

REQUEST FOR PROPOSALS

**TECHNICAL ASSISTANCE FOR THE
AMAPÁ STATE INFORMATION TECHNOLOGY STRATEGY AND DATA CENTER
DESIGN**

Submission Deadline: **4:00pm**
LOCAL TIME
March 24, 2014

Submission Place:
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Governo do Estado do Amapá
Centro de Gestão da Tecnologia da Informação - PRODAP
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SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$572,275 to the Departamento de Processamento de Dados do Estado de Amapá (Data Center Department for the State of Amapá – “PRODAP”) (the “Grantee”) in accordance with a grant agreement dated August 30, 2013 (the “Grant Agreement”). USTDA will fund the cost of goods and services required for the preparation of a technical assistance (“Technical Assistance”) on the proposed Amapá State Information Technology Strategy and Data Center Design Project (“Project”) in Brazil (“Host Country”). The Grant Agreement is attached in Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Technical Assistance.

1.1 BACKGROUND SUMMARY

The State of Amapá faces unique development challenges. Located in the northernmost region of Brazil, Amapá is logistically isolated from the country’s major population centers. The state capital Macapá, for example, can only be accessed by ship or plane. This geographic constraint has hampered growth and investment. The Brazilian federal government recognizes that measures need to be taken to improve the state’s infrastructure and attractiveness for investment, and has in recent years allocated several billion dollars that the Amapá state government can access for infrastructure development.

The Amapá state government recognizes that modernizing its information and communications technology infrastructure is a particularly important building block for attracting investment and development. An encouraging measure in this regard is that the state will soon enjoy dramatic improvements in digital connectivity, bandwidth availability and telecommunications affordability through the finalization of access to a new fiber optic cable landing point that will be shared with neighboring Guyana. An important entity in the effort to modernize the state’s telecommunications infrastructure is PRODAP, which is affiliated administratively with the Secretariat for Planning and Economic Development, “SEPLAN”.

In its planning role, PRODAP is currently tasked with developing and executing a strategic plan for the state that sets the overall priorities and direction for the state’s investments in IT infrastructure. The plan should prioritize and expand the delivery of IT services to the public, while attracting and leveraging private sector participation. The plan should also seek to avoid duplicative investments, the creation of data silos, or the furtherance of poor interoperability between state IT systems.

One of the key investments in this transformation is the creation of a government data center. This data center will host public sector applications, facilitate the management of government networks, provide backup and disaster recovery functions for data and applications maintained by disparate government agencies, and create a secure environment for the provision of services to commercial enterprises. The construction of the data center will first require an in-depth determination of the engineering, design, financing and supporting infrastructure requirements. For these reasons, PRODAP seeks technical assistance from USTDA to obtain the services of a multi-faceted team capable of specifying requirements both for the data center and for helping to develop the state’s information technology strategy.

Portions of a background Definitional Mission is provided for reference in Annex 2.

1.2 OBJECTIVE

This technical assistance shall develop a data center and information investment technology strategy for the State of Amapá, Brazil, including an in-depth determination of the engineering, design, financing and supporting infrastructure requirements.

The Terms of Reference (TOR) for this Technical Assistance are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US\$572,275. **The USTDA grant of \$US 572,275 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US\$572,275 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called the Amapá State Information Technology Strategy and Data Center Design.

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.

The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. Portions of the report are attached in Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Technical Assistance.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Technical Assistance.

2.5 PROJECT FUNDING SOURCE

The Technical Assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$572,275.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for

specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

Offerors shall prepare proposal documents in English and Portuguese.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

José Alípio Diniz de Moraes Junior
Governo do Estado do Amapá
Centro de Gestão da Tecnologia da Informação - PRODAP
Rua São José S/N
CEP: 68900-110
Macapá - Amapá
Brazil
Phone: 55 (96) 3131-2600

1 English copy, 1 Portuguese copy, and an electronic copy of your proposal must be received at the above address no later than 4:00pm on March 24, 2014

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

Each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including the name of the project and designation of "original" or "copy number x." The English copy and Portuguese copy should be collectively wrapped and sealed, and clearly labeled, including the contact name and the name of the project.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 OFFEROR'S AUTHORIZED NEGOTIATOR

The Offeror must provide the name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

2.16 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.17 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for NINETY (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.18 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.19 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, Technical Assistance and/or other services similar to those required in the TOR, as applicable.

2.20 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.21 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.22 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received.

2.23 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.24 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US\$572,275, which is a fixed amount.

Offerors shall submit one (1) English copy, (1) Portuguese copy, and an electronic copy of the proposal. Proposals received by fax cannot be accepted.

Each proposal must include the following:

- Transmittal Letter,
- Cover/Title Page,
- Table of Contents,
- Executive Summary,
- Firm Background Information,
- Completed U.S. Firm Information Form,
- Organizational Structure, Management Plan, and Key Personnel,
- Technical Approach and Work Plan, and
- Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 U.S. FIRM INFORMATION

A U.S. Firm Information Form in .pdf fillable format is attached at the end of this RFP in Annex 6. The Offeror must complete the U.S. Firm Information Form and include the completed U.S. Firm Information Form with its proposal.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Technical Assistance. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Technical Assistance.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Technical Assistance.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Technical Assistance. If a subcontractor(s) is being used, similar

information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to the Technical Assistance as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

1. U.S. Firm's Expertise and Relevant Experience

(25 Points)

- U.S. Firm's demonstrated professional experience in the ICT sector with specific reference to institutional IT strategy development and data center design including engineering, business, and project finance technical assistance to successful large, scale ICT infrastructure projects; demonstrated experience in developing successful project financing packages for large-scale infrastructure projects, preferably in the telecommunications sector; multi-disciplinary telecommunications and ICT sector experience bridging ICT engineering, energy provision, business implementation, and project finance.

2. U.S. Firm's Work Plan and Approach

(20 Points)

- U.S. Firm's proposed work plan and approach to the planning, organization, and implementation of technical assistance to GSIC and in particular how the U.S. Firm would apply its competencies institutional IT strategy development and data center design in Brazil.
- Demonstration and understanding of, and responsiveness to: Program objectives and soundness of approach; Overall innovative nature of proposed activities and approach to measure, monitor, and evaluate performance and impact; Soundness of approach and methodology.

3. Availability of Qualified Personnel

(25 Points)

- Demonstrated qualifications and abilities of each of U.S. Firm are proposed key personnel in terms of the requirements of this Contract and specific roles and responsibilities.
- Effective management, use and deployment of technical resources; the U.S. Firm should provide (a) detailed resumes for each of the proposed key personnel; (b) examples of relevant work in ICT infrastructure projects, including a succinct statement indicating how these activities are directly relevant to institutional IT strategy development and data center design in Brazil; and (c) not less than two letters of professional references from individuals who have direct and specific knowledge of the U.S. Firm's relevant experience.

4. Past Performance

(20 Points)

- The quality of the U.S. Firm's past performance will be used to assess the credibility of the U.S. Firm's proposal for performance of the work specified in this solicitation.
- In evaluating a U.S. Firm's past performance, it will be relevant whether the U.S. Firm has consistently provided customers and clients with quality services on time and has demonstrated success in achieving results in the areas described in the program description.

5. Knowledge of Brazil and Latin America

(10 Points)

- U.S. Firm's experience in, and knowledge, of Brazil and Latin America and its specific relevance to the work that will be required under this Contract.

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

José Alípio Diniz de Moraes Junior; Governo do Estado do Amapá; Centro de Gestão da Tecnologia da Informação – PRODAP; Rua São José S/N; CEP: 68900-110; Macapá – Amapá, Brazil; Phone: 55 (96) 3131-2600

201351023A- Amapá State Information Technology Strategy and Data Center Design

POC: Jennifer Van Renterghem, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009, Email: RFPQuestions@ustda.gov.

AMAPÁ STATE INFORMATION TECHNOLOGY STRATEGY AND DATA CENTER DESIGN.

The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to provide technical assistance for the development of a data center and information investment technology strategy for the State of Amapá, Brazil, including an in-depth determination of the engineering, design, financing and supporting infrastructure requirements.

The State of Amapá faces unique development challenges. Located in the northernmost region of Brazil, Amapá is logistically isolated from the country's major population centers. The Amapá state government recognizes that modernizing its information and communications technology infrastructure is a particularly important building block for attracting investment and development.

The Departamento de Processamento de Dados do Estado de Amapá (Data Processing Department of the State of Amapá, PRODAP) is currently tasked with developing and executing a strategic plan for the state that sets the overall priorities and direction for the state's investments in IT infrastructure. One of the key activities is the creation of a government data center. This data center will host public sector applications, facilitate the management of government networks, provide backup and disaster recovery functions for data and applications maintained by disparate government agencies, and create a secure environment for the provision of services to commercial enterprises.

The U.S. firm selected will be paid in U.S. dollars from a \$572,275 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and portions of a background Definitional Mission report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: <https://www.ustda.gov/businessopps/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP.

Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English and Portuguese directly to the Grantee by 4:00pm on March 24, 2014 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

PUBLIC VERSION

UNITED STATES TRADE AND DEVELOPMENT AGENCY

Latin America Region: Definitional Mission for Brazil Information and Communications Technology Opportunities



FINAL REPORT

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This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings, conclusions, or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
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The U.S. Trade and Development Agency

The U.S. Trade and Development Agency helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects, and reverse trade missions while creating sustainable infrastructure and economic growth in partner countries.

Mailing and Delivery Address: 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901
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EXECUTIVE SUMMARY

The following constitutes Washington Strategic Advisors’ (“WSA”) Final Report to the United States Trade and Development Agency (“USTDA”) detailing the results of WSA’s Definitional Mission (“DM”) to Brazil to identify and evaluate potential USTDA funding opportunities in the country’s rapidly expanding information and communications technology (“ICT”) sector.

Washington Strategic Advisors (WSA) Definitional Mission (DM) Consultants carried out two visits to Brazil in November and December, 2012 for a total of 18 business days conducting in-person meetings in São Paulo, Rio de Janeiro, Salvador de Bahia, Vitória, Macapá, Brasilia, and Manaus. WSA met with senior executives or lead technical personnel of State IT companies in each of these cities, and we were able to have brief follow-up meetings with the senior leadership of several of them during a USTDA-sponsored trade visit to the United States in December, 2012.

The purpose of these meetings was to survey the information and communications technology (ICT) development environment in which these potential sponsors operate, to gauge their capabilities and commitment as potential partners for USTDA, and to evaluate the trade potential and development impact of their proposed projects.

During the course of these visits and in follow-up meetings, the DM Consultants reviewed 7 separate projects as potential candidates for USTDA technical assistance. Of these, WSA recommends three projects, in particular the Amapá State Data Center.

During the visit and follow-up calls the DM Consultants met with:

- Márcia Almeida, Diretora Técnica, Prodap
- Thales Azevedo, Project Manager, Proderj
- João Barroso, Assessor da Presidencia, Prodeb
- Wilson Botto, Diretor de Relações Institucionais, Oi

- Walfrido Brito, Principal, Business Indicators
- André Clemente, Secretário do Entorno de Goiás, Estado de Goiás
- Paulo Coelho, Presidente, Proderj
- Renato Ferrazza, Assessor Especial, Prodest
- Álvaro Ferreira dos Santos, Presidente, Prodeb
- André Fonseca, Subsecretário de Estado de Gestão, State of Rio de Janeiro
- Ciro Fortes, Special Management Advisor, State of Rio de Janeiro
- Sidnei Franco, Departamento de Saúde da Prefeitura de Rio de Janeiro
- Geraldinho, Presidente, Câmara Municipal de Cidade Ocidental
- Fabio Gomes Naveca, Advisor to the Presidency, Prodam
- Waldyr Gomes, Departamento de Saúde da Prefeitura de Rio de Janeiro
- Marco Horta, Subsecretário de Estado de Gestão, State of Rio de Janeiro
- Alípio Junior, President, Prodap
- Jacques Laniado, Principal, Business Indicators
- Napoleão Lemos Filho, Director de Infraestrutura, Prodeb
- Amos Maidantchik, Public Sector Solutions, Cisco Brazil
- Patricia Marega, Business Development Specialist, U.S. Department of Commerce
- José Marlúcio, Diretor Técnico, Prodap
- Tiago Monteiro de Paiva, President, Prodam
- Maria Moraes, Assessora do Secretário do Entorno de Goiás, Estado de Goiás
- José Moreira, Diretor Técnico, Prodap
- Rodrigo Mota, Country Representative, USTDA
- Victor Murad, President, Prodest
- Antônio Sales de Farias, Assessor Técnico, Prodam
- Catia Tokoro, Directora de Vendas do Sudeste, Oi
- Everton Vieira, Vice President, Prodap
- Lívio Zinol Perreira de Souza, Assessor Especial, Prodest

SECTOR OVERVIEW

Brazil is Latin America’s “giant” in every sense of the word. Brazil’s highly diversified and industrialized economy is the largest in Latin America and the eighth largest globally. The country has mature manufacturing, mining and agriculture sectors and rapidly expanding information and communications technologies (“ICT”) industries. It is also home to the most sophisticated and diversified science, technology and innovation system in Latin America. Having made important economic reforms over the past few years, Brazilians are now reaping the benefits of new-found stability and growth. After years of economic stability and relatively little impact from the global financial crisis, Brazil’s economic fundamentals are

strong. Brazil is experiencing rising commodity exports and an overvalued currency, driving up the price of its manufactured exports.

Several challenges will test the vibrancy of Brazil's economy in the next few years, notably improving the country's dilapidated infrastructure and addressing an overheating economy in which manufactured imports are soaring and exports lagging. International corporations are investing billions in Brazil, effectively securing its place in regional and global supply chains. The country is also becoming a major source of outward investment. Furthermore, with 191 million people, a well-educated middle class and millions of working-class citizens, Brazil's importance as a consumer market is on a steep upward swing. To take advantage of the myriad commercial opportunities that Brazil offers, American exporters will need to be aware of key commercial influences, including foreign competition, import tariffs, tax and regulatory systems, labor supply and infrastructure challenges. Significantly, Brazil is the largest ICT market in Latin America, after Mexico.

The ICT Market

Brazil is the largest ICT market in Latin America, representing more than 45 per cent of the total investments for the sector in the region. According to Business Monitor International (BMI), the IT market is projected to grow at a compound annual growth rate of 12 per cent over the 2008-2013 period, making Brazil one of the best-performing global IT markets. The total value of spending on IT products and services should pass US\$47 billion by the end of 2013. In 2014, double-digit PC shipment growth is forecast compared with 2013, with a recovery in business spending. The country has a mature market, with expenditures well distributed within the segments (hardware, software and services). Brazil's IT market has a singular regional structure, with most spending accounted by the south east region (60 per cent). The northeast region accounts for only 8.3 per cent of investments. In contrast the south is one of the fastest-growing regions.

Small and medium companies represent forty-two per cent of the private investment in the sector and the current non-attended demand for hardware and services solutions is stimulating the development of the market. The domestic consumption of PCs, printers, digital cameras and mobile phones represents more than 20 per cent of the Latin American market. It is also important to mention that, in 2009, the financial sector accounted for around twenty per cent of national ICT spending, most of it attributed to banks. Infrastructure investments following the award of the 2016 Olympic Games to Rio de Janeiro is expected to drive, significantly, new spending on ICT systems and solutions. A combination of Brazil's continued telecoms market growth and strong support from its country structure and country risk ratings allowed the country to get the highest business environment rate in South America in 2010.

Industry developments

Government spending should increase to US\$2.8 billion by the end of 2013 as IT is one of the Federal Government's strategic sectors in the Growth Acceleration Plan. Government ICT spending reached \$1 billion between January and July 2009, with ICT consulting accounting for almost half of these expenditures. An expansion of e-government and government functions has led to an increased data flow, driving demand for renewal of outdated networks, systems and servers. According to government targets, the domestic software and services industry should generate 100,000 jobs and an additional \$1 billion in revenues by 2012, and an agreement to train 10,000 ICT programmers in 2010 was signed to help achieve these goals. The government also continued to roll out its "one-computer-per-student program", which received a funding of \$50 million from Brazil's central bank. The funds will be made available to public schools for the purchase of low-cost portable computers and will also cover networking infrastructure costs.

The National Broadband Initiative

In May 2010 the National Broadband Initiative was officially announced with an allocation of up to US\$600 million. This four-year project set an initial target of ensuring broadband connectivity equal to or greater than one Mbps to about 40 million homes or about 70% of the population at a cost of \$20 per month.

Midway through the project in December of 2012 the implementer Telebras announced that the North East region network was activated. This is the first half that connects Brasilia (DF), Palmas (TO), Empress (MA), Teresina (PI), Sobral and Fortaleza Metropolitan Region, and Ceará. The second half will link the entire northeastern coast from Fortaleza to Mossoró and Natal, Rio Grande do Norte, João Pessoa and Campina Grande, in Alagoas, Recife Metropolitan Region, Pernambuco, Aracaju, Sergipe and Saviar and Metropolitan Area in Bahia. When completed in 2013 this 4,600km fiber optic network will provide connection to nine states and about 20 million people. These new networks are estimated to require an investment of about US\$18 billion in government resources, private sector investment, and utilization of existing infrastructure.

The consumer segment

The consumer segment will likely continue to register strong growth due to a greater range of financing options and more flexible terms of payment. Brazil's financial sector is expected to provide strong growth in spending on IT products and services, growing at fifteen per cent a year, faster than the market as a whole.

Brazil's mobile market remains the focus of attention as growth remains strong in comparison to its regional peers. Mobile phone operators should continue to expand their 4G coverage and invest in new services; concentrating their efforts in major cities. Competition looks set to increase as additional 4G spectrum is released and the possibility of MVNOs

entering the market increases. As Internet services are restricted by the fixed-line network, there is an increasing tendency towards alternative technologies.

In terms of verticals, public and financial sectors, healthcare, telecoms, utilities and SMEs are seen as the ones with the most growth potential. The financial vertical should be a strong source of opportunity, with banks moving to integrate their ICT systems and look to enhance their ability to launch new products and services rapidly, as well as ensuring good recovery plans and security. The industrial and services sectors have also seen high growth. As a result of government initiatives and spending guidelines, there is a significant drive towards open source software, motivated by a desire to save money and encourage local developers. Increasingly, Brazil's government ministries and state-run enterprises are abandoning Windows in favor of "open source" or "free" software, like Linux, and the government is studying a draft decree which, if approved, would make the change compulsory for federal departments.

Software and services

According to the Brazilian Software Companies Association ("ABES"), Brazil occupies the 12th position (2010) in the software and services global market, with sales of \$15 billion. Out of this total, \$5 billion referred to software licensing, which represents close to 1.7 per cent of the global market. Software CAGR for 2010-2014 is projected at around 14 per cent. Software is beginning to gain ground in Brazil, despite high annual software piracy losses. The estimated annual growth rate is around 10 per cent. The market is serviced by about 8,500 companies, most of them classified as micro or small, dedicated to development, distribution and services.

The software and services market is specifically concentrated in Brazil, as the industrial and financial sectors represent together almost fifty per cent of it. The fastest growing segments of the market are business continuity, business process management and business intelligence. The software sector's current growth is being driven partly by stronger demand for ERP solutions from SMEs, with an estimated addressable market of 400,000 small businesses. IT/telecom convergence also shows a growing trend in the short/medium term. In the long term, software as a service will show more flexibility, with less complexity and lower costs. In addition, flexible systems (Dynamic IT), and green ICT tend to be increasingly present in organization's business processes.

Hardware

Brazilian sales of computer hardware are projected reach US\$13.5 billion by the end of 2013. With PC penetration is projected to reach thirty-six per cent by the end of 2013. Greater affordability combined with more credit options, lower interest rates and tax concessions have driven sales. The current stock of PCs has been estimated at around 32 million and is likely to increase to over 100 million within a decade. Aside from retail demand, the corporate replacement market offers strong potential, while government spending is also set to increase.

There is a sizeable grey market, although evidence suggests that this has fallen in recent quarters to below forty per cent of unit sales.

Telecoms, broadband

In 2011 the sector as a whole was made up of “2 891 telecom service providers: 6 franchise holders for fixed switched telephony, 137 authorized providers of fixed switched services, 31 holders of mobile authorizations, 2 553 IAP (registered as multimedia communication services), and 161 active Pay TV operators. The market value of telecom (fixed and mobile) and Pay TV reached R\$ 149.5 billion (around € 57 billion) at the end of the first quarter of 2011.”¹

The telecommunications sector itself is dominated by four operators with revenues of just under US\$80 billion.

The Brazilian telecom market in 2010: operators, segments and revenue

| Operator | Main segments | Net revenue (US\$bn—FY10) |
|--------------------|---|---------------------------|
| Telefónica (Spain) | Local landline Local mobile Long distance Broadband (fixed & mobile) Pay-TV | 21.43 |
| Embratel (Mexico) | Local landline Local mobile Long distance Broadband (fixed & mobile) Pay-TV | 19.68 |
| Oi (Brazil) | Local landline Local mobile Long distance Broadband (fixed & mobile) Pay-TV | 18.67 |
| TIM (Italy) | Local mobile Long distance Broadband (mobile) | 18.67 |

¹ Jean Paul Simon. The ICT Landscape in BRICS Countries: Brazil, India, China. European Commission, Joint Research Centre, Institute for Prospective Technological Studies. 2011. P27.

The growth of broadband in Brazil has accelerated, due mainly to mobile broadband. The 1.7m subscribers to mobile broadband in 2008 grew to 20.6m at the end of 2010, reflecting the increasing demand for content through mobile devices.²

Electronic industry

Investments in generation, transmission and distribution of electric energy and oil exploration and production should continue, as well as the consumption of electric materials due to recently announced infrastructure projects. Also, the employment rate tends to be stable in the segment, finishing the current year with 160,000 employees.

Competitive environment

The Brazilian PC market leader remains Positivo Informatica, ahead of leading multinational rivals like HP, Dell and Acer. Business software giant SAP, has said that it expects Brazil to count among its top five best-performing markets within the next three years. Meanwhile, leading Brazilian enterprise resource planning (ERP) player, Totvs, plans to meet the aggressive challenge from multinationals like SAP and Oracle by leveraging what it sees as a superior knowledge of local small and medium-sized enterprises (SMEs).

IBM has the biggest market share of the Brazilian IT services market. Indian companies such as TCS, Wipro and Infosys are also increasing their local operations. Infosys plans to open a software development and back-office center in Brazil, subject to final approval from the Brazilian government.

Tariffs, regulations and customs

The practice of protecting domestic manufacturing through high tariff rates was reversed in the early 1990s, with current rates now in line within acceptable General Agreement on Tariffs and Trade (GATT) levels.

Principal duties and taxes are:

- Federal Import Tax – most data communications equipment have import duties ranging from zero to 20 per cent, some other equipment as high as 40 per cent.
- IPI Industrial Products Tax – a Federal Excise Tax levied on most domestic and imported manufactured goods. The current tax ranges from 10-34 per cent.

ICMS Tax on Merchandise Circulation and Services – a State Government value added tax applicable to both imports and domestic products and rendered services. The ICMS tax on

² **Market profile: Brazil. Estela Vieira and Anderson Ramires.**

<http://www.pwc.com/gx/en/communications/review/features/market-profile-brazil.jhtml>

imports is assessed ad valorem on the cost, insurance and freight (CIF) value plus the Federal Import Tax plus IPI.

SUMMARY OF DEFINITIONAL MISSION ACTIVITIES

PROJECTS REVIEWED

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RECOMMENDED PROJECTS

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PROJECT RECOMMENDATION

Amapá State IT Strategy Review and Data Center Design

Project Summary

The *Departamento de Processamento de Dados do Estado de Amapá* (“Prodap”) is an autonomous state agency of the State of Amapá, and is linked administratively with the Secretariat for Planning and Economic Development (SEPLAN). Prodap has been in operation since 1996, providing specialized Information Technology services to government entities at municipal and state levels.

Prodap provides an array of Information and Communications Technology (ICT) services to the State of Amapá including application programming and hosting, data storage, network services, data processing and managing procurement of ICT equipment for various State agencies and entities. In addition, Prodap has assumed a leading role defining and implementing the State’s ICT strategy and managing its execution with all entities that directly or indirectly make up the State government, autonomous agencies, and other entities linked to public service delivery. Prodap seeks to continually improve its performance as they develop, manage, and deliver technology solutions, and to be a reference in the Northern Region for excellence in Information and Communications Technology.

The State of Amapá faces unique development challenges. Located in the northwest corner of Brazil and mostly forested, Amapá faces economic and logistic isolation. As a result, industry other than extractive industries has been difficult to develop. Amapá’s border with Guyana is mostly forested and difficult to monitor, creating a space vulnerable to illicit trade and illegal migration. Government resources for monitoring and inspection of mining and logging operations are sometimes overextended, further contributing to lost opportunities for economic growth in Amapá. The State can currently only be accessed by plane or by ship.

The State and Federal Governments have pursued a number of strategies to help Amapá overcome its economic isolation. The capital city Macapá, for example, is a designated free

trade zone that creates tax incentives for small manufacturing businesses and enables increased commerce in consumer or luxury goods such as perfume. The Federal Government has allocated several billion dollars over recent years for investments in infrastructure at the State level that Amapá (and Prodap) should be able to access. A new high-end shopping center will soon be constructed in Macapá, expanding the city's role as a transit point for luxury consumer goods. Currently connected only by satellite, the State will soon enjoy dramatic improvements in the availability and affordability of bandwidth over a new fiber-optic link to neighboring Guyana.

Prodap is tasked with developing the strategic plan for the State that will set overall priorities and direction for their investments in ICT infrastructure. The Strategic Plan will prioritize public service delivery, and will also seek to create conditions to provide services to private sector firms³ as a form of economic stimulus and cost-recovery.⁴ Under the Strategy, Amapá State will seek to consolidate and rationalize its progress in applying ICTs for public administration and pursue a dramatic expansion in its ICT capabilities. One of the key investments in this transformation will be a Government data center that will host public sector applications, facilitate management of Government networks, serve backup and disaster recovery functions for data and applications maintained by disparate Government agencies, and create a secure environment for provision of services to private companies. The fundamental design requirements for the data center will be determined projections of the expected useful life of the infrastructure, the desired future capabilities of the State, and planning for contingencies. As a result, effective planning for the data center will be rooted in the Amapá State strategy, the strategies of disparate Amapá State agencies, and best efforts to predict future scenarios for the State and technology evolution in general.

The Amapá State data center project is a key piece of the State's economic development strategies and efforts to realize the promise of ICT for more effective government service. Enabled by new broadband connectivity over the link from Guyana, State networks, applications, data can be expected to grow dramatically. As the State sees a rapid expansion in its ICT capabilities, a clear technology strategy will help Amapá avert duplicating investments, creating data silos, or fostering poor interoperability between State ICT systems. As the State prepares for significant new investments in information infrastructure, it is a key time to clarify the State's ICT strategy, governance, and operating principles guiding their technology investments. Refining and consolidating Amapá State's technology strategy today will provide greater assurance that critical ICT investments will be done right the first time, and avert costly modifications later.

³ Such as those firms that will presumably begin operations in the new luxury shopping center.

⁴ Given the State's economic isolation, public-private partnerships could prove to be the most effective use of capital in the State for critical information infrastructure; public-private facilities can serve to aggregate both public and private demand and avert duplicate infrastructure investments.

Complex organizations have successfully grappled with the technology transformations that Amapá State is undertaking. A critical component of their approach is rigorous strategy review to map institutional strategy to technology strategy and refine a clear, non-technical vision of what the organization as a whole is seeking to build. This non-technical vision serves to describe the role of information infrastructure and assets in supporting the core business processes of the institution, thus enabling clear communication to senior management, technical personnel, and all other stakeholders. With a strong basis in over-arching strategy, and a clear vision of the cumulative result disparate investments are intended to build, ICT investments can be approached as a more integrated whole, rather than as piecemeal systems. This can result in cost savings, increased interoperability, seamless shared processes and data across business units, easier scalability of operations, and a foundation for continued innovation in service delivery.

Prodap has a unique political and economic context, and recognizes that State Government will have unique strategic objectives and infrastructure requirements. For this reason Prodap seeks technical assistance of a multi-faceted team capable of specifying design requirements for large-scale information infrastructure and applying ICT strategy and governance in a public sector context in Brazil. Prodap feels the needs of the State of Amapá should be addressed by a team of experts that integrates best practices in technology strategy and governance, leadership of large-scale organizational change for public and private clients, systems and information infrastructure engineering, electrical engineering, project budgeting, and proven project management for large scale ICT infrastructure according to methodologies of reference. Prodap requested USTDA assistance in identifying such a team to help address these strategy and infrastructure development tasks.

Project Sponsor's Capabilities and Commitment

Prodap plays a special role in setting overall ICT strategy and supporting critical services for Amapá State. Some of the systems Prodap manages for the State include:

- Budget and finance systems,
- Data backup for other State entities including the State Treasury,
- Network Interconnection of all of State government, and
- Internet provision for Government;

among many others.

Due to its economic and physical isolation, Amapá State has limited budget resources and opportunities for topflight human resources can be scarce. Prodap struggles with these constraints. During our visit to the Prodap information technology facilities, the DM team observed that Prodap had insufficient budget resources to observe best practices in facilities design and operation in several key areas including: fire suppression, physical security, security and redundancy of power supply, and climate control. The technical personnel of Prodap were

well aware of these constraints, however, and had made every effort to observe the underlying precepts of good practice with the budget and materials available. All senior administrative and technical personnel the DM contractor met were from Amapá and expressed having a personal stake in and commitment to the State's economic development. Prodap senior administrators also report a strong degree of support for Prodap and ICT development from the Amapá State Governor.

Nevertheless, as a result of their external constraints, data center design, construction, and operation will be a new experience for many of the personnel at Prodap. Technical assistance and capacity building in guiding data center design and operation will be critical for the success of the project.

Implementation Financing

Prodap will seek to secure direct State funding for the project and will approach the State Secretariat for Finance to finance any remaining balance as required, though technical assistance with these steps will be needed. As a result of Prodap's limitations with budget and personnel, they will require additional assistance with securing project financing, such as through consultations with other State IT companies regarding how they mobilize resources to help inform Prodap's efforts in this area. For example, the Federal Government of Brazil is reportedly allocating several billion USD specifically for infrastructure funding at the State level, and a large portion of it is earmarked specifically for companies in which the State holds a controlling interest, such as Prodap.⁵

Prodap has begun such a consultation process with the association of State IT companies the *Associação Brasileira de Empresas de Processamento de Dados* (ABEP) that counts very capable companies among its membership who have successfully mobilized funding and financing for large-scale IT infrastructure of greater dimensions than the data center Prodap seeks to build. Prodap has requested USTDA technical assistance in developing a complete financial picture of the project that will inform their discussions with the Federal Government, ABEP, and the Finance Secretariat. This financial model will also help to inform potential public-private partnerships for the construction of the data center, which are of keen interest to Prodap.

The DM Contractor reached out via email to the Overseas Private Investment Corporation's business development office regarding modalities of potential OPIC support for the project. We were informed that typically OPIC would only get involved in projects where there was a direct U.S. investment (rather than, say, just U.S. content). As a result of these discussions we

⁵ For example, Amazonas State will see over R\$ 200 Million in Federal funding exclusively for investment in companies in which the State holds controlling or non-controlling interest: <http://al-go.jusbrasil.com.br/noticias/100122006/lei-orcamentaria-anual-2013>

determined that OPIC could be a resource for this project if Prodap decided on a public-private partnership approach involving investment by a U.S. firm.⁶

The DM consultants discussed the project with the Lead ICT Policy Specialist for the World Bank, to confirm that Goias/GDF data center project meets World Bank criteria for project financing, and that there is a good history of USTDA feasibility studies satisfying a number of the due diligence requirements.

As required under the DM scope of work, the consultants contacted U.S. firms to confirm their interest in the project: Oracle, IBM Brazil, HP Brazil, and Cisco Brazil to confirm their interest in the project and the availability of vendor financing options.

U.S. Export Potential

Building the Prodap Data Center will require software, hardware, and consulting services of various types. Prodap is committed to pursuing open bids and a vendor-neutral strategy driven by their engineering design requirements. Vendor neutrality is an important precept of good practice in design of ICT infrastructure; it signals that the engineering requirements have been examined in light of the context of the strategy of the organization and its external environment, and that these requirements guide selection of the most appropriate technologies. As a result, vendor-neutrality is also a key precept of open bid tender processes. Nevertheless, U.S. technologies are already well-represented in the current Prodap core infrastructure, and this creates incentives for continuing to invest in U.S. technologies including: easier interoperability, and a base of competence and familiarity with U.S. vendor platforms. We estimate a total export potential for the project at over \$12 Million, as detailed below.

Precise Climate Monitoring and Control Data centers require climate control systems that measure and control temperature and humidity at various points in the infrastructure. This helps managers to maintain the optimal temperature for operation of the IT equipment and to monitor the heat generated by different classes of equipment.

Estimated Total Export Potential: \$76,125.

Electric Power Provision:

Power Generators: Business continuity in data centers requires that electric power provision be available from at least two sources, installed in parallel, as well as battery or other backup

⁶ For example, a “Build, Operate and Transfer” modality where a firm mobilizes financing and builds the infrastructure, operates it for a period, and transfers ownership of the infrastructure when payments are complete. The parties would negotiate the rate of return of the BOT firm as part of the deal.

systems to power the data center during transitions from one power supply to the other. In the case of Manaus the power grid is generally reliable, but in the event of emergencies Prodap will need the capability to operate generators 24 hours a day, and this would require 2 generators. Estimated total export opportunity: \$81,000.

Stand-By Power: The amount of transition time that the data center needs to switch between power sources will be analyzed in light of Prodap's risk tolerance and available budget. Nevertheless, we consider it reasonable to estimate that Prodap will require at least four high capacity 100 KVA Uninterruptible Power Supply units with 15 minute autonomy. Estimated total potential export opportunity: \$ 300,000.

Power Stabilization and Transfer: The data center will likely require electrical panels enabling switching between mains and generator, and generator and generator. A sub-station will be required as well to receive all electric current and stabilize all potential variations in voltage and frequency before power is distributed to the data center. Total Estimated Export Opportunity: \$310,000.

Fire Detection and Suppression:

Detection, Suppression and Remote Supervision Systems: Sophisticated monitoring of fire at various locations in the data center can enable response in time to re-allocate IT assets to ensure business continuity and to isolate any fire incident in the affected part of the data center. The type of fire suppression chosen will flow from requirements analysis carried out under these Terms of Reference as well as Prodap budget. But the system will necessarily include a combination of sensors, suppression devices, and monitoring software. Estimated total export opportunity: \$135,000.

Network Operations Center (NOC):

The Network Operations Center will be a centralized command-and-control room enabling Prodap personnel to monitor all network assets in real time and to provision bandwidth or networking resources to enable optimal service delivery. The NOC would be comprised primarily of NOC software, workstations, monitors, specialized furniture and monitors. Total estimated export opportunity \$135,000.

Connectivity Room:

Good practice in data center design often results in a separate room dedicated solely to connecting external providers of bandwidth, Wide Area Networks, Local Area Networks, and data center storage and application resources. Required equipment would include racks, 1 or more optical switch router, access routers, charge balancers, and enclosures for structured cabling installations. Total estimated export opportunity: \$202,176.

Data Center Hardware:

Servers: Web, Application, and Database servers are at the heart of the data center infrastructure. The ultimate choice of equipment will flow from detailed requirements analysis carried out under these Terms of Reference, but we feel it is reasonable to estimate that the Prodap data center will require blade servers and chassis for them, a storage area network providing at least several hundred terabytes of storage, racks, tape data archiving, a mainframe server, and a high capacity data backup that can make a replica of the entire data center at least daily. Estimated total export opportunity: \$5,168,400.

Data Center Software:

Software selection for the Prodap data center will necessarily flow from the detailed requirements analysis carried out during the data center design tasks detailed in the terms of reference. Nevertheless there are several types of software that will likely be required. A data base solution will be required, and some State data centers already use Oracle.⁷ Other software required will enable: virtualization of blade and mainframe servers to dynamic provisioning of computing power, automatic back up of data, and operation of the servers themselves. Estimated total export potential \$4,062,340.

Physical Security:

Physical security will be achieved primarily from monitoring activities and access of people on the premises. This will require setting of permissions for physical access to the facilities themselves as well as to critical infrastructure. The main technologies will be closed-circuit television and electronic lock systems that require some form of identity verification (biometrics, personal identification numbers, etc.). Estimated export potential \$110,000.

Data Security :

Securing sensitive information is central to Prodap's mandate. They will likely need carrier-class solutions that will protect the data center from hostile instruction (firewalls), encryption solutions that may store data in encrypted form and encrypt sensitive communications, and software for securing all user devices from attack. Total estimated export opportunity: \$300,000.

Small Equipment:

Construction of the data center will be an opportunity to update user terminals at Prodap. Estimated export opportunity: \$42,000.

⁷ Espirito Santo, Rio de Janeiro.

| Item | Quant. | Unit Value (\$) | Total Value | Sub-Total | Estimated U.S. Content | Potential U.S. Suppliers | Estimated Total Potential Export Opportunity |
|---------------------------------------|--------|-----------------|-------------|-----------|------------------------|---|--|
| Secure Room | | | | \$105,000 | | | \$76,125 |
| Elevated Technical Floor | 300 | 200 | 60000 | | 65% | IBM, Cisco | |
| Precise climate control system | 3 | 15000 | 45000 | | 80% | | |
| Electric Power Provision | | | | \$835,000 | | | \$720,188 |
| 200 KVA Emergency Generator | 2 | 45000 | 90000 | | 90% | Cummins, John Deere, Detroit Diesel | |
| 100 KVA UPS with 15 minute autonomy. | 4 | 100000 | 400000 | | 75% | Libert, Sentinal Power, American Power Conversion, Eaton | |
| Dual transfer electrical panels | 2 | 150000 | 300000 | | 90% | SISCO, Cutler-Hammer, Eaton, Cummins | |
| Sub-station | 1 | 45000 | 45000 | | 90% | SISCO, Cutler-Hammer, Eaton, Cummins | |
| Fire Detection and Supression | | 0 | | \$150,000 | | | \$135,000 |
| Fire Detection System | 1 | 40000 | 40000 | | 85% | Certified Fire, H3R Halon Fire,Xtralis, Sauer Inc., Fire X Online | |
| Fire Suppression System | 1 | 70000 | 70000 | | 85% | Certified Fire, H3R Halon Fire,Xtralis, Sauer Inc., Fire X Online | |
| Remote Supervision system | 1 | 40000 | 40000 | | 100% | Modius,Aperture | |
| NOC - Network Operation Center | | 0 | | \$242,600 | | | \$202,167 |
| Furniture | 4 | 8000 | 32000 | | 100% | Uptime | |
| LCD 55" Monitors | 4 | 2650 | 10600 | | 50% | Dell, HP | |
| Management Software | 1 | 200000 | 200000 | | 100% | Aspire, Modius | |
| Conectivity Room | | | | \$515,500 | | | \$329,920 |
| Protected Rack | 2 | 2500 | 5000 | | 75% | Sun Microsystems, | |
| Local Switch | 2 | 65000 | 130000 | | 0% | Brazilian Origin Req'd | |
| Access Switch | 10 | 5000 | 50000 | | 65% | Cisco, Juniper | |
| Appliances - charge balancer | 2 | 225000 | 450000 | | 90% | SISCO, Eaton | |
| Structured Cabling Enclosures | 15 | 700 | 10500 | | 90% | Siemon,Vision Technologies, | |

| | | | | | | | |
|---|------|---------------|---------|---------------------|------|----------------------------------|---------------------|
| Data Center Hardware | | | | \$7,080,000 | | | \$5,168,400 |
| Blades | 100 | 55000 | 5500000 | | 75% | IBM, HP, Dell, Sun | |
| Chassis for Blades | 8 | 115000 | 920000 | | 75% | IBM, HP, Dell, Sun | |
| Storage (32 T) | 10 | 30000 | 300000 | | 65% | IBM, HP, Dell, Sun | |
| Racks | 10 | 5000 | 50000 | | 75% | IBM, HP, Dell, Sun | |
| Data Tape Storage | 1 | 310000 | 310000 | | 75% | IBM, HP | |
| Large equipment | | 193992 | | \$1,950,000 | | | \$1,462,500 |
| Mainframe Server | 1 | 950000 | 950000 | | 75% | IBM | |
| Backup Storage | | 1000000 | 1000000 | | 75% | IBM | |
| Software | | 0 | | \$4,062,340 | | | \$4,062,340 |
| Operating System | 25 | 100 | 2500 | | 100% | | |
| Data Base | | 3500000 | 3500000 | | 100% | Oracle | |
| Backup Software | 5 | 3680 | 18400 | | 100% | VMWare | |
| Virtualization Software | 50 | 10400 | 520000 | | 100% | VMWare | |
| Mainframe Virtualization Software | 1 | 21440 | 21440 | | 100% | IBM, Cisco, VMWare | |
| Physical Security | | 0 | | \$200,000 | | | \$110,000 |
| Closed Circuit Television System (CCTV) | 1 | 100000 | 100000 | | 55% | Cisco, HP | |
| Access Control System | 1 | 100000 | 100000 | | 55% | Cisco, HP | |
| Data Security | | 0 | | \$300,000 | | | \$300,000 |
| Firewall | 2 | 65000 | 130000 | | 100% | Intel, Cisco, Palo Alto Networks | |
| Encryption | 2 | 60000 | 120000 | | 100% | VMWare | |
| Antivirus/malware Software for Devices | 1000 | 50 | 50000 | | 100% | Kaspersky, Symantec, McAfee | |
| Small equipment | | 0 | | \$84,000 | | | \$42,000 |
| Workstations | 300 | 280 | 84000 | | 50% | Dell, HP | |
| TOTAL ESTIMATED PROJECT BUDGET | | | | \$15,524,440 | | TOTAL EXPORT OPPORTUNITY: | \$12,608,639 |

Foreign Competition and Market Entry Issues

During preparatory research and meetings conducted during the Definitional Mission, we noted two growing trends that impact market entry and foreign competition: the increasing global competitiveness of Brazilian ICT firms across an array of industry segments, and dramatically increasing interest in foreign capital seeking to gain exposure to the Brazilian ICT sector through direct investments in the country.

During the DM trips to Brazil we had opportunity to visit State data center facilities and discuss their construction with technical personnel in the states of Espírito Santo, Bahia, Amazonas, and Amapá. We noted, without exception, that Brazilian Dense Wave Division Multiplexing equipment (essentially an optical switch that manages the transmission of data in different wavelengths of light) was in use. In another large-scale project, the State of Ceará chose Brazilian-made Dense Wave Division Multiplexing equipment to “light” their 3,000 kilometer fiber optic State backbone network. Upon further investigation we found that the Brazilian Development Bank BNDES has a “buy Brazilian” requirement on their financing, where competitive technologies are available. We consulted with Prodap regarding this requirement at the State level and were told that they were not aware of any explicitly “buy Brazilian” requirement on State funding, though they have in the past structure bid tenders in such a way that competitive Brazilian technologies will be considered.

In each data center we visited, we also noted that U.S. firms were extremely well-represented in technologies in use. Oracle (or Sun Microsystems, which was acquired) servers and racks were extremely common. Cisco switches and routers were present in some degree at each data center. Storage and storage area network solutions from EMC² were very common. Microsoft server software was very common. IBM solutions for mainframe computing and tape backup were either present or the first choice for new investment. HP user terminals, servers, and storage were also noted.

In our view U.S. technologies will continue to be very competitive for data center construction projects in Brazil. A number of U.S. products continue to be viewed as best in class for the majority of the major equipment types required for data center construction. The State data centers we visited already have a history of employing U.S. technologies and this installed base creates incentives for continued employment of these technologies, such as seamless interoperability of new systems and old and reduced need for training of technical personnel.

Legal and Regulatory Framework

Decree number 2788, published in the Official Diary of the State on May 2, 1997, in accordance with Law 0338, established the *Processamento de Dados do Amapá* for the purpose of programming, coordination, execution and monitoring of data processing in the State (primarily for State administrative entities) as well as to outline information technology policy and governance guidelines for the State. This decree also modified the original text of the Law to include the following regarding Prodap’s areas of activity: “[Prodap may] carry out any other related activities that directly or indirectly are deemed

necessary to the realization of its purpose.” Five years later, Prodap assumed exclusive responsibility for managing and implementing the State Government Information Technology Policy, as reflected in Decree 1346 of February 7, 2003. As a result, no legal or regulatory barriers to the project are expected.

Development Impact

ICT Infrastructure for Innovation in Public Service Delivery: Amapá State can reap significant rewards through applying ICT to all aspects of governance and e-inclusion. According to categories defined by USTDA, we would expect the following development impacts to be reasonably likely:

Infrastructure. The State of Amapá would benefit from a new information infrastructure enabling all aspects of governing and interface with their citizens;

Technology Transfer and Productivity Improvement. Prodap and Amapá State will acquire best-in-class information technology products, achieving greater price-performance for their hardware investments;

Human Capacity Building. Prodap appears to have gaps in sufficient qualified personnel to operate their data center, and has requested technical assistance with building Prodap’s technical skills;

Market-Oriented Reform. The Prodap data center will be implemented within existing law and regulation; and

Other. Development impacts will be felt in improved service delivery across all sectors.

Impact on the Environment

We estimate a neutral to slightly positive environmental impact for this project. Data centers can be very power-hungry, yet the U.S. is a global leader in developing increasingly “green” data center technologies. Power consumption is one of the major expenses of data centers, and under the analysis carried out under these terms of reference the requirements of these systems and their effect on the Total Cost of Ownership will be evaluated. The Grantee will thus benefit from having a complete evaluation of “green” U.S. data center technologies and their overall economy over their projected useful life. Considering that Prodap already operates a small data center, and is committed to building a new one, the analysis carried out under these Terms of Reference can reasonably be expected to help them find the “greenest” possible technologies.

Impact on U.S. Labor

ICT is a sector where U.S. firms play a leading global role. The ‘high value’ inputs into these products such as research & development, or Intellectual Property are made in the U.S. As a result of discussions with Cisco and Intel, we understand that U.S. ICT consider this value when

estimating U.S. content, placing it at about 65%-75% U.S. origin of their products even when manufacturing may take place outside of the U.S. This project would not affect this balance.

The proposed technical assistance to Prodap is in accordance with U.S. appropriations legislation for Foreign Operations, Export Financing and Related Programs. In particular the proposed technical assistance will not:

- create any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside of the United States;
- violate any internationally recognized workers' rights; or
- expand production of any commodity for export by any country other than the United States.

Qualifications of Key Personnel

[This section has been removed for RPF distribution.]

Justification

A technical assistance grant from USTDA has a strong likelihood of resulting in critical information infrastructure enabling new growth and innovation in the public sector service delivery in Amapá, helping bring the State out of political, economic, and logistical isolation. This project would create opportunities for U.S. firms to demonstrate technology leadership, while creating an amenable environment for market entry or sustainability for their Brazilian operations. A successful Amapá State data center would provide a tangible model for the role U.S. firms and institutions may play in the 'greening' of Brazilian ICT and the social and economic benefit that could result from it. These interventions are squarely within USTDA's competencies and mandate, making them an ideal partner for the Project Sponsor to build trade relationships with the U.S. and through U.S. institutions.

Terms of Reference

[This section has been removed for RFP Distribution. Please see Annex 5 of the RFP]

Professional Qualifications of Key Personnel

[This section has been removed for RFP Distribution]

Evaluation Factors

[This section has been removed for RFP Distribution. Please see Section 4: Award Criteria of the RFP]

Applicable Estimated Labor Rates

[This section has been removed for RFP Distribution]

Project Budget

[This section has been removed for RFP Distribution]

ANNEX 3



**U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131**

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

“Source” means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

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U.S. TRADE AND DEVELOPMENT AGENCY
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GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Departamento de Processamento de Dados do Estado de Amapá ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$572,275 ("USTDA Grant") to fund the cost of goods and services required for a technical assistance ("Technical Assistance") on the proposed Amapá State Information Technology Strategy and Data Center Design Project ("Project") in Brazil ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of Agreement of Understanding to Perform the Technical Assistance between the Grantee and the U.S. firm selected by the Grantee ("U.S. Firm") under which the U.S. Firm will perform the Technical Assistance ("Agreement of Understanding"). Payment to the U.S. Firm will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the Technical Assistance ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Technical Assistance will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Technical Assistance shall also be included in the Agreement of Understanding.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, USTDA, the Grantee, and the U.S. Firm shall not directly or indirectly provide, offer or promise to provide money or anything of value to any public official in violation of any United States or Host Country laws relating to corruption or bribery.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the U.S. Firm, such as local transportation, office space, and secretarial support.

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5. Agreement of Understanding Matters and USTDA's Rights as Financier

(A) Grantee Competitive Selection Procedures

Selection of the U.S. U.S. Firm shall be carried out by the Grantee according to its established procedures for the competitive selection of U.S. Firms with advance notice of the procurement published online through *Federal Business Opportunities* (www.fedbizopps.gov). Upon request, the Grantee will submit these Agreement of Understanding procedures and related documents to USTDA for information and/or approval.

(B) USTDA's Right to Approve U.S. Firm Selection

The Grantee shall notify USTDA at the address of record set forth in Article 16 below upon selection of the U.S. Firm to perform the Technical Assistance. USTDA then shall notify the Grantee whether or not USTDA approves the Grantee's U.S. Firm selection. Upon USTDA approval of the Grantee's U.S. Firm selection, the Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Technical Assistance that they were not selected. The Grantee and the U.S. Firm then shall enter into an Agreement of Understanding for performance of the Technical Assistance.

(C) USTDA's Right to Approve Agreement of Understanding Between Grantee and U.S. Firm

(1) Agreement of Understanding

The Grantee and the U.S. Firm shall enter into an Agreement of Understanding for performance of the Technical Assistance. The Grantee (or the U.S. Firm on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 16 below, a photocopy of an English language version of the signed Agreement of Understanding or a final negotiated draft version of the Agreement of Understanding. USTDA then shall notify the Grantee and the U.S. Firm whether or not USTDA approves the Agreement of Understanding.

(2) Amendments and Assignments

The Grantee or the U.S. Firm may submit any proposed amendment to the Agreement of Understanding, including any proposed amendment to any annex thereto, or any proposed assignment of the Agreement of Understanding, to USTDA at the address set forth in Article 16 below. USTDA then shall notify the Grantee and the U.S. Firm whether or not USTDA approves the proposed amendment or assignment.

(D) USTDA Not a Party to the Agreement of Understanding



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It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the Agreement of Understanding and any amendments thereto, including assignments, the selection of all U.S. Firms, the Terms of Reference, the Final Report, and any and all documents related to any Agreement of Understanding funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the Technical Assistance and shall not be construed as making USTDA a party to the Agreement of Understanding. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the Agreement of Understanding or any sub-contract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the U.S. Firm, or relieve the U.S. Firm of any liability which the U.S. Firm might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the Agreement of Understanding or any sub-contract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and the Agreement of Understanding or any sub-agreement of Understanding funded by the Grant Agreement, the Grant Agreement shall control.

6. Disbursement Procedures

(A) USTDA Approval of Agreement of Understanding Required

USTDA will make disbursements of Grant funds directly to the U.S. Firm only after USTDA approves the Grantee's Agreement of Understanding with the U.S. Firm.

(B) U.S. Firm Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the U.S. Firm for performance of the Technical Assistance by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

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8. Technical Assistance Schedule

(A) Technical Assistance Completion Date

The completion date for the Technical Assistance, which is January 31, 2015, is the date by which the parties estimate that the Technical Assistance will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (i) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (ii) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

9. USTDA Mandatory Agreement of Understanding Clauses

All Agreement of Understandings funded under this Grant Agreement shall include the USTDA Mandatory Agreement of Understanding Clauses set forth in Annex II to this Grant Agreement. All sub-agreements funded or partially funded with USTDA Grant funds shall include the USTDA Mandatory Agreement of Understanding Clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under this Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under this Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under this Grant Agreement:

- (a) the U.S. Firm must be a U.S. firm;
- (b) the U.S. Firm may use U.S. subcontractors without limitation;

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(c) employees of U.S. Firm or U.S. subcontractors shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;

(d) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the U.S. Firm;

(e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subagreement;

(f) subcontractors from countries other than the United States or Host Country may not be used;

(g) goods purchased for performance of the Technical Assistance and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and

(h) goods and services incidental to Technical Assistance support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under this Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. Neither the Grantee nor the U.S. Firm will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

13. USTDA Project Evaluation

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report, the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project. Inquiries will include, but not be limited to, whether the Final Report recommendations have been or will be used to implement the Project, anticipated Project implementation timeline, and likely source of financing. In addition, the Grantee agrees to notify USTDA any time the Grantee selects a new primary contact person for this Project during the five-year period referenced above.

14. Recordkeeping and Audit

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The Grantee agrees to maintain books, records, and other documents relating to the Technical Assistance and this Grant Agreement adequate to demonstrate implementation of its responsibilities under this Grant Agreement, including the selection of U.S. Firms, receipt and approval of Agreement of Understanding deliverables, and approval or disapproval of U.S. Firm invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the Technical Assistance and the Grant Agreement.

15. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its President. The parties hereto may, by written notice, designate additional representatives for all purposes under this Grant Agreement.

16. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through an electronic medium that produces a tangible record of the transmission, such as a facsimile or e-mail message, and will be deemed duly given or sent when delivered to such party at the following:

To: Centro de Gestão da Tecnologia da Informação - Prodap
Rua São José, S/N.
Macapa, Amapa
Brazil

Phone: 55 (96) 3131-2600
E-mail: alipio.junior@prodap.ap.gov.br

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009
E-Mail: grantnotices@ustda.gov and lac@ustda.gov

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial or Economic Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

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Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 11 13/141001
Activity No.: 2013-51023A
Reservation No.: 2013236
Grant No.: GH201351236

17. Implementation Letters

To assist the Grantee in the implementation of the Technical Assistance, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by this Grant Agreement. USTDA may also issue implementation letters to (i) extend the estimated completion date set forth in Article 8(A) above, or (ii) change the fiscal data set forth in Article 16 above. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by this Grant Agreement.

18. Grant Agreement Amendments

Either party may submit to the other party at any time a proposed amendment to the Grant Agreement. A Grant Agreement amendment shall be effective only if it has been signed by both parties.

19. Termination Clause

Either party may terminate this Grant Agreement by giving the other party written notice thereof. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the Technical Assistance, except for payments that may be made pursuant to Clause I of the USTDA Mandatory Agreement of Understanding Clauses set forth in Annex II to this Grant Agreement. This article and Articles 5, 12, 13, 14, and 21 of the Grant Agreement shall survive termination of the Grant Agreement.

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20. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

21. U.S. Technology and Equipment

By funding this Technical Assistance, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

22. Governing Law

This Grant Agreement shall be governed by, and construed in accordance with, the applicable laws of the United States of America. In the absence of federal law, the laws of the State of New York shall apply.

23. Counterparts

This Grant Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same agreement. Counterparts may be delivered via electronic mail or other transmission method and any counterpart so delivered shall be deemed to be valid and effective for all purposes.

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IN WITNESS WHEREOF, the Government of the United States of America and the Departamento de Processamento de Dados do Estado de Amapá, each acting through its duly authorized representative, have caused this Grant Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America

For the Departamento de Processamento de Dados do Estado de Amapá

By: 

By: José Alípio Piniz de Moraes Junior

Date: August 30, 2013

Date: 29.08.2013

Witnessed:

Witnessed:

By: 

By: Wanja Correia da Silva

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

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Annex II

USTDA Mandatory Agreement of Understanding Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this Agreement of Understanding acknowledge that this Agreement of Understanding is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and Departamento de Processamento de Dados do Estado de Amapá ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("U.S. Firm") to perform the technical assistance ("Technical Assistance") for the Amapá State Information Technology Strategy and Data Center Design ("Project") in Brazil ("Host Country"). The Client and the U.S. Firm are the parties to this Agreement of Understanding, and they hereinafter are referred to collectively as the "Agreement of Understanding Parties." Notwithstanding any other provisions of this Agreement of Understanding, the following USTDA Mandatory Agreement of Understanding Clauses shall govern. All subagreements entered into by U.S. Firm funded or partially funded with USTDA Grant funds shall include these USTDA Mandatory Agreement of Understanding Clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and the Agreement of Understanding or any subagreement thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Agreement of Understanding

This Agreement of Understanding, and any amendment thereto, including any amendment to any annex thereto, and any proposed assignment of this Agreement of Understanding, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the Agreement of Understanding conforms to modifications required by USTDA during the Agreement of Understanding review process and the Agreement of Understanding has been formally approved by USTDA. To make this review in a timely fashion, USTDA must receive from either the Client or the U.S. Firm an English language version of a final negotiated draft Agreement of Understanding or a signed Agreement of Understanding to the attention of the General Counsel's office at USTDA's address listed in Clause N below.

(2) USTDA Not a Party to the Agreement of Understanding

It is understood by the Agreement of Understanding Parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this Agreement of Understanding and amendments thereto, including assignments, the selection of all U.S. Firms, the Terms of Reference, the Final Report, and any and all

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documents related to any Agreement of Understanding funded under the Grant Agreement. The Agreement of Understanding Parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the Technical Assistance and shall not be construed as making USTDA a party to the Agreement of Understanding. The Agreement of Understanding Parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the Agreement of Understanding Parties or the parties to any subagreements, jointly or separately; and in consideration of USTDA's role as financier, the Agreement of Understanding Parties further agree that USTDA's rights may be exercised without thereby incurring any responsibility or liability, in Agreement of Understanding, tort, or otherwise, to the Agreement of Understanding Parties or the parties to any subagreement. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the U.S. Firm, or relieve the U.S. Firm of any liability which the U.S. Firm might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under the Grant Agreement:

- (a) the U.S. Firm may use U.S. subcontractors without limitation;
- (b) employees of the U.S. Firm or U.S. subcontractors shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;
- (c) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the U.S. Firm;
- (d) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subagreement;
- (e) subcontractors from countries other than the United States or Host Country may not be used;
- (f) goods purchased for performance of the Technical Assistance and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and

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(g) goods and services incidental to Technical Assistance support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The U.S. Firm and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the Agreement of Understanding. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the period of performance of work provided for by this Agreement of Understanding, and for a period of three (3) years after final disbursement by USTDA. The U.S. Firm and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The U.S. Firm shall provide adequate Workman's Compensation Insurance coverage for work performed under this Agreement of Understanding.

G. Reporting Requirements

The U.S. Firm shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the Technical Assistance. In addition, if at any time the U.S. Firm receives follow-on work from the Client, the U.S. Firm shall so notify USTDA and designate the U.S. Firm's contact point including name, telephone, fax number, and e-mail address. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such

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by the U.S. Firm and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Agreement of Understanding

Disbursement of Grant funds will be made only after USTDA approval of this Agreement of Understanding.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the U.S. Firm shall be included in this Agreement of Understanding. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon Agreement of Understanding performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon approval by USTDA of a Final Report that has been (i) prepared and submitted in accordance with the requirements set forth in Clause I below, and (ii) approved in writing by the Client in the manner provided for by Clause H(3)(b)(iii) below. Invoicing procedures for all payments are described below.

(3) U.S. Firm Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the U.S. Firm. The U.S. Firm must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the U.S. Firm for performance of the Agreement of Understanding by submitting the following to USTDA:

(a) U.S. Firm's Invoice

The U.S. Firm's invoice shall include reference to an item listed in the Agreement of Understanding payment schedule, the requested payment amount, and an appropriate certification by the U.S. Firm, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the U.S. Firm certifies that it will perform all work in accordance with the terms of its Agreement of Understanding with the Client. To the extent that the U.S. Firm does not comply with the terms and conditions of the Agreement of Understanding, including the USTDA Mandatory Agreement of Understanding Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "



(ii) For Agreement of Understanding performance milestone payments:

"The U.S. Firm has performed the work described in this invoice in accordance with the terms of its Agreement of Understanding with the Client and is entitled to payment thereunder. To the extent the U.S. Firm has not complied with the terms and conditions of the Agreement of Understanding, including the USTDA Mandatory Agreement of Understanding Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The U.S. Firm has performed the work described in this invoice in accordance with the terms of its Agreement of Understanding with the Client and is entitled to payment thereunder. Specifically, the U.S. Firm has submitted the Final Report to the Client, as required by the Agreement of Understanding, and received the Client's approval of the Final Report. To the extent the U.S. Firm has not complied with the terms and conditions of the Agreement of Understanding, including the USTDA Mandatory Agreement of Understanding Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the U.S. Firm's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For Agreement of Understanding performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the U.S. Firm have been performed satisfactorily, in accordance with applicable Agreement of Understanding provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the U.S. Firm have been performed satisfactorily, in accordance with applicable Agreement of Understanding provisions and the terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the U.S. Firm has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

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Requests for disbursement shall be submitted to the attention of the Finance Department at USTDA's address listed in Clause N below, or by e-mail to invoices@ustda.gov.

I. Termination

(1) Method of Termination

Either Agreement of Understanding Party may terminate this Agreement of Understanding upon giving written notice to the other party and USTDA. This notice shall be effective after either 30 days, or any other period set forth elsewhere in this Agreement of Understanding. Furthermore, this Agreement of Understanding shall terminate immediately upon notification of USTDA's termination of the Grant Agreement or the term of availability of any funds thereunder.

(2) Ramifications of Termination

In the event that this Agreement of Understanding is terminated prior to completion, the U.S. Firm will be eligible, subject to USTDA approval, for payment for the value of the work performed pursuant to the terms of this Agreement of Understanding. Likewise, in the event of such termination, USTDA is entitled to receive from the U.S. Firm all USTDA Grant funds previously disbursed to the U.S. Firm (including but not limited to mobilization payments) which exceed the value of the work performed pursuant to the terms of this Agreement of Understanding.

(3) Survivability

Clauses B, D, G, H, I, and O of the USTDA Mandatory Agreement of Understanding Clauses shall survive the termination of this Agreement of Understanding.

J. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The U.S. Firm shall provide the following to USTDA:

(a) One (1) complete hard copy of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the U.S. Firm to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) hard copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the U.S. Firm to ensure that no confidential information is contained on the CD-ROMs.

The U.S. Firm shall also provide one (1) hard copy of the Public Version of the Final Report to the Commercial or Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the U.S. Firm who prepared the report, a report title, USTDA's logo, and USTDA's address. If the complete version of the Final Report contains confidential information, the U.S. Firm shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The U.S. Firm shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings,

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conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's address, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The U.S. Firm shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the U.S. Firm who prepared the report, a report title, and the following language:

"The U.S. Firm certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The U.S. Firm and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for U.S. Firm and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

(g) The Client, USTDA, and the Commercial and/or Economic Section(s) of the U.S. Embassy in Host Country shall have irrevocable, worldwide, royalty-free, non-exclusive rights to use and distribute the Final Report.

K. Modifications

All changes, modifications, assignments or amendments to this Agreement of Understanding, including the appendices, shall be made only by written agreement by the Agreement of Understanding Parties hereto, subject to written USTDA approval.

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L. Technical Assistance Schedule

(1) Technical Assistance Completion Date

The completion date for the Technical Assistance, which is January 31, 2015, is the date by which the Agreement of Understanding Parties estimate that the Technical Assistance will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Agreement of Understanding for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

M. Business Practices

The Agreement of Understanding Parties recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, the Agreement of Understanding Parties shall fully comply with all United States and Host Country laws relating to corruption or bribery. For example, the U.S. Firm and its subcontractors shall fully comply with the requirements of the Foreign Corrupt Practices Act, as amended (15 U.S.C. §§ 78dd-1 et seq.). Each Agreement of Understanding Party agrees that it shall require that any agent or representative hired to represent it in connection with the Technical Assistance will comply with this paragraph and all laws which apply to activities and obligations of that Agreement of Understanding Party, including, but not limited to, those laws and obligations referenced above.

N. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Agreement of Understanding shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357

Fax: (703) 875-4009

Fiscal Data:

Appropriation No.: 11 13/141001

Activity No.: 2013-51023A

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Reservation No.: 2013236
Grant No.: GH201351236

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. Neither the Client nor the U.S. Firm will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

P. Export Licensing

The U.S. Firm and all subcontractors are responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

Q. Contact Persons

The Client designates the following person as the contact person for matters concerning this Agreement of Understanding:

Centro de Gestão da Tecnologia da Informação - Prodap
Rua São José, S/N
Macapa, Amapa
Brazil

Phone: 55 (96) 3131-2600
E-mail: alipio.junior@prodap.ap.gov.br

The U.S. Firm designates the following person as the contact person for matters concerning this Agreement of Understanding:

Name:
Title:
Phone:
Fax:
E-Mail:

If anyone designated by an Agreement of Understanding Party as a contact person ceases service as a contact person at any point during the ten-year period following the date of signing of this Agreement of Understanding, the Agreement of Understanding Party that had designated that contact person shall provide USTDA and the other Agreement of Understanding Party with the name and contact information of a replacement contact person.



R. Liability

This Agreement of Understanding may include a clause that limits the liability of the Agreement of Understanding Parties, provided that such a clause does not (i) disclaim liability for special, incidental, general, or punitive damages, or (ii) limit the total amount of damages recoverable to an amount less than the total amount disbursed to the U.S. Firm pursuant to this Agreement of Understanding.

S. Arbitration

If the Agreement of Understanding Parties submit any dispute arising under this Agreement of Understanding for arbitration, the scope of any such arbitration shall be limited to the Agreement of Understanding Parties' rights and/or obligations under this Agreement of Understanding and may not extend to any right or obligation of USTDA. The arbitrator(s) shall not arbitrate issues directly affecting the rights or obligations of USTDA.

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ANNEX 5

Annex I

Terms of Reference

Objective

The two main objectives of these terms of reference are: first, to review and refine the over-arching technology strategy of the State of Amapá to develop a clear, non-technical vision guiding Amapá ICT investments that will describe how information infrastructure shall facilitate continued improvement in the core business processes of Amapá as a whole, and specify technical standards that will help ensure that disparate ICT investments remain interoperable and complementary; second, to determine the fundamental design requirements, budget, and implementation plan for the Amapá State data center project in light of the refined technology strategy. These two strategy and technical design objectives shall be carried out in parallel.

The U.S. Firm shall provide all deliverables in Portuguese unless otherwise indicated in this Terms of Reference.

Task 1: Preliminary Analysis

The purpose of this task is to ensure that the U.S. Firm is well-versed in the strategy, targets and policy commitments of the Amapá State Government in order to refine the Amapá State technology strategy. The U.S. Firm shall review the following:

- Government of Amapá State policy commitments and economic development strategies;
- International good practice in information architecture design and change initiatives for complex organizations;
- International good practice in e-Government and ICT-enabled public services, particularly focusing on cases where large-scale investments in information infrastructure have been undertaken.

The U.S. Firm shall review, at a minimum, the following documents and data: The Amapá State ICT strategy documents, or the ICT strategy documents of Amapá State Agencies, Secretariats, or Offices;

- Existing key Amapá State information infrastructure including data centers and public networks;
- Current business research results culling lessons on development of effective information architecture visions from complex organizations and global firms from business journals¹ or researchers of reference;

¹ E.g. Sloan Business Review, Harvard Business Review, McKinsey Quarterly etc.

- At least 2 successful large-scale e-Government/e-Governance implementation strategies in developed or large emerging economies that shall be relevant to the Amapá State context.

Task 1 Deliverables:

Deliverable 1.1: Preliminary Analysis Report

The U.S. Firm shall prepare an 8-10-page report (excluding appendices and Executive Summary), in Portuguese, summarizing methodology of review and selection of relevant examples, and highlighting approaches to:

- Potentially applicable private sector information architecture strategies;
- Potentially applicable large-scale public sector information architectures and strategies observed in at least 2 developed or large emerging economies that appear to be strongly relevant to the Amapá State context; and
- A set of provisional recommendations for pursuing information architecture development for e-Government/e-Governance in Amapá State.

Deliverable 1.2: PowerPoint Presentation

The U.S. Firm shall prepare a 15-20 slide (approximately 20 minute) PowerPoint presentation, in Portuguese, for delivery to Prodap, Amapá State Agencies and any other stakeholders identified by Prodap. The presentation shall summarize the methodology and findings of Task 1 and present provisional recommendations for developing an over-arching e-Government/e-Governance architecture for Amapá State. The PowerPoint presentation shall include all citations and any key discussion points from the Summary Report in the notes section of relevant slides.

All deliverables under Task 1 shall be transmitted to Prodap for review and comment before the U.S. Firm travels to Amapá.

The U.S. Firm shall prepare a report including all the deliverables under this task.

Task 2: Review and Refine the Over-Arching ICT Strategy of Amapá State

Sub-Task 2.1: Amapá State Application Inventory and Business Process Survey

The U.S. firm shall develop, with Prodap input, a standard questionnaire in Portuguese that shall be used to gather information on business processes, critical and non-critical applications, and information infrastructure (e.g. networks, data centers) of Amapá State operating units and entities supported by Prodap. The U.S. Firm shall survey 20 Offices,

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Departments, or Agencies of the State Government considered by Prodap to be their most critical clients, as well as any key stakeholders recommended by Prodap, to develop a map of the workflow and business processes between them, and with the general public, from a transactional perspective (i.e. what products or services are produced in the Amapá State operating unit and provided to other operating units or the general public, and what products or services does the operating unit need from other units or the general public to do its work effectively).

With facilitation by Prodap, the U.S. Firm shall visit Office, Secretariats and Agencies including:

- Gabinete do Governador
- Gabinete do Vice-Governador
- Câmara Municipal de Macapá
- Secretaria de Estado da Casa Civil
- Secretaria de Estado da Casa Militar
- Departamento Estadual de Trânsito
- Superintendência Regional do Departamento de Polícia Federal no Estado de Amapá
- Procuradoria Geral do Estado
- Delegacia Geral de Policia Civil
- Secretaria de Estado da Fazenda
- Secretaria de Estado de Governo
- Secretaria de Estado de Infraestrutura
- Secretaria de Estado da Juventude, Esporte e Lazer
- Secretaria de Estado de Justiça e Direitos Humanos
- Secretaria de Estado de Planejamento e Desenvolvimento Econômico
- Secretaria de Estado do Trabalho
- Secretaria de Estado de Segurança Pública
- Secretaria de Estado de Saude
- Tribunal de Contas do Estado
- Secretaria de Estado de Educação

With facilitation from Prodap, the standard questionnaire shall be sent to IT personnel at all other stakeholder entities that directly or indirectly make up the State government, autonomous agencies, and other entities linked to public service delivery.

The U.S. Firm shall specifically seek to identify common needs across State Government offices to access services or data to do their jobs effectively including, at a minimum:

- Information technology infrastructure
- Desktop applications
- Web applications
- Budget or Finance services

- Human resources services
- Supply chain or procurement services
- Property or facilities management
- Document or Records Management
- Legal services
- Customer interaction/Customer relationship management support

The U.S. Firm shall note specific applications in use by State Government staff to do their jobs including, at a minimum:

- Financial management and planning,
- Human resources management
- Database management & resources
- Web applications
- Online portals
- Desktop applications

Sub-Task 2.1 Deliverables

2.1a: The U.S. Firm shall develop, with PRODAP input, a standard questionnaire in Portuguese that shall be used during the survey of business processes, applications, and information infrastructure (e.g. networks, data centers) of Amapá State operating units.

2.1b: The U.S. Firm shall prepare a comprehensive network diagram or series of diagrams mapping current high level business processes within the State Government, and between Government and the public, from a transactional perspective. The U.S. Firm shall summarize and highlight opportunities for sharing processes, services, and data across State Government operating units that are illustrated by the transactional network diagrams.

Sub-Task 2.2: Develop an Orienting Vision for State Government Information Infrastructure

The purpose of this task is to ensure that the State Government technology strategy and engagement model is reflected in a clearly articulated vision and non-technical diagram depicting the desired information architecture the State would like to build, and to facilitate communication with senior administrators, stakeholders, and the general public.

Subtask 2.2.1: Define the Problem

Based on a detailed understanding of Amapá State work processes and over-arching strategy, The U.S. Firm shall, with State Government stakeholder input, develop a 1-3 paragraph problem statement describing the entire complex problem posed by current and future State Government

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workflows and services. The statement shall specifically point to the array of challenges and needs that ICT systems may help to address.

Subtask 2.2.2: Refine an over-arching goal for the e-Government/Governance architecture

The U.S. Firm shall refine an over-arching strategic goal for their desired e-Government/e-Governance architecture. The purpose of this goal shall be to orient any architecture, systems, or applications that will be implemented by the State Government. The goal shall be formulated in non-technical language that can be easily communicated to senior managers, stakeholders, and the general public.

Subtask 2.2.3 Develop a conceptual diagram depicting the desired over-arching e-Government/Governance architecture for Amapá State

The U.S. Firm shall develop a one-page, non-technical conceptual diagram that depicts the high-level desired Government processes, shared Government data, and points of interface with the public. This diagram shall be conceptual rather than technical, and shall be developed specifically to depict the role of key Amapá State information infrastructure in improving public administration and service delivery, to non-technical senior State Government officials, mid-level managers, the general public and potentially to vendors.

Subtask 2.2.5 IT Governance, Standards and Guidelines

Based on the Organizational Network Diagram developed under Subtask 2.1b and the desired conceptual architecture for e-Government developed under Subtask 2.2.3, and a review of current Amapá State practices, the U.S. Firm shall develop a list of recommended approaches or existing frameworks for IT Governance, Standards, and Implementation Guidelines that will enable diverse investments made by disparate State operating units to interoperate.

Sub-Task 2.2.1-5 Deliverables

The U.S. Firm shall prepare:

- A 1-3 paragraph problem statement describing the entire complex problem posed by current and expected future Amapá State workflows and services;
- An over-arching strategic goal statement for the desired State e-Government architecture;

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- A 1-page, non-technical conceptual diagram that depicts the desired over-arching, high-level Amapá State e-Government/e-Governance architecture;
- A list of detailed recommendations on IT Governance, technical standards, and implementation guidelines that may orient ICT investments by disparate Government agencies to ensure greater inter-operability.
- A 20-25 slide (approximately 25 minute) PowerPoint presentation for delivery and validation by Prodap, Amapá State Agencies and other stakeholders identified by Prodap, that shall summarize the methodology and findings of Business Process and Organizational Network Analysis, and will present a recommended e-Government/e-Governance information architecture for realizing Amapá State technology strategies.

Task 2 Deliverables:

The U.S. firm shall prepare a report including all the deliverables under this task.

Task 3: Determine Amapá State Data Center Engineering Requirements, Total Cost of Ownership, and Implementation Plan

Sub-Task 3.1 Inventory of Requirements for Supporting Critical and Non-Critical Amapá State Applications

The purpose of this sub-task is to ensure that all critical and non-critical Amapá State business processes that are supported by information technology solutions and applications are adequately supported over the expected useful life of the Amapá State data center, and to help Amapá State identify opportunities for cost savings by differentiating between requirements for critical and non-critical applications, in-house versus third party services.

3.1.1: Comprehensive Inventory of Critical and Non-Critical Amapá State Applications

The U.S. Firm shall prepare a summary inventory of applications in use by Amapá State and specify the storage, servers, backup power, network capacity and any other technical requirements necessary for proper support and functioning of these Amapá State applications. The U.S. Firm shall specify which applications are critical for supporting Amapá State business processes, and which applications are less critical.

3.1.2 Project required capacity and growth of critical and non-critical applications supported by the data center.

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Building on the applications inventory and requirements specified under sub-task 3.1.1, and in light of the Amapá State technology strategy, the U.S. Firm shall project required storage, power, backup power, servers, network capacity and any other technical requirements necessary for proper support and functioning of critical Amapá State applications over the projected usable life of the data center infrastructure.

In addition the U.S. Firm shall project, with State Government input, the requirements for supporting non-critical applications that may require less investment in backup power, network capacity, computing power, or other resources; and shall suggest strategies for supporting these applications more economically than the critical applications (i.e., using the current PRODAP data center assets).

3.1.3 Outline capital and operating cost implications of a minimum of three options for supporting critical and non-critical applications to be supported by the data center

The U.S. Firm shall investigate and detail the capital and operating cost implications of three options for supporting critical and non-critical applications including, at a minimum:

- Treating all applications as “critical, in-house” applications that will be supported to the highest possible degree of performance and reliability by the Amapá State data center;
- Differentiating between “critical” and “non-critical” applications that will be supported “in-house” by the Amapá State data center;

The capital and operating cost analysis for these options shall examine, at a minimum:

- Servers and server racks;
- Storage assets;
- Switches and routers;
- Network capacity;
- Power supply and control;
- Standby power;
- Computing assets;
- Cooling requirements;
- Software and licenses; and
- Network operations center requirements.

Sub-Task 3.1 Deliverables:

3.1.1.: The U.S. Firm shall compile an inventory of critical and non-critical applications, and of current requirements for supporting critical

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and non-critical Amapá State ICT applications, including power supply, backup power, data storage, network capacity, servers, computing power, and any other technical requirements to support these applications.

3.1.2: The U.S. Firm shall develop a projection by application, and in light of Amapá State strategy, of the expected future requirements for supporting critical and non-critical Amapá State ICT applications including power supply, backup power, data storage, network capacity, servers, computing power, and any other technical requirements that will be required to support critical and non-critical applications over the projected life of the Amapá State data center.

3.1.3 The U.S. Firm shall develop a spreadsheet model capturing and comparing capital and operating costs of at least three scenarios for supporting “critical” or “non-critical” Amapá State applications over the useful life of the data center.

Sub-Task 3.2: Estimate and Project Data Center Power Supply Requirements and Cost

Building on the inventory and projections made under sub-task 3.1, the U.S. Firm shall consolidate current and projected future power supply requirements for critical and non-critical applications to estimate total power requirements for the Amapá State data center over its projected useful life. The U.S. Firm shall consider, at a minimum:

- Critical loads for server and storage equipment;
- The loads of other equipment located in the data center such as switches, routers, and computers;
- Future loads in the data center based on Amapá State’s expected future needs;
- Other power loads associated with the data center, such as lighting, cooling, standby power, and generators; and
- Mean time to repair for any critical power supply solutions.

The U.S. Firm, with Amapá State Government inputs, shall validate these estimates and projections through consultations with, at a minimum:

- Data center personnel (system and network administrators) to estimate the power requirements for all devices located in the data center;
- The power requirements of heating and cooling systems;
- Amapá State personnel and stakeholders who can aid in determining future requirements;
- An electrical engineer; and
- The power utility company that will supply the data center.

The U.S. Firm shall estimate total cost of power supply over the useful life of the infrastructure, based on assumptions these personnel and resource people consider to be reasonable.

Subtask 3.2 Deliverables

3.2.1 The U.S. Firm shall prepare an estimate, by quarter, of projected power supply requirements for the Amapá State data center over its expected useful life.

3.2.2 The U.S. Firm shall prepare an estimate, by quarter, of projected power costs over the expected useful life of the Amapá State data center.

3.2.3 The U.S. Firm shall prepare a document specifying technical requirements an emergency generator must fulfill.

3.2.4 The U.S. Firm shall prepare a schematic diagram describing, at a minimum, the recommended power supply installation including utility power, emergency generator power, a sub-station, and power distribution.

Sub-Task 3.3 Specify and Project Data Center Cooling Requirements and Cost

Building on the inventory and projections made under sub-task 3.1, the U.S. Firm shall consolidate current and projected future cooling requirements for critical and non-critical applications to estimate total cooling requirements for the Amapá State data center over its projected useful life.

The U.S. Firm shall consider, at a minimum, the heat output from:

- Servers and storage devices;
- Other IT equipment including routers, switches and computers;
- Projected future equipment;
- The standby power equipment;
- Power distribution systems;
- Lighting appliances;
- Redundant cooling capacity of business continuity systems; and
- Personnel working in the data center.

The U.S. Firm shall validate these projections through consultations with, at a minimum:

- Current data center and IT personnel;
- A mechanical engineer experienced in the design, installation and testing of heating and cooling systems for data centers, as well as the power requirements of these systems; and

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- 2-3 cooling system vendors to detail the potential equipment (e.g. air cooled versus water cooled systems), installation costs, and power consumption needed to meet the cooling requirements of the data center.

Subtask 3.3 Deliverables

- 3.3.1 The U.S. Firm shall prepare an estimate, by year, of projected cooling requirements for the Amapá State data center over its expected useful life.
- 3.3.2 The U.S. Firm shall prepare an estimate, by year, of projected cooling equipment capital and operating costs over the expected useful life of the Amapá State data center, comparing the expected cost of ownership of alternative cooling options (e.g. air cooled versus water-cooled systems) over the expected useful life of the data center.

Sub-Task 3.4 Specify Standby Power Requirements

Based on Amapá State’s technology strategy, the U.S. Firm shall, with Amapá State input, estimate the standby power requirements for the Amapá State data center. The U.S. Firm, with Amapá State input, shall specify what criteria will be used in determining standby power requirements (e.g. until an emergency generator can be started, until servers and other computing assets can be shut down safely, etc.)

The standby power requirements estimates shall be based on an understanding of Amapá State technology strategy and shall reflect, at a minimum:

- Critical nature of key applications and their availability;
- Redundant standby power capabilities for business continuity;
- Amapá State’s tolerance for risk tolerance;
- Power requirements for servers and equipment;
- Cooling requirements;
- Future power and cooling requirements;
- Emergency lighting;
- Physical security and access to the data center; and
- Mean time to repair standby power solutions.

The U.S. Firm shall validate standby power estimates with, at a minimum:

- Amapá State stakeholders’ risk tolerance;
- IT staff;
- An electrical engineer; and
- Vendors who can outline equipment options and costs for standby power devices such as UPS, generators, or flywheel technologies.

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Subtask 3.4 Deliverables

- 3.4.1 The U.S. Firm shall prepare an estimate, by year, of projected standby power requirements for the Amapá State data center over its expected useful life.
- 3.4.2 The U.S. Firm shall prepare an estimate, by year, of projected standby power capital equipment and operating costs over the expected useful life of the Amapá State data center, comparing the expected total cost of ownership of alternative standby power options (e.g. batteries versus flywheels).

Sub-Task 3.5 Specify Fire Protection Requirements

The U.S. Firm shall specify, with Amapá State input, requirements for the fire protection systems for the data center including, at a minimum:

- Smoke and heat detection systems;
- Notification or alarm systems;
- Power-off systems for emergencies;
- Fire suppression systems (e.g. sprinklers or fire retardant agents); and
- Fire extinguishers.

In specifying these requirements, the U.S. Firm shall consult, at a minimum:

- State and Federal regulations and building codes relevant to fire protection;
- Research into global good practice for data center fire protection; and
- Vendors providing data center fire protection products and systems to determine the equipment options and costs.

Sub-Task 3.5 Deliverable: The U.S. Firm shall prepare a detailed recommendation of fire protection system requirements including recommended equipment, locations, and cost of deployment over the expected useful life of the data center.

Sub-Task 3.6 Estimate Data Center Size

The purpose of this sub-task is to estimate the size of the data center in accordance with present and future requirements, in light of the Amapá State technology strategy and budget.

The U.S. Firm shall estimate the total amount of floor space required for the data center, considering, at a minimum, space for:

- Information infrastructure assets;

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- Power, standby power, and cooling assets;
- Employee workspace;
- Network management and control center space;
- Ducting and cabling;
- Entrance and exit space (for people, vehicles, ducts or cables); and
- Redundant power, cooling, storage, computing or other assets required for business continuity.

The U.S. Firm shall consult, at a minimum:

- Amapá State IT personnel; and
- Amapá State building or facilities managers.

Sub-Task 3.6 Deliverable: The U.S. Firm shall prepare a calculation and summary recommendation of total minimum floor space required for the expected useful life of the data center.

Sub-Task 3.7 Specify Requirements for Physical Location, Layout and Design

The purpose of this task is to determine optimal allocation of data center space to facilitate workflow and ensure adequate space for present and future data center assets in light of Amapá State technology strategy and budget.

Building on requirements gathered and refined under sub-tasks 3.1-3.6, the U.S. Firm shall develop a model layout of the data center to house present and future computing, power, cooling, fire protection, standby power, and all other information infrastructure assets. The U.S. Firm shall consider, at a minimum:

- Workflow within the data center facility;
- Physical security;
- Location of computing and storage assets;
- Location of emergency power supply assets;
- Location of standby power assets;
- Location of cooling system assets;
- Location of network management and control center space;
- Most efficient paths for ducting and cabling; and
- Entrance and exit (for people, vehicles, ducts or cables).

The Contactor shall consult, at a minimum:

- Current data center personnel; and
- Amapá State building or facilities managers.

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Sub-Task 3.7 Deliverable:

3.7 The U.S. Firm shall prepare a diagram or series of diagrams describing the recommended layout of the data center, embodying recommendations for total physical space, enhancing physical security, observing the most efficient pathways for cabling and cooling systems, and facilitating workflow in the data center facility.

Sub-Task 3.8: Legal and Regulatory Survey

Working from the applied understanding of best practices for large scale public ICT infrastructure including networks, data centers, and web platforms, the U.S. Firm shall, with Amapá State input, survey the legal and regulatory environment of Amapá State², in particular identifying strategies to:

- Identify necessary permits or licenses required for Amapá State Data Center, potentially including such permits as those for radio electric spectrum, right-of-way, or power generation;
- Assess viability of innovative financing strategies that may include public-private partnerships investments including potential financial or tax incentives; and
- Encourage innovation through financial and non-financial measures.

Sub-Task 3.8 Deliverable: The U.S. Firm shall produce, in English and in Portuguese, a Legal and Regulatory Survey of all relevant aspects of the policy and regulatory environment for building and financing the Amapá State Data Center. The review may include: securing necessary licenses and clearances suggested by the infrastructure planning (e.g. radio electric spectrum, right of way, power generation;) and modalities of potential public-private partnerships for building the Amapá State Data Center within the legal and regulatory environment of Brazil and Amapá State.

² Prodap may suggest specific aspects of IT and telecommunications legislation and regulatory code, in addition to Amapa State and Municipal regulations, to review.

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Sub-Task 3.9 Business Continuity and Disaster Recovery Plan

The purpose of this task is to integrate business continuity and disaster recovery considerations at the design phase of the Amapá State Data Center, and to ensure that these are reflected in a rigorous and effective Business Continuity and Disaster Recovery Plan.

The U.S. Firm shall identify applications, hardware, software, IT support staff, and networks (local, wide area, “storage area”) that support critical Amapá State business functions.

The U.S. Firm shall develop a plan to capture a complete replica—at least daily—of, at a minimum:

- Operating systems for critical applications, including updates or patches;
- Critical applications in the environment, including any updates or patches; and
- All critical data.

The U.S. Firm shall specify backup hardware and design these backup systems so as to ensure instantaneous access to this replica.

The U.S. Firm shall develop written, step-by-step documentation on how to recover the replica on backup hardware.

The U.S. Firm shall develop a testing plan and define the frequency of backup tests to be conducted during normal operation of the Amapá State Data Center.

The U.S. Firm shall, with Amapá State input, define locations used for storing replicas of the Amapá State Data Center, considering in particular how to diversify among types of potential threat to the Amapá State digital assets (e.g. different potential for natural disasters among backup sites used).

The U.S. Firm shall identify redundant or alternative options for key aspects of maintaining Data Center operation, including, at a minimum:

- IT Staff for emergency operation;
- Data transmission routes;
- Electrical power sources;
- Air conditioning;
- Mean time to repair critical power, transmission, computing, cooling or other critical equipment;
- “Fail over” requirements for Servers supporting critical Amapá State applications;
- “Fail over” requirements for storage supporting critical Amapá State applications; and

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- Viability of utilizing private sector “cloud computing” services for additional emergency redundancy (within the Amapá State legal and regulatory framework).

The U.S. Firm shall, with Amapá State input, outline a topology of the “storage area network,” ensuring maximum availability of data assets to key applications, including potential links to redundant storage at other Amapá State data centers.

Subtask Deliverable 3.9.1:

The U.S. Firm shall develop a model “storage area network” and topology, including the IT assets of other Amapá State entities for critical backup to and from the Amapá State Data Center.

Subtask Deliverable 3.9.2:

The U.S. Firm shall develop a Business Continuity and Disaster Recovery Plan that shall include, at minimum, redundancy of and key steps to restore, at a minimum:

- Communications infrastructure;
- Power infrastructure;
- Cooling infrastructure;
- Location of disaster recovery IT assets;
- Operation of potential disaster recovery site(s);
- Performance expectations for critical Amapá State applications during an emergency;
- Data protection (including backups of disaster recovery site);
- Shut-down procedures for critical equipment;
- Required IT staff and availability for business continuity or disaster recovery emergencies;
- Availability of documentation for key equipment; and
- Access to the business continuity and disaster recovery plan itself.

Sub-Task 3.10 Evaluate Total Cost of Ownership of the Amapá State Data Center

The purpose of this task is demonstrate the impact of choices in computing, storage, power supply, standby power, cooling, fire protection, and data center size and layout on the total cost of ownership of the Amapá State data center over its useful life, and to provide decision support to Amapá State as it finalizes its data center investment decisions.

The U.S. Firm shall prepare a comprehensive spreadsheet model that captures options examined under sub-tasks 3.1-3.9 including, at a minimum:

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- Water cooling versus air cooling systems;
- Battery standby power versus flywheel standby power;
- Supporting all applications as critical, versus treating only some applications as critical; and
- To detail the capital, operating, and power supply cost implications of each critical data center investment option and its impact on the Total Cost of Ownership of the Amapá State data center over its expected useful life.

The spreadsheet model prepared by the U.S. Firm, with Amapá State input, shall examine, at a minimum:

- Operating expenses;
- Maintenance expenses;
- Capital costs for critical equipment; and
- Estimated cost to build the data center.

The U.S. Firm shall make recommendations on final design and investment choices in light of the Amapá State budget and IT development strategy.

Sub-Task 3.10 Deliverables:

3.10.1 The U.S. Firm shall develop a comprehensive spreadsheet model demonstrating the expected impact of critical design and investment decisions examined under tasks 3.1-3.7 on the Total Cost of Ownership of the Amapá State data center, over its expected useful life.

3.10.2 The U.S. Firm shall develop a final Amapá State data center budget reflecting Total Cost of Ownership based on final design and investment choices validated by Prodap.

Sub-Task 3.11 Develop Implementation Plan for the Amapá State data center

The U.S. Firm shall outline a comprehensive project implementation plan for the construction of the Amapá State data center.

The U.S. Firm shall prepare, with Amapá State input, vendor-neutral bills of materials for equipment required for implementing recommendations under tasks 3.1-3.7, accompanied by the design requirements that key equipment are intended to meet.

The U.S. Firm shall prepare, with Amapá State input, final diagrams corresponding to final design decisions of the physical layout of the data center, including, at a minimum:

- Data storage;
- Computing assets;

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- Power supply;
- Backup power;
- Standby power;
- Space for sub-flooring, ducts and cables;
- Cooling system;
- Network operations center; and
- Employee workspaces.

Sub-Task 3.11 Deliverables:

3.9.1 The U.S. Firm shall develop a series of Gantt charts showing key project milestones and estimated project timelines for key aspects of the Amapá State data center, as well as for critical phases (e.g. construction, equipment purchase, installation, migration of Amapá State information assets, etc.)

3.9.2 The U.S. Firm shall develop vendor-neutral lists of equipment to be procured for the Amapá State data center, including the engineering requirements the equipment will address.

3.9.3 The U.S. Firm shall develop diagrams specifying physical layout of the data center and installation of ducts and cables, storage assets, computing assets, cooling systems, power supply, backup power, standby power, employee workspace, and network operations center.

Sub-Task 3.12 Implementation Finance Plan for Amapá State Data Center

The purpose of this task is to finalize a project implementation finance plan for making the Amapá State Data Center a reality. The U.S. Firm shall assess the viability of project financing strategies involving finance institutions including, at a minimum:

- the State of Amapá,
- the InterAmerican Development Bank,
- the Development Bank of Brazil, and
- The Overseas Private Investment Corporation (OPIC)

The U.S. Firm shall, with Amapá State input, assess the viability of one or more public-private partnerships for the construction or operation of the Amapá State Data Center, that may include:

- Operation of some aspect of the Amapá State Data Center or Government platform in partnership with private firms; or

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[Signature]

- Potential involvement of private firms in investing in construction of the Amapá State Data Center, negotiating a rate of return on this investment with Amapá State.

Sub-Task 3.12 Deliverables.

3.12.1 The U.S. Firm shall produce a comprehensive spreadsheet model that captures and integrates the findings of sub-Tasks 3.1-3.10, including Total Cost of Ownership and a finalized implementation budget, to finalize an Implementation Finance Plan that weighs these capital and operating costs in relation to different Amapá State budget scenarios over the expected useful life of the infrastructure.

3.12.2 The U.S. Firm shall prepare a written assessment of potential financing strategies including Amapá State, the Brazilian Development Bank, the Inter-American Development Bank, private lending institutions, and public-private partnerships.

Sub-Task 3.13 Specify Guidelines for Selecting Data Center Construction Firms

The U.S. Firm shall, with Amapá State input, outline criteria for evaluating data center construction firms including, at a minimum:

- Experience constructing data centers of similar size and scope;
- Certifications in power use efficiency methodologies; and
- Demonstrated experience applying project management methodologies for successful construction of information infrastructure.

Subtask 3.13 Deliverables:

3.13.1 The U.S. Firm shall develop a standardized interview questionnaire in Portuguese to help assess potential contractors' experience, including a scoring system for potential construction firm's answers.

3.13.2 The U.S. Firm shall develop a checklist for potential construction firm references.

Tasks 3 Deliverables:

The U.S. firm shall prepare a report including all the deliverables under this task.

Task 4: Capacity Building Plan

The purpose of this task is to ensure that Prodap acquires new capabilities related to all aspects of data center design and operation. Wherever possible The U.S. Firm shall work in tandem with Prodap personnel on all aspects of the data center design, and for each major design decision recommendation (e.g. any of the major design tasks) shall make the underlying analysis and technical approach clear to Prodap.

In addition, the U.S. firm shall identify another Brazilian entity that can provide ongoing technical support to Prodap as needed. This could be an educational institution, a private data center firm, or a public entity such as another State Data Processing firm that has built and operates a data center of equal or larger scale to the data center envisioned in Amapá.³ The U.S. firm shall evaluate at least two potential partners for Prodap and make summary recommendations for an alliance partner.

Task 4 Deliverables:

The U.S. firm shall develop a “twinning” or secondment plan whereby technical personnel shall work in Prodap installations and/or Prodap personnel will work in the partner installations to build Prodap competencies in any major aspect of data center design and operation. The plan shall include the over-arching goal of the plan (such as achieving key ISO certifications, for example) as well as estimated duration, technical content, and budget for the capacity building plan

The U.S. firm shall prepare a report including all the deliverables under this task.

Task 5: Development Impact Assessment

The U.S. Firm shall assess the development benefits associated with the Project's potential beneficial effects on the country. This analysis shall focus on the immediate impact that is likely after the technical assistance is provided. The U.S. Firm shall specifically address each of the following categories:

Market-Oriented Reform. The U.S. Firm shall provide a description of any regulation, laws, or institutional changes that are recommended and the effect they would have if implemented;

Infrastructure. The U.S. Firm shall provide a brief synopsis of the infrastructure impact specifying, for example, improvements in physical infrastructure (including telecommunications and power generation infrastructure, for example, total projected transition to shared telecommunications infrastructure) that would result from the Project. The

³ For example, the State IT companies in Amazonas, Bahia, and Espirito Santo all demonstrate strong technical competencies and adherence to international standards for IT governance and security.

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U.S. Firm shall discuss the scale of construction/installation expected and comment on the capabilities of any recommended infrastructure improvements;

Capacity Building. The U.S. Firm shall assess the number and type of local job positions that would be needed to construct and operate the proposed energy optimization solutions, as well as the number of personnel who would require and receive training and describe such potential training program(s). The U.S. Firm shall estimate the number and type of jobs that would be created during the installation/construction phase if the U.S. Firm's recommendations are implemented distinguishing between temporary construction jobs and the those positions that would be created or sustained once construction is complete (or the number of jobs that would be lost due to labor-saving technology);

Technology Transfer and Productivity Enhancement. The U.S. Firm shall provide a description of any advanced technologies that would be utilized as a result of the project. A description of any efficiency that would be gained should be noted and any commercial contracts for licensing new technology that are recommended should be discussed; and.

Other. The U.S. Firm shall describe any other developmental impacts or benefits that would result from the project, for example, follow-on or replication projects, safer workplace, enhanced good governance or improved financial revenue flows to Amapá State.

Task 6: Preliminary Environmental Analysis

The U.S. Firm shall conduct a preliminary analysis of the Project's anticipated impact on the environment with reference to local requirements and those of multilateral and national development banks (such as the World Bank, Inter-American Development Bank, and Brazilian National Development Bank).

This analysis shall identify potential negative impacts, if any, discuss the extent to which these impacts can be mitigated and, as appropriate, develop plans for a full environmental impact assessment if and when the Project moves to the implementation stage. The analysis should include the identification of steps that shall be undertaken by Prodap subsequent to the completion of the U.S. Firm's technical assistance. In addition, the environmental analysis should also include a discussion of any legal issues that would impact the Project's viability or ability to move forward.

Task 6 Deliverables:

The U.S. firm shall prepare a report including all the deliverables under this task.

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Task 7: U.S. Sources of Supply

The U.S. Firm shall identify prospective U.S. suppliers of equipment and services for the Project in accordance with Clause I of Annex II of the Grant Agreement. The U.S. Firm shall identify the potential value of U.S. exports of equipment and services and shall prepare a searchable list of U.S. suppliers that outlines prospective U.S. sources for the procurement of goods and services related to Project implementation. The list shall include business name, point of contact, address, telephone and fax numbers, e-mail address, and a general description of products and services that may be procured.

Based on the selected optimal technical configuration of the Project, The U.S. Firm shall also obtain preliminary cost estimates for the identified equipment and services from U.S. suppliers.

Task 9: Final Report

The U.S. firm shall prepare and deliver to PRODAP and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to PRODAP. The U.S. Firm shall provide 1 copy of the Final Report in Portuguese to PRODAP and one copy in English to USTDA. The U.S. Firm shall also prepare and provide to USTDA and the U.S. Consulate in Sao Paulo, a Public Version of the Final Report on CD-ROM. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.

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ANNEX 6



USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [To be completed by USTDA]

| | | | |
|--|-------------------|----------------------|-----------------|
| Activity Type [To be completed by USTDA] | Feasibility Study | Technical Assistance | Other (specify) |
|--|-------------------|----------------------|-----------------|

Activity Title [To be completed by USTDA]

Full Legal Name of U.S. Firm

Business Address (street address only)

| | | | | | |
|-----------|--|-----|--|---------|--|
| Telephone | | Fax | | Website | |
|-----------|--|-----|--|---------|--|

Year Established (include any predecessor company(s) and year(s) established, if appropriate).
Please attach additional pages as necessary.

| | |
|-------------------|-------------------------|
| Type of Ownership | Publicly Traded Company |
| | Private Company |
| | Other (please specify) |

| | |
|---|-----|
| Please provide a list of directors and principal officers as detailed in Attachment A. Attached? (Not Applicable for U.S. Publicly Traded Company) | Yes |
|---|-----|

If Private Company or Other (if applicable), provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in U.S. Firm, please complete Attachment B.

| | |
|--|-----|
| Is the U.S. Firm a wholly-owned or partially owned subsidiary? | Yes |
| | No |

If so, please provide the name of the U.S. Firm's parent company(ies). In addition, for any parent identified, please complete Attachment B.

| | |
|--|-----|
| Is the U.S. Firm proposing to subcontract some of the proposed work to another firm? | Yes |
| | No |

| | |
|---|----------------|
| If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached? | Yes |
| | Not applicable |

Project Manager

| | | |
|------|------------|--|
| Name | Surname | |
| | Given Name | |

Address

Telephone

Fax

Email

Negotiation Prerequisites

Discuss any current or anticipated commitments which may impact the ability of the U.S. Firm or its subcontractors to complete the Activity as proposed and reflect such impact within the project schedule.

Identify any specific information which is needed from the Grantee before commencing negotiations.

U.S. Firm may attach additional sheets, as necessary.

U.S. Firm's Representations

U.S. Firm shall certify to the following (or provide an explanation as to why any representation cannot be made):

1. U.S. Firm is a [check one] Corporation LLC Partnership Sole Proprietor Other:
 duly organized, validly existing and in good standing under the laws of the State of: .
 The U.S. Firm has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the USTDA Activity. The U.S. Firm is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.
2. The U.S. Firm has included herewith, a copy of its Articles of Incorporation (or equivalent charter or document issued by a designated authority in accordance with applicable laws that provides information and authentication regarding the legal status of an entity) and a Certificate of Good Standing (or equivalent document) issued within 1 month of the date of signature below by the State of: .
 The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change in its status in the state in which it is incorporated. USTDA retains the right to request an updated certificate of good standing. **(U.S. publicly traded companies need not include Articles of Incorporation or Good Standing Certificate)**
3. Neither the U.S. Firm nor any of its principal officers have, within the ten-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the U.S. Firm, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.
5. There are no federal or state tax liens pending against the assets, property or business of the U.S. Firm. The U.S. Firm, has not, within the three-year period preceding the submission of this proposal, been notified of any delinquent federal or state taxes in an amount that exceeds US\$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The U.S. Firm has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself of its debts under any bankruptcy, insolvency or other similar law. The U.S. Firm has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.
7. The U.S. Firm certifies that it complies with USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

The U.S. Firm shall notify USTDA if any of the representations are no longer true and correct.

U.S. Firm certifies that the information provided in this form is true and correct. U.S. Firm understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the U.S. Firm.

| | | | |
|--------------|--|-----------|--|
| Name | | Signature | |
| Title | | | |
| Organization | | Date | |



ATTACHMENT B

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form – Shareholder(s) and Parent Company(ies)

If applicable, U.S. Firm provided a list of shareholders and the percentage of their ownership. This form shall be completed for each shareholder that owns 15% or more shares in U.S. Firm, as well as any parent corporation of the U.S. Firm (“Shareholder”). In addition, this form shall be completed for each shareholder identified in Attachment B that owns 15% or more shares in any Shareholder, as well as any parent identified in Attachment B.

| | |
|--|--|
| USTDA Activity Number [To be completed by USTDA] | |
|--|--|

| | |
|---|--|
| Activity Title [To be completed by USTDA] | |
|---|--|

| | |
|------------------------------|--|
| Full Legal Name of U.S. Firm | |
|------------------------------|--|

| | |
|--------------------------------|--|
| Full Legal Name of Shareholder | |
|--------------------------------|--|

| | |
|---|--|
| Business Address of Shareholder (street address only) | |
|---|--|

| | | | |
|------------------|--|------------|--|
| Telephone number | | Fax Number | |
|------------------|--|------------|--|

| | |
|---|--|
| Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary. | |
|---|--|

| | |
|--|--|
| Country of Shareholder’s Principal Place of Business | |
|--|--|

| | |
|--|-----|
| Please provide a list of directors and principal officers as detailed in Attachment A. Attached? | Yes |
|--|-----|

| | |
|-------------------|-------------------------|
| Type of Ownership | Publicly Traded Company |
| | Private Company |
| | Other |

| | |
|---|--|
| If applicable, provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in Shareholder, please complete Attachment B. | |
|---|--|

| | |
|--|-----|
| Is the Shareholder a wholly-owned or partially owned subsidiary? | Yes |
| | No |

| | |
|--|--|
| If so, please provide the name of the Shareholder’s parent(s). In addition, for any parent identified, please complete Attachment B. | |
|--|--|

Shareholder may attach additional sheets, as necessary.



ATTACHMENT C

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

Subcontractor Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [*To be completed by USTDA*]

Activity Title [*To be completed by USTDA*]

Full Legal Name of Prime Contractor U.S. Firm ("U.S. Firm")

Full Legal Name of Subcontractor

Business Address of Subcontractor (street address only)

Telephone Number

Fax Number

Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.

Subcontractor Point of Contact

| | | |
|------|------------|--|
| Name | Surname | |
| | Given Name | |

Address

Telephone

Fax

Email

Subcontractor's Representations

Subcontractor shall provide the following (or any explanation as to why any representation cannot be made), made as of the date of the proposal:

| | | | | | |
|--|--------------------------------------|------------------------------|--------------------------------------|--|--------------------------------|
| 1. Subcontractor is a <i>[check one]</i> | <input type="checkbox"/> Corporation | <input type="checkbox"/> LLC | <input type="checkbox"/> Partnership | <input type="checkbox"/> Sole Proprietor | <input type="checkbox"/> Other |
|--|--------------------------------------|------------------------------|--------------------------------------|--|--------------------------------|

duly organized, validly existing and in good standing under the laws of: .

The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the U.S. Firm is selected, to execute and deliver a subcontract to the U.S. Firm for the performance of the USTDA Activity and to perform the USTDA Activity. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the ten-year period preceding the submission of the Offeror's proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

6. The Subcontractor certifies that it complies with the USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The Subcontractor commits to notify USTDA, the Contractor, and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

The selected Subcontractor shall notify the U.S. Firm, Grantee and USTDA if any of the representations included in its proposal are no longer true and correct.

Subcontractor certifies that the information provided in this form is true and correct. Subcontractor understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the Subcontractor.

| | | | |
|--------------|--|-----------|--|
| Name | | Signature | |
| Title | | | |
| Organization | | Date | |