Disaster Recovery Readiness Assessment

A Case Study

Case study ID: 2017-009

Revision: 1.04

Date of issue: 2017-09-07

The Public Sector client for this case study is located in Southwest Ontario. Over the course of a few weeks, Duologik amalgamated the client's Ad Hoc information regarding their recovery preparedness. Duologik's Systematic Framework was used to determine what the client can improve with existing resources and where they should be based on regulation and compliance, and business requirements for minimal downtime. The Assessment enabled the client to allocate resources for mission critical operations by leveraging current investments in people, process and technology to improve their overall Emergency Management and Disaster Recovery plans. Next steps involved an affordable budget for an overarching strategy that includes uptime objectives per application and per

Executive Summary

This Case Study is based on an actual engagement for which Duologik was contracted by a public sector organization in Southwest Ontario to develop a Disaster Recovery Readiness Assessment.

The purpose of the Readiness Assessment was to assist the Client in diagnosing what mitigation measures should be considered to overcome existing technical and non-technical deficiencies in order to establish an effective Disaster Recovery and Business Continuity Plan for the organization.

While working with the Client, Duologik designed a framework that enabled the client to maximise ROI on current and future investments to improve their Emergency Management preparedness through better management of their people, process and technology. The assessment was used as a building block to creating a more comprehensive Business Continuity Plan.

Due to the confidential nature of this case study, the client's name and other details are not disclosed or published.

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Duologik 's 5-Step Process:

Methodology

Duologik's "DR Readiness Assessment" follows closely a 5-Step process. The details of each step were developed in a consultative and cooperative manner by a team from Duologik and the Client. The steps were: Planning, Visioning, DR Readiness, Sharing Findings and Future Steps.

The starting point for this assessment was to develop a focused scope of work. In most cases, the Client needs to simultaneously plan for disaster recovery as it also concentrates on keeping the lights on. Thus, Duologik used a holistic approach involving the client's People, Process and Technology to develop a framework for analysis.

The **People** component involves resourcing and skills development which will identify the right expertise required to properly implement, maintain and periodically test the Client's DR plans. Executing this DR strategy would increase IT staff workloads and Clients need to plan for flexibility and perhaps additional benefits for participating staff. The **Process** component is likely the most difficult to address as generally it revolves around best practice in developing a checklist of activities and steps required to undertake in the event of an incident. The **Technology** component involves both infrastructure and application architectural considerations.

Vision for DR (upper management buy in)

The Client's IT management involvement for critical decisions, overall project direction and milestone achievements are essential to the overall success of the DR program. Management should have a clear vision of IT's role in the organization's ability to recover from a disaster that includes the development of a cohesive structure for an effective recovery plan. Duologik was pleased to provide input to the vision.

Typical Engagement Process

Duologik modeled its Readiness Assessment for the Client from industry best practice approaches, which were then manifested in a **DR Readiness Assessment Framework** that expands on the five essential steps to a meaningful and credible design.

The Readiness Assessment was intended to be action oriented and for this reason the DR Readiness Assessment Framework was instrumental in identifying and confirming the client's existing deficiencies and to outline a range of options available to the Client to mitigate them.

The framework for assessment was subject to detailed consultative discussions with the Client's IT staff. For each significant deficiency, Duologik proposed a concept or a set of mitigating measures that formed the basis of a

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DR Action Plan by the Client. The mitigating measures proposed were empirically based, specifically on best practices and while also incorporating the needs and experiences of both the Client and Duologik to date.

How prepared is IT for DR?

In a Readiness Assessment exercise, it is always prudent to get back to the fundamental elements for analysis that revolves around People, Process and Technology. The Readiness Assessment can be designed to accommodate or deal with many detailed aspects of each of these three fundamental elements depending on the complexity of the organization, available resources for the analysis and scope of the undertaking. It should be noted that in a Comprehensive Readiness Assessment that is much more broad and extensive in scope than this specific Case Study. Duologik uses templates and questionnaires that cover as many aspects of the Client's DR planning as possible. The Readiness Assessment in this Case Study is limited in scope and duration by virtue of time that the Client's IT Staff could expend as well as by the fiscal resources that were available.

The main purpose of this Readiness Assessment is to identify the existing deficiencies in the Client's organizational readiness to deal with disaster or technology incident and subsequently, to examine the range of available options to mitigate against these deficiencies and to select technical and non-technical solutions to increase the readiness of the Client. Of necessity, the solutions may span a continuum ranging from simple implementable actions to those that may be very difficult if not impossible to deploy. Furthermore, the analyst performing the tasks should be familiar with and implement from the lens of ever-changing technology.

Duologik started the engagement by first developing a simple framework for analysis based on the understanding set out above. The questions posed in the **DR Readiness Framework** under each of the three elements of People, Process and Technology were customized based on discussions with the Client.

A schematic of the DR Readiness Assessment Framework is presented in Appendix B. There were numerous pages of elements of the Readiness Assessment that went into this Framework. These of course, cannot be shared in this Case Study due to Privacy considerations.

In this Duologik Case Study, each element of the Framework above was subjected to rigorous review and discussion. Then, Duologik summarized their comments, observations and suggestions for mitigating the deficiencies in two distinct sections – **Current State and Deficiencies**; and **Mitigation Measures**.

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Current State and Deficiencies

The following are illustrative examples of discussion topics that were documented by Duologik regarding the current state and deficiencies based on field work and extensive discussion with the Client:

- The Emergency Preparedness of the Organization as a whole
- The Business Continuity Plan or Program (BCP)
- DR Plan development
- Staff Training and matching skillsets to DR Needs
- Business Impact Analysis BIA to assign level of criticality RTO's RPO's as validated by business leaders
- DR Coordination function
- RPO and RTO and the scale of Incidents
- The Data Center Protection
- The Move to Cloud and the Hybrid Strategy
- The DR Plan: **Assess, Recover, Resume** and **Review**
- Technology teams make the call
- IT Department must identify the resources requirement

Mitigation Measures

Duologik took each of the 3 elements of the Framework – **People**, **Process** and **Technology** – and described in detail our best practice approach to define mitigating measures. Below are illustrative examples of each of these:

- The Emergency Preparedness and the need to involve IT
- Senior Management Commitment is key
- Define and build the DR recover management team
- Define roles of the Support Departments such as HR & Communications
- DR Plan testing
- Define the IT Crisis Management Centre
- Document the DR process: **Assess, Recover, Resume** and **Review**
- Establish IT recovery timelines
- Verify technical aspects of Readiness Assessment

DR Plan Testing

Disaster recovery plan testing and reviews are an essential part of the plan development process. Building a quality IT disaster recovery plan is a team activity, so recurring practice and testing are critical to success as non-technical changes can affect the plans. We suggested to the client that such reviews:

1. Reflect any updated organizational priorities, changes or goals
2. Ensure that all team lists are up to date
3. Ensure that call lists are up to date
4. Confirm that changes due to configuration changes in the environment have been made.

The goal of a good disaster recovery plan is that it can be executed smoothly and effectively at any time. To make this happen, we indicated to the Client that everyone that has a role to play in the plan needs to be involved in testing to gain experience through practice.

The disaster recovery plan should be tested annually to include a table top walkthrough, disaster simulation, or full failover testing.

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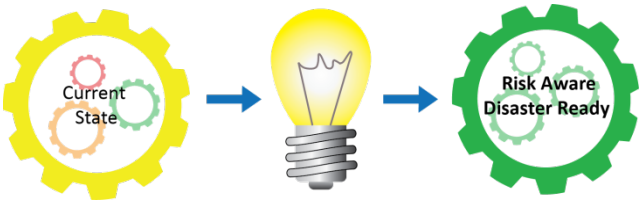
Observations and Recommendations



Duologik concluded that, while the Client's IT department staff has been active and effective in understanding their DR challenges, the organization has – like most other Public Sector organizations in Ontario – some way to go to be **Risk Aware and Disaster Ready.**

The areas for improvement regarding DR Readiness were effectively illustrated on the **Readiness Assessment Framework**.

The Client was requested to use this Readiness Assessment conducted by Duologik as a first step towards a **Comprehensive Disaster Recovery Plan**.

The following action items were recommended based on the key needs of the Client:

1. Resolving the implications of a Single Hub for the Client's Network
2. Options for Cloud vs. Secondary DR Site vs. Do Nothing
3. Replacement considerations of existing back-up systems
4. Options for data archiving
5. Client had a lot of available resources and well planned steps would significantly improve their DR readiness at no extra cost
6. Larger items need budget, effort and time to complete.

In summary

The Client confirmed to Duologik that our Assessment put in context where they need to be and they now have a more detailed approach to interconnect their business unit requirements with IT procedure in a comprehensive process from incident to recovery and periodic testing to make sure it works.

About the Authors:

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Dr. Louis Shallal Dr. Shallal serves as an Executive Advisor with Duologik. Prior to his current role, he was the CIO for the Government of Jamaica overseeing the IT function for the entire government and almost 1,000 IT professionals serving some 115,000 employees. Also, Dr. Shallal served for eight years as the CIO for the Regional Municipality of York, and CIO for the City of Hamilton and enjoyed a career with the Region of Ottawa-Carleton as an Executive Director of IT. Dr. Shallal has a Ph.D. in Civil Engineering from Carleton University Canada; an MSc from Wayne State University, and holds a diploma from a Program for Senior Executives in State and Local Government from the Kennedy School of Government at Harvard University.

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Appendix A

Color code legend:	Green (G) Easily doable with minimal resources Yellow (Y) Doable with additional effort & resources		Red (R) Difficult to implement & requires significant resources Grey (O) Insufficient information /needs further investigation		
Elements of The Readiness Assessment	***Identified Deficiencies For DR***	***Range of Mitigation Options and Technical Solutions***	***Selected Mitigation and Technical Solution***	***Color code***	***Comment and / or Questions NOTE*** For Discussion with Client. Comments are presented first followed by questions.
PEOPLE / PROCESS / TECHNOLOGY					
					• Is there a BCP document? • How is the BCP process initiated with the Fire chief? • Are Tabletop/mock exercises conducted (and documented) on an annual or periodic basis? • Is there any involvement by the BCP with the IT DR planning process? • Who would have access to the essential passwords? • Who is authorized to make the Disaster/emergency declaration? • Where are the DR execution plans kept?
					• Is the DR process documented regarding the 3 elements? • Is there an already developed and documented IT DR plan? • Has business impact analysis, assigned level of criticality, and RTOs/RPOs been validated by business leaders? • Has a threat-risk assessment (TRA) for the IT environment been carried out?

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