

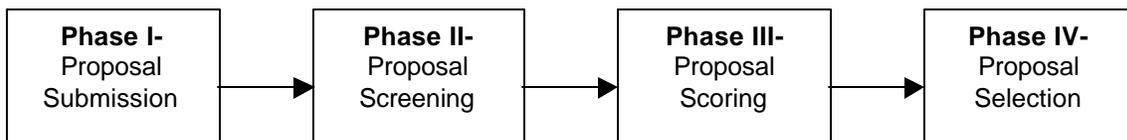
Guidance for the Indian Health Service (IHS) Information Technology Investment Review Board (ITIRB) Process

Part I. IT Project Selection

Select - The goal of the selection phase is to assess and prioritize current and proposed IT initiatives and create an optimal portfolio of IT initiatives. Participants in the ITIRB process make selection and prioritization decisions based on a consistent set of decision criteria that compare costs, benefits, risks, potential returns, and impact on the IHS mission. This phase helps ensure that the organization (1) selects those IT projects that will best support mission and IT needs and (2) identifies and analyzes a project's risks and returns before spending a significant amount of project funds.

This structured ITIRB process provides a systematic method for IHS to review proposed Information Technology (IT) projects in order to make sound business investment decisions. In addition, this process will enable IHS to satisfy HHS departmental capital planning requirements by providing a thorough business analysis for its proposed projects.

The IHS ITIRB process will ensure that financial, risk, and mission analyses provide sufficient support for undertaking IT projects and that these projects support IHS IT goals. This applies to projects that propose changes to existing systems as well as projects that propose totally new systems. Proposed IT projects will pass through four phases during the IHS ITIRB Project Selection process:



Phase I: Submit IT Project Proposal.

The normal channel for introducing an IT project into the ITIRB process is the annual Area Budget Work Sessions that typically occur in February/March. During these sessions, all funding proposals are submitted for initial inclusion in the IHS budget. In addition, IT project ideas can be submitted through Area Information Systems Coordinators (ISCs). Ideas for IT projects will be forwarded to the Office of the CIO where CIO staff will work with the Project Sponsor (the person who takes responsibility for overseeing the development of the IT idea into an IT project) and the ISCs to complete the IT Project Proposal form.

In general, any Information Technology (IT) project that interacts with the IHS IT system, directly or indirectly, should be submitted for ITIRB review. An **IT project** is:

a project that involves any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by IHS if the equipment is used by IHS directly or is used by a contractor under a contract with the IHS which (i) requires the use of such equipment, or (ii) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. IT also includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources.

Objectives of Phase I: Propose an IT project for IHS funding consideration. Provide valid and reliable information on a completed proposal form to determine if the proposed IT project:

1. meets the initial threshold acceptance criteria for entry into the ITIRB process and
2. should be considered a Major or a Minor Proposal.

These determinations will be made in Phase II-Screening. Explanations of the initial threshold acceptance criteria and the definitions of Major vs. Minor Proposal can be found in the next section.

Roles and Responsibilities: The Project Sponsor will complete the IT Project Proposal Form (form included in the appendix) in conjunction with the responsible Area ISC. The CIO's Office, i.e., the Division of Information Resources (DIR), will provide technical assistance to ISCs and Project Sponsors in completing the proposal form.

Information Requirements for Phase I: See IT Project Proposal Form (IHS Form DIR-1.A) and instructions in the appendix.

Phase II: Apply Screening Criteria

A member of the CIO office will review the information provided by the Area ISC and Project Sponsor on the IT Project Proposal Form (IHS Form DIR-1.A).¹ The CIO office reviewer will enter the results of the review on the IT Project Proposal Screening Information form (IHS Form DIR-2.A), following the guidance in the form instructions. Screening is based on the initial threshold, or acceptance requirements, listed below. These requirements are based on OMB Memorandum 97-02 (Raines' Rules) and HHS guidance. In general, proposed projects are expected to satisfy these requirements to be accepted into the IHS ITIRB process.

The reviewer's remarks are intended to provide an initial indication of a project's ability to succeed in the ITIRB process. In this way, the project sponsor can get important feedback on the proposed IT project without expending a large amount of resources. Phase II is expected to precede the formal Request for Proposal (RFP) process and the information required in the ITIRB forms will help guide what information is requested from prospective vendors as the RFP is developed.

Initial Acceptance Requirements:

- a. The proposed project should support a mission or function that needs to be performed by the Federal government.
- b. The proposed project should provide a service that must be done by IHS because no alternative private sector or governmental source can do it better or more efficiently.
- c. The proposed project should support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology.
- d. The proposed project should clearly support the mission and strategic objectives of IHS.

Those proposals that pass the Initial Acceptance Requirements are also screened by the CIO office reviewer to determine if they are Major or Minor Proposals based on the criteria listed below. "Yes" answers to the criteria questions suggest that the proposed project is a Major Proposal.

Major vs. Minor Proposal Criteria:

- a. Do the benefits associated with this project extend throughout the IHS or HHS system?
- b. Are the expected costs above \$500 thousand in one year or \$2 million over 5 years? (HHS guidance designates these projects as High Cost Investments and requires these projects be candidates for HHS-level ITIRB review.)
- c. Will the proposed project require a significant change to the IHS or HHS ITA?
- d. Is the project specifically listed in the IHS budget submission presented to the Budget Review Board?

¹ The forms and instructions are in the appendix.

Major Proposals require the detailed review of the whole ITIRB Process in order to be selected for funding. Minor Proposals do not require the full ITIRB review, may be selected for funding by the IHS CIO, and are entered into the IHS IT inventory for record keeping purposes. The CIO also has the discretion to refer Minor Proposals to the ITIRB for full review. Guidance for the reviewers who screen the proposals is contained in the instructions that accompany the IT Project Proposal Screening Information form.

Phase II Objectives: Determine which projects satisfy the Initial Acceptance Requirements and determine which proposals require detailed IHS ITIRB review, i.e., determine if the project proposal is a Major Proposal or a Minor Proposal. Determine which Minor Project Proposals should be funded.

Roles and Responsibilities: A representative from the IHS CIO's Office is responsible for screening the completed IT Project Proposal forms to determine if the proposals satisfy the Initial Acceptance Requirements. If the proposal does not satisfy the Initial Acceptance Requirements, the proposal will be sent back to the Project Sponsor with comments explaining the reasons that the proposal does not satisfy the requirements. If there is insufficient information contained in the proposal for the reviewer to make a recommendation, the proposal will also be sent back to the Sponsor. This reviewer will also apply the screening criteria to the information contained in the proposal to determine if a proposal is a Major or a Minor Proposal. Major Proposals receive ITIRB review and proceed to Phase III. Minor Proposals that are selected for funding are entered into the IHS IT inventory for record keeping purposes. All actions on proposals will be reported to the ITIRB by the CIO's Office in a Summary of Activities memo.

Information Requirements for Phase II: The CIO Office reviewer needs the completed IT Project Proposal Form (IHS Form DIR-1.A) in order to perform the screening. The guidance for the screening is in the instructions accompanying the IT Project Proposal Screening Information form (IHS Form DIR-2.A).

Phase III: Score IT Funding Proposals

ITIRB members will score the Major IT proposals which have passed Phase II, Screening. The ITIRB members will receive supporting documentation from the CIO's office containing information to enable ITIRB members to score the IT projects. The supporting documentation consists of all of the completed forms and analyses associated with the proposals since they entered the ITIRB process, along with supporting documentation that was used to fill out the forms. The projects will be scored based on criteria in five areas: Support of IHS Mission, Integration with IHS IT Architecture, Financial Considerations, Implementation Risks, and Support of IHS Operations. These criteria include those suggested in DHHS guidance (Risk-related Criteria, Financial Criteria, and Mission-related criteria). The sub-criteria in the five areas are based on the 15 ISAC IT goals and objectives and the four IHS Strategic Objectives.

Phase III relies on a Decision Support Tool, Expert Choice™, to facilitate scoring. As a part of this process the ITIRB members will participate in rating and weighting these criteria and sub-criteria. They will then rate each proposal against the sub-criteria and Expert Choice™ will calculate a score for each proposal. The scores are used to compare the diverse projects submitted for funding consideration against common decision criteria. This method facilitates weighing the relative merits of the projects and developing a prioritized listing of them for use in Phase IV.

This phase cannot proceed until the Project Sponsor develops detailed, standardized analyses to support the scoring. Templates for the analyses are found in the instructions that accompany the Major IT Project Proposal Scoring Documentation form (IHS Form DIR-3.A). Representatives from the IHS CIO's Office will provide technical assistance to ISCs and Project Sponsors in developing the analyses and filling out the templates.

Once the templates have been completed, they will be sent to the CIO's office which will review them for completeness. The technical information included in the forms and templates may be revised or summarized by CIO Office staff so that the information is understandable for ITIRB members without technical backgrounds. The CIO's office will distribute the completed templates to ITIRB members for review prior to the ITIRB Proposal Scoring Meeting. The Major IT Project Proposal Scoring Documentation form (IHS Form DIR-3.A) is to be filled out by ITIRB members prior to the ITIRB meeting to facilitate use of the Decision Support Tool, Expert Choice™, during the ITIRB scoring sessions. At the end of the ITIRB Proposal Scoring Meeting, each project will have a total score which will be used to develop a prioritized list of all IT Project Proposals.

Objective: To prioritize competing IT projects according to common decision criteria in order to facilitate selection of projects by the ITIRB in Phase IV.

Roles and Responsibilities: The Project Sponsor will develop the detailed analyses according to the templates in the directions accompanying the Major IT Project

Proposal Scoring Documentation form (IHS Form DIR-3.A). ITIRB members should complete the Major IT Project Proposal Scoring Documentation form prior to the scoring session. A representative from the CIO's Office will review the completed templates to ensure that they have been filled out correctly and that the technical information is accessible by people without technical backgrounds.

Information Requirements for Phase III: Analyses to support scoring. The analyses should be written so that ITIRB board members without technical backgrounds can easily and readily understand the information. The templates for the analyses are provided in the directions accompanying the Major IT Project Proposal Scoring Documentation form (IHS Form DIR-3.A).

Phase IV: Select IT Project Proposals

The ITIRB will hold a Project Selection meeting to select which IT projects to fund after scoring the proposals. The selections will be made based on the prioritized list resulting from Phase III and the availability of IHS funding. ITIRB members will discuss the rankings and agree on any changes to the list by consensus. These discussions may be based on the supporting documentation or other “global” considerations such as Congressional or DHHS interest. The list of selected projects will be submitted as the IHS IT Budget for use at the IHS National Budget Work Session.

Objective: To select a set of IT projects to submit for use at the IHS National Budget Work Session.

Roles and Responsibilities: The ITIRB makes the final selections. The CIO or his representative will facilitate the Selection Meeting.

Information Requirements for Phase IV: Prioritized list of IT projects from Phase III. Supporting documentation for each proposal.

APPENDIX

ITIRB Forms and Directions

IHS Form DIR-1.A	Information Technology (IT) Project Proposal Form	
1. Proposed Project Name/Title:		
2. Project Description:		
3. Points of Contact/Project Owners:		
Primary Point of Contact:	Name:	Telephone/Email Address:
Secondary Point of Contact:	Name:	Telephone/Email Address:
4. Expected Benefits/Beneficiaries:		
5. Expected Financial Returns or Savings(\$):		
6. Total Expected Life Cycle Costs (\$):		
7. Expected Implementation Risks:		
8. Concept of Operations:		
9. Core IHS Mission/ Business Area Affected (See IHS Strategic Plan):		
10. Business Process Reengineering (BPR) Requirements/Status of BPR (if underway):		
11. Suggested Performance Measures:		
12. High Level IT Architecture Description:		
13. Preliminary Assessment of Identified Alternative Systems:		

IT Project Proposal Form (IHS Form DIR-1.A)

Instructions

The following numbered directions correspond to the numbered blocks on the form. Please do not limit the information you provide because of the size of the blocks on the form. You can enlarge the blocks with your computer. Completing this form supports IHS ITIRB Process Phase I-Proposal Submission. The information contained in this form will be used during Phase II-Proposal Screening. During Proposal Screening, an initial assessment is made as to whether the proposal is a Major or Minor Proposal and also if it is appropriate for the IHS, based on federal guidelines, to fund.

Determining if a proposal is a Major or a Minor project primarily will be based on the expected benefits (block 4), the expected costs (block 6), the impact on furthering the IHS mission (block 9), and the impact on the IHS IT Architecture (block 12). A Major Proposal will pass through the entire IHS ITIRB Project Selection process and this form will provide a basis for the more detailed analyses that are required for Phase III-Proposal Scoring. Selection decisions for Minor Proposals will be based on the information contained in this form. In the case of Major Proposals, the information can be preliminary since the Project Sponsor is not expected to expend a great deal of resources in filling out this form.

1. **Proposed Project Name:** Provide a short and descriptive name for the proposed project.
2. **Project Description:** Provide a summary statement of work to be accomplished by the proposed project. The statement of work should briefly describe what the project is expected to do or accomplish.
3. **Points of Contact:** Provide name and telephone numbers (or email addresses) for both the primary point of contact (Sponsor) and the secondary point of contact (Back-up)
4. **Expected Benefits/Beneficiaries:** Explain the expected benefits of the proposed project and what groups are expected to receive the benefits, i.e., will the benefits be realized by IHS care providers or care recipients or by IHS staff? Will the project lead to improved service delivery to customers?

Benefits can be both tangible and intangible. Tangible benefits are quantifiable and can be expressed in dollars or in units. If they can be expressed in dollars, they usually should be entered under Expected Returns, below, also. Intangible benefits can be quantifiable, but usually cannot be expressed in dollar values. They typically can be expressed in terms of improved mission performance, improved decision-making, or contributing to more reliable or useful information.

5. **Expected Returns/Savings:** Indicate any associated financial returns or savings expected to be realized by implementing the proposed project. Financial returns should be quantifiable and expressed in dollars. For example, if a benefit of implementing the proposed project is "staff time savings," the financial return could be determined by estimating the hours per year saved and multiplying that number by the staff's cost per hour.
6. **Total Expected Life Cycle Costs:** Estimate the Acquisition Cost of procuring and implementing the proposed project as well as the Continuing Costs of operation and maintenance of the proposed project over five budget years. In providing this information, it is important to distinguish between the two types of costs and to specify the five budget years that the costs are calculated for. The Acquisition Cost should include all costs and resources for the total acquisition of the asset and its deployment. Continuing Costs or Recurring Costs includes the costs for maintenance and operations over five years of the life of the asset.
7. **Expected Implementation Risks:** Provide a brief analysis of the risks associated with acquiring and implementing the proposed project. In presenting the expected risks, keep in mind that the risk is influenced by the maturity of the technology being applied, the complexity of the project, the frequency with which the technology has been used elsewhere, and the amount of customization required. Systems relying heavily on commercial off-the-shelf (COTS) components instead of custom designed components usually reduce the risk potential. Risk is also reduced by taking advantage of fully tested prototypes, pilot demonstrations, or simulations.

8. **Concept of Operations/Project Scope:** Provide information that will clearly show what the completed project will accomplish from a user's perspective and helps define the boundaries and content of the project. This information explains the project sponsor's objectives and expectations and provides information that could be used to determine the project's success. It will also help the CIO's office to develop an understanding of the content and complexity of the project. Some of the information covered in this section should answer questions such as:

What is the business need, problem, or opportunity that the project addresses?
What are the quantifiable characteristics or results to be achieved?
What products or services will be delivered by the project?
What impact will the completed project have on IHS and elsewhere?
What offices or areas within IHS will be affected by the project?

9. **Affect on IHS Mission:** This section should provide information that explicitly shows how the proposed IT project will further the IHS mission. Project Sponsors should refer to the IHS FY 2001 Performance Plan and FY 1999 Performance Report (Feb. 18, 2000). That document contains the IHS Mission, Strategic Objectives, and Performance Indicators aggregated into four broad functional categories and linked to the 24 budget categories identified in the IHS "Detail of Change Table." This information should be used to briefly show how the proposed IT project supports either the four Strategic Objectives (Improve Health Status, Provide Health Services, Assure Partnerships and Consultation, Perform Core Functions and Advocacy) or the four functional categories for the Performance Indicators (Treatment, Prevention, Capital Programming/Infrastructure, and Partnerships, Consultation, Core Functions, and Advocacy).

10. **Business Process Reengineering (BPR) Requirements/Status of BPR (if underway):** In this section, please provide any information on a BPR or similar activity that is planned or underway for the processes affected by the proposed IT project.

BPR is an approach for redesigning the way work is done to better support an organization's mission and reduce costs. Reengineering identifies, analyzes, and redesigns an organization's business processes in order to achieve improvements in critical performance measures such as cost, quality, service, and speed. Federal guidance (the Clinger-Cohen Act, OMB guidelines) requires that investments in major information systems proposed in the President's budget should, among other things, support work processes that have been simplified or otherwise redesigned to reduce costs and improve performance.

11. **Suggested Performance Measures:** In this section, the project sponsor should suggest performance measures that show how the proposed IT project furthers the IHS mission and strategic objectives. The IHS FY 2001 Performance Plan and FY 1999 Performance Report (February 18, 2000) contains lists of IHS performance indicators that link to the IHS mission. These lists should be the starting point for IT performance measures to be used in filling out this section. If need be, other performance measures can be developed.

Federal law requires IHS to measure the contribution of IT investments to mission results. In order to accomplish this, IT performance measures should reflect the performance of IT projects to help determine if they are effectively supporting the mission and objectives of IHS.

12. **High Level IT Architecture Description:** Please provide a high level view of the underlying hardware, systems software, and other equipment required to host and provide access to the applications and information that will be needed to support and complete the proposed project. The technologies can be categorized as platforms (hardware and software for all compute/processing stations, including client, servers, and I/O devices), network (hardware and software for inter and intra site communications), and system services (supplemental support such as middleware). State what existing technologies in the IHS Architecture would need to be changed. This information is needed to enable the CIO office to assess the impact on the IHS IT architecture plan.

13. **Assessment of Identified Alternative Systems:** Describe the best alternatives to the proposed project along with the rationale for not choosing them. Include an explanation of why the proposed project is the best option for meeting IHS needs. Please describe the alternative systems as well as their benefits and drawbacks. In order to satisfy Federal guidelines, the information included here should show that private sector alternatives and other government developed IT systems have been considered.

For each alternative, please show how the project's functional requirements would or would not be met by the alternative; estimates of the alternative's life cycle costs; and the anticipated benefits or the returns from the alternatives. Please include a description of the analyses that were used to arrive at these estimates.

IHS Form DIR-2.A	IT Project Proposal Screening Information	
1. Proposed Project Name:		
2. Primary Point of Contact:	Name:	Telephone:
3. Does the proposal support a mission/function that needs to be performed by the federal government?		Answer with explanation:
4. Please indicate the IHS mission(s) supported by this proposal (see list of valid missions from IHS Strategic Plan in the directions for this form).		1.
		2.
		3.
		4.
5. Should this proposal be undertaken because no alternative private sector or governmental source can support the function?		Answer with explanation:
6. Does the proposal support work processes that have been simplified or otherwise redesigned to reduce costs, or improve effectiveness?		Answer with explanation:
7. Is this project of strategic value to IHS?		Answer with explanation:
8. Does the project cut across two or more IHS offices/divisions? (i.e., does it affect service units as well as administrative offices?)		Answer with explanation:
9. Is the proposal compatible with the current IHS Information Technology Architecture?		Answer with explanation:
10. What is the estimated life cycle cost over 5 years (\$)?		\$
<p>Reviewer's Recommendation and Discussion: This proposal satisfies/does not satisfy (pick one) the Initial Acceptance Requirements because:</p> <p>If this proposal satisfied the Initial Acceptance Requirements, it is a major proposal/minor proposal/ incomplete proposal (pick one) based on the following reasons:</p> <p>If this is a Minor Proposal, I recommend that it be funded/not be funded/be reviewed by the ITIRB (pick one) because:</p>		

IT Project Proposal Screening Form (IHS Form DIR-2.A)

Instructions

The following numbered directions correspond to the numbered blocks on the form. Please do not limit the information you provide because of the size of the blocks on the form. You can enlarge the blocks with your computer. The information contained in this form represents the CIO Office's conclusions reached during Phase II-Proposal Screening. During Proposal Screening, an initial assessment is made as to whether the proposal is a Major or Minor Proposal and also if it is appropriate for the IHS, based on Federal guidelines, to fund. For Minor Proposals, the CIO's office can determine if the project should be funded.

1. **Proposed Project Name:** Insert the Proposed Project Name from IHS Form DIR-2.A.
2. **Primary Point of Contact:** Insert the name and telephone number for the primary point of contact (Project Sponsor) from IHS Form DIR-2.A.
3. **Does the proposal support a mission/function that needs to be performed by the Federal Government?** Answer the question based on the information contained in the proposal.
4. **Indicate the IHS mission(s) supported by this proposal.** Base your answer on information contained in all of the relevant blocks on IHS Form DIR-1.A, primarily focusing on Core IHS Mission/Business Area Affected (block 9) and Suggested Performance Measures (block 11). The "Missions" entered into blocks 1.-5. should be taken from the four strategic objectives in the IHS Strategic Plan (Improve Health Status, Provide Health Services, Assure Partnerships and Consultation, Perform Core Functions and Advocacy).
5. **Should this proposal be undertaken because no alternative private sector or governmental source can support the function?** Information to answer this question should be contained in IHS Form DIR-1.A block 13.
6. **Does the proposal support work processes that have been simplified or otherwise redesigned to reduce costs, or improve effectiveness?** Information to answer this question should be contained in IHS Form DIR-1.A block 10. In general, a BPR should be underway or planned for a proposed project to receive funding. An explanation may be provided to show why a BPR is not needed or not relevant in particular cases.
7. **Is this project of strategic value to IHS?** Have the answers to IHS Form DIR-1.A blocks 4, 9, and 11 demonstrated a link to any of the four Strategic Objectives listed in the IHS Strategic Plan?
8. **Does the project cut across two or more IHS offices/divisions?** In making this determination, consider all the IHS components that are expected to be affected. Where will the benefits be realized? Which components will use the proposed project?
9. **Is the proposal compatible with the current IHS Information Technology Architecture Plan?** Base this answer on information provided in IHS Form DIR-1.A blocks 10 (BPR Requirements) and 12 (High Level IT Architecture Description).
10. **What is the estimated life cycle cost over 5 years (in \$)?** Transfer the information from IHS Form DIR-1.A block 6.
11. **Reviewer's Recommendation and Discussion:** Based on your answers to the questions on this form, please determine if this project proposal has sufficient information for you to make a recommendation or if more information needs to be supplied. If there is sufficient information contained in the proposal, determine if the project meets the Initial Acceptance Requirements (below), and if it is a Major or Minor proposal. Support your recommendation in the block, using as much space as you need.

The Initial Acceptance Requirements are based on OMB Memorandum 97-02 (Raines' Rules) and HHS guidance. In general, proposed projects are expected to satisfy these requirements to be accepted into the IHS ITIRB process.

Initial Acceptance Requirements:

1. The proposed project should support a mission or function that needs to be performed by the Federal government.
2. The proposed project provides a service that must be done by IHS because no alternative private sector or governmental source can do it better or more efficiently.
3. The proposed project should support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology.
4. The proposed project should clearly support the mission and strategic objectives of IHS.

In determining if the project is a Major or a Minor Project Proposal, consider answering the criteria questions with an answer that lies on a continuum with "yes" at one end and "no" at the other end. Answers toward the "yes" end of the continuum suggest that the project proposal is a Major proposal while answers toward the "no" end of the continuum suggest that the project is a Minor proposal.

Major/Minor Criteria:

1. Do the benefits associated with this project extend throughout the IHS system?
2. Are the expected costs significantly above \$1million?
3. Will the proposed project require a significant change to the IHS ITA plan?

IHS Form DIR-3.A	Major IT Project Proposal Scoring Documentation				
Outstanding=O, Very Good=VG, Good=G, Marginal=M, Poor=P (Definitions of these terms are on the following page.)	O	VG	G	M	P
Section 1. Mission-related Criteria For each IHS Strategic Objective listed please estimate how well this proposed project will help in accomplishing or improving that objective.					
1.1 Improve Health Status					
1.2 Provide Health Services					
1.3 Assure Partnerships and Consultation					
1.4 Perform Core Functions and Advocacy					
Section 2. Architectural Integration For each of the IHS IT goals listed, please estimate how well this proposed project will help advance that goal based on the supporting documentation.					
2.1 Interoperability					
2.2 Connectivity					
2.3 GUI					
2.4 Warehousing					
2.5 Standards					
2.6 Security					
Section 3. Financial Resources Based on each of the Financial measures listed below, please estimate how well this proposed project will help IHS optimize its financial resources.					
3.1 Total Life Cycle Costs					
3.2 NLCS					
3.3 ROI					
Section 4. Implementation Risk Based on the information in each of the areas listed below, please estimate how well this proposed project will help IHS minimize Implementation Risk.					
4.1 Technical Risk					
4.2 Alternative Systems Analysis					
Section 5. Operational Support For each of the IHS IT goals listed, please estimate how well this proposed project will help advance that goal based on the supporting documentation.					
5.1 Billing					
5.2 Technical Support					
5.3 IT Training					
5.4 Data Quality					

Rating	Weight	Description
		Project Ratings, Adjectives and Definitions
Outstanding		Based on the Project Sponsor's explanation, this project not only supports the stated IHS IT goal or strategic objective but also greatly advances the goal or strategic objective. All of the objectives are mentioned in the explanation and the proposed IT project will clearly advance all of the objectives listed.
Very Good		Based on the Project Sponsor's explanation, this project not only supports the stated IHS IT goal or strategic objective but also advances the goal or strategic objective. At least one of the objectives is mentioned in the explanation and the proposed IT project will clearly advance at least one of the objectives listed.
Good		Based on the Project Sponsor's explanation, this project supports the stated IHS IT goal or strategic objective. At least one of the objectives is mentioned in the explanation and the proposed IT project will clearly support at least one of the objectives.
Marginal		Based on the Project Sponsor's explanation, this project does not affect the stated IHS IT goal or strategic objective. The project clearly will not affect any of the objectives listed.
Poor		Based on the Project Sponsor's explanation, this project will move IHS in the opposite direction of the stated IHS IT goal or strategic objective. The project clearly will move the agency away from at least one of the objectives listed.

Major IT Project Proposal Scoring Form (IHS Form DIR-3.A)

Supporting Documentation Instructions

The following numbered directions correspond to the numbered blocks on the form. Please do not limit the information you provide because of the size of the blocks on the templates. You can enlarge the blocks with your computer. The information provided in the following templates provides a business analysis that will be used by ITIRB members to score and rank IHS IT proposals. The ITIRB members will fill out the Scoring Form (IHS Form DIR-3.A) to facilitate decisionmaking during the ITIRB Scoring Session. This completed form and supporting documentation supports IHS ITIRB Process Phase IV-Proposal Selection. **Please fill in the following blocks to the best of your ability.**

Section 1. Mission-related Criteria

1.1 Strategic Objective #1: Improve Health Status

To reduce mortality and morbidity rates and enhance the quality of life for the eligible American Indian and Alaska Native population.

The proposed IT project will further the above IHS Strategic Objective in the following way(s):

1.2 Strategic Objective #2: Provide Health Services

To assure access to high quality comprehensive public health services (i.e., clinical, preventive, community-based, educational, etc.) provided by qualified and culturally sensitive health professionals with adequate support infrastructure (i.e., facilities, support staff, equipment, supplies, training, etc.)

The proposed IT project will further the above IHS Strategic Objective in the following way(s):

1.3 Strategic Objective #3: Assure Partnerships and Consultation with I/T/Us

To assure that I/T/Us and IHS Area Offices and Headquarters achieve a mutually acceptable partnership in addressing health problems:

- providing adequate opportunities for I/T/Us and American Indian and Alaska Native organizations to participate in critical functions such as policy development and budget formulation, and
- assuring that I/T/Us have adequate information to make informed decisions regarding options for receiving health services.

The proposed IT project will further the above IHS Strategic Objective in the following way(s):

1.4 Strategic Objective #4: Perform Core Functions and Advocacy

Consistent with the IHS Mission, Goal, and Foundations, to effectively and efficiently:

-advocate for the health care needs of the American Indian and Alaska Native people, and execute the core public health and inherent Federal functions.

The proposed IT project will further the above IHS Strategic Objective in the following way(s):

Section 2. Architectural Integration

2.1 Interoperability: Facilitating the interoperability of the IHS ITA with commercial systems and instituting an open standard based health information system for the I/T/U's.

In the following block, please describe how the proposed IT project will support and/or further Interoperability at IHS. In particular, please mention if this project will:

- a) include the use of HL7 interfaces or the development of HL7 interfaces to existing RPMS applications;
- b) utilize recognized and/or emerging standards related to data interchange, security, message handling, and data transmission;
- c) use current health open standards and/or other future relevant standards on the horizon that could be interfaced with the RPMS (i.e. GCPR).

The proposed IT project will support and/or further **interoperability** at IHS because:

2.2 Connectivity: Make accessible high-speed connectivity for all I/T/U customers to a secure common network that facilitates the transmission of voice, video and data services in a responsive and reliable manner.

In the following block, please explain how the proposed project supports and/or furthers high speed connectivity for its I/T/U customers, as it is defined above. In particular, please indicate if the proposed

project could be part of a Virtual Private Network (VPN) Gateway to the IHS that meets HIPAA standards for data transfer.

The proposed IT project will support and/or further **connectivity** at IHS because:

2.3 Graphical User Interface (GUI): Instruct a graphical user interface (GUI) throughout the IHS IT system.

In the following block, please respond as to whether or not the proposed project will be GUI-based.

GUI:

2.4 Data Warehousing: Provide universally accessible decision support information that positively impacts the management and delivery of health care.

In the following block, please explain how the proposed IT project will support or further Data Warehousing at IHS as it is defined above. If relevant, call attention to the inclusion of:

- a) data warehouses which use open standards compliant Relational Database Management Systems with state-of-the-art tools available for on-line analysis;
- b) data warehouses which will be scalable from a facility level up to a regional level and shall contain information aggregated from the I/T/U's administrative systems, healthcare systems and other external data sources such as Medicare, Medicaid, and Private Insurance entities;
- c) integrated data-warehouses, specifically designed to help meet the cost accounting and healthcare management needs of the I/T/Us.

The proposed IT project will support or further **Data Warehousing** at IHS because:

2.5 Standards: Compliance with IHS Architecture Standards.

In the following block, please explain how the proposed IT project supports the GCPR project.

The proposed IT project supports or furthers GCPR **standards** because it:

2.6 Security: Adherence to Federal information security guidance.

In the following block, please explain how the proposed IT project demonstrates that the security controls for components, applications, and systems are consistent with the information technology architecture of the agency.

The proposed IT project is consistent with Federal information security guidance because:

Section 3. Financial: Optimize IHS financial resources

Life Cycle Cost. Please complete the following section, titled Template 3.1, Project Life Cycle Cost Template. The final costs should be close to the original estimated costs entered in block 6, Expected Costs on the Information Technology Project Proposal Form (IHS Form DIR-1.A).

Template 3.1. Project Life Cycle Cost Template

As defined in OMB’s “Capital Programming Guide,” Total Life Cycle Costs are all direct and indirect costs over the economic life of an asset, including planning and other costs of procurement, all periodic or continuing costs of operation and maintenance, and costs of decommissioning and disposal.

The tables that follow break down Total Life Cycle Costs into two main categories: Total Acquisition Costs and Total Recurring Costs.

Total Acquisition Costs (TAC) are non-recurring, one-time purchases of services, equipment, and software that are required to support the IT investment. An example of a TAC is the outsourcing of construction services to build or renovate facility space required for system rollout and implementation.

Unlike acquisition costs, *Total Recurring Costs (TRC)* occur repeatedly, oftentimes in a routine fashion, such as operations and maintenance costs over the economic life of an asset. An example of a TRC is hardware and software upgrades that will be required every 2-3 years, as well as support services required to perform upkeep and repairs.

The TAC and TRC calculation templates that follow break their respective costs into three main categories: (1) Engineering Activities/Services, (2) Equipment, and (3) Software.

Engineering Activities/Services include all architectural and/or engineering labor activities and support services, both internal and external to IHS. Examples of such include the renovation of existing facilities, leasing of additional space, and support services. Activities identified as IHS-internal are to be performed by IHS employees; external activities are to be outsourced to vendors and on contract.

Equipment cost categories include hardware assets, tangible items of a permanent nature required for the normal conduct of business. Examples of such include medical equipment, e.g. IT infrastructure that is a part of the furniture, land, or facilities.

Software cost categories include items such as programs, procedures, and related documentation.

Within the Equipment and Software categories is the cost differentiation of Non-capital versus Capital purchases. To be deemed “Non-capital” an asset’s value must fall below the IHS threshold of \$5,000.00. Conversely, to be deemed “Capital” the value must be equal to or greater than the IHS threshold of \$5,000.00, and is therefore applied a discount factor over time. Discount factors recognize the time value of money. That is, money today is worth more than money tomorrow, and benefits and costs are worth more if experienced sooner. Because of this, when estimating costs over time, one initially estimates dollar amounts in current day dollars. This is known as using constant base year dollars to estimated costs. Then, to account for this difference due to timing, or opportunity, an analyst multiplies each yearly cost and benefit by a yearly discount factor.

The discount factor is calculated as $1/(1 + i)^t$ where i is the interest rate and t is the number of years since project initiation (t may be a fraction). The table below is provided to assist in calculating the discount factors to be applied to Capital purchase estimates for identifying TAC and TRC.

# Years since project initiation (t)	Interest Rate (i)	$(1 + i)$	$(1 + i)^t$	Discount Factor = $1/(1 + i)^t$
1				
2				
3				
..				
xx				

For example, for an interest rate of 7% factored over the first three years of project initiation (2001, 2002, and 2003), the following discount factors would be applied:

# Years since project initiation (<i>t</i>)	Interest Rate (<i>i</i>)	(1 + <i>i</i>)	(1 + <i>i</i>) ^{<i>t</i>}	Discount Factor = 1/(1 + <i>i</i>) ^{<i>t</i>}
1	7%	1.07	1.0700	.9346
2	7%	1.07	1.1449	.8734
3	7%	1.07	1.2250	.8163

In tables 3.A and 3.B that follow, calculate the TAC and TRC per Budget Year. At the bottom of each table, sum the costs of the asset over its economic life. Place these amounts into table 3.C. The sum of the Total Acquisition Costs and Total Recurring Costs equals the Total Life Cycle Cost of the IT investment. Note: This total should reflect the original estimated costs entered in block 6, Expected Costs on the Information Technology Project Proposal Form (IHS Form DIR-1.A).

3. A. Total Acquisition Cost: The sum of total costs for all non-recurring acquisition costs over the economic life of the asset as reflected in the table below. Do not include operational or recurring costs.

	2001	2002	2003	2004	2005	2006	2007	20xx
Engineering Activities/Services								
Architectural/Support (Internal)								
Discount Factor								
Discounted Internal Services								
Architectural/Support Contract (External)								
Discount Factor								
Discounted External Services								
Equipment								
Capital Purchases (\$>5K)								
Discount Factor								
Discounted Capital Purchases								
Non-capital Purchases (\$<5K)								
Software								
Capital Purchases (\$>5K)								
Discount Factor								
Discounted Capital Purchases								
Non-capital Purchases (\$<5K)								
Other Associated Costs								
Other Associated Costs								
Discount Factor								
Discounted Other Purchases								
Total Acquisition Costs/ Budget Year								

The budget information captured in the spreadsheet above should include all costs and resources for the total acquisition of the asset and its deployment.

Total Acquisition Costs (sum of all years): \$_____.

3. B. Total Recurring Cost: Equals the sum of total costs for maintenance and operations over the economic life of the asset as reflected in the table below.

	2001	2002	2003	2004	2005	2006	2007	20xx
Engineering Activities/Services								
Architectural/Support (Internal)								
Discount Factor								
Discounted Internal Services								
Architectural/Support Contract (External)								
Discount Factor								
Discounted External Services								
Equipment								
Capital Purchases (>5K)								
Discount Factor								
Discounted Capital Purchases								
Non-capital Purchases (<5K)								
Software								
Capital Purchases (>5K)								
Discount Factor								
Discounted Capital Purchases								
Non-capital Purchases (<5K)								
Other Associated Costs								
Other Associated Costs								
Discount Factor								
Discounted Other Purchases								
Total Recurring Costs/ Budget Year								

Total Recurring Costs (sum of all years): \$_____.

3.C. Total Life Cycle Costs: For the purposes of this form, Total Life Cycle Costs will be the sum of Total Acquisition Costs, Total Recurring Costs, and Other Associated Costs, as appropriate:

$$\text{Total Life Cycle Costs} = \text{TAC} + \text{TRC}$$

Total Acquisition Costs	+ Total Recurring Costs	= Total Life Cycle Costs

3.1 Based on the Total Life Cycle Costs of the proposed IT project, please explain how this project helps optimize the use of IHS financial resources in the box below. One way to do this is by comparing the

project's Life Cycle Costs to the costs of alternative systems that the Project Sponsor believes are inferior to this project.

Total Life Cycle Costs:

Net Present Value (NPV): Please complete the following section, titled Template 3.2., Net Present Value Calculation Template.

Template 3.2. Net Present Value Calculation Template

According to the Federal CIO Council, Net Present Value (NPV) is the single most commonly used measurement for financial evaluation of an investment in both the public and private sectors. This metric facilitates an objective evaluation of projects, regardless of scale, as it recognizes the time value of money. This is accomplished by applying a discount factor to monetary costs and benefits over a period of time, such as the life cycle of an asset, or any selected period of analysis.

Present Value (PV) calculations require that all quantifiable benefits and costs are brought back to current day dollar values, or "present" value. By defining all costs and benefits in current dollar amounts, various alternatives can be compared directly and on an equal platform. This transforms gains and losses that occur in different time periods into a common unit of measurement. An analysis becomes a Net Present Value when the analyst subtracts the project's PV Costs, or PV(C), from the forecasted PV Benefits, or PV(B):

$$\text{NPV} = \text{PV(B)} - \text{PV(C)}$$

The NPV should include Total Life Cycle Costs, as previously calculated, as well as any indirect costs, as defined below. Costs and benefit elements that project owners should include in their analysis and justification are:

- *Up-front costs* - hardware, software, costs to design and develop the project, and transition costs
- *Ongoing costs* - salaries, software upgrades, training, supplies
- *Operations and maintenance* – routine repairs, upgrades, enhancements
- *Indirect costs* - initial productivity losses and computer support
- *Tangible benefits* - benefits that can be quantified, such as reducing costs, increasing productivity, decreasing cycle time or improving service quality
- *Intangible benefits* - benefits that may be easy to identify but that are difficult to quantify, like faster, more efficient decision making, greater data accuracy, improved data security, reduced burden, improved employee morale, or increased organizational knowledge

It is important to remember that benefits can be both tangible and intangible. Tangible benefits are quantifiable and can be expressed in dollars or in units. Intangible benefits can be quantifiable, but usually cannot be expressed in dollar values. They typically can be expressed in terms of improved mission performance, improved decision-making, or contributing to more reliable or useful information, and may already be included in Section 1, Mission-Related Criteria, or on Form DIR-1.A under Expected Benefits. If you feel the intangible benefits can be quantified, please justify the dollar amounts you choose.

Using the discount rates identified in the previous section, complete the NPV table below.

Year	a. Benefits	x Discount	= PV (B)	b. Costs	x Discount	= PV (C)	c. NPV = PV(B) – PV(C)
2001	\$			\$			
2002							
2003							
...							
...							
20xx							
Totals:							

Based on the calculated Net Present Value, in the box below please explain how the proposed IT project helps optimize the use of IHS financial resources. One way to accomplish this is by comparing the NPV of this system to alternative systems that were considered but not chosen.

Net Present Value (NPV):

Return on Investment (ROI). To fill in this block, please complete the following section, titled Template 3.3, Project Return on Investment Calculation Template.

Template 3.3. Project Return on Investment (ROI) Calculation Template

The Return on Investment of the project shows how much the project benefits the organization in comparison to the savings or cost avoidance. Anticipated return can be one basis for measuring project performance.

ROI is defined as NPV divided by the present value of life-cycle costs, or PV(C), expressed as a percent:

$$ROI = NPV/PV(C)$$

The greater the ROI, the better the investment. The quantities calculated in Template 3.2 should be used to complete the following template.

NPV	, PV(C)	= ROI (%)

3.3 Based on this project's ROI, as calculated above, please explain how the proposed IT project helps optimize IHS resources in the box below. One way to do this is to compare the ROI of this project to alternatives that were considered but not chosen.

Return on Investment:

Section 4: Minimize Implementation Risk by Using an Appropriate Strategy.

4.1 Technical Implementation Risk. The technical risks associated with implementation of an IT project can be mitigated in four ways: maximizing modularity, minimizing complexity, relying on off-the-shelf software, and selecting a risk-minimizing contract vehicle. Please answer the following four questions to enable an assessment of the overall strategy and implementation risk of the proposed IT project.

4.1 a. Modularity. Please answer this question in the following block. Take as much space as needed to support your answer. Remember that the term, "modularity" refers to breaking up larger projects into a number of smaller, lower risk, and more manageable pieces. Multiple phases, narrow scope, and brief duration are characteristics of modular projects. Each "piece" should address a specific part of an overall problem so that each piece delivers a measurable benefit. That is, even if the remainder of a project is canceled after the initial module, the agency will still reap some benefit from that module which was completed.

This proposed project is **very modular/modular/somewhat modular/not modular** (select one) because:

4.1 b. Complexity. Please answer this question in the space below. Remember that in this context the "complexity" of the project is influenced by the maturity of the technology being applied as a part of the project, the amount of customization needed for commercial, off the shelf or government, off the shelf components, and if it the project is complex conceptually.

Take as much space as needed to support your answer. The block can be enlarged on your computer.

The complexity of the proposed project can best be described as **industry standard/established technology/somewhat complex/very complex/experimental** (select one) because:

4.1 c. Off the shelf software. Please answer this question in the space below. In answering this question, think about the components or building blocks of the proposed project. Do they rely on COTS or GOTS products for the most part? To what extent will each of the components have to be customized?

Take as much space as needed to support your answer. The block can be enlarged on your computer.

This proposed project can be described as relying on "off the shelf" software **exclusively/mostly/partially/slightly/not at all** (select one) because:

4.1 d. Risk-sharing. Please explain the acquisition strategy and contract vehicle that are expected to be used for this proposed project and why they were selected. Remember that the acquisition strategy is important because some acquisition strategies impose less risk to the federal government than others. A cost-plus-fixed-fee contract, for example, allows the contractor to avoid risks associated with varying costs, by placing this responsibility on government management practices. Fixed-price acquisitions eliminate much of the cost risk to the Government by requiring specified work products for a firm, fixed price.

Risk-sharing:

4.2 Assessment of Alternative Systems : In the box below, please explain how the selection of this IT project over the other competing systems helps to minimize the risks of implementing an inferior system.

Assessment of Alternative Systems:

Section 5: Operational Support:

5. 1 Billing: Provide a quality Billing and Cost Accounting/General Ledger system that is integrated to our Health Information System.

In the box below, please explain, if relevant, how the proposed IT project supports or furthers providing a quality billing and cost accounting/general ledger system that is integrated to the IHS Health Information System.

Billing:

5.2 Technical Support: Providing effective technical support for the current Health Information System.

In the following block, please describe how the proposed IT project will support and/or further Technical Support at IHS. In particular, please mention if this project will:

- a) include a website available to the I/T/U's for the distribution of any related applications and patches;
- b) include a formal (Web-based) technical support feedback system between system developers and field support staff, with status reports viewable by both;
- c) include a formal technical support training schedule;
- d) coordinate with specific provider groups a training and support schedule and publish on a recurring basis for concerned disciplines;
- e) include a mechanism for continued maintenance of the project's hardware, peripherals and operating system software.

Technical Support:

5.3 IT Training: Provide effective Information Technology & Data Management Training at all levels.

In the following block, please explain the IT training that will be included as a part of the proposed IT project. Please include:

- a) the scope of the training program i.e. target groups at fields & area levels
- b) a description of new training course work that will be needed as well as a description of any didactic or distance learning methodologies that will be used;
- c) any expectation of utilizing website technology that serves on-demand prerecorded training sessions using streaming video technologies.

IT Training:

5.4 Data Quality: Ensure national comparability of public health data for all I/T/Us.

In the box below, please explain, if relevant, how the proposed IT project supports or furthers the national comparability of health data for all I/T/Us.

Data Quality: