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IDC Reengineering Phase 2 Risk List

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Abstract

This document contains the risk list for the IDC Reengineering Phase 2 project along with some background information related to the risk process.

REVISIONS

Version	Date	Author/Team	Revision Description	Authorized by
1.0	12/15/2014	SNL IDC Reengineering Team	Initial Release for I2	M. Harris

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DOCUMENT OVERVIEW

Document Purpose

The purpose of the Risk List is to communicate the risks for the IDC Reengineering Phase 2 project to ensure that these potential problems (risks) do not occur. Risk handling activities can be planned and invoked as needed across the life of the project to mitigate adverse impacts on achieving objectives.

RISK MANAGEMENT ACTIVITIES

This IDC Reengineering Phase 2 project is based on the RUP Risk Management activity.

Risk Impact

In analyzing each risk, the IDC Reengineering Phase 2 risk board will consider the initiating events, hazards, threats, or situations that can create the identified risk. For each risk within the IDC Reengineering Phase 2 risk list, the risk board will determine the impact of the risk (e.g., deviations of schedule, effort, or costs from plan if the risk occurs). Table 1 lists definition for the values of impact (from the Project Management Institute [PMI]).

Table 1 – Impact Definition

Impact				
Level	Value	Cost	Time	Scope
0.8	Very High	> 40% cost increast	> 20% time increase	Project end item is effectively useless
0.4	High	20 - 40% cost increase	10 - 20% time increase	Scope reduction unacceptable to sponsor
0.2	Moderate	10 - 20% cost increase	5 - 10% time increase	Major areas of scope affected
0.1	Low	< 10% cost increase	< 5% time increase	Minor areas of scope affected
0.05	Very Low	Insignificant cost increase	Insignificant time increase	Scope decrease barely noticeable

Risk Probability

In analyzing each risk, the IDC Reengineering Phase 2 risk board will determine the probability of occurrence. **Error! Reference source not found.**2 lists definition for the values of probability (from PMI).

Table 2 - Probability Definition

Probability		
Level	Value	Likelihood Description
0.9	Very Likely	Everything points to this becoming a problem
0.7	Likely	High chance of this becoming a problem
0.5	Even Chance	There is an even chance this may turn into a problem
0.3	Unlikely	Risks like this may turn into a problem once in a while
0.1	Very Unlikely	Not much chance this will become a problem

Risk Strategy

Several main risk management strategies are:

- Risk avoidance: Reorganize the project so that it cannot be affected by that risk.
- Risk transfer: Reorganize the project so that someone or something else bears the risk.
- Risk acceptance: Decide to live with the risk. Monitor the risk symptoms and decide on a contingency plan of what to do when the risk emerges.
  - This defines what actions are to be taken when or if the risk materializes. A contingency plan is needed when risk avoidance, risk transfer, and/or the mitigation failed or are too costly.
  - The contingency plan enumerates alternate solutions.
  - The impact is usually costs and delays to scrap the current solution and implement the new one.
- Risk mitigation: Decide to mitigate the risk or take some action to reduce its impact.
  - Identify what actions will be taken to reduce the probability of the risk or to reduce its impact on the project
  - Confront the risks as early as possible.
  - The result of these actions should be to reduce the probability that certain risks will occur.

IDC REENGINEERING PHASE 2 RISK LIST

The IDC Reengineering Phase 2 risk list is summarized in

Table 3. The IDC Reengineering Phase 2 risk list is used by the project to track the state of each risk and to maintain the risk history (per iteration).

Table 3 – Risk Profile Elements

ID	Title	Probability	Impact	Exposure	Risk Strategy
006	If the IDC level of System Engineering support is not adequate to provide clear guidance during the Inception and Elaboration phases, then the architectural design will not meet the needs of the IDC.	0.5	0.4	0.20	Mitigate
005	If approval (internal or external) of IDC technical artifacts is delayed, then the project will lose the required momentum to leverage the design and development effort from US NDC Modernization project.	0.3	0.4	0.12	Mitigate
007	If core IDC requirements are not compatible with the core US NDC requirements, then the IDC Reengineering effort will lose the cost advantage of leveraging the design and development effort from US NDC Modernization.	0.3	0.4	0.12	Mitigate
009	If the IDC requires reuse of legacy software in a way that conflicts with a common architectural design, then the IDC Reengineering Phase 2 project will lose the cost advantage of leveraging the design and development effort from US NDC Modernization.	0.3	0.4	0.12	Mitigate
012	If the IDC Reengineering project doesn't meet the needs of the analysts for data presentation and responsiveness, then the IDC Modernization system will not be accepted for operations.	0.3	0.4	0.12	Mitigate
011	If the IDC does not engage the state parties for the IDC Modernization project, then the IDC Reengineering system will not be approved for operations.	0.1	0.8	0.08	Mitigate
014	If the IDC software is not designated to be an Unlimited Release and a valid export by the US government, then the IDC Reengineering system will not be delivered.	0.1	0.8	0.08	Mitigate
015	If the IDC has additional certification requirements (e.g. Information Surety requirements) beyond the US NDC requirements, then the cost of the IDC Reengineering Phase 2 project will be increased.	0.1	0.4	0.04	Mitigate

Risk Mitigation and Contingency

Risk 006

If the IDC level of System Engineering support is not adequate to provide clear guidance during the Inception and Elaboration phases, then the architectural design will not meet the needs of the IDC.

Mitigation

SNL will define a schedule and delivery plan for the Inception and Elaboration phases. SNL will identify the level of support required to meet the plan and work with the IDC to coordinate IDC System Engineering support. SNL will identify any issues or potential schedule shortfalls as they become apparent. SNL will brief project status each iteration to IDC project and technical leadership.

Contingency

SNL will develop the architecture design based on SNL's understanding of IDC requirements. IDC unique requirements not supported by the architecture will result in rework and additional cost and schedule.

Risk 005

If approval (internal or external) of IDC technical artifacts is delayed, then the project will lose the required momentum to leverage the design and development effort from US NDC Modernization project.

Mitigation

- SNL will work with the IDC staff to insure that reasonable release dates are set for all IDC technical artifacts with clear, achievable intermediate milestones.
- SNL will track progress on these milestones via email and telecons with IDC staff.
- SNL will provide technical support as needed to help the IDC staff meet their deadlines.

Contingency

SNL will base its design on the latest available information and will proceed with System design. Final IDC approval of artifacts could result in unexpected changes that would require modifications to the design.

Risk 007

If core IDC requirements are not compatible with the core US NDC requirements, then the IDC Reengineering effort will lose the cost advantage of leveraging the design and development effort from US NDC Modernization.

Mitigation

SNL will continue to ensure the core requirements are consistent between the projects. SNL will identify any inconsistencies between the IDC and US NDC projects and attempt to reconcile any differences.

Contingency

SNL will re-scope the cost, schedule and performance related to the unique requirements of the delivered system for the IDC.

Risk 009

If the IDC requires reuse of legacy software in a way that conflicts with a common architectural design, then the IDC Reengineering Phase 2 project will lose the cost advantage of leveraging the design and development effort from US NDC Modernization.

Mitigation

SNL will design an architecture to facilitate the integration of independently developed algorithms and components consistent with system performance requirements. During development SNL will consider existing legacy components for inclusion in the delivered system.

Contingency

SNL will deliver a system that incorporates software that replaces or duplicates some legacy software. The IDC may choose to integrate legacy software into the delivered system.

Risk 012

If the IDC Reengineering project doesn't meet the needs of the analysts for data presentation and responsiveness, then the IDC Modernization system will not be accepted for operations.

Mitigation

- SNL will carefully and thoroughly document Analyst requirements for presentation and responsiveness.

- SNL will conduct targeted technology evaluations in the design phase of the project to insure that hardware and software choices facilitate the development of responsive Analyst interfaces.

- Simplified prototypes of the main Analyst interfaces will be developed early in the construction phase and data presentation and responsiveness requirements will be continuously assessed, as judged by expert IDC Analysts.

Contingency

A System that will not meet Analyst needs for responsiveness and data presentation cannot be put into operation, so deployment of such a System is not acceptable. The design must be reworked to accommodate Analyst needs.

Risk 011

If the IDC does not engage the state parties for the IDC Modernization project, then the IDC Reengineering system will not be approved for operations.

Mitigation

SNL will work with IDC to create materials for review with states parties, plan review meetings, and participate as requested by IDC to support reviews, gather feedback, and respond to issues. SNL will work with IDC to include technical contributions from states parties as appropriate.

Contingency

SNL will re-scope the cost, schedule and performance related to the issues of states parties.

Risk 014

If the IDC software is not designated to be an Unlimited Release and a valid export by the US government, then the IDC Reengineering system will not be delivered.

Mitigation

SNL will define a release method that is acceptable to US government stakeholders, US NDC, and IDC, potentially using an open source model.

Contingency

SNL will re-scope the US contribution to IDC Reengineering.

Risk 015

If the IDC has additional certification requirements (e.g. Information Surety requirements) beyond the US NDC requirements, then the cost of the IDC Reengineering Phase 2 project will be increased.

Mitigation

SNL will engage IDC personnel for potential certification requirements that are currently needed or could be needed in the future.

Contingency

SNL will re-scope the cost, schedule and performance of the delivered system based on any new certification requirements for the IDC.

REFERENCES

1. [PMI] *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*. Newtown Square, Pa: Project Management Institute, 2012.


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