

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

AMAZONAS STATE DATA CENTER DESIGN PROJECT

Submission Deadline: **4:00 PM**
LOCAL TIME
February 23, 2015

Submission Place:

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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.

**N.B.: Any and all questions pertaining to the RFP should be sent to:
RFPQuestions@ustda.gov**

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$578,995 to the Centro de Processamento de Dados do Estado de Amazonas (PRODAM, the “Grantee”) in accordance with a grant agreement dated August 25, 2014 (the “Grant Agreement”). The objective of this feasibility study is to develop preliminary designs and implementation requirements for the construction of a data center for the State of Amazonas in Brazil (the “Host Country”). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Feasibility Study.

1.1 BACKGROUND SUMMARY

The *Centro de Processamento de Dados do Estado de Amazonas* (“PRODAM”) is a private corporation with controlling interest owned by the State of Amazonas, and is linked administratively with the Secretariat for Planning and Economic Development (SEPLAN). PRODAM has been in operation since 1972, providing specialized information technology services to government entities at municipal, state and federal levels, as well as to some private companies. In its forty years of operation, PRODAM has continually sought to improve and refine its management processes and standards according to its guiding values of competence, credibility and a pioneering spirit.

PRODAM seeks to build on its successes in applying information technology for public administration and to continue to expand the state’s capabilities in this area. One central investment in the PRODAM strategy will be a new government data center that will host public sector applications, facilitate management of government networks, and serve backup and disaster recovery functions for data and applications maintained by disparate government agencies. The fundamental design requirements for the data center will be determined by 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 over-arching strategy of Amazonas state, the strategies of disparate Amazonas state agencies, and best efforts to predict future scenarios for the state and technology evolution.

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

1.2 OBJECTIVE

The objective of this feasibility study is to develop preliminary designs and implementation requirements for the construction of a data center for the State of Amazonas in Brazil. The Terms of Reference (TOR) for this Feasibility Study 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\$578,995. **The USTDA grant of US\$578,995 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\$578,995 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 Amazonas State Data Center Design Project.

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 at 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 Feasibility Study.

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 Feasibility Study.

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$578,995.

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

All proposal documents shall be prepared and submitted in English and in Portuguese. Offerors should submit one copy in English, one copy in Portuguese, and an electronic copy of both versions on a flash drive. Annex VI does not need to be translated into Portuguese.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

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

Alexandre Augusto Guedes Guimarães
PRODAM
Rua Jonathas Pedrosa, 1937 - Praça 14 de Janeiro
Manaus, AM 69020-110
Brazil
Tel: +55 (92) 6405/09/6415 3303-0437

An English and Portuguese version of your proposal, as well as an electronic copy on a flash drive, must be received at the above address no later than 4:00pm on February 23, 2015.

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 "English" or "Portuguese". The English and Portuguese copies 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, feasibility study 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\$578,995, which is a fixed amount.

Offerors shall submit one (1) English and (1) Portuguese version of the proposal, as well as an electronic copy of both versions on a flash drive. Annex VI does not need to be translated into Portuguese. 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 Feasibility Study. 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 Feasibility Study.

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 Feasibility Study.

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 Feasibility Study. 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 Feasibility Study 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 PRODAM and in particular how the U.S. Firm would apply its competencies to 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

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Brazil
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USTDA Activity Number 2014-51031A, Amazonas State Data Center Design Project

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.

Amazonas State Data Center Design Project

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 develop a feasibility study and develop preliminary designs and implementation requirements for the construction of a data center for the State of Amazonas in Brazil (the "host country").

The *Centro de Processamento de Dados do Estado de Amazonas* ("PRODAM") is a private corporation with controlling interest owned by the State of Amazonas, and is linked administratively with the Secretariat for Planning and Economic Development (SEPLAN). PRODAM has been in operation since 1972, providing specialized information technology services to government entities at municipal, state and federal levels, as well as to some private companies. In its forty years of operation, PRODAM has continually sought to improve and refine its management processes and standards according to its guiding values of competence, credibility and a pioneering spirit.

PRODAM seeks to build on its successes in applying information technology for public administration and to continue to expand the state's capabilities in this area. One central investment in the PRODAM strategy will be a new government data center that will host public sector applications, facilitate management of government networks, and serve backup and disaster recovery functions for data and applications maintained by disparate government agencies. The fundamental design requirements for the data center will be determined by 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 over-arching strategy of Amazonas state, the strategies of disparate Amazonas state agencies, and best efforts to predict future scenarios for the state and technology evolution.

The U.S. firm selected will be paid in U.S. dollars from a \$578,995 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 one copy of the Proposal in English and Portuguese, as well as an electronic copy of each proposal on a flash drive, directly to the Grantee by 4pm, February 23, 2015 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

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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 the Amazonas State Data Center.

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

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

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.

² Market profile: Brazil. Estela Vieira and Anderson Ramires. <http://www.pwc.com/gx/en/communications/review/features/market-profile-brazil.jhtml>

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 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

[This portion has been removed for RFP distribution.]

RECOMMENDED PROJECTS

Amazonas State Data Center Design

Concept: The public company Proderj seeks to build a new data center to provide robust new capabilities for supporting the array of Rio State public services.

Advantages: Proderj has a strong record of providing critical infrastructure for public service delivery in transportation, education, health, security and much more. Expanding their capabilities through a data center design feasibility study would directly support improving and expanding public service delivery in Rio State. Proderj estimates around a \$20 Million export opportunity for U.S. goods. The President of Proderj has led a dramatic improvement in the company's processes, standards, and execution.

Disadvantages: Proderj has suffered from human and economic resources constraints for much of its history and, as a result, is still working to improve its internal processes for information infrastructure management.

Recommendation: A full feasibility study is recommended. This will both build capacity within Proderj and the capabilities of Rio State for public service delivery.

PROJECT RECOMMENDATION

Amazonas State IT Strategy Review and Data Center Design

Executive Summary

The *Centro de Processamento de Dados do Estado de Amazonas* (“PRODAM”) is a private corporation with controlling interest owned by the State of Amazonas, and is linked administratively with the Secretariat for Planning and Economic Development (SEPLAN). PRODAM has been in operation since 1972, providing specialized Information Technology services to government entities at municipal, state and federal levels, as well as to some private companies. Over its forty years of operation PRODAM has continually sought to improve and refine its management processes and standards³ according to their guiding values of competence, credibility and a pioneering spirit.

PRODAM seeks to build on its successes in applying information technology for public administration and to continue expand the State's capabilities in this area. One central investment in the PRODAM strategy will be a new Government data center that will host public sector applications, facilitate management of Government networks, and serve backup and

³ The company has twice been recertified ISO 9001 and is currently working to secure ISO 20000 certification.

disaster recovery functions for data and applications maintained by disparate Government agencies. The fundamental design requirements for the data center will be determined by 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 over-arching strategy of Amazonas State, the strategies of disparate Amazonas State agencies, and best efforts to predict future scenarios for the State and technology evolution in general. As the State prepares for significant new investments in information infrastructure, it is important to ensure that they support and are supported by the State's over-arching strategy, governance, and orienting principles guiding their technology investments.

Complex organizations including global firms have successfully grappled with the technology transformations that Amazonas State is undertaking. A critical component of their approach is 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, information infrastructure 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.

PRODAM recognizes that State Government has different strategic objectives and infrastructure requirements than global private enterprises. For this reason PRODAM seeks technical assistance of a multi-faceted team capable of specifying design requirements for large-scale information infrastructure and applying technology strategy and governance in a public sector context in a rapidly expanding economy. PRODAM feels the needs of the State of Amazonas would best be addressed by a team of experts that integrates best practices in private sector technology strategy, seasoned information technology strategy and governance, leadership of large-scale organizational change for public and private clients, business process analysis, systems and information infrastructure engineering, electrical engineering, project budgeting and finance, and proven project management for large-scale information infrastructure according to methodologies of reference. PRODAM requested USTDA assistance in identifying such a team to help address these strategy and infrastructure development tasks. The total study cost is estimated at \$578,995 for a total export opportunity of around \$20 Million.

Project Sponsor's Capabilities and Commitment

PRODAM plays a special role in supporting and catalyzing critical large-scale investments in ICT infrastructure for Amazonas State. They seek to continue to be an indispensable tool for public administration and service delivery in the State of Amazonas through the use of Information and Communication technologies (ICT). Some of the large-scale systems PRODAM manages for the State include:

- Development and operation of an integrated public safety system linking closed-circuit television, and real-time audio and video monitoring of first responders, police and first responder dispatch and locations, and fully auditable backup of all of these digital records;
- Development and operation of a State-wide education management system,
- Any array of transit systems including vehicle registration and fines,
- 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.

PRODAM provides the technical leadership for ICT for public administration in Amazonas State. They will continue to provide key leadership in ICT support to the State and in expanding ICT services to citizens. Over its forty years of operation PRODAM has continually sought to improve and refine its management processes and standards. The company has twice been recertified as ISO 9001 compliant and is currently working to secure ISO 20000 certification.

Data center design, construction, and operation have been a main area of activity for PRODAM since their inception as the *Centro de Processamento de Dados do Estado de Amazonas* (“the Data Processing Center of Amazonas State”) and the company has successfully guided several major data center re-designs since that time, in step with advances in information technology.

Implementation Financing

PRODAM reports that they have secured R\$ 20 Million in direct State funding for the project for the 2013 budget year, and that they will work with the Finance Secretariat of the State for financing the balance necessary for construction of the data center. This year the State of Amazonas received a R\$ 800 Million soft loan from the Federal Government solely for investment in the State’s infrastructure.⁴

PRODAM has requested technical assistance in developing a complete financial picture of the project that will inform their discussions with the Finance Secretariat and might also serve to inform potential public-private models for the construction of the data center.

The DM Contractor reached out over 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

⁴ <http://www.correiодаamazonia.com.br/amazonas-politica/1842-governo-vai-investir-pesado-em-infraestrutura-em-2013>

determined that OPIC could be a resource for this project if PRODAM decided on a public-private partnership approach with a U.S. firm.⁵

The DM consultants discussed the project with the Lead ICT Policy Specialist for the World Bank, to confirm that Goiás/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 PRODAM Data Center will require software, hardware, and consulting services of various types. PRODAM is committed to pursuing open bids and a vendor-neutral strategy driven by their engineering design requirements. Vendor neutrality is an important precept for good-practice 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 PRODAM 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 \$ 20 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: 75,000.

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 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 PRODAM

⁵ 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.

will need the capability to operate generators 24 hours a day, and this would require 2 generators. Estimated total export opportunity: \$153,000.

Stand-By Power: The amount of transition time that the data center needs to switch between power sources will be analyzed in light of PRODAM's risk tolerance and available budget. Nevertheless, we consider it reasonable to estimate that PRODAM will require at least four high capacity 120 KVA Uninterruptible Power Supply units with 15 minute autonomy. Estimated total potential export opportunity: \$360,000

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: \$580,500.

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 PRODAM 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 PRODAM 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 \$233,250.

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: \$368,640.

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 PRODAM 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, mainframe servers, and a high capacity data backup that can make a replica of the entire data center at least daily. Estimated total export opportunity: \$10,996,100.

Data Center Software:

Software selection for the PRODAM 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.⁶ 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.

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 PRODAM'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: \$600,000.

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, Bahía, 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

⁶ Espírito Santo, Rio de Janeiro.

wavelengths of light) was in use. 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 PRODAM 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 structured 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

PRODAM was created to provide technical services and guide the State’s investments in ICT for public service delivery. The company was created by Law N° 941, on the 10th of July, 1970. Currently the company is linked administratively with the Secretariat for Planning and Economic Development (SEPLAN) in accordance with Law 2.783/2.003. Not only is PRODAM’s technical leadership in accordance with the legal and regulatory framework in place, it is a matter of policy. Data center design, construction, and operation have been a main area of activity for PRODAM since their inception as the *Centro de Processamento de Dados do Estado de Amazonas* (“the Data Processing Center of Amazonas State”) and these activities are squarely within their mandate. As a result, no legal or regulatory barriers to the project are expected.

Development Impact

ICT Infrastructure for Innovation in Public Service Delivery: Amazonas State has reaped 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 Amazonas would benefit from a new information infrastructure enabling all aspects of governing and interface with their citizens;

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

Human Capacity Building. PRODAM appears to have sufficient qualified personnel to operate their data center, though as their technology platforms are updated some orientation and short trainings will likely be necessary;

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

Other. The greatest 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 PRODAM already operates a 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 PRODAM 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

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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 Amazonas. This high profile 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. In addition, the project creates opportunities for U.S. renewable energy generation technologies. A successful Amazonas 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.

PROPOSED TERMS OF REFERENCE

[This portion has been removed for RFP distribution. Please see Annex 5 of the RFP.]

Professional Qualifications of Key Personnel

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Applicable Estimated Labor Rates

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Applicable Foreign Per Diem Rate

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Project Budget

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ANNEX 3



U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-3901

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS
[As of January 17, 2014]

The purpose of USTDA's nationality, source, and origin requirements is to ensure 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, the following provisions shall govern the delivery of goods and professional services funded by USTDA under the Grant Agreement:

- (a) the Contractor must be a U.S. firm;
- (b) the Contractor may use U.S. subcontractors without limitation;
- (c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens, non-U.S. citizens lawfully admitted for permanent residence in the United States or non-U.S. citizens lawfully admitted to work 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 Contractor;
- (e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subcontract;
- (f) subcontractors from countries other than the United States or Host Country may not be used;
- (g) goods purchased for performance 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

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

NATIONALITY:

1) Application

A U.S. firm that submits a proposal must meet USTDA's nationality requirements as of the date of submission of the proposal and, if selected, must continue to meet such requirements throughout the duration of the USTDA-funded activity. These nationality provisions apply to all portions of the Terms of Reference that are funded with the USTDA grant.

2) Definitions

A "U.S. firm" is a privately owned firm that 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. citizens and/or non-U.S. citizens lawfully admitted for permanent residence in the United States, 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 that is organized in the U.S., has its principal place of business in the U.S., and is more than 50% owned by U.S. citizens and/or permanent residents, qualifies as a "U.S. firm".

A nonprofit organization, such as an educational institution, foundation, or association, also qualifies as a "U.S. firm" if it is incorporated in the U.S. and managed by a governing body, a majority of whose members are U.S. citizens and/or permanent residents.

SOURCE AND ORIGIN:

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.

Version 01.17.2014

ANNEX 4

DIR
(LZ)
BRA 2014-51031A
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AUG 25 2014
PF
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CM (IS, GH)
DCFO (MB)
Fin Spec (EB)
Grants Adm (PD)
PIS (AA)

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 Centro de Processamento de Dados do Estado de Amazonas ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$578,995 ("USTDA Grant") to fund the cost of goods and services required for a Feasibility Study ("Study") on the proposed Amazonas State 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 Study between the Grantee and the U.S. firm selected by the Grantee ("U.S. Firm") under which the U.S. Firm will perform the Study ("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 Study ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Study will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Study 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.

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 Study. 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 Study that they were not selected. The Grantee and the U.S. Firm then shall enter into an Agreement of Understanding for performance of the Study.

(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 Study. 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

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 Study 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 Study 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.

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is January 31, 2016, is the date by which the parties estimate that the Study 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 S.

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;
- (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 Study 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 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 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

The Grantee agrees to maintain books, records, and other documents relating to the Study 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 Study 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: PRODAM
Rua Jonathas Pedrosa, 1937 - Praça 14 de Janeiro
Manaus, AM 69020-110
Brazil
Tel: +55 (92) 6405/09/6415 3303-0437
tiago.paiva@prodam.am.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: lac@ustda.gov

All such communications shall be in English, unless the parties otherwise agree in writing. Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 11 14/151001
Activity No.: 2014-51031A
Reservation No.: 201451252
Grant No.: GH201451252

17. Implementation Letters

To assist the Grantee in the implementation of the Study, 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 Study, except for payments that may be made pursuant to Clause H of the USTDA Mandatory Contract 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.

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 Study, 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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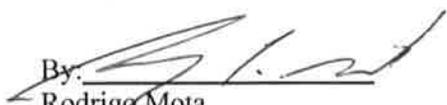
IN WITNESS WHEREOF, the Government of the United States of America and the Centro de Processamento de Dados do Estado de Amazonas, each acting through its duly authorized representative, have caused this Grant Agreement to be signed in the English language in their names and delivered as of the day and 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

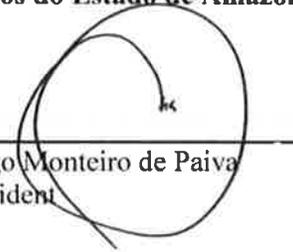
By: 
Stephen P. Knode
Deputy Senior Commercial Officer
U.S. Commercial Service – São Paulo

Date: 25/08/2014

Witnessed:

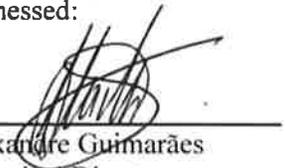
By: 
Rodrigo Mota
USTDA Country Representative for Brazil

For the Centro de Processamento de Dados do Estado de Amazonas

By: 
Tiago Monteiro de Paiva
President

Date: 25/08/2014

Witnessed:

By: 
Alexandre Guimarães
Technical Director

Annex I – Terms of Reference

Annex II -- USTDA Mandatory Agreement of Understanding Clauses

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 _____ ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("U.S. Firm") to perform the feasibility study ("Study") for the _____ project ("Project") in _____ ("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 subcontracts 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 S. *[delete the reference to Mandatory Clause S if there is a success fee arrangement with the U.S. Firm; in that case the list of referenced clauses should read "Clauses B(1), G, H, and I"]* In addition, in the event of any inconsistency between the Grant Agreement and the Agreement of Understanding or any subcontract 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 M 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 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 Study 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 subcontract, 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 contract, tort, or otherwise, to the Agreement of Understanding Parties or the parties to any subcontract. 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 Contractor must be a U.S. firm;
- (b) the U.S. Firm may use U.S. subcontractors without limitation;
- (c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens, non-U.S. citizens lawfully admitted for permanent residence in the United States or non-U.S. citizens lawfully admitted to work 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 subcontract;
- (f) subcontractors from countries other than the United States or Host Country may not be used;

(g) goods purchased for performance 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

(h) 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 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. 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 G(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

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

H. 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, N and S of the USTDA Mandatory Agreement of Understanding Clauses shall survive the termination of this Agreement of Understanding.

I. 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, 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.

J. 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.

K. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is January 31, 2016, is the date by which the Agreement of Understanding Parties estimate that the Study 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.

L. 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 Study 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.

M. 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 14/151001
Activity No.: 2014-51031A
Reservation No.: 201451252
Grant No.: GH201451252

N. 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.

O. 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.

P. Contact Persons

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

PRODAM
Rua Jonathas Pedrosa, 1937 - Praça 14 de Janeiro
Manaus, AM 69020-110
Brazil
Tel: +55 (92) 6405/09/6415 3303-0437
tiago.paiva@prodam.am.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.

Q. 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 damages that are natural, probable, and reasonably foreseeable as a result of a breach of this Agreement of Understanding, 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. If any clause included by the Agreement of Understanding Parties is inconsistent with either or both of these limitations, it shall be invalid and unenforceable to the extent of the inconsistency.

R. 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.

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

ANNEX 5

Annex I

Terms of Reference

Objective

The objective of these terms of reference is to determine fundamental design requirements, budget, and an implementation plan for a new data center for Amazonas State government, in accordance with the over-arching Amazonas State strategy. The Grantee is *Centro de Processamento de Dados do Estado de Amazonas* (“Prodam”).

General Considerations for Deliverables and Documents

The U.S. firm selected by the Grantee to perform the Study shall undertake a quality control review process, including a technical and editorial review, of all deliverables and documents submitted to the Grantee to ensure readability, accuracy, and consistency. The deliverables specified in these Terms of Reference shall serve to keep the Grantee informed about the U.S. Firm’s work on the study and to ensure that the U.S. Firm’s findings are acceptable to the Grantee before critical decisions are made on the Study. The U.S. Firm shall submit monthly progress reports to the Grantee.

All deliverables for all tasks shall be provided in both English and Portuguese.

Task 1: Preliminary Analysis

In order to become well-versed in the strategy, targets and policy commitments of the Amazonas State Government and to begin to define an approach towards refining the Amazonas State technology strategy in light of best international practice, the U.S. firm shall conduct preliminary analysis of:

- Government of Amazonas 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 Amazonas State ICT strategy documents, or the ICT strategy documents of Amazonas State Agencies, Secretariats, or Offices;
- Existing key Amazonas 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;
- At least two successful large-scale e-Government/e-Governance implementation strategies in developed or large emerging economies that shall be relevant to the Amazonas State context; and
- Any other documents provided by Prodam.

Task 1 Deliverables:

Deliverable 1.1: Preliminary Analysis Report

The U.S. Firm shall prepare a 10-15 page preliminary analysis report (excluding appendices and an executive summary), 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 two developed or large emerging economies that appear to be strongly relevant to the Amazonas State context; and
- A set of provisional recommendations for pursuing information architecture development for e-Government/e-Governance in Amazonas State.

Deliverable 1.2: PowerPoint Presentation

The U.S. Firm shall prepare a 15-20 slide (approximately 20 minute) presentation, **PowerPoint**, for delivery to Prodam, Amazonas State Agencies and any other stakeholders identified by Prodam. The presentation shall summarize the methodology and findings of the Preliminary Analysis Report and present provisional recommendations for developing an over-arching e-Government/e-Governance architecture for Amazonas 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 Prodam for review and comment before the U.S. Firm travels to Amazonas.

All Task 1 deliverables shall be included in the Final Report.

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

Task 2: Survey State of Amazonas Business Processes, Applications, and the ICT Infrastructure

In order to ensure that the design of the Prodam data center is informed by a deep understanding of the requirements of the State, the U.S. firm shall create a high-level picture of the current business processes and workflow observed by the Amazonas State Government across all Offices, Departments and Agencies, including internal State Government processes as well as points of interface with the general public; and to note the primary ICT infrastructures and applications (e.g. networks, storage, servers, online platforms, desktop applications) currently supporting these processes or services.

The U.S. Firm shall visit 20 Offices, Departments, or Agencies of the State Government considered by Prodam to be their most critical clients, as well as any key stakeholders recommended by Prodam 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 Amazonas State operating unit and provided to other operating units or the general public, and what products or services the operating unit needs from other units or the general public to do its work effectively).

On the basis of these meetings and in light of good international practice, the U.S. firm shall develop, with Prodam input, a standard questionnaire that shall be used to gather information on business processes, critical and non-critical applications, and information infrastructure (e.g. networks, data centers) of Amazonas State operating units and entities supported by Prodam. With facilitation by Prodam, the questionnaire shall be sent to IT personnel at the following entities:

- AGENCIA DE DESENVOLVIMENTO SUSTENTÁVEL DO AMAZONAS;
- AGENCIA AMAZONENSE DE DESENVOLVIMENTO CULTURAL (AADC);
- AGÊNCIA AMAZONENSE DE DESENVOLVIMENTO ECONOMICO E SOCIAL (AADES);
- AGENCIA DE FOMENTO DO ESTADO DO AMAZONAS S.A. (AFEAM);
- AGENCIA DE COMUNICAÇÃO SOCIAL (AGECOM);
- COMPANHIA DE SANEAMENTO DO ESTADO DO AMAZONAS S/A (COSAMA);
- EMPRESA ESTADUAL DE TURISMO (AMAZONASTUR);
- FUNDAÇÃO AMAZONPREV;
- AGÊNCIA REGULADORA DOS SERVIÇOS PÚBLICOS CONCEDIDOS DO ESTADO DO AMAZONAS (ARSAM);
- AUXÍLIO AGENCIAMENTO FINANCEIRO E SERVIÇOS LTDA.;

- CADEIA PÚBLICA DESEMBARGADOR RAIMUNDO VITAL PESSOA;
- CÂMARA MUNICIPAL DE MANAUS;
- COMANDO GERAL DO CORPO DE BOMBEIROS MILITAR DO AMAZONAS (CBMAM);
- CASA DO ALBERGADO DE MANAUS;
- SECRETARIA DE ESTADO DA CASA CIVIL;
- SECRETARIA DE ESTADO DA CASA MILITAR;
- CENTRO PSIQUIATRICO EDUARDO RIBEIRO;
- CENTRO DE EDUCAÇÃO TECNOLÓGICA DO AMAZONAS (CETAM);
- COMISSÃO GERAL DE LICITAÇÃO (CGL);
- COMPANHIA DE DESENVOLVIMENTO DO ESTADO DO AMAZONAS (CIAMA);
- CENTRO INTEGRADO DE OPERAÇÕES DE SEGURANÇA (CIOPS);
- CENTRO MÉDICO PSICOLOGICO LTDA. (CEMEPSI);
- CLINICA MEDICA E PSICOLOGICA LTDA. (CLIMEP);
- CLINICA MÉDICA PSICOLOGICA LTDA. (CLIMEPSI);
- CLINICA MÉDICA DE TRÂNSITO LTDA.;
- CLINICA DO MOTORISTA S/C;
- CLINICA DE MEDICINA DE TRANSITO S/C;
- COMPLEXO PENITENCIÁRIO ANISIO JOBIM;
- CONTROLADORIA GERAL DO ESTADO (CGE);
- CORREGEDORIA GERAL DA JUSTICA (CGJ);
- COMPANHIA DE SANEAMENTO DO AMAZONAS (COSAMA);
- DEFENSORIA PÚBLICA DO ESTADO (DPO);
- DELEGACIA ESPECIALIZADA DE ROUBOS EM FURTOS DE VEÍCULOS (DERFV);
- DEPARTAMENT OESTADUAL DE TRANSITO (DETRAN);
- FUNDAÇÃO DE AMPARO À PESQUISA DO ESTADO DO AMAZONAS (FAPEAM);
- FUNDACAO CENTRO DE CONTROLE DE ONCOLOGIA (FCECON);
- FUNDAÇÃO HOSPITAL ADRIANO JORGE (FHAJ);
- FUNDACAO DE HEMATOLOGIA E HEMOTERAPIA DO AMAZONAS (FHEMOAM);
- FUNDAÇÃO DE MEDICINA TROPICAL (FMT);
- FUNDAÇÃO DE APOIO AO IDOSO “DR. THOMAS”;
- FUNDAÇÃO ESTADUAL DOS POVOS INDÍGENAS;
- HOSPITAL CUSTODIA TRATAMENTO PSIQUIATRICO MANAUS;
- HOSPITAL DE ISOLAMENTO CHAPOT PREVOST;
- HOSPITAL GERAL DR. GERALDO DA ROCHA;

- HOSPITAL E PRONTO SOCORRO DR. JOÃO LÚCIO PEREIRA MACHADO;
- HOSPITAL PRONTO SOCORRO 28 DE AGOSTO;
- HOSPITAL E PRONTO SOCORRO DA CRIANÇA - ZONA LESTE;
- HOSPITAL E PRONTO SOCORRO DA CRIANÇA - ZONA OESTE;
- HOSPITAL E PRONTO SOCORRO DA CRIANÇA - ZONA SUL;
- HOSPITAL UNIVERSITÁRIO FRANCISCA MENDES;
- GABINETE DO GOVERNADOR;
- GABINETE DO VICE-GOVERNADOR;
- FUNDAÇÃO DE DERMATOLOGIA TROPICAL E VENEREOLOGIA (FUAM);
- FUNDAÇÃO TELEVISÃO E RADIO CULTURA DO AMAZONAS (FUNTEC);
- FUNDAÇÃO VILA OLIMPICA (F VO);
- FUNDAÇÃO DE VIGILÂNCIA EM SAÚDE (FVS);
- FUNDO ESTADUAL DE HABITAÇÃO (FEH);
- INSTITUTO DE SAÚDE DA CRIANÇA DO AMAZONAS;
- INSTITUTO DA MULHER;
- IDAM - INSTITUTO DESENVOLVIMENTO AGROPECUARIO DO ESTADO;
- IMPRENSA OFICIAL DO ESTADO;
- INSTITUTO MUNICIPAL DE TRANSITO E TRANSPORTE DE IRANDUBA;
- MATERNIDADE DE REFERÊNCIA ZONA LESTE ANA BRAGA/SUSAM;
- MATERNIDADE BALBINA MESTRINHO;
- MANAUSMED - SERV. DE ASSIST. À SAÚDE DOS SERVICIOS PÚBLICOS DO MUNICÍPIO DE MANAUS;
- FUNDO ÚNICO DE PREVIDÊNCIA DO MUNICÍPIO DE MANAUS (MANAUSPREV);
- CLINICA DE PERICIA MÉDICA E PSICOLOGICA LTDA. (MEDITRAN);
- INSTITUTO DE PROTECAO AMBIENTAL DO AMAZONAS (IPAAM);
- INTITUTO DE PESOS E MEDIDAS (IPEM);
- INSTITUTO DE TERRAS DO AMAZONAS (ITEAM);
- JUNTA COMERCIAL DO ESTADO DO AMAZOANAS;
- LABORATÓRIO CENTRAL DE SAÚDE PÚBLICA;
- OUVIDORIA GERAL DO ESTADO;
- PENITENCIARIA FEMININA DE MANAUS;
- POLICLINICA CENTRO GILBERTO MESTRINHO;
- POLICLINICA CODAJAS;

- 3o DISTRITO REGIONAL DE POLICIA RODOVIARIA FEDERAL;
- SUPERINTENDÊNCIA REGIONAL DO DEPARTAMENTO DE POLÍCIA FEDERAL NO ESTADO DO AMAZONAS;
- PROGRAMA EST. DE PROTECAO E ORIENTAÇÃO DO CONSUMIDOR (PROCON);
- PROCURADORIA GERAL DO ESTADO (PGE);
- PROCURADORIA GERAL DE JUSTIÇA (PGJ);
- POLICIA MILITAR DO AMAZONAS (PMAM);
- POLICIA CIVIL - DELEGACIA GERAL DE POLICIA CIVIL;
- SECRETARIA DE ESTADO DA ADMINISTRAÇÃO E GESTÃO (SEAD);
- SECRETARIA DE ESTADO DE ARTICULAÇÃO DE POLÍTICAS PÚBLICAS AOS MOV. SOCIAIS E POPULARES (SEARP);
- SECRETARIA DE ESTADO DA ASSISTÊNCIA SOCIAL E CIDADANIA (SEAS);
- SECRETARIA DE ESTADO DE CULTURA (SEC);
- SECRETARIA DE ESTADO DE CIÊNCIA, TECNOLOGIA E INOVAÇÃO (SECTI);
- SECRETARIA DE ESTADO DE EDUCACAO E QUALIDADE DO ENSINO (SEDUC);
- SECRETARIA DE ESTADO DO MEIO AMBIENTE E DESENVOLVIMENTO SUSTENTÁVEL (SDS);
- SECRETARIA DE ESTADO DA FAZENDA (SEFAZ);
- SECRETARIA DE ESTADO DE GOVERNO (SEGOV);
- SECRETARIA DE ESTADO PARA OS POVOS INDIGENAS (SEIND);
- SECRETARIA DE ESTADO DE INFRAESTRUTURA (SEINFRA);
- SECRETARIA DE ESTADO DA JUVENTUDE, DESPORTO E LAZER (SEJEL);
- SECRETARIA DE ESTADO DE JUSTICA E DIREITOS HUMANOS (SEJUS);
- SECRETARIA DE ESTADO DOS DIREITOS DA PESSOA COM DEFICIENCIA (SEPED);
- SECRETARIA DE ESTADO DE PLANEJAMENTO E DESENVOLVIMENTO ECONÔMICO (SEPLAN);
- SECRETARIA DE ESTADO DE PRODUÇÃO RURAL (SEPROR);
- SERVIÇO NACIONAL DO COMÉRCIO (SESC);
- SECRETARIA DE ESTADO DO TRABALHO (SETRAB);
- SOCIEDADE DE NAVEGAÇÃO PORTOS E HIDROVIAS DO ESTADO DO AMAZONAS (SNPH);

- SECRETARIA EXECUTIVA DO COPRODAMLHO DE DESENVOLVIMENTO SUSTENTÁVEL DA REGIÃO METROPOLITANA DE MANAUS (SRMM);
- SECRETARIA DE ESTADO DE POLÍTICA FUNDIÁRIA;
- SECRETARIA DE ESTADO DE SEGURANÇA PÚBLICA (SSP);
- SECRETARIA EXECUTIVA ADJUNTA DE INTELIGÊNCIA (SEAI);
- SUHAB - SUPERINTENDÊNCIA DE HABITAÇÃO E ASSUNTOS FUNDIÁRIOS DO ESTADO DO AMAZONAS;
- SECRETARIA DE ESTADO DE SAÚDE (SUSAM);
- TRIBUNAL DE JUSTIÇA DO AMAZONAS (TJA);
- TRIBUNAL DE CONTAS DO ESTADO (TCE);
- TRIBUNAL ELEITORAL DE MANAUS (TRE);
- TRIBUNAL REGIONAL DO TRABALHO DA 11a REGIAO (TRT);
- UNIDADE DE GERENCIAMENTO DO PROGRAMA SOCIAL E AMBIENTAL DOS IGARAPÉS DE MANAUS;
- INSTITUTO MUNICIPAL DE ENGENHARIA E FISCALIZAÇÃO DO TRÂNSITO (MANAUSTRANS);
- SECRETARIA MUNICIPAL DE ADMINISTRAÇÃO
- SECRETARIA MUNICIPAL DE FINANÇAS, PLANEJAMENTO E TECNOLOGIA DA INFORMAÇÃO;
- SECRETARIA MUNICIPAL DE EDUCAÇÃO (SEMED);
- SECRETARIA ESTADUAL DE MINERAÇÃO, GEODIVERSIDADE E RECURSOS HÍDRICOS;
- UNIVERSIDADE DO ESTADO DO AMAZONAS (UEA);
- UNIVERSIDADE FEDERAL DO AMAZONAS; and
- UNIDADE GESTORA DO PROJETO COPA.

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

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

Task 2 Deliverables:

Deliverable 2.1: Business Process Survey Questionnaire

The U.S. Firm shall develop, with Prodam input, a standard questionnaire that shall be used during the survey of business processes, applications, and information infrastructure (e.g. networks, data centers) of Amazonas State operating units. Questionnaires that have been filled out shall be appended to the final report.

Deliverable 2.2: PowerPoint Presentation

The U.S. Firm shall prepare a comprehensive 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 diagrams. The U.S. Firm shall present the above findings to PRODAM in a powerpoint presentation.

All Task 2 deliverables shall be included in the Final Report.

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

The purpose of this task is to specify comprehensive design and engineering requirements, a budget, and an implementation plan for the construction of the Amazonas State data center in light of a refined technology strategy and detailed understanding of Amazonas State Government business processes and e-Government architecture vision.

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

The purpose of this sub-task is to ensure that all critical and non-critical Amazonas State business processes that are supported by information technology solutions and applications are adequately supported over the expected useful life of the Amazonas State data center, and to help Amazonas 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 Amazonas State Applications

The U.S. Firm shall prepare a summary inventory of applications in use by Amazonas State and specify the storage, servers, backup power, network capacity and any other technical requirements necessary for

proper support and functioning of these Amazonas State applications. The U.S. Firm shall, with Amazonas State input, specify which applications are critical for supporting Amazonas 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.

Building on the applications inventory and requirements specified under sub-task 3.1.1, and in light of the Amazonas 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 Amazonas 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 (such as, for example, using the current Prodam 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 Amazonas State data center; and
- Differentiating between “critical” and “non-critical” applications that will be supported “in-house” by the Amazonas State data center.

The capital and operating cost analysis for these options will 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:

Deliverable 3.1.1.1: The U.S. Firm shall prepare an inventory of critical and non-critical applications, and of current requirements for supporting critical and non-critical Amazonas State ICT applications, including power supply, backup power, data storage, network capacity, servers, computing power, and any other technical requirements to support these applications.

Deliverable 3.1.2: The U.S. Firm shall prepare a projection by application, and in light of Amazonas State strategy, of the expected future requirements for supporting critical and non-critical Amazonas 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 Amazonas State data center.

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

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

The purpose of this sub-task is to estimate over-all power supply requirements for the projected life of the Amazonas State Data Center, and to help Amazonas State evaluate and choose the right power supply options for its strategy and budget.

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 Amazonas 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 Amazonas 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 Amazonas 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;
- Amazonas 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.

3.2 Deliverables:

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

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

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

Deliverable 3.2.4 The U.S. Firm shall provide 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

The purpose of this sub-task is to estimate over-all cooling requirements for the projected life of the Amazonas State data center, and to help Amazonas State evaluate and choose the right equipment options for its strategy and budget.

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 Amazonas 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
- 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.

3.3 Deliverables:

Deliverable 3.3.1 The U.S. Firm shall provide an estimate, by year, of projected cooling requirements for the Amazonas State data center over its expected useful life.

Deliverable 3.3.2 The U.S. Firm shall provide an estimate, by year, of projected cooling equipment capital and operating costs over the expected useful life of the Amazonas 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

The purpose of this sub-task is to define and estimate over-all standby power requirements for the Amazonas State Data Center, and to help Amazonas State evaluate and choose the right equipment options for its strategy and budget.

Based on Amazonas State's technology strategy, the U.S. Firm shall, with Amazonas State input, estimate the standby power requirements for the Amazonas State data center. The U.S. Firm, with Amazonas 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 will be based on an understanding of Amazonas State technology strategy and will reflect, at a minimum:

- Critical nature of key applications and their availability;
- Redundant standby power capabilities for business continuity;
- Amazonas 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:

- Amazonas State stakeholders to determine 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.

Task 3.4 Deliverables:

Deliverable 3.4.1 The U.S. Firm shall provide an estimate, by year, of projected standby power requirements for the Amazonas State data center over its expected useful life.

Deliverable 3.4.2 The U.S. Firm shall provide an estimate, by year, of projected standby power capital equipment and operating costs over the expected useful life of the Amazonas 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 purpose of this sub-task is to specify fire protection requirements to ensure safety of personnel, protection of critical equipment, and continuity of data center operations in the event of a fire.

The U.S. Firm shall specify, with PRODAM 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:

Deliverable 3.5 The U.S. Firm shall provide 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 Amazonas 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;
- 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:

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

Sub-Task 3.6 Deliverable

Deliverable 3.6 The U.S. Firm shall provide 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 Amazonas State technology strategy and budget.

Building on requirements gathered and refined under sub-tasks 3.1-3.6, the U.S. Firm shall develop, with Amazonas State Government input, 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 Contactor 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
- Amazonas State building or facilities managers.

Sub-Task 3.7 Deliverable:

Deliverable 3.7 The U.S. Firm shall provide 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

The purpose of this task to identify the over-arching policy and regulatory parameters framing Amazonas State ICT strategy and infrastructure investments. 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 Amazonas State

input, survey the legal and regulatory environment of Amazonas State², in particular identifying strategies to:

- Identify necessary permits or licenses. required for Amazonas 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:

Deliverable 3.8: The U.S. Firm shall produce a Legal and Regulatory Survey of all relevant aspects of the policy and regulatory environment for building and financing the Amazonas 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 Amazonas State Data Center within the legal and regulatory environment of Brazil and Amazonas State.

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 Amazonas 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, with PRODAM input, identify applications, hardware, software, IT support staff, and networks (local, wide area, “storage area”) that support critical Amazonas State business functions.

The U.S. Firm shall, with PRODAM input, 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.

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

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

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

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

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

The U.S. Firm shall, with PRODAM input, 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 Amazonas State applications;
- “Fail over” requirements for storage supporting critical Amazonas State applications; and
- Viability of utilizing private sector “cloud computing” services for additional emergency redundancy (within the Amazonas State legal and regulatory framework).

The U.S. Firm shall, with PRODAM 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 Amazonas State data centers.

Sub-Task 3.9 Deliverables:

Deliverable 3.9.1: The U.S. Firm shall provide a “storage area network” topology, including the IT assets of other Amazonas State entities for critical backup to and from the Amazonas State Data Center.

Deliverable 3.9.2: The U.S. Firm shall develop, with PRODAM input, 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 Amazonas 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 Amazonas 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 Amazonas State data center over its useful life, and to provide decision support to PRODAM 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:

- Water cooling versus air cooling systems;
- Battery standby power versus flywheel standby power; and
- Supporting all applications as critical, versus treating only some applications as critical.

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 Amazonas State data center over its expected useful life.

The spreadsheet model prepared by the U.S. Firm, with Amazonas 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, with PRODAM input, make recommendations on final design and investment choices in light of the Amazonas State budget and IT development strategy.

Sub-Task 3.10 Deliverables:

Deliverable 3.10.1 The U.S. Firm shall provide 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 Amazonas State data center, over its expected useful life.

Deliverable 3.10.2 The U.S. Firm shall provide a final Amazonas State data center budget reflecting Total Cost of Ownership based on final design and investment choices validated by Amazonas State Government.

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

The U.S. Firm shall, with PRODAM input, outline a comprehensive project implementation plan for the construction of the Amazonas State data center.

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

- Data storage;
- Computing assets;
- 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:

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

Deliverable 3.9.2 The U.S. Firm shall provide bills of materials for all equipment to be procured for the Amazonas State data center, including the engineering requirements the equipment will address.

Deliverable 3.9.3 The U.S. Firm shall prepare 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, network operations center.

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

The purpose of this task is to finalize a project implementation finance plan for making the Amazonas 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 Amazonas;
- the InterAmerican Development Bank;
- the Development Bank of Brazil; and
- Private Banks.

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

- Operation of some aspect of the Amazonas State Data Center or Government platform in partnership with private firms; or
- Potential involvement of private firms in investing in construction of Amazonas State Data Center, negotiating a rate of return on this investment with Amazonas State.

Sub-Task 3.12 Deliverables:

Deliverable 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 Amazonas State budget scenarios over the expected useful life of the infrastructure.

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

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

The purpose of this sub-task is to specify critical selection criteria for data center construction firms.

The U.S. Firm shall, with PRODAM 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.

Deliverables Sub-Task 3.13:

Deliverable 3.13.1 The U.S. Firm shall prepare a standardized interview questionnaire developed to help assess potential U.S. Firms' experience, including a scoring system for potential construction firm's answers.

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

All Task 3 Deliverables shall be included in the Final Report

Task 4: 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 5: Development Impact Assessment

U.S. Firm shall assess the development benefits associated with the Project and develop a methodology for measuring those benefits (which shall also include the establishment of baseline indicators from which to perform such measurements). The assessment shall include examples of the development benefits that would be expected in the Host Country if the Project is implemented as outlined in the Study. The U.S. Firm shall focus on examples from the categories listed below and shall develop a methodology for

assessing these impacts over time. The U.S. Firm shall only list benefits in the categories that are applicable to the Project. The categories to be considered are as follows:

- *Infrastructure.* The U.S. Firm shall provide a brief synopsis of the ICT infrastructure improvements that would result from the Project. The U.S. Firm shall discuss the scale of construction or installation expected and shall comment on the capabilities of any recommended infrastructure improvements;
- *Technology Transfer and Productivity Improvement.* 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;
- *Human Capacity Building.* The U.S. Firm shall assess the number and type of local jobs that would be needed to construct and operate the proposed Project, as well as the number of employees that would require and receive training. The U.S. Firm shall estimate the number and type of jobs that would be created during the construction or installation phase if the U.S. Firm's recommendations are implemented, distinguishing between temporary construction jobs and those jobs that would be created or sustained once construction is complete;
- *Market-Oriented Reform.* The U.S. Firm shall provide a description of any regulations, laws, or institutional changes that are recommended, and the anticipated impacts they would have if implemented; and
- *Other.* The U.S. firm shall describe any other developmental impacts or benefits that would result from the Project, for example, improved public service delivery, follow-on or replication projects, enhanced governance, or improved revenue flows to the Amazonas State Government.

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 assessment shall identify potential positive and negative impacts, discuss the extent to which negative impacts can be avoided or mitigated, and develop plans for a full environmental impact assessment in anticipation of the Project moving forward to the implementation stage.

Task 6 Deliverable: The U.S. Firm shall prepare a report detailing the findings from Task 6.

Task 7: Final Report

The U.S. firm shall prepare and deliver to PRODAM 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 the Grantee. The U.S. Firm shall provide one copy of the Final Report in Portuguese to the Grantee 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.

The CD-ROM version of the report shall include:

- Adobe Acrobat readable copies of all documents;
- Source files for all drawings in AutoCAD or Visio format; and
- Source files for all documents in MS Office 2000 or later format

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)
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Activity Title [To be completed by USTDA]

Full Legal Name of U.S. Firm

Business Address (street address only)

Telephone		Fax		Website	
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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
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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 directors and 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 directors and 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			
Full Legal Name of U.S. Firm		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]	
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Activity Title [To be completed by USTDA]	
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Full Legal Name of U.S. Firm	
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Full Legal Name of Shareholder	
--------------------------------	--

Business Address of Shareholder (street address only)	
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Telephone number		Fax Number	
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Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	
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Country of Shareholder’s Principal Place of Business	
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Please provide a list of directors and principal officers as detailed in Attachment A. Attached?	Yes
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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.	
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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.	
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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
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duly organized, validly existing and in good standing under the laws of: .

2. 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.
3. Neither the subcontractor nor any of its directors and 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.
4. Neither the subcontractor, nor any of its directors and principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.
5. 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.
6. 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	<input type="text"/>	Signature	<input type="text"/>
Title	<input type="text"/>		
Full Legal Name of Subcontractor	<input type="text"/>	Date	<input type="text"/>