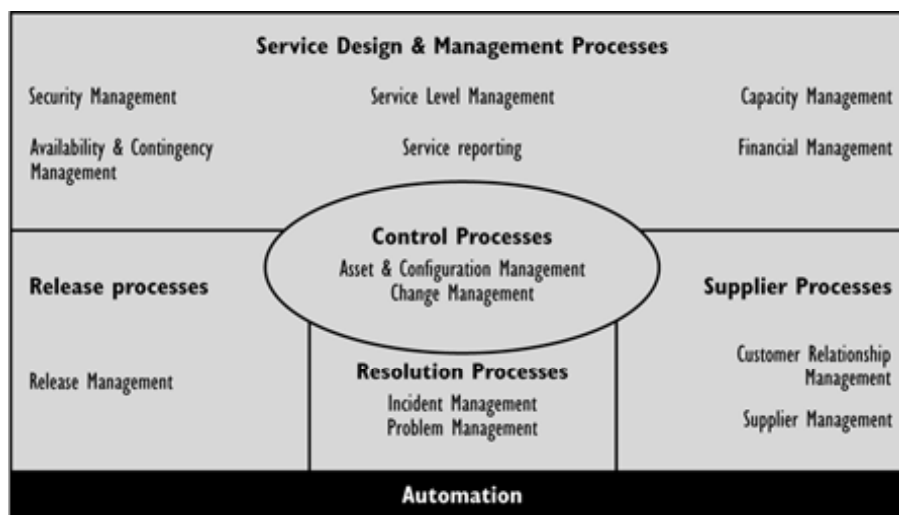


Figure 3: ITIL Support Processes and Procedures

It is important to note that the GeoNOVA Portal is in its infancy. Until now, the focus of the GeoNOVA Program has been on the development and deployment of the Portal. It is at this point that the focus has shifted to improving the operational management of the Portal. For this reason, many of the current support processes are at this time somewhat informal or under developed. For each of the support processes, recommendations have been made that will improve the processes and will be addressed in the GeoNOVA Portal Support Processes and Procedures Manual.

For the purposes of this document the following terms are used throughout and are defined as follows:

*Configuration Item (CI):* A component of an infrastructure or an item that is under the control of Configuration Management. CI's may vary widely in complexity, size and type, from an entire system (including all hardware, software and documentation) to a single module or a minor hardware component.

*Data Custodian:* The named resource from a data-sharing partner with responsibility for managing and maintaining data.

*GeoNOVA Exchange Agreement:* A written agreement between the GeoNOVA Program its clients. The GeoNOVA Exchange Agreement can be used to define a two-way exchange of services between parties or a situation where a one-way provision of services is provided between parties. At the current time, the GeoNOVA Exchange Agreement is targeted at services provided to and from the GeoNOVA Program's clients. The agreement may have broader applications in the future with respect to services provided outside of the Portal.

*Incident:* Any event which is not part of the standard operation of a service and which causes, or may cause, an interruption to, or a reduction in, the quality of that service.

*Problem:* Unknown underlying cause of one or more Incidents.

*Release:* A collection of new and/or changed Configuration Items that are tested and introduced into the live environment.

*Service Level Agreement:* A written agreement between a service provider (of applications, data, web services or IT infrastructure) and a customer (in this context, the GeoNOVA Program) that documents agreed upon service levels to be maintained.



*Service Provider:* An organization supplying services or products to customers. Within the context of the GeoNOVA Portal, Service Providers would be considered organizations that supply applications, data, web services or IT infrastructure support to the GeoNOVA Program for use by the GeoNOVA Portal.

*Service Request:* Every Incident not being a failure in the IT Infrastructure.

*Tier 1 Support:* Provides initial Incident logging, basic Incident resolution services and coordinates additional Incident resolution resources until the Incident is resolved.

*Tier 2 Support:* Provides application, data and web services Incident support services.

*Tier 3 Support:* Provides technical architecture (hardware, operating system and network) Incident support services.

## **3.2 Service Level Management**

### **Purpose**

Service Level Management is the name given to the process of planning, coordinating, drafting, agreeing, monitoring and reporting on GeoNOVA Exchange Agreements and the on-going review of service achievement to ensure that the required service quality is maintained and improved. GeoNOVA Exchange Agreements provide the basis for managing the relationship between the service provider, in this case the GeoNOVA Program, and the client. Service Level Management is essential in any organization so that the level of service needed to support the business can be determined, and monitoring can be initiated to identify whether the required service levels are being achieved.

Agreements managed through the Service Level Management process provide specific targets against which the performance of the organization can be judged.

The goal for Service Level Management is to maintain and where necessary improve service quality, through a constant cycle of agreeing, monitoring and reporting upon service and instigation of actions to eradicate poor service, in line with business or cost justification. Through these methods, a better relationship between those providing services and their clients can be developed.

### **Strategy**

Currently, Service Level Management in relation to the GeoNOVA Portal is approached with informality and for the most part, lacks a singular strategy guiding its activities. Although a number of agreements are in place with data sharing partners and other stakeholders that would consume services via the GeoNOVA Portal, the nature of these agreements does not typically include the majority of considerations that are considered part of a standard Service Level Agreement.

Agreements that define and govern the key service targets to be met by Service Nova Scotia and Municipal Relations (SNSMR) and/or the GeoNOVA Program as the IT Service Provider, do not exist. Key areas of responsibility of both parties are defined to a certain degree within existing agreements such as Data Sharing Agreements, Data Use Licenses and Memorandums of Understanding (MOU) but do not cover many of the responsibilities required to provide service management.

The support of the GeoNOVA Portal from an application, data, web service and IT infrastructure perspective is performed on a “best effort” basis. There

are no defined and measurable service levels that define the service being provided to clients.

**People**

This section describes the roles and responsibilities of resources dedicated to these processes.

<b>Role</b>	<b>Responsibilities</b>
GeoNOVA Program	<ul style="list-style-type: none"> <li>IT Service Provider responsible for delivering the GeoNOVA Portal to users.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>Provides key applications, data, web services and IT infrastructure support to users (through the GeoNOVA Portal).</li> </ul>
Users/Developers	<ul style="list-style-type: none"> <li>Provides GeoNOVA Program indication of service level expectations.</li> </ul>

**Process**

There are currently no specific Service Level Management processes in place within SNSMR or the GeoNOVA Program with respect to the GeoNOVA Portal. The Portal is available for use by the Provincial government as well as public users via the Internet. In neither case, are specific agreements established that define key service targets. The GeoNOVA Program attempts to make the Portal as available and reliable as possible, but does not have any predefined service level targets established with its clients.

The Nova Scotia Geomatics Centre (NSGC) is part of SNSMR and hosts many of the applications, data and web services that are accessible through the Portal. Data Sharing Agreements and Data Use Licenses are currently in place between SNSMR and users of data and applications provided by the NSGC. However, the Data Use Licenses do not contain provisions or language that define material obligations of the NSGC to provide the data and applications with a guaranteed level of availability or reliability.

The NSGC is focused on providing their clients with the best possible service in terms of availability and reliability of the applications and data that are hosted there, but there currently are no formal commitments of predefined service levels made to their clients. In turn, there is no formally defined business relationship between the GeoNOVA Program and the NSGC.

To date, the NSGC has not performed a rationalization of its service delivery and support capabilities in terms of the levels of service that can be guaranteed for the services it does deliver.

**Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Service Level Management process.

### **Recommendations**

It is recommended that a standard GeoNOVA Exchange Agreement Template is adopted and utilized in developing future agreements with clients and application, data and web service providers. As well, it is recommended that a GeoNOVA Exchange Agreement Log be implemented that would be used to track the status of all GeoNOVA Exchange Agreements and their effective dates.

Please refer to Section 3.2 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### 3.3 Service Reporting

#### Purpose

Immediately after a GeoNOVA Exchange Agreement is established with a client, monitoring must be initiated in order to determine if agreed upon service levels are being met. Operational reports must be produced at an appropriate frequency to confirm the adherence of the service delivery and support organization to service level commitments. In addition, exception reports should be produced whenever a GeoNOVA Exchange Agreement has been broken or threatened if appropriate thresholds have been set to give an ‘early warning’.

#### Strategy

As with Service Level Management, there currently is no specific strategy related to monitoring and reporting on service level achievement. The strategic importance of Service Reporting becomes relevant only after the strategy related to Service Level Management has been rationalized.

#### People

This section describes the roles and responsibilities of resources dedicated to these processes.

Role	Responsibilities
GeoNOVA Program	<ul style="list-style-type: none"> <li>• Service delivery organization providing the GeoNOVA Portal to users.</li> <li>• Monitoring service delivery and support processes to assess service achievement.</li> <li>• Reporting service delivery and support achievement to client.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>• Provides key applications, data, web services and IT infrastructure support to users (through the GeoNOVA Portal).</li> <li>• Monitoring service delivery and support processes to assess service achievement.</li> <li>• Reporting service delivery and support achievement to client.</li> </ul>
Users/Developers	<ul style="list-style-type: none"> <li>• Responsible for working with GeoNOVA Program to review service reports to evaluate service achievement.</li> </ul>
CITO/SNSMR eServices	<ul style="list-style-type: none"> <li>• Provides IT infrastructure/application support to GeoNOVA Program.</li> <li>• Monitoring service delivery and support processes to assess service achievement.</li> <li>• Reporting service delivery and support achievement to GeoNOVA Portal.</li> </ul>

#### Process

As previously stated, there currently are no formal processes in place to govern Service Reporting. Although resources responsible for service support informally monitor service availability and response times, there exists no

benchmark to judge whether the service is performing adequately since there are no defined service levels to be met.

### **Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Service Reporting process.

### **Recommendations**

It is recommended that a process to develop Service Reports on a regular basis be implemented. In addition, a process to communicate the Service Reports to clients and receive feedback on service performance should be implemented.

In order to capture relevant information to include in a Service Report, it is recommended that an Incident Management System be implemented to manage Incidents and Service Requests.

Please refer to Section 3.3 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### 3.4 Customer Relationship Management

#### Purpose

Customer Relationship Management (CRM) is about developing and nurturing a good professional working relationship between clients and service providers. The Customer Relationship Management process liaises with clients throughout the process to ensure they are kept abreast of progress. Customer Relationship Managers need to interface with all the other ITIL processes. For example, the CRM facilitates the interaction between the client and service delivery organizations during agreement discussions, and is involved in resolving client issues with the service being provided.

#### Strategy

The current strategy with respect to Customer Relationship Management related to the GeoNOVA Portal involves two distinct approaches. The first is through establishing relationships during the initial development of agreements between the client/user and/or data partner and the GeoNOVA Program. The second is through ongoing engagement with the consumer and/or data provider as the implementation of the terms of the agreements occurring as well as throughout the lifecycle of the agreements.

A collateral opportunity for relationship building and management occurs during support activities initiated by the consumer and/or data provider. Currently there are a relatively small number of clients and data providers contributing to the GeoNOVA Portal. For this reason, those providing support to the GeoNOVA Portal and other services managed by the NSGC are able to develop strong relationships with clients. This enables them to have a good indication of the client's impressions of whether service levels are being met.

At this point, the development and maintenance of long-term, healthy relationships between the GeoNOVA Program and all clients and data providers is seen as a priority. To date, the Customer Relationship Management strategy has been directed towards engaging stakeholders and defining the relationship between organizations in broad terms. The focus more and more seems to be turning towards maintaining these relationships through the process of implementing what has been defined in agreements and ensuring the expectations of stakeholders that were initially established are managed.

## People

This section describes the roles and responsibilities of resources dedicated to these processes.

<b>Role</b>	<b>Responsibilities</b>
GeoNOVA Program	<ul style="list-style-type: none"> <li>Primary responsibility for initiating and developing agreements with clients/data providers (GeoNOVA Coordinator, Agreements)</li> </ul>
NSGC	<ul style="list-style-type: none"> <li>Establishment of specific agreements that detail the terms of use of services or data provided from the NSGC. At the present time, these agreements typically utilized are the Data Use Agreement. These are developed and administered by NSGC Coordinators.</li> <li>Conducting Customer Relationship Management over the course of performing Tier 2 application, web services and/or data support.</li> </ul>
Users/Developers	<ul style="list-style-type: none"> <li>Negotiate and sign agreements with GeoNOVA Program.</li> </ul>

## Process

Relationships are initially created from the process of establishing agreements to define the terms of services or data sharing. The GeoNOVA Program initiates this process through the initial negotiation of a high level agreement. This process is very fluid as no two agreements typically evolve in the same manner. However, in general the initial form of an agreement typically involves the development of an MOU that broadly defines the terms of reference. Once this agreement has been accepted, the next stage involves development of a more detailed agreement such as a Data Use License.

Further to the establishment of these agreements, periodic discussions involving the implementation of services defined in the agreements or those initiated by the client or data provider provide opportunities to manage relationships. However, it does not appear that there is a formal process or a set of scheduled interactions with the client with the sole purpose of Customer Relationship Management.

Currently, there are no formal processes in place to govern Customer Relationship Management. However, because there are relatively few traditional clients that consume services provided by the NSGC and the distributed approach to Tier 1 service support model of the NSGC that tends to involve the majority of staff, management of client relationships occurs as a function of directly interfacing with clients while providing support. The NSGC has an understanding of the needs of users. However, it is not fully understood how well the NSGC is meeting these needs and where improvements in service delivery or service support need to be made.

## Tools/Techniques/Automation

Currently, there are no tools, techniques or automation used to support the Customer Relationship Management process.

### **Recommendations**

It is recommended that a vehicle be established for assessing and managing the expectations of clients and application, data and web service providers.

Please refer to Section 3.4 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### 3.5 Incident Management

#### Purpose

The primary goal of the Incident Management process is to resolve service delivery issues and restore normal service operation as quickly as possible. The objective is to minimize the adverse impact on business operations, thus ensuring that the best possible levels of service quality and availability are maintained. Normal service operation is defined by the levels of service articulated within GeoNOVA Exchange Agreements (with clients) and Service Level Agreements (with service providers).

#### Strategy

Specific to the GeoNOVA Portal, the strategy related to Incident Management attempts to route initial contact of clients wishing to report Incidents to a member of the GeoNOVA Program. Contact numbers and email addresses are provided in the Contact Information section of the Portal. Consumers of the Portal both within the Provincial government and outside of the government would use this avenue to access Tier 1 support of the Portal. Should Tier 2 support be required, the GeoNOVA Program member would take down the client information and engage the appropriate application, web services or data support organization to report the Incident.

These three levels of support fit well within the GeoNOVA Portal environment and therefore the proposed Incident management process is built around these three tiers of support services. These three support tiers will be responsible for the support of applications, data and web services made available through the Portal.

For particular clients, individuals at the NSGC may directly support Incidents. Because of their familiarity with the individuals at the NSGC, clients are sometimes inclined to call particular application or data support resources directly rather than going through the GeoNOVA Program.

#### People

This section describes the roles and responsibilities of resources dedicated to these processes.

Role	Responsibilities
GeoNOVA Program	<ul style="list-style-type: none"> <li>Provides Tier 1 support of the GeoNOVA Portal.</li> <li>Engages Tier 2 support if necessary.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>Provides Tier 1 support to clients contacting the NSGC directly.</li> <li>Provides Tier 2 support of applications and data that it hosts.</li> </ul>

	<ul style="list-style-type: none"> <li>• Provides Tier 3 support of hardware that it manages.</li> </ul>
SNSMR eServices Group	<ul style="list-style-type: none"> <li>• Provides Tier 2 support of the GeoNOVA Portal web page.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>• Provides Tier 3 support of GeoNOVA Portal infrastructure.</li> </ul>
Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"> <li>• Provide Tier 2 support of applications and data that are exposed by the GeoNOVA Portal.</li> </ul>

**Process**

There is no formal process currently being used for the GeoNOVA Portal for Incident Management.

The existing Portal (release 0.5) contains contact information on most web pages that provide phone numbers and email addresses that clients can use if they are experiencing difficulties. On general Portal pages, contacts for GeoNOVA resources are included and for specific applications, contact information is provided for the application providers. When an Incident occurs the client may contact any of the supplied contacts.

Incidents are not being centrally logged into a ticket system. Typically, if a Problem occurs the appropriate Tier 2 support resource is called and they correct the Problem. There may (or may not) be a follow up conversation indicating what the Problem was and how it was fixed.

As the GeoNOVA Portal is running on the Nova Scotia Government mail web server, this server is monitored and managed by CITO. Any Problems or outages on this system are handled by CITO and the GeoNOVA Program may (or may not) know if there is an outage. The GeoNOVA Program (and SNSMR) does not currently have a formal Service Level Agreement with CITO for these services.

Currently, the management of Incidents at NSGC is performed in an unstructured manner and is not formalized through the use of standard procedures. However, due to the low number of Incidents that are reported by users and the intimate knowledge of support staff of the appropriate resource to address Incidents, the lack of structure and process does not seem to be negatively affecting client satisfaction or responsiveness.

Currently, the majority of client-reported Incidents are initially received by the Data Distribution Coordinators at the NSGC. This is due to the fact that at least one of the coordinators is involved in establishing data use license agreements with the client and become the key contact for the client for future communications. The Data Distribution Coordinators handoff the call to the appropriate application or data support resource if

they are unable to resolve the Incident. There are also instances when client-reported Incidents are received directly by the particular application or data support resource. There is no standard method or tool through which the Incidents are captured and managed. The individual that is best suited to resolve it manages each Incident. No central repository of Incidents is in place nor is there an overriding organizational entity that is responsible for Incident Management. Efforts are made to resolve Incidents in a timely manner.

The Portal is currently receiving approximately 6000 visits per month. As this volume is low and there have not been many Incidents, it is believed that the current ad-hoc process is adequate. However, as the volume increases and more services are offered there will be a requirement for a more formal process.

### **Tools/Techniques/Automation**

Currently, there are no formal tools, techniques or automation used to support the Incident Management process.

### **Recommendations**

As Incident Management is critical to performing service management and support, there are several recommended actions to be taken:

- Implement an Incident Management System.
- Implement a Known Problem/Error Database.
- Implement a Configuration Management Database.
- Utilize and keep up to date a Service Catalogue.
- Define and implement policies and guidelines for Incident Management.

Please refer to Section 3.5 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

## **3.6 Problem Management**

### **Purpose**

The goal of Problem Management is to minimize the adverse impact of Incidents and Problems on the business that are caused by errors within the IT infrastructure, and to prevent recurrence of Incidents related to these errors. In order to achieve this goal, Problem Management seeks to get to the root cause of Incidents and then initiate actions to improve or correct the situation.

The Problem Management process has both reactive and proactive aspects. The reactive aspect is concerned with solving Problems in response to one or more Incidents. Proactive Problem Management is concerned with identifying and solving Problems and known errors before Incidents occur in the first place.

### **Strategy**

The current strategy with respect to Problem Management of the GeoNOVA Portal is focused more on the reactive side of Problem Management rather than on the proactive side. As Incidents are reported, the individuals providing support attempt to resolve the Incident as quickly and effectively as possible and move onto the next Incident. If a support resource feels that Incidents are related and repetitive, reactive Problem Management analysis will begin in terms of performing root cause analysis.

Problem Management and Incident Management go hand in hand. Good Problem Management relies on the accurate recording and reporting of Incidents and their resolution. As well, the goal of the Problem Management process is to reduce Incidents and thus provide better client service.

One of the underlying themes in the workshops conducted with GeoNOVA Portal stakeholders indicated there is a need for Problem Management. As Incidents are not centrally logged, it was not known what (if any) reoccurring Incidents may be related to specific problems that would improve the overall service level of the Portal.

## People

This section describes the roles and responsibilities of resources dedicated to these processes.

Role	Responsibilities
GeoNOVA Program	<ul style="list-style-type: none"> <li>Performs informal Problem Management based on Tier 1 contacts.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>Performs informal application and data Problem Management based on Tier 1 and Tier 2 contacts.</li> </ul>
SNSMR eServices Group	<ul style="list-style-type: none"> <li>Performs informal application Problem Management based on Tier 2 contacts.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>Performs informal infrastructure Problem Management based on Tier 3 contacts.</li> </ul>
Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"> <li>Performs Problem Management of applications and data that are exposed by the GeoNOVA Portal.</li> </ul>

## Process

As Incidents are currently not logged and there is no truly central Tier 1 contact point, it is difficult to determine if there are recurring Problems that should be proactively or even reactively addressed. Problem Management occurs if an individual notices the same Problem occurring on frequent basis and only occurs if an individual is involved with resolving identified Problems.

As use of the Portal increases, this process will need to be improved to ensure a consistent and reliable service.

As described above, there is no central repository within which Incidents are documented and managed. In addition, there is no overarching group with the responsibility to manage the resolution of Incidents and to perform analysis on them. Under this model, the ability to perform reactive Problem Management is possible but not efficient and the ability to perform proactive Problem Management is virtually impossible.

Reactive Problem Management can be partially achieved due to the relative small number of support resources and their high degree of knowledge of the services and each other's roles and responsibilities. Through good communications and inference, it may be possible for one support resource to identify an opportunity to resolve related Incidents by targeting and resolving a root-cause Problem. However, this becomes more challenging when the fact that other Incidents may be directly reported to another support resource. With both resources being potentially unaware of the other's Incidents, the opportunity to identify a root-cause Problem may be limited.

Proactive Problem Management is all but impossible without a group that is tasked with broad analysis of Incidents and Problems across all applications and services. Because no group or individual has these responsibilities, Incidents and Problems are each considered in an application or service-specific manner and a view across all services is not possible. In addition, the lack of an Incident Management or analytic tools further impedes the ability for a group or individual to identify relationships between Incidents and potentially predict and prevent further Incidents from occurring.

### **Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Problem Management process.

### **Recommendations**

As Problem Management is tightly integrated with Incident Management, many of the same recommendations are relevant:

- Implement an Incident Management System.
- Implement a Known Problem/Error Database.
- Implement a Configuration Management Database.

Please refer to Section 3.6 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### **3.7 Asset and Configuration Management**

#### **Purpose**

Businesses require quality IT services, provided economically. To be efficient and effective, all organizations need to control their IT infrastructure and services. Asset and Configuration Management provides a logical model of the infrastructure or a service by identifying, controlling, maintaining and verifying the versions of Configuration Items (CI's) in existence.

The goals of Asset and Configuration Management are to:

- Account for all the IT assets and configurations within the organization and its services.
- Provide accurate information on configurations and their documentation to support all the other Service Management processes.
- Provide a sound basis for Incident Management, Problem Management, Change Management and Release Management.
- Verify the configuration records against the infrastructure and correct any exceptions.

#### **Strategy**

The GeoNOVA Portal contains many Configuration Items associated with the Portal including the following:

- Portal Application Software (e.g. SAP Portal software)
- Portal Hardware and Operating System
- Network
- Various Applications accessed by the Portal
- Various Data accessed by the Portal
- Various Hardware and Operating Systems supporting the applications and data accessed by the Portal
- Underlying networks supporting the applications and data accessed by the Portal

With respect to the GeoNOVA Portal, Asset and Configuration Management is currently being performed on two fronts: application configuration and infrastructure configuration. GeoNOVA Portal application Asset and Configuration Management is handled independently of its infrastructure and other applications exposed by the Portal. Asset and Configuration Management of the infrastructure and other applications is the responsibility of the organizations tasked with the support of these areas respectively.

**People**

This section describes the roles and responsibilities of resources dedicated to these processes.

<b>Role</b>	<b>Responsibilities</b>
SNSMR eServices Group	<ul style="list-style-type: none"> <li>Performs Configuration Management of the GeoNOVA Portal content.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>Performs Configuration Management of applications and hardware that it hosts.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>Performs Configuration Management of the GeoNOVA Portal infrastructure.</li> </ul>
Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"> <li>Performs Configuration Management of applications and data that are exposed by the GeoNOVA Portal.</li> </ul>

**Process**

Currently the Portal runs on the Government’s web service that is managed by CITO. The GeoNOVA Program does not have responsibility to manage the configuration of the Portal infrastructure. As the Portal is migrated to the SAP environment in the future, this process will reside with whoever supports the environment.

The SNSMR eServices Group currently has the responsibility of managing the configuration of the Portal application software and content.

The GeoNOVA Program (and SNSMR) does not currently have a Service Level Agreement with CITO and it is unknown who will be supporting the SAP Portal. It does not appear that the GeoNOVA Program will be responsible for this process, however they do need to understand when configuration changes are being made and their potential impact to the Portal.

The NSGC currently keeps some previous versions of application source code and does perform full system backups of many of its applications. However, there is no strict version control process in place or the use of version control software. Hardware configuration is handled informally and there is no process in place to document changes made to IT infrastructure.

IT infrastructure assets within the NSGC are inventoried however there does not appear to be detailed documentation on the configuration of any of the assets.

### **Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Asset and Configuration Management process.

### **Recommendations**

In order to have an accurate snapshot of all Configuration Items, it is recommended that a Configuration Management Database (CMDB) be implemented and kept up to date.

Please refer to Section 3.7 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### 3.8 Change Management

#### Purpose

Changes arise as a result of Problems, but many changes can come from proactively seeking business benefits such as reducing costs or improving services. The goal of the Change Management process is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes, in order to minimize the impact of change-related Incidents upon service quality, and consequently to improve the day-to-day operations of the organization.

An appropriate response to a request for change entails a considered approach to assessment of risk and business continuity, change impact, resource requirements and change approval. This considered approach is essential to maintain a proper balance between the need for change against the impact of the change.

*It is particularly important that the Change Management process has high visibility and open channels of communication in order to promote smooth transitions when changes take place.*

#### Strategy

Changes specific to the GeoNOVA Portal are currently communicated between the GeoNOVA Program and the SNSMR eServices Group prior to changes being made. Communication outside of these groups related to changes to the Portal is handled on an as-needed basis but is typically not performed. Likewise, Change Management related to applications or data made available through the Portal is handled by the relevant application or infrastructure support organization. Typically, communications from these groups to the GeoNOVA Program is not frequent in terms of assessing impact and scheduling changes.

#### People

This section describes the roles and responsibilities of resources dedicated to these processes.

Role	Responsibilities
GeoNOVA Program	<ul style="list-style-type: none"><li>Rationalizes and requests changes to the GeoNOVA Portal.</li></ul>
NSGC/Other Providers	<ul style="list-style-type: none"><li>Rationalizes changes and performs Change Management of applications and hardware that it hosts.</li></ul>
SNSMR eServices Group	<ul style="list-style-type: none"><li>Performs Change Management of the GeoNOVA Portal content.</li></ul>
CITO	<ul style="list-style-type: none"><li>Rationalizes and performs Change Management of the GeoNOVA Portal infrastructure.</li></ul>

Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"><li>• Rationalizes and performs Change Management of applications and data that are exposed by the GeoNOVA Portal.</li></ul>
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**Process**

Changes to the GeoNOVA Portal are being made by the SNSMR eServices Group. The GeoNOVA Program emails changes to the web master as required and these changes are applied on a best effort bases.

There is no formal change review or acceptance prior to these changes getting applied. However, to date changes have been minor and there is a limited impact to the Portal and its client base.

GeoNOVA is not directly involved with service provider application change and may (or may not) receive notification when an application change is being made. For changes such as modification to URLs, the application providers notify the GeoNOVA Program. These types of application changes are infrequent.

Changes to applications hosted by the NSGC are made on an as-needed basis. When Incidents or Service Requests are made by the user community, they are rationalized and prioritized by the individual supporting the particular application or service. There is no formal change review or acceptance process prior to the change being implemented. In addition, there are no formal communication processes to advise the user community or other potentially impacted stakeholders that changes have been implemented.

**Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Change Management process.

**Recommendations**

In order to facilitate the Change Management process, it is recommended that an Incident Management System is implemented in order to track and manage Service Requests that will form the basis for documenting necessary changes to the GeoNOVA Portal environment.

It is further recommended that a consistent set of environments be utilized for all production systems and databases. Independent development, test and production environments should be adopted in order to facilitate the Change Management process. This is necessary so that applications accessed through the GeoNOVA Portal (e.g. Thematic Atlas) can be left available in the production environment while changes are being made

and tested in other environments. Thus, opportunities will not be lost for users to access these applications while they are being changed.

Please refer to Section 3.8 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### **3.9 Release Management**

#### **Purpose**

Many service providers may be involved in the Release of hardware and software in a distributed environment. Good resource planning and management are essential to package and distribute a Release successfully to the client. Release Management takes a holistic view of a change to an IT service and should ensure that all aspects of a Release, both technical and non-technical, are considered together.

The goals of Release Management are:

- To plan and oversee the successful rollout of application software, data, web services and related hardware.
- To design and implement efficient procedures for the distribution and installation of changes to IT systems.
- To ensure that hardware and software being changed is traceable, secure and that only correct, authorized and tested versions are installed.
- To communicate and manage expectations of the client during the planning and rollout of new Releases.
- To agree on the exact content and rollout plan for the release, through liaison with Change Management.
- To implement new software releases or hardware into the operational environment using the controlling processes of Configuration Management and Change Management – a release should be under Change Management and may consist of any combination of hardware, software, firmware and document configuration items.
- To ensure that master copies of all software are secured in a software library and that a Configuration Management database (CMDB) is updated.
- To ensure that all hardware being rolled out or changed is secure and traceable, using the services of Configuration Management.

The focus of Release Management is the protection of the live environment and its services through the use of formal procedures and checks.

#### **Strategy**

Releases for the GeoNOVA Portal related to content are planned and executed by the GeoNOVA Program and the SNSMR eServices Group. Infrastructure hardware and software releases appear to be conducted by CITO when they are necessary without a great deal of planning or coordination with the GeoNOVA Program. Software and hardware

releases managed by the NSGC should be conducted after coordination and communication with the GeoNOVA Program. However, this communication is currently inconsistent.

**People**

This section describes the roles and responsibilities of resources dedicated to these processes.

<b>Role</b>	<b>Responsibilities</b>
GeoNOVA Program	<ul style="list-style-type: none"> <li>Review and approve releases to the GeoNOVA Portal.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>Plans and executes releases to applications and hardware that it hosts.</li> </ul>
SNSMR eServices Group	<ul style="list-style-type: none"> <li>Plans and executes releases to the GeoNOVA Portal content.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>Plans and executes releases to the GeoNOVA Portal infrastructure (NS Government Web Server).</li> </ul>
Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"> <li>Plans and executes releases to the applications and data that are exposed by the GeoNOVA Portal.</li> </ul>

**Process**

The GeoNOVA Portal has only conducted one major release to date. The Release Management process was contained within the program management of the initial Portal project. It is assumed that major releases in the near future will be included as part of the defined projects and managed within these projects.

Application software, data and infrastructure releases are performed by the NSGC in a generally ad hoc manner. However, for some releases, an internal checklist process may be utilized. The releases are conducted internally with minimal involvement from the GeoNOVA Program.

Releases conducted by individual departments whose applications, data or web services are exposed by the Portal are planned and conducted according to the individual release processes of each department. The GeoNOVA Program is sometimes made aware that these releases are occurring but this notification is inconsistent.

**Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Release Management process.

**Recommendations**

It is recommended that a standard approach to implementing releases of the GeoNOVA Portal software as an enabling technology as well content

exposed by the Portal. The process should be focused on communication of the timing and potential impacts of the release to affected stakeholders.

It is further recommended that an Incident Management System be implemented for the purpose of managing Service Requests that form the basis of organizing the elements of any release.

Please refer to Section 3.9 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### **3.10 Availability and Contingency Management**

#### **Purpose**

The goal of the Availability and Contingency Management process is to optimize the capability of the IT Infrastructure, other delivered services and the supporting organization to deliver a cost effective and sustained level of Availability that enables the business to satisfy its business objectives.

This is achieved by determining the availability requirements of the business and matching these to the capability of the IT infrastructure and supporting organization. Where there is a mismatch between the requirement and capability, Availability and Contingency Management ensures the business is provided with available alternatives and associated cost options.

Availability and Contingency Management should ensure the required level of availability is provided. The measurement and monitoring of IT availability is a key activity to ensure availability levels are being met consistently. Availability and Contingency Management should look continuously to optimize the availability of the IT Infrastructure, services and supporting organization, in order to provide cost effective availability improvements that can deliver measurable business and user benefits.

#### **Strategy**

Currently, there is desire to guarantee stated availability levels of the GeoNOVA Portal to its clients. However, to date a comprehensive inventory of the availability commitments of each of the application, data, web service and infrastructure providers has not been compiled. In addition, expectations of GeoNOVA clients with respect to availability have not been ascertained. Many of the GeoNOVA clients fall into the public user domain. One strategy with respect to guaranteeing availability of the GeoNOVA Portal is to simply guarantee a level of availability based on the current capabilities of the application, data, web service and infrastructure providers.

#### **People**

This section describes the roles and responsibilities of resources dedicated to these processes.

<b>Role</b>	<b>Responsibilities</b>
GeoNOVA Program	<ul style="list-style-type: none"><li>Rationalizes and defines availability of the GeoNOVA Portal.</li></ul>

NSGC/Other Providers	<ul style="list-style-type: none"> <li>Rationalizes and guarantees the availability of applications, data, web services and hardware that it hosts.</li> </ul>
SNSMR eServices Group	<ul style="list-style-type: none"> <li>Rationalizes and guarantees the availability of the GeoNOVA Portal content.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>Rationalizes and guarantees the availability of the GeoNOVA Portal infrastructure.</li> </ul>
Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"> <li>Rationalizes and guarantees the availability of applications, data , web services and IT infrastructure that are exposed by the GeoNOVA Portal.</li> </ul>

**Process**

Similarly to the Configuration Management process, the GeoNOVA Program does not have responsibility to manage the availability and contingency of the Government web server as this is provided by CITO. As the Portal moves to the SAP in the future, this process will reside with the organization supporting this environment. The GeoNOVA Program (and SNSMR) does not currently have a formal Service Level Agreement with CITO and it is unknown who will be supporting the SAP Portal. It does not appear that the GeoNOVA Program will be responsible for this process, however they do need to understand when availability and contingency processes change so they can evaluate their potential impact to the Portal.

The NSGC currently is unable to guarantee any level of availability of its applications, data, web services or infrastructure. An assessment of its capacity and capabilities is required before a rationalization of guaranteed availability can be made.

**Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Availability and Contingency Management process.

**Recommendations**

In order to ensure that adequate availability and reliability of the GeoNOVA Portal infrastructure is maintained, it is recommended that the GeoNOVA Program ensure that required service levels for infrastructure are written into the Service Level Agreement currently being finalized between SNSMR and CITO.

Please refer to Section 3.10 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### 3.11 Security Management

#### Purpose

The Security Management function interfaces with IT Service Management processes where security issues are involved. Such issues relate to the confidentiality, integrity and availability of applications, data and web services as well as the security of hardware and software components, documentation and procedures. For example, Security Management interfaces with Service Management to assess the impact of proposed changes on security, to raise Service Requests in response to security Problems to ensure confidentiality and integrity of security data and to maintain the security when software is released into the live environment.

#### Strategy

In terms of the confidentiality of data, individual data sharing partners have responsibility for defining the intended use and audience of its data as it works with the GeoNOVA Program to expose the data through the Portal.

In terms of integrity of data, it is the responsibility of individual data sharing partners to ensure data integrity based on the data sharing agreements developed within the GeoNOVA Program. Any data repair required to ensure data integrity is to be handled by the data custodian.

In terms of the availability of data, an appropriate data refresh frequency is defined between the GeoNOVA Program and the individual data-sharing partners. The data-sharing partners are responsible for ensuring that current data is made available according to the terms of these agreements. The physical database availability is the responsibility of the data providers in the distributed database model of the GeoNOVA Portal.

At this time, it appears that CITO will directly support the SAP Portal server and will make provisions for its Security Management. It is assumed that the Business Owners of the applications and data accessed by the Portal (including the NSGC) have provisions in place for Security Management. Therefore, only the setup and maintenance of the Portal users will be the responsibility of the GeoNOVA Program.

#### People

This section describes the roles and responsibilities of resources dedicated to these processes.

Role	Responsibilities
GeoNOVA Program	<ul style="list-style-type: none"><li>Responsible for defining the data currency and refresh frequency in association with data sharing partners.</li></ul>

NSGC/Other Providers	<ul style="list-style-type: none"> <li>Responsible for security of applications, web services, data and infrastructure of the IT assets it supports.</li> <li>Responsible for physical security of the GeoNOVA data warehouse.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>Responsible for the security of GeoNOVA Portal content and infrastructure.</li> </ul>
Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"> <li>Defines intended use and audience of applications, data and web services that are exposed by the Portal.</li> <li>Responsible for security of applications, web services, data and infrastructure of the IT assets it supports.</li> <li>Responsible for data integrity and necessary data repairs at source.</li> </ul>

**Process**

The GeoNOVA Portal currently does not provide any security controls therefore no process is in place to manage security. As the Portal moves to the SAP Portal platform and the GeoNOVA Program provides subscription services, this process will become very important.

It is unknown how the SAP Portal security will be managed, however the GeoNOVA Program does not believe that it will be directly involved with this process other than identifying users, their status and conveying their security role to the security support group.

**Tools/Techniques/Automation**

Currently, there are no tools, techniques or automation used to support the Security Management process.

**Recommendations**

It is recommended that the GeoNOVA Program ensure that elements of infrastructure Security Management be included in the Service Level Agreement between SNSMR and CITO.

It is further recommended that the application side of Security Management be managed through security-specific Service Requests. Therefore, an Incident Management System should be implemented in order to manage and track these requests.

Please refer to Section 3.11 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### **3.12 Capacity Management**

#### **Purpose**

Capacity Management is responsible for ensuring that the Capacity of the IT infrastructure matches the evolving demands of the business in the most cost-effective and timely manner. The process encompasses:

- The monitoring of performance and throughput of IT services and the supporting Infrastructure components.
- Undertaking tuning activities to make the most efficient use of existing resources.
- Understanding the demands currently being made for IT resources and producing forecasts for future requirements.
- Influencing the demand for resource, perhaps in conjunction with Financial Management.
- The production of a Capacity Plan that enables the IT service provider to provide services to the defined levels of quality.

Capacity Management is currently not being performed by the GeoNOVA Program. Currently, the number of monthly visits to the Portal is approximately 6000 and performance has not been an issue. As CITO is managing the Government web server, it is expected that they are and will continue to perform this function.

In the future, the GeoNOVA Program would like to have tools available to them to not only understand how many users visit the site, but also would like the ability to see how well the Portal is performing.

#### **Strategy**

Capacity Management is currently not being performed for the GeoNOVA Portal or by the NSGC. Currently the number of visits by month is approximately 6000 and performance has not been an issue.

As infrastructure provider, CITO is managing the Government web server and it is expected that they are performing this function.

In the future, the GeoNOVA Program would like to have tools available to them to not only understand how many users visit the site, but also would like the ability to see how well the Portal is performing.

## People

This section describes the roles and responsibilities of resources dedicated to these processes.

<b>Role</b>	<b>Responsibilities</b>
GeoNOVA Program	<ul style="list-style-type: none"> <li>Responsible for estimating the growth of use of the GeoNOVA Portal.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>Responsible for monitoring and ensuring adequate capacity for the applications, data, web services and IT infrastructure it supports.</li> </ul>
SNSMR eServices Group	<ul style="list-style-type: none"> <li>Responsible for assisting in the measurement of use of the GeoNOVA Portal.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>Responsible for monitoring and ensuring adequate capacity for the GeoNOVA Portal infrastructure.</li> </ul>
Various Municipalities/Provincial Departments/Federal Organizations/NGOs, etc.	<ul style="list-style-type: none"> <li>Responsible for monitoring and ensuring adequate capacity for the applications, data, web services and IT infrastructure exposed through the GeoNOVA Portal.</li> </ul>

## Process

Currently there are no formalized, consistent processes in place to specifically perform Capacity Management of the GeoNOVA Portal.

## Tools/Techniques/Automation

Currently, there are no tools, techniques or automation used to support the Capacity Management process.

## Recommendations

As with Availability and Contingency Management, in order to ensure that required capacity of the GeoNOVA Portal infrastructure is maintained, it is recommended that the GeoNOVA Program ensure that required Capacity Management aspects are written into the Service Level Agreement currently being finalized between SNSMR and CITO.

Please refer to Section 3.12 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### 3.13 Financial Management

#### Purpose

The scope of IT Financial Management includes budgeting, IT accounting and charging, although the responsibility for the processes and tasks may lie with the Finance department. In many organizations the budget rules are set for all parts of the organization and the monitoring and reporting of budgets is performed by staff who report to the Finance department rather than to the IT organization.

For an in-house organization, the goal should be:

- To provide cost-effective stewardship of the IT assets and resources used in providing IT Services.

#### Strategy

Within the Nova Scotia government environment, Financial Management of IT services are typically handled by the annual budgeting process and through the Tangible Capital Asset (TCA) request process. It is assumed that annual expenses and capital acquisitions required for IT service support will continue to be managed through these processes in the future.

Financial chargeback mechanisms that currently exist between SNSMR and CITO for infrastructure support will continue to be used for support of the GeoNOVA Portal.

#### People

This section describes the roles and responsibilities of resources dedicated to these processes.

Role	Responsibilities
GeoNOVA Program	<ul style="list-style-type: none"> <li>• Responsible for annual budgeting and TCA requests (to SNSMR Senior Executives) process related to the GeoNOVA Portal.</li> </ul>
SNSMR Senior Executives	<ul style="list-style-type: none"> <li>• Brings forward TCA requests from the GeoNOVA Program for consideration.</li> </ul>
CITO	<ul style="list-style-type: none"> <li>• Responsible for providing the GeoNOVA Program with values for annual chargeback for support services so as to feed into annual budgeting process.</li> </ul>

#### Process

The GeoNOVA Program will continue to utilize the government annual budgeting and TCA processes to financially manage the Portal.

### **Tools/Techniques/Automation**

All existing techniques to manage annual budget and the TCA process are used to support the Financial Management process.

### **Recommendations**

No change is recommended regarding the use of the TCA request process or the approach to managing annual budgets.

However, it is recommended that an Incident Management System be implemented in order to track and monitor support resource utilization.

Please refer to Section 3.13 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

### 3.14 Service Provider Management

#### Purpose

Service Provider Management establishes and manages the contractual relationships between the organization and any internal or external organizations that are involved in service delivery or service support.

#### Strategy

The two main IT service providers for the GeoNOVA Portal are the eServices group (web development) and CITO (web server management). Currently there are no formal arrangements with either group to supply their services. The current process is being handled on a best effort basis, which seems to be working well given the current number of updates and visitors.

NSGC manages and supports all of its own applications, data, web services and IT infrastructure components. There are currently no Service Level Agreements (SLAs) that exist to define the relationships with other support organizations. There are typical underpinning contracts in place with third party IT infrastructure vendors that have support obligations for the equipment in use at the NSGC.

#### People

This section describes the roles and responsibilities of resources dedicated to these processes.

Role	Responsibilities
GeoNOVA Program	<ul style="list-style-type: none"> <li>Responsible for defining and implementing Service Level Agreements with CITO, SNSMR eServices, other application, data, web services providers and possibly the NSGC.</li> <li>Responsible for defining and implementing MOU/data sharing agreements.</li> </ul>
NSGC/Other Providers	<ul style="list-style-type: none"> <li>Responsible for defining and implementing Data Use Licenses with data sharing partners.</li> </ul>
SNSMR eServices Group/CITO	<ul style="list-style-type: none"> <li>Responsible for negotiating and entering into Service Level Agreements with the GeoNOVA Program for services to be provided.</li> </ul>

#### Process

Other than the establishment and maintenance of Data Sharing Agreements, there are currently no formal processes in place for the purpose of Service Provider Management.

### **Tools/Techniques/Automation**

Other than Data Sharing Agreements, there are no tools, techniques or automation used to support the Service Provider Management process.

### **Recommendations**

It is recommended that a standard GeoNOVA Exchange Agreement Template (for data, application and web service providers) and Service Level Agreement (for infrastructure support providers) is adopted and utilized in developing future agreements with clients and application, data and web service providers. As well, it is recommended that a GeoNOVA Exchange Agreement Log and a Service Level Agreement Log be implemented that would be used to track the status of all agreements and their effective dates.

Please refer to Section 3.14 of the GeoNOVA Portal Processes and Procedures Manual for a full description of processes and procedures related to the recommendation.

## **4.0 Appendix A - Related Documents**

This document was created as a result of the GeoNOVA Technical and Business Analysis Project. Relevant deliverables resulting from this project include the following:

- Project Initiation Document
- GeoNOVA Exchange Agreement Template
- GeoNOVA Service Level Agreement Template
- GeoNOVA Portal Assessment of Current Support Processes
- GeoNOVA Portal Support Processes and Procedures Manual
  - GeoNOVA Portal Service Catalogue

Referenced documentation include the following:

- ITIL Service Support, Version 2.2, 2001
- ITIL Service Delivery, Version 2.1, 2001