Definitional Mission to Evaluate the State of Ceará Data Center Project

Final Report

Submitted by
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A. EXECUTIVE SUMMARY

On behalf of USTDA, Hellerstein and Associates (H&A), an international consulting firm based in Washington, DC, conducted a Definitional Mission (DM) to examine a State Government of Ceará Data Center project proposed to be carried out under Brazilian National and State of Ceará Public Sector - Private Sector Partnership (PPP) legislation. The DM sought to determine whether the project is suitable for USTDA funding support and to identify the appropriate forms of USTDA assistance, such as Feasibility Studies, Technical Assistance, Orientation Visits or other activities.

During the period indicated, H&A conducted meetings with the State Secretary of Planning (SEPLAN/CE) (also the Vice Governor and responsible for PPPs), the Secretary of Administration (SEAD/CE), and the Director-President of the Ceará State Information Technology Enterprise (ETICE) who is also Coordinator of Strategic Management of Information Technology for the Secretariat of Administration (SEAD/CE). H&A also met with other key officials of SEPLAN/CE, SEAD/CE, and the Secretariat of Infrastructure (SEINFRA/CE). To gain additional background and perspective, H&A held meetings with three potential private sector partners for the proposed Ceará Data Center project – IBM Brasil, Itautec-Philco, and Lanlink Informática. The latter two are Brazilian companies, but make ample use of US suppliers. All three have provided letters indicating their interest in participating in the project.

H&A ascertained that the proposed project fits well within a broader State of Ceará strategy for consolidating the state government's physical and electronic infrastructure, with expected savings in both capital and current expenditures. The project also meets a basic requirement for a PPP under the state PPP law, namely that the project be included in the current Multiannual Investment Program (PPA). H&A obtained letters from the Secretaries of Planning and Administration indicating that the project has high priority for the Government of Ceará. Regarding the legal framework for PPPs in the State of Ceará, there remain some uncertainties, namely the lack of regulations governing the operations of the PPP Managing Council and Guarantee Fund, both of which are created by Ceará's PPP legislation (these regulations are expected to be promulgated by 15 December 2005). On the organizational side, SEAD and ETICE have the technical capacity to manage the public side of the proposed PPP, but could clearly benefit from USTDA-financed international technical assistance to develop a detailed feasibility study which would serve as the basis for developing a bidding document (*edital*) to select a private sector partner given the lack of any existing PPP in Brazil or Ceará at this time. The DM raised the issue as to whether a PPP is the best legal framework for this project, particularly if separate financing could be found for the physical structure to house the proposed data center. A more conventional service contract with a life of 4-5 years may be more appropriate given the fast rate of technological change for data centers.

The proposed project appears to offer important economic benefits in the form of reduced unit costs and improved quality for datacenter services, and these benefits would be quantified in the feasibility study. H&A ascertained that the International Finance

Corporation (the investment banking arm of the World Bank Group) is interested in financing a private sector partner for this and other e-Government outsourcing projects in Brazil, and arranged for an initial telephone interview to be conducted by a visiting IFC specialist in late-July 2005. The Inter-American Development Bank and the World Bank have both made loans for aspects of e-government in Brazil, and the World Bank is preparing a US$500 e-governance loan for India which is to go to the central government and the states. This model has created some excitement in Brazil, including in Ceará, but the lead time on new projects is so long that it is improbable that any such project, not yet formally identified, could be ready in time to finance the government side of this project. The State of Ceará annual budget has been allocating on the order of US$1 million per year for current expenditures on data center services, and this level of expenditure can be expected to be continued as a payment to the private sector partner, though a higher quantity and quality of services would be expected. We have also spoken to the Inter-American Investment Corporation (IIC), the private sector financing arm of the Inter-American Development Bank (IADB), and they indicated that their priorities are roads, railways, buildings and are not much interested in outsourcing opportunities involved in the data center.

H&A believes that funding of technical assistance to conduct a detailed feasibility study on behalf of SEAD and ETICE meets the USTDA funding criteria and would represent a good use of USTDA resources. H&A also believes that the proposed Ceará State Data Center presents a significant export opportunity for US suppliers, and that the model of outsourcing to be pioneered in this project is likely to lead to similar projects in other states. Accordingly, H&A recommends that USTDA fund the feasibility study in question, under the conditions set forth in the accompanying Terms of Reference, at a total budget level of $180,690 for Phase One and if a PPP framework is used or $76,530 if a standard commercial service contract is used, for Phase Two. The feasibility study would estimate future demand for data center services, propose service level agreements, suggest equipment to meet the projected demand, and analyze whether the project should be implemented under the PPP legislation or a more conventional shorter-term service contract.

B. THE DEFINITIONAL MISSION

The present Definitional Mission (DM) was conducted in Fortaleza, Brazil during the period July 10-13 2005. A preliminary meeting with the US Commercial Service was held in São Paulo on June 29, 2005 and a follow-up meeting with IBM Brasil, one of the potential private sector partners, was held in Rio de Janeiro on July 23, 2005. The general purpose of the DM was to examine a State Government of Ceará Data Center project proposed to be carried out under Brazilian National and State of Ceará Public - Private Partnership (PPP) legislation. The DM sought to determine whether the project is suitable for USTDA funding support and to identify the appropriate forms of USTDA assistance, such as Feasibility Studies, Technical Assistance, Orientation Visits or other activities. Prior to the DM, preliminary meetings were held with the project sponsor in Rio de Janeiro and with the US Commercial Service in São Paulo.

The request for USTDA funding originated with the State of Ceará's Secretariat of Administration (SEAD) and the Information Technology Company of Ceará (ETICE) which reports to SEAD. SEAD's Coordinator of Strategic Management of Information Technology, Paulo Alcântara Saraiva Leão is also the Director-President of ETICE, and he served as the DM's primary contact in Fortaleza and for pre-DM meetings in Rio de Janeiro.

During the period indicated, H&A consultant Peter T. Knight conducted meetings with the State Secretary of Planning (SEPLAN/CE) (also the Vice Governor and responsible for PPPs), the Secretary of Administration (SEAD/CE), and the Director-President of the Ceará State Information Technology Enterprise (ETICE) who is also Coordinator of Strategic Management of Information Technology for the Secretariat of Administration (SEAD). H&A also met with other key officials of SEPLAN, SEAD, and the Secretariat of Infrastructure (SEINFRA). To gain additional background and perspective, H&A held meetings with three potential private sector partners for the proposed Ceará Data Center project – IBM do Brasil, Itautec-Philco, and Lanlink. The latter two are Brazilian companies, but make ample use of US suppliers. A follow-up meeting with IBM was held in Rio de Janeiro on July 23. All three companies have provided letters indicating their interest in participating in the project. A full list of people met by H&A may be found in Annex III.

C. BACKGROUND

1. Brazil and Ceará State

With 184 million inhabitants (2005 estimate, Brazilian Institute of Geography and Statistics[1]), Brazil is the world's sixth largest country in terms of population, the world's tenth largest in terms of GNP, and the third largest food exporter. Per capita GDP in 2004 (at Purchasing Power Parity) was estimated at around US$8,100. But Brazil's income distribution is one of the most unequal in the world, exceeded only by a few African countries. There are also significant and deeply-rooted regional and social inequalities dating from Brazil's colonization by Portugal and the extensive practice of slavery in plantation agriculture, but also in urban areas. Slavery was abolished only in 1888. Brazil's agricultural and industrial modernization in the 20th century and the rapid urbanization which accompanied it has not reduced these inequalities, despite the existence of many government programs which claim to have this objective, including those specifically directed at the poor Northeastern region.

Ceará, with a population of 8 million (4.4% of Brazil's population in July 2005), is located in this poor Northeastern region of the country. It suffers from periodic droughts, has a relatively poor natural resource endowment, and is less industrialized than Pernambuco or Bahia in the Northeast, and much less so than the rich Southeastern and Southern regions. But over the last 15 years Ceará has enjoyed dynamic governments and made considerable socioeconomic progress. Ceará is now capitalizing on its strategic

[1] Source: http://www.ibge.gov.br/home/estatistica/populacao/estimativa2005/estimativa.shtm?c=1.

location (almost equidistant from the East Coast of the United States and the West Coast of Europe), pleasant climate, long coastline of excellent beaches, and strong artisan sector to become a major tourist destination both for foreigners and Brazilians. Irrigated agriculture is another growth pole, and traditional textile and shoe industries are being supplemented by metal-mechanical industries (including a new steel plant).

2. e-Government in Brazil and Ceará

Brazil is a recognized leader in e-Government in Latin America and among major emerging market economies worldwide. An important aspect of e-Government in Brazil is that, in keeping with Brazil's strong federal system, not only the national government, but all state governments and an increasing number of municipal governments have expanding e-Government programs, of increasing sophistication, with more interactive features and even full transactions possible.[2]

Increasingly powerful, flexible, and economical, ICTs present formidable new opportunities for social and economic integration, including when used for e-government services and infrastructure. ICTs are not a panacea for all Brazil's problems, but they can provide increasingly powerful tools for achieving key objectives like improving governance, connecting with citizens, increasing social inclusion, facilitating lifelong learning, improving public health and safety, streamlining judicial processes, creating competitive knowledge industries, and drastically reducing transaction costs across the economy.

In the area of e-government, much has been accomplished, but much remains to be done. A deatailed analysis by Chahin, Cunha, Knight and Pinto published in 2004 concluded that:

- When Brazil has devoted enough political priority and economic resources to achieve a goal, the country has become a world leader – examples are the electronic elections, the Brazilian Payments System, and the federal tax service (*Secretaria de Receita Federal*), where over 95 percent of returns are filed over the Internet. Great progress has also been achieved in e-procurement, distance education, and the computerization of the legislative branch, where the development of laws may be followed over the Internet.
- Administrative reform is needed – it is not enough to make anachronistic bureaucratic processes more efficient.
- The Achilles heel of electronic democracy in Brazil is social and digital exclusion – this exclusion applies to citizens, businesses, and governments. There are isolated successes in the fight against digital exclusion, but to make real progress and leapfrog requires that digital inclusion be a priority State policy.[3]

[2] For an extensive treatment of Brazil's e-government, including at the state and municipal level, see Chahin, Cunha, Knight and Pinto, e-gov.br – a próxima revolução brasileira (São Paulo: Financial Times Prentice Hall/Pearson Education do Brasil, 2004). English translations of parts of this book are available at http://www.tedbr.com/projetos/e-dem.br/e-gov.br-english.htm.

[3] Ibid, page xvii.

Electronic government strengthens democratic institutions because it facilitates social control of the state apparatus by citizens and by organized civil society.

But as mentioned above, at present the issue of digital inclusion is critical to achieving these goals. Brazil's online income tax filing service is the most utilized in the world, with over 95% of the filing population having their taxes filed online, elections are conducted by unified electronic voting system, government purchases are increasingly carried out by electronic auctions (though much more can be done), and the financial system is amongst the most electronic and sophisticated in the world. On the other hand, in 2003, only 15.3% of Brazilian homes had a personal computer. Of particular interest for this report the figures for the Northeast region were 6.2% for owning a PC and 4.4% for those who had a PC with Internet access.[4] If we broaden the definitions and add in Internet access from home, the workplace, school, and other collective access points (telecenters, internet cafés, etc.), perhaps as much as 30% of the Brazilian population has access to the Internet, but in the Northeast the figure drops to between 10-12%.

Two major routes for increasing digital inclusion are decreasing the cost of connectivity and collectivization of access through public access points (public, private, and NGO financed *telecentros*; Internet cafés; and one-stop shops for government services which can provide mediated access to e-Government services). Rapid technological change and increased competition among providers of telecommunications services promoted by Brazil's successful privatization and liberalization of this sector help reduce the cost of connectivity.

Ceará's state government has a major computers in schools program, with 550 having landline links to the Internet and 200 broadband satellite links under the federal GESAC program (though computer maintenance has been a major problem). There are also state programs to set up:

- telecenters (called *Ilhas Digitais* or Digital Islands) – there were some 50 in operation in July 2005, with a total of 124 expected by the end of 2007 according to the current Multiyear Investment Program (PPA), each with 5 computers, a printer, and at least a 64 kbps dedicated Internet connection – and
- one-stop-shops (called *Casas do Cidadão* or Citizen Houses) – 2 in Fortaleza and 7 in other towns (in partnership with the municipal governments)

Ceará's e-government portal (www.ceara.gov.br/), while not the most sophisticated of Brazilian government portals, is quite impressive. A wide variety of information and on-line services are offered, and an increasing number of services are interactive with government databases and call centers. An example is the Virtual Police Office (http://delegacia.seguranca.ce.gov.br/beo/), which allows online crime reporting. Ceará is seeking to greatly expand its e-government services and digital inclusion programs, and has begun discussions with the World Bank on an e-Cities of Ceará project.

[4] Data from the National Household Sample Survey (PNAD) conducted by IBGE, downloaded from ftp://ftp.ibge.gov.br/Trabalho_e_Rendimento/Pesquisa_Nacional_por_Amostra_de_Domicilios_anual/2003/Volume_Brasil/.

3. The role of Public-Private Partnerships (PPPs)

Brazil's commitment to macroeconomic stability and already high tax burden have made it difficult to increase public financial resources for e-Government-related investments, including telecommunications and IT infrastructure, public digital inclusion programs, connectivity, distance education programs, and the like.

PPPs offer a new instrument for both increasing the efficiency of public resources and for mobilizing private sector management, technology, and financial resources to the areas where investments are needed most. Through PPPs, which now have governing legislation at the national and, in some cases (including Ceará), state level, governments can specify a set of objectives, offer access to public resources over a defined number of years (usually 10 or more), and then promote competition of private sector partners to help meet these objectives through a process of competitive bidding.

Ceará proposes to use a PPP to upgrade and unify state government datacenters in a modern facility, probably to be located on the principal government office park, Cambeba, next to the SEAD building.

D. THE STATE DATA CENTER PROJECT

1. Current Data Center Situation and Costs

At present different secretariats and agencies of the Government of Ceará maintain their own data centers. To increase efficiency and lower costs, SEAD seeks to migrate these separate data centers to a common State Government Data Center housed in a secure modern facility in a new building next to the SEAD building in the Cambeba Government complex (Figure 1, page 11). This process has begun, using the existing data center in the basement of the SEAD building, but as can be seen from Photo Groups 1 and 2 which follow Figure 1, the existing facility combines a Network Operations Center (NOC) for IP connectivity operated under contract by Telemar with an outdated and crowded data center server room operated by SEAD and ETICE. Both are located in the basement of the SEAD building, not far from an unguarded garage, and the backup generator room is unlocked and located at the back of the garage.

Consolidation of the Back-Office Corporate IT Infrastructure

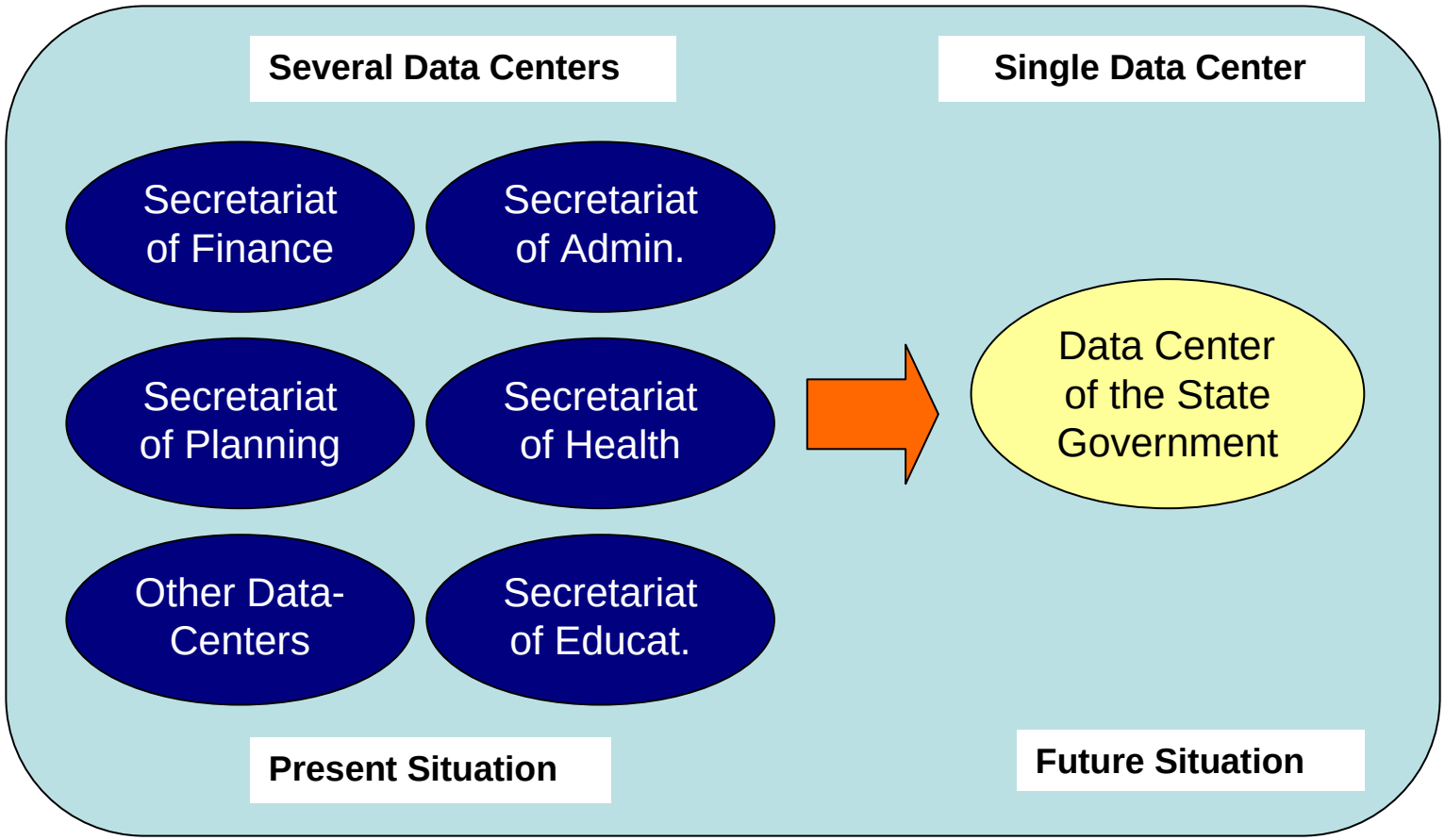


Photo Group 1: Existing SEAD/ETICE Data Center in Basement of SEAD Building, Low Security Given Unguarded Access from Garage

Existing SEAD/ETICE data center server room
Basement of SEAD Building

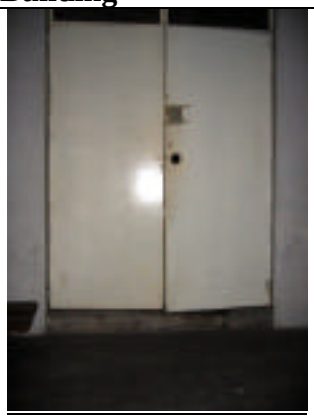
Data center server room with Telemar-operated NOC in background

Servers

Pair of servers in existing data center

Photo Group 2: Security Problems in Existing Data Center and Telemar Control Room in Basement of SEAD Building

Telemar-operated NOC viewed from existing SEAD/ETICE data center



Unlocked door to backup generator room at back of SEAD building garage

Unsecured garage in front of backup generator room

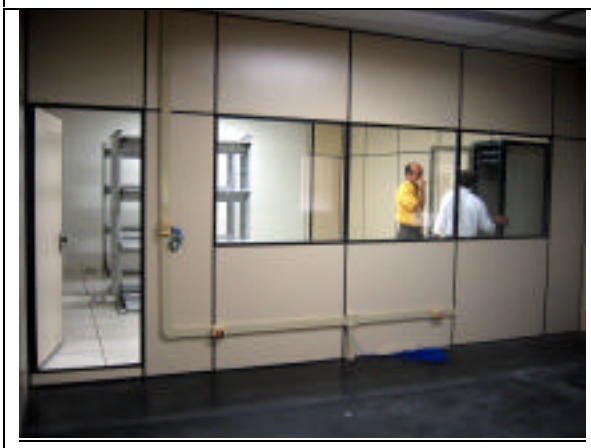
Backup generator for data center and Telemar-operated NOC

As an interim measure, SEAD and ETICE has remodeled two rooms on the first floor of the SEAD building, which in the near future will house the Telemar control room and the SEAD and ETICE data center. These facilities are better than the existing ones, and will have somewhat better security, but will still not meet the standards SEAD and ETICE seeks for a new secure modern facility using the most efficient technologies and operated by a private sector partner. The present space will not be sufficient for expected growth and for operation by a private sector partner operating with its own equipment and personnel under a PPP or other outsourcing service contract.

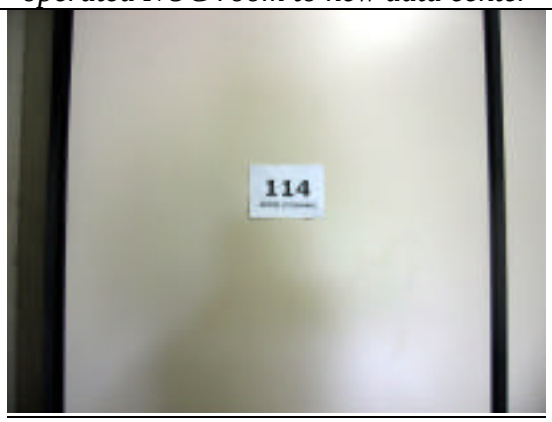
Photo Group 3: New Rooms for Datacenter and Telemar-operated NOC on First Floor of SEAD Building

New new data center Room

Connecting door from new Telemar-operated NOC room to new data center



New Telemar-operated NOC room from new data center room



Door to new Telemar NOC room from first floor corridor

The present configuration and costs of the ETICE data center are set forth in Tables 1 and 2, which were prepared by SEAD staff interacting with H&A, and represent their best estimates of the current SEAD and ETICE datacenter monthly and annual operating costs (R$198,981 and R$2,387,770 respectively) and the value of existing equipment and software (R$4,003,200). The operating costs do not include the cost of connectivity (R$900,000 per month) or the rental value of the building space occupied. In addition to these costs, it will be necessary to obtain costs for the data centers of other government units which could potentially be migrated to the new data center.

Table 1: Information and Costs for Existing SEAD and ETICE Data Center

		Current Situation	Projected for 2010
Capacity on Hard Drives (MB)		***351,114***	***1,470,686***
	Of Which WINTEL Platform	310,000	1,427,475
	Of Which Mainframe Platform	41,114	43,211
Number of Users		***14,329***	***14,890***
	Of Which WINTEL Platform	920	1,481
	Of Which Mainframe Platform	13,409	13,409
Number of Staff		***21***	
	Of Which WINTEL Platform	18	
	Of Which Mainframe Platform	3	
	Monthly Personnel Expense	R$112,537.86	
	Annual Personnel Expense	R$1,350,454.32	
Number of Applications		42	
	Of Which WINTEL Platform	16	
	Of Which Mainframe Platform	25	
Additional Information			
	Internet Access	34 Mbps	
	Number of Links	1,000	
	Availability	99.99%	
	Operating time	24x7	
	Monthly expenditure (WAN cost)	R$ 900,000.00	
Investments and Monthly Expenditures to Maintain Them			
	Investments	R$ 4,003,200.00	
Operating Costs	Monthly	R$ 86,443.00	
	Annual	R$ 1,037,316.00	
Total Operating Costs (Excluding WAN)			
	Monthly	**R$ 198,980.86**	
	Annual	**R$ 2,387,770.32**	

Table 2: Detail on Cost Estimates for Existing SEAD and ETICE Data Center

Values		
	Total Investment cost	**R$ 4,003,200.00**
	Monthly operating cost	**R$ 198,980.86**

ITEM	CATEGORY	DESCRIPTION	TOTAL COST (R$)	EXPENDITURE TYPE
1	CONSTRUCTION	Infrastructure (construction+cabling+installing electric wiring, fixtures and telephones)	160,000.00	Investment
2	CONSTRUCTION	Built-in cables, wiring, fixtures	Included above	Investment
3	CONSTRUCTION	Telephone installation	Included above	
4	CONSTRUCTION	Furniture	20,000.00	
5		Electrical and emergency installations	10,100.00	Monthly maintenance
6		Access control	22,000.00	Investment
7		Fire extinguishers	417.00	Monthly maintenance
8		Air conditioning equipment	32,000.00	Investment
9	EQUIPMENT	Intermediate platform. (RISC) (Computers+OS+Cluster)	600,000.00	Investment
10		Low platform (Intel)	360,000.00	Investment
11		Data storage units	300,000.00	Investment
12		SAN (Storage Area Network)	100,000.00	Investment
13		Server Switch IP + HBA	200,000.00	Investment
14	SOFTWARE	Anti-virus+anti-spam	500,000.00	Investment
15		Anti-virus+anti-spam	8,334.00	Monthly maintenance
16		Databases	800,000.00	Investment
17		Databases	15,000.00	Monthly maintenance
18		Server software	800,000.00	Investment
19		Server software	15,000.00	Monthly maintenance
20		e-Mail software	9,200.00	Investment
21		e-Mail software	7,000.00	Monthly maintenance
22		Management software	100,000.00	Investment
23		Management software	1,667.00	Monthly maintenance
24	MAINTENANCE	Equipment	26,000.00	
25		Instalations (Buildings+Furniture.)	2,925.00	
26	PERSONNEL	Own and outsourced		

			112,537.86	

LEGEND
Blue items - Investment
White items - Monthly Expenses

Note that the projected hard drive capacity and users for the year 2010 do not include migration to the SEAD and ETICE data center from other state government data centers except for corporate systems serving the entire state government. A more detailed breakdown of the cost estimates is included in Table 2.

2. The Proposed Expansion, Centralization and Outsourcing of Data Center Services

As part of its Policy for Management of the Information Technology (IT), the State Government of Ceará, through the Coordination of Strategic Management of IT (CGETI), a unit of SEAD, intends to establish a modern, secure data center to consolidate the state government's IT infrastructure. The basic objectives of this project are to meet the growing demand for information and communications technology (ICT) to support the State of Ceará's e-Government program (applications, services, and portals) with agility, flexibility and efficiency under the strategic management of the state.

The new data center would provide better quality services at lower costs, improving government efficiency and facilitating the life of citizens through better health, education, public safety and other services. This project addresses the following problems identified by SEAD:

- Redundant investment and current expenditures for IT in the various state secretariats
- Insufficient and insecure space for corporate (state-Government wide) IT infrastructure in present facilities
- Insufficient computational capacity for corporate applications
- Lack of a unified help desk for users of data center services
- Difficulty in conducting proactive actions and monitoring
- Lack of guaranteed uninterrupted service capability for mission critical applications
- Lack of sufficient specialized personnel
- Insufficient agility and flexibility in the state enterprise framework (ETICE) for confront the problem of rapid obsolescence of data center hardware and software
- Difficulties in integrating corporate systems and services (including personnel).
- Consolidation of infrastructure can significantly reduce both investment and current expenditures

The concept adopted for this project is to centralize all the equipment (hardware), software, services and staff that are used by the majority of the agencies and companies of the state government for common purposes but not primarily those used by only one

secretariat or agency (sectoral). Eventually additional non-common applications may be migrated to the centralized data center as is discussed below (see Figures 4 and 5). At present there are seven data centers of significance in various secretariats of the State of Ceará (Table 3). The consolidation of corporate (and even specialized) IT infrastructure is the tendency in the market. Consolidation of infrastructure can significantly reduce both investment and current expenditures.

Table 3: Principal Data Centers in State of Ceará Secretariats (1 indicates least modern, 4 most modern)

Data Center	Degree of Modernity
Finance	4
Public Safety	3
Education	3
Health	2
Administration (after modernization under way)	4
Planning	1
Infrastructure	1

SEAD proposes that the project be financed as a Public-Private Partnership (PPP) of at most 10 years duration. According to the state and national PPP legislation, the private company (partner) would be responsible for building the data center and for providing the services afterwards, during the contract period. The private partner would make all the necessary investments. These expenditures would be reimbursed and the services would be paid by the government from current revenues, on a monthly basis, once delivery of services has begun. The financing source used to make these payments would be the state treasury. As required by the legislation, the data center PPP would be a new legal entity created specifically for this purpose, called a Society for a Specified Purpose (*Sociedade de Propósito Específico* – SPE), and the revenue stream to the private partner guaranteed by a state guarantee fund to be set up under the state PPP law.

SEAD expects that the eventual TDA-financed feasibility study would produce the necessary documentation describing the project, various economic scenarios, risk analysis, return on investment analysis (ROI), studies of total costs, and economic studies and reports taking into account worldwide experience with data centers that would allow SEAD and ETICE to submit the data center project to the head of the state government and its IT Superior Council and then to the state Managing Council for PPPs (*Conselho Gestor de Parcerias Público-privadas* – CGPPP) for analysis. This data and analysis will enable the State to decide whether they should proceed with international competitive bidding using Ceará's PPP legislation, approved in December 2004, or use an alternative financing mechanism. The feasibility study would recommend how to remunerate the contracted company or companies, using objective performance criteria, for the services derived from the investments that will have to be done initially and periodically for the renewal and upgrading of the infra-structure over the period of the PPP contract.

SEAD currently envisages that the private partner would construct a new building with about 1500 square meters of usable space, which would house the data center itself (estimated to use 30 to 50 percent of the space) including servers, routers, emergency power provision (generator, UPC), support personnel, and telecommunications links as well as the NOC, currently operated by Telemar under a service contract. The remaining space would be used as a corporate training center, with meeting rooms, a mini-auditorium, reception area, administrative area for SEAD and ETICE, and other areas for IT personnel (always corporate in scope), rest rooms, show room for state IT, a government-wide help desk and call center (which still has to be "sold" to the rest of the government, since it has not yet been authorized). The private sector partner would then install the hardware and software necessary to meet Service Level Agreements (SLAs) to be specified in the detailed feasibility study. The SLAs will be negotiated by SEAD and ETICE, but should be ratified by participating secretariats and other government agencies. These estimates for the division of the overall useful space of 1500 square meters are rough preliminary ones.

In discussions with H&A consultant, Peter T. Knight, SEAD and ETICE personnel agreed that that the construction of the new building (which will have a useful life far longer than datacenter hardware and software) might be financed separately as part of a larger government plan prepared by the Secretariat of Infrastructure to connect and concentrate all State Government facilities in three campuses in Fortaleza (Figure 2), linked to municipal facilities throughout the State. In this case the PPP would then only be for purchasing the required hardware and software and operating the data center. In this case, SEAD thought that a PPP may not be the best vehicle and agreed that a more conventional contract should be analyzed and compared with the PPP option in the feasibility study.

The date and construction period for the new building are as yet uncertain, since if the building to be part of the Secretariat of Infrastructure's broader project for consolidating and upgrading the government's corporate centers, the overall construction plan will be further elaborated by consultants to be hired towards the end of 2005. But SEAD estimates that construction of the new data center building will begin in the second half of 2006.

In the meantime, the new space on the first floor of the SEAD building, shown in Photo Group 3, will serve as Phase I of the new data center, its operations being staffed by a mixture of outsourced personnel (the great majority) and state employees. The equipment in Phase I will be almost entirely state property, providing common corporate services to all state agencies.

Phase II would use the same area, but add sectoral IT infrastructure. Already confirmed are the Secretariat of Education (SEDUC), which is located on the Cambeba campus. Later others would be added, consolidating all the data centers of Cambeba and the Bárbara de Alencar Administrative Center (CABA). CABA includes the Governor's offices. See Table 2 for a list of the most important existing state government data centers and their degree of modernity. Data is being collected by SEAD and ETICE on the

capacity of these data centers based on their degree of modernity. The data was expected to be available by the end of October 2005 and made available for the feasibility study.

Phase III would use the new building. Over the longer term the new data center should include all the back offices of the state, in principle on a voluntary basis, and could also

Figure 2: State Government Campuses in Fortaleza

accept the transfer of data centers of municipal governments of the State of Ceará. There are 184 *municípios* in the State of Ceará. Of these, only 7 had an estimated population (data from the Brazilian Institute of Geography and Statistics – IBGE)[5] of over 100,000 and these would probably be the priority potential clients. At this point SEAD and ETICE does not have information on the data centers existing in these or any other *municípios*. But the best potential municipal client is the closest in proximity – the município of Fortaleza, which had an estimated population of 2,374,944 in July 2 according to IBGE. If all administrative centers of all secretariats are consolidated in Cambeba and CABA, Phase III could begin sooner.

Though it is unlikely that the Government of the State of Ceará would allow private sector clients for the Phase III data center, SEAD and ETICE has asked that the feasibility study include an analysis of how much costs to government clients could be reduced if the new data center were able to accept private sector clients (this is a question of returns to scale).

The proposed data center would use small RISC servers, phasing out mainframe legacy systems, but keeping the activities of development and maintenance of systems and direct support for final users functioning locally, in a distributed way in the distinct agencies

[5] See http://www.ibge.gov.br/home/estatistica/populacao/estimativa2005/estimativa.shtm?c=1 to download Excel file with population estimates for all *municípios* in Brazil as of July 1, 2005.

and companies of the state government. In the same way, the management of the corporate systems would also remain in the responsible secretariats, because this is where the business areas of the government are located. The idea behind the data center is to consolidate the back-office corporate infrastructure, such as: corporate servers, storage, network equipment, software, services, support and operation staff, etc. For example: database and application servers for the corporate systems, equipment of the Government Network, etc. The specific activities that must really be directly managed by the business managers and users of the systems in the secretariats would remain decentralized, so as to preserve the agility of these specialized processes and services, retaining their flexibility and independence as much as possible.

Within the Ceará state government's IT architecture, the data center would primarily support the systems and corporate portals of the state and would be accessed through the Government Network (Figure 3, page 22). By consolidating the resources that are common to all secretariats and agencies it should be possible to rationalize expenses and optimize the use of existing infrastructure. The project would implement a help desk service and support for the corporate ICT environment. It would also provide a space for corporate training in the use of IT resources, including the operation of information systems and software tools.

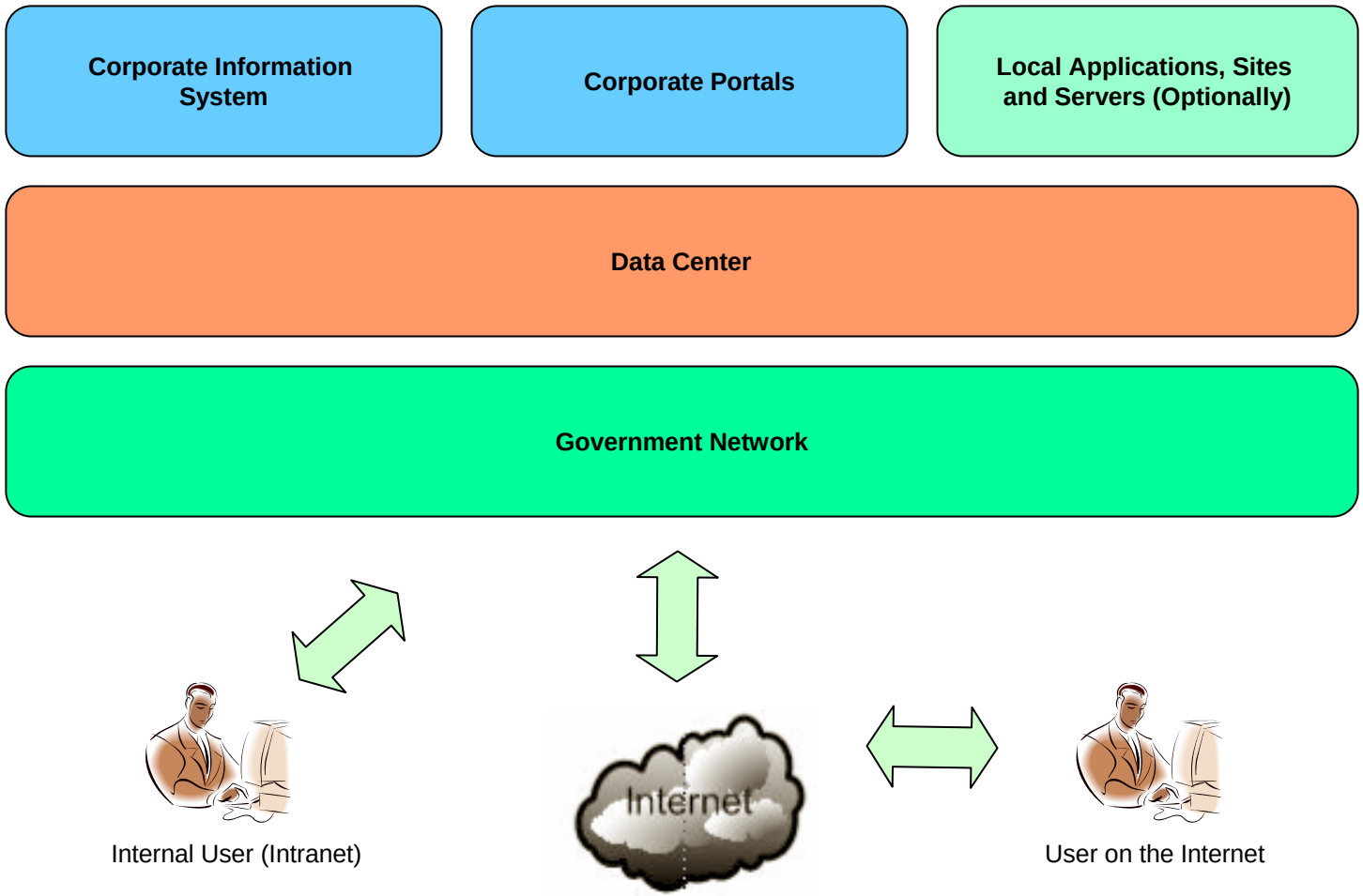
The proposed data center would actually be a "Data and Communication Center (DCC)", as it would also host the NOC of the Government Telecommunication Network (REGOV – currently operated by Telemar under a service contract which expires in July 2006). SEAD and ETICE is preparing a new bidding document (*edital*) for REGOV which will be issued in December 2005 or January 2006. At this point it seems likely that Telemar will win this new contract. Through the new data center, the state government intends to improve the quality of public administration and consolidate the advances already achieved in modernization of the state's management.

Figure 4 on page 23 provides a more detailed view of the proposed structuring of the centralized data center. The mainframe shown in this figure would be phased out during a transitional period and its applications migrated to RISC and Intel servers.

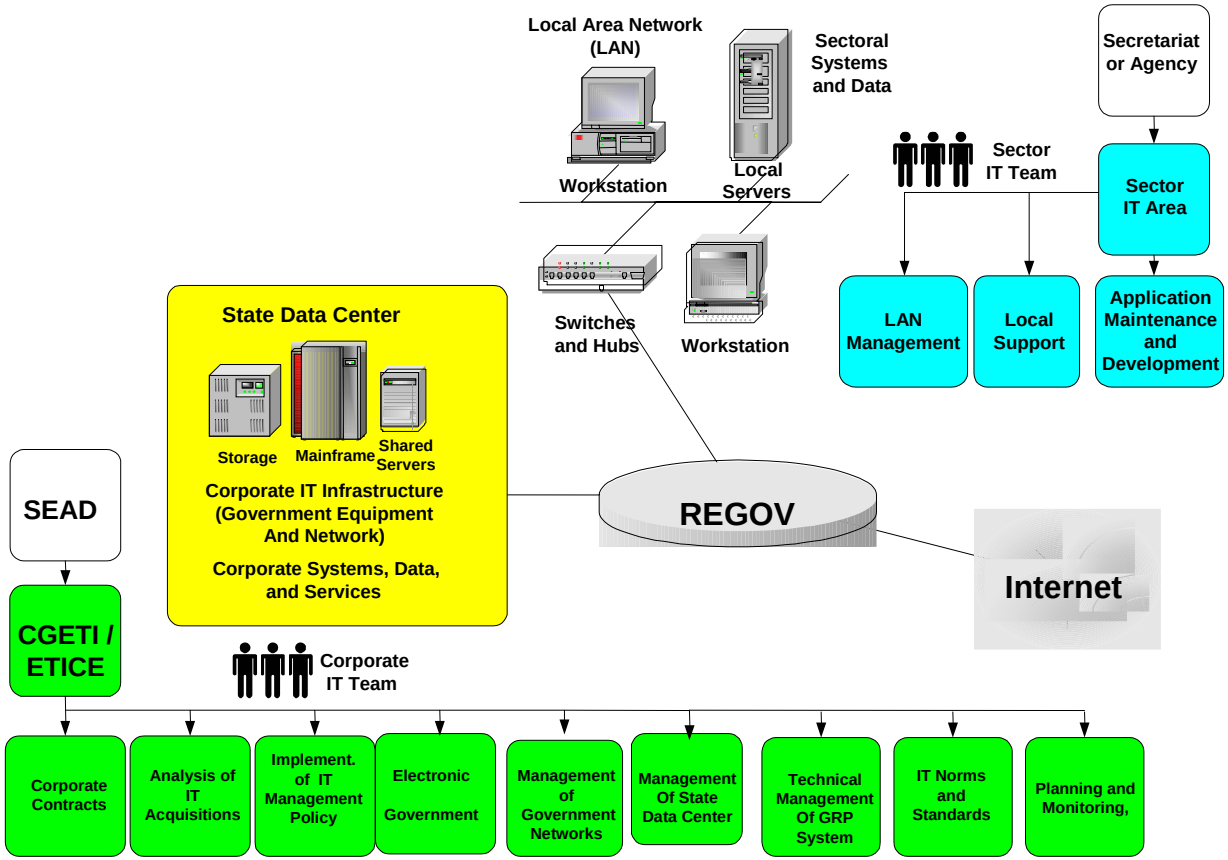
Figure 5 on page 24 shows the proposed division of labor between the centralized data center and a secretariat or other government agency.

The proposed migration of the existing data centers in the various state secretariats (the equivalent of ministries at the national level) would be progressive. The proposed evolution is shown in Figure 6, page 25. At present decisions have been made to transfer equipment and servers of corporate scope, that is those serving functions like budget management, payroll, etc. SEAD hopes that the improved service levels and lower costs available through the new data center will induce other secretariats and agencies to transfer sector-specific servers as well, resulting in progressively larger scale and lower unit costs at the centralized data center.

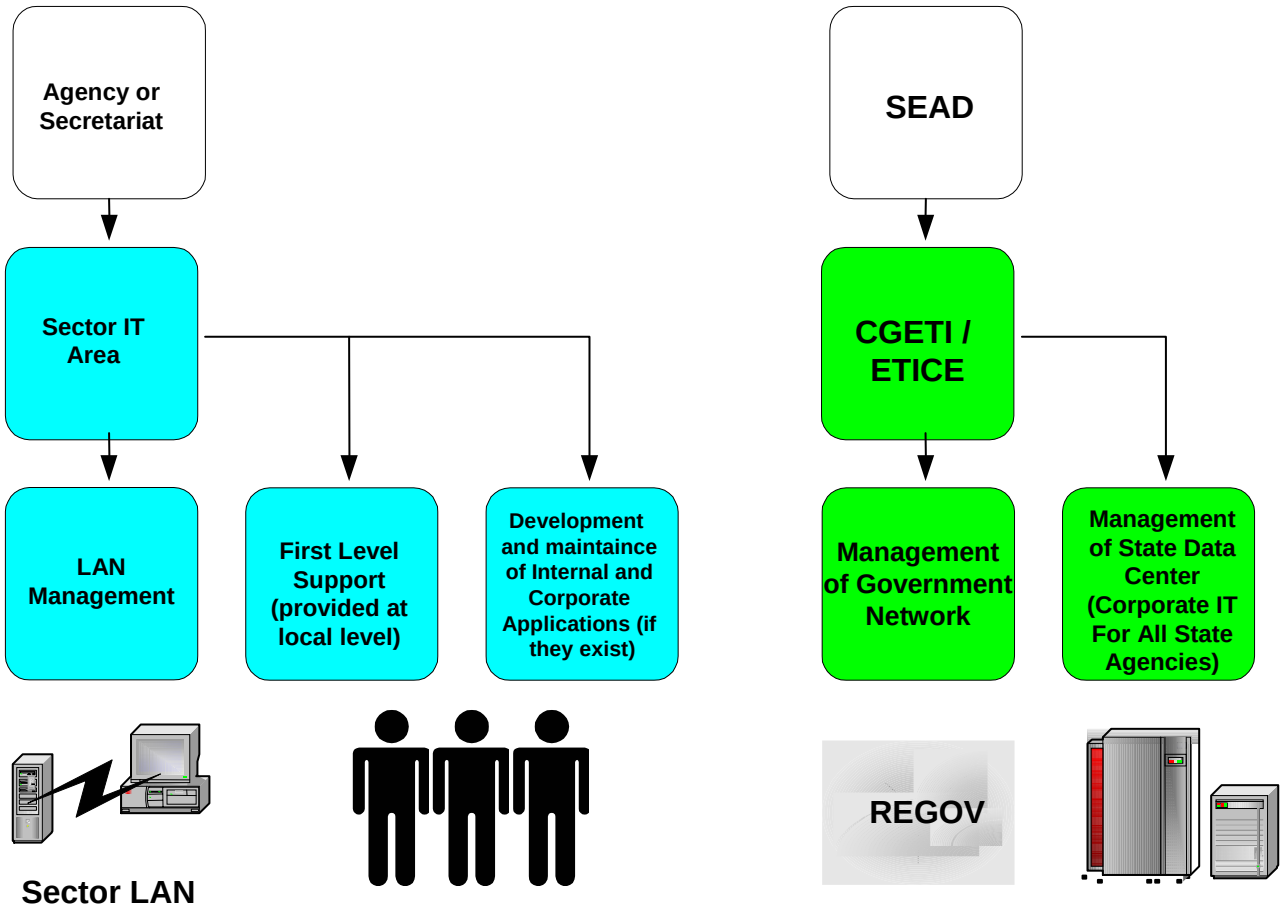
IT Architecture



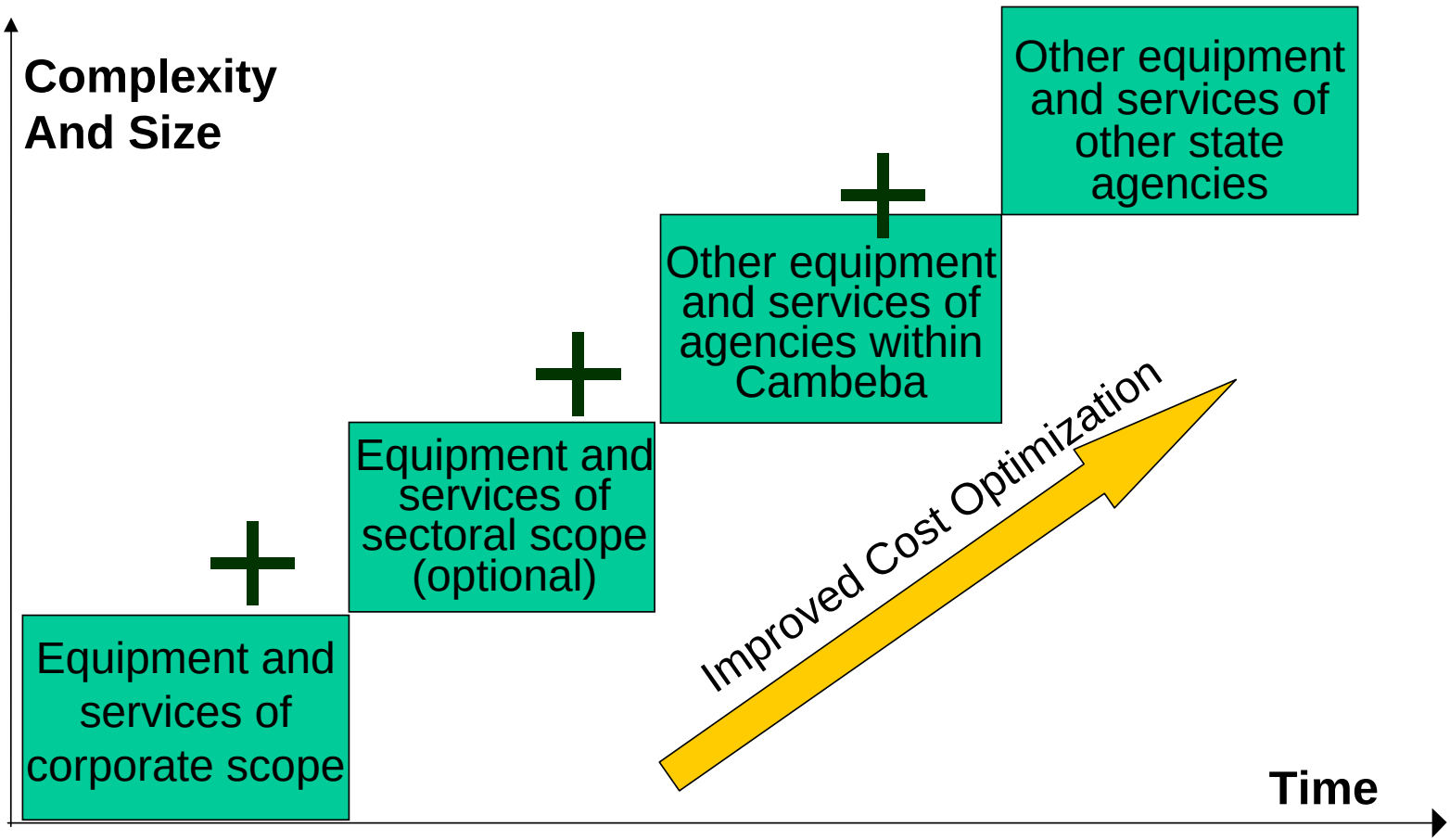
Proposed Model For Management of State IT Infrastructure



Future Division of Labor



Evolving Scope of State Data Center



3. Project costs

SEAD and ETICE has prepared a very rough estimate of project costs. These must be taken as extremely rough, and must be improved during the feasibility study.

Table 4: Estimated Project Costs
(R$)

Construction	3,500,000
Equipment/Software	15,000,000
Annual Operating Costs	3,300,000
Personnel	350,000
Equipment	2,250,000
Facilities (building)	700,000

Should building construction be removed from the PPP, this item would be eliminated.

4. Project viability

H&A ascertained that the proposed project fits well within a broader State of Ceará strategy for consolidating the state government's physical and electronic infrastructure, with expected savings in both capital and current expenditures. The extent of the cost savings will have to be determined in the feasibility study, but improved technology and the elimination of redundant functions and computing capacity should mean that these savings are significant. The project also meets a basic requirement for a PPP under the state PPP law, namely that the project be included in the current Multiannual Investment Program (*Plano Plurianual* – PPA). The project's priority has been clearly stated in writing by the Secretaries of Planning and Administration (see letters in Annex IV) and section E below on project sponsor commitment.

On the organizational side, SEAD and ETICE have the technical capacity to manage the public side of the proposed PPP, having to this date run the existing SEAD data center, its Phase II upgrading, and the conception of the PPP itself. But they could clearly benefit from USTDA-financed international technical assistance to develop a detailed feasibility study. This study would serve as the basis for developing a bidding document (*edital*) to select a private sector partner given the lack of any existing PPP in Brazil or Ceará at this time.

The project involves many different stakeholders (Figure 7, page 27), some of which, especially the secretariats other than SEAD, have vested interests in their own data centers, in particular Finance, Health, Education, Public Safety, and the Department of Transportation (DETRAN). The Secretariat of Education has agreed to the centralization of its data center, but the others may be expected to provide some resistance to the proposed centralization of the data center function. The phased approach adopted is designed to achieve early successes by centralizing first the (corporate) functions which affect all secretariats and agencies, then to attract the others on a voluntary basis based on

Stakeholders in Data Center Project

SEAD / ETICE

PPP Team (SEPLAN)

Attorney General's Office (PGE)

Audit Secretariat (SECON)

Cttee. for Management by Resullts and Fiscal Management (COGERF)

Other Secretariats and State Agencies

State Auditing Court (TCE)

PPP Management Committee

Legislative Assembly

Private Partners

the cost savings and improved service quality (including security) and a change management training program. This seems a reasonable approach.

The feasibility study will have to explore all aspects of project feasibility and their interrelations in greater depth as shown schematically in Figure 8 on page 29.

5. Issues regarding the proposed PPP for financing the new state data center

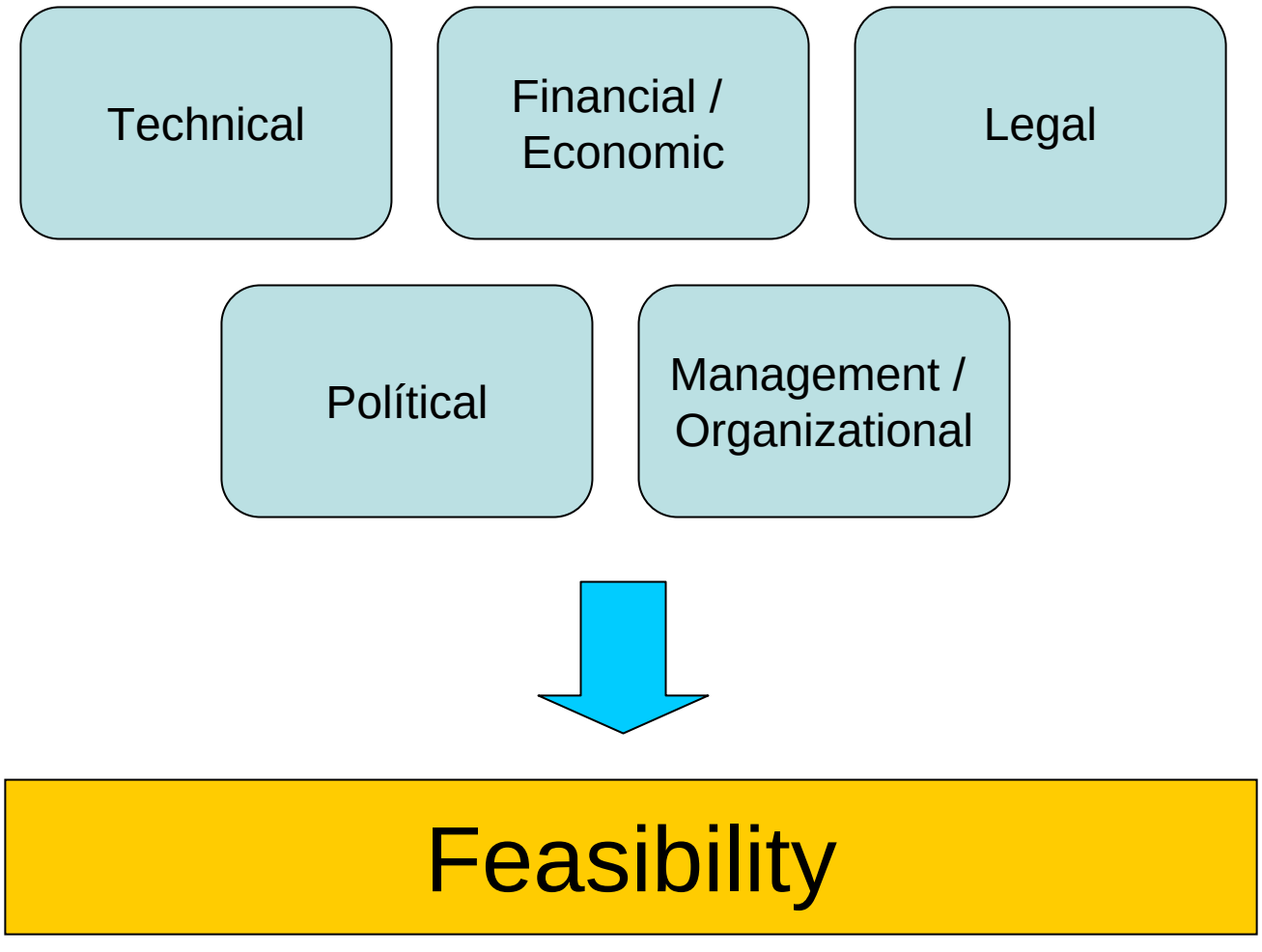
PPPs offer an instrument for both increasing the efficiency with which public resources are used and mobilizing private sector management, technology, and financial resources for needed investments. In Brazil, PPPs have governing legislation at the national and, in some cases, state level. Some basic characteristics of PPPs are that they:

- Provide new mechanisms of collaboration between the State and the private sector, remunerated according to objectively defined performance criteria;
- Are used to mobilize private resources for projects of public interest;
- Broaden the scope of contracting with the private sector, providing more flexibility to the existing systems of bidding and concessions, which remain available; and
- Extend the time period for execution of works or delivery of services beyond that possible with previously existing legislation.

Through PPPs, governments can specify a set of objectives to implement public policies or services, offer access to public resources to the private partner over a defined number of years (usually 10 or more), and then promote competition of private sector partners to help meet these objectives through competitive bidding.

Legislation establishing the PPP model has been passed and promulgated at the national level (Law l1,079 of 30 December 2004) and State of Ceará (Law 13.557 of 30 December 2004). A review of this legislation shows that the objectives of both are similar. First and foremost a PPP project must seek efficiency in fulfilling the objectives of the project, encouraging competitiveness in the delivery of services, and economic sustainability of each undertaking. Other key objectives are assuring fiscal responsibility (including compatibility with Brazil's Law of Fiscal Responsibility which took effect in May 2000), assuring transparency in procedures and decision-making, maintaining the authority of public authorities to monitor and audit the private sector partner's performance, and risk-sharing between the public and private sector partners. The Federal PPP law requires that any PPP negotiated by a state must first be sent to the Federal Senate and the Secretariat of the National Treasury prior to the signing of the contract. Moreover, the total expenditure on PPPs already contracted by a state or municipality cannot exceed one percent of its net revenue in the previous year nor can annual expenditures contracted in existing contracts during the subsequent ten years exceed 1 percent of the net revenue projected for each year.

Elements in Feasibility Study



a. Legal issues regarding the proposed Data Center PPP

There are still some remaining questions that need to be resolved if the project is to be financed and operated as a PPP.

First there are some incompatibilities between the federal PPP law and the Ceará state PPP law. The lower limit in project size in the federal law is R$20 million, while the state law sets a lower limit of R$10 million. Economically, this difference makes sense – the State of Ceará is a small part of Brazil, and setting the same limits for state and federal projects seems illogical. This issue would become significant if the size of the project turns out to be less than R$20 million. Another issue is just how the size is judged – is it the present value of services to be provided, the investment cost of the project, or some other measure?

SEAD would like to examine the benefits of allowing the private partner in the proposed PPP to serve clients other than the state government and at a later stage, municipal governments of the State of Ceará. If the benefits were sufficiently large, this might convince state officials to allow the new state data center to accept private sector clients. The Deputy Attorney General (*Procurador Adjunto*) has stated verbally, but not in writing, that this would not be allowed under the PPP law. But an economist on the PPP team at the Secretariat of Planning thinks that this possibility is indeed legal, since the Federal PPP law has no such limitations. This is an issue, because the prices offered to the state under the proposed PPP could be lower if returns to scale could be reaped earlier than planned for in the project. As demand is expected to increase over time, and the economic life of servers and related equipment and software in a data center is on the order of 4 to 5 years, there would be excess capacity in the early years. If it cannot be sold to other customers, then the average prices charged to the state would presumably have to be higher.

Finally, in addition to any changes required to make the Federal and Ceará State PPP laws compatible (this could be done at Federal or Ceará levels or both, but could take some time), some provisions of the state law require the issuing of decrees for their implementation (***r****egulamentos*). These provisions are for a Guarantee Fund and the Managing Committee of the Program of Public Private Partnerships (CGPPP). In a letter (Annex IV) to Peter T. Knight (H&A Consultant conducting the DM), the Secretary of Planning and Coordination and Vice Governor, had stated that both *regulamentos* will be issued by the end of August 2005, but as of October 2005 the target date for issuing these *regulamentos* was moved to 15 December 2005.

b. Is a PPP the best legal framework for outsourcing data center services?

In discussions with SEAD and ETICE staff it was agreed that, given the possible separation of financing for the proposed new building to house the data center from the data center itself and the many complications regarding the PPP laws and procedures at the federal and state level, a more conventional outsourcing contract (probably under Federal Law 8666) should be considered as an alternative, along the lines of the current

telecommunications contract with Telemar. The duration of this contract could be 4-5 years, which would be consistent with the economic life of the hardware and software involved.

In additional to the legal questions raised above, nowhere in Brazil has a PPP has been put into practice, so this project could be on the bleeding edge. On the downside, there are several legislative hurdles at the state and federal levels that first must be cleared, possibly further delaying the project, which would be another reason for considering a conventional service contract.

5. Critical Success Factors for Project Implementation

During the DM discussions SEAD and ETICE prepared a list of critical success factors for the project, assuming it were implemented under the PPP legal framework. Those factors, while not specific to PPPs would be valid for a conventional outsourcing contract.

- The PPP Guarantee Fund be regulated, implemented, and well administered (Note that IBM representatives indicated that they would not be interested in participating in a conventional contract, nor in the PPP, without a solid Guarantee Fund)
- A successful change management process be conducted in the affected secretariats and government agencies
- The government shares with the private sector benefits of productivity increases arising from technological change, and not just the costs
- Continual monitoring of the contractual conditions in relation to the market is carried out – provisions for this need to be incorporated in the contract itself
- Training of state personnel in the management of outsourcing, SLA, SLM, etc.
- Clear definition of contract objectives (scope, service levels, metrics, requirements, etc.)
- Support from top government managers
- Priority for payments to private sector partner for strategic and critical activities outsourced
- Establishment and application of penalties for non compliance with contract conditions
- Definition of a clear process exiting from the contract and transition to another supplier
- The partnership between public and private sides becomes a conventional client and supplier relationship
- Other critical success factors inherent in outsourcing processes for IT

6. Project Risks

In addition to the legal risks mentioned above, the following risks have been identified by ETICE, SEAD, and H&A:

- Lack of parameters for comparison with other PPPs in Brazil (none exist at present) and with PPPs for data centers in other countries (none have been identified to date)
- A ten year contract is very long given rapid technological change in the IT industry and the possibility of paradigm changes, requiring design of rules governing the sharing of the benefits of technological change between the public and private partners
- Isolation from market forces over an extended contract period unless appropriate rules can be devised (see point above)
- Project recently conceived, and budget estimates extremely rough at this time
- The private sector partner could face financial and operational difficulties
- Political and economic instability
- Poor implementation of the guarantee fund
- Other risks inherent in outsourcing contracts for IT infrastructure

E. DEVELOPMENTAL IMPACT

Two somewhat differing developmental impacts of the project can be distinguished:

1. a *shorter-term impact* stemming from the results of the study itself; and
2. a *longer-term impact* as a result of the SEAD and ETICE succeeding in developing a partnership with a private sector firm (whether under the PPP legislation or a more conventional service outsourcing contract) and centralizing the state government's diverse data centers, thereby reaping economies of scale and eliminating redundant equipment and staff.

Both of these impacts are described in what follows.

Primary Developmental Benefits

Particular primary developmental benefits can be enumerated as follows:

- **Infrastructure:** In the short term, although it will be the responsibility of the private sector partner to put in place the basic electronic infrastructure (e.g., servers, routers, storage capacity, support personnel, etc.) SEAD andETICE will have to provide overall guidance in the design of information systems, web pages, and associated databases and conduct the organizational reforms that will enable the new data center to function effectively, reaping economies of scale and eliminating excess personnel and equipment throughout the state government. The project will facilitate the process, on a general level by transfer of knowledge and experience, and more specifically by providing guidance on the design of the data center and its mode of operation. In the longer term, to the extent that the data center enables reduced operating costs and improved service levels, the benefits should extend well beyond the state government to the citizens, enterprises, and

municipalities it serves, and could be quite significant. Much of this infrastructure, moreover, could be supplied by US-based sources. (See also Section G.)

- **Human Capacity Building:** The proposed Terms of Reference for the feasibility study includes a task (Task 6) that involves reviewing the organizational preparedness of SEAD and ETICE to guide the development off the enhanced data center. A particular focus of this task is the attendant human-resource requirements (number of personnel, skill sets, etc.), together with the corresponding capacity-building activities. Indirectly and longer term, successful implementation of the data center would free up resources within SEAD and other secretariats and agencies of the government to plan and develop new e-Government services.
- **Technology Transfer:** In terms of technology transfer, the principal impact will be to familiarize SEAD and ETICE with the existing and emerging technology solutions and platforms in data center projects in both public and private sectors worldwide and with international and Brazilian experience with outsourcing contracts for data center services (including any PPPs that may exist). This knowledge and experience can then be shared with other states.
- **Market Oriented Reforms:** The project would contribute directly to market oriented reforms of public administration in Ceará and Brazil by facilitating the transfer to the private sector of responsibility for operating state data centers while leaving planning and strategic direction in the public sector.

F. PROJECT SPONSOR'S COMMITMENT

This project is in the Ceará State Government's Multi-Year Plan (PPA) covering the years 2004-2007, which is already an indication of its priority. The basic framework for the proposed project was presented by Paulo Alcântara Saraiva Leão (SEAD's Coordinator of Strategic Management of Information Technology and Director-President of ETICE) and colleagues at a meeting with H&A consultant Peter Knight and on 13 July 2005. H&A developed this framework into a draft Terms of Reference (TOR), which was subsequently reviewed and discussed with Mr. Leão. Mr. Leão indicated that a USTDA-financed feasibility study along the lines indicated was a major priority for the SEAD and ETICE and would receive full support and cooperation from his department. Formal letters of support were subsequently received from the Secretary of Administration, Carlos Mauro Benevides Filho stating that

> "….the Government of Ceará formally states its interest in carrying out a feasibility study, supported by USTDA, for implementing its Data Center. The state PPP program is strategic for the government of the state and the Data Center project will be prioritized under this program. The government will mobilize what is necessary for the study and subsequent implementation of the project."

And from the Secretary of Planning and Coordination, Francisco de Queiroz Maia Junior, also sent a letter stating that

> "…the establishment of a government data center is contemplated, which will contribute to efficient government management, and in the last analysis provide

> important social benefits, becoming a major technology center. Thus we would like to obtain consultancy services that would promote studies related to this project."

Accordingly, the commitment of the proposed project sponsors (SEAD and ETICE) is unquestionably high and supported by the Secretary of Planning and Vice Governor as well as the Secretary of Administration. The full texts of the letters from these officials can be found in the original Portuguese in Annex IV.

G. IMPLEMENTATION FINANCING

The state of Ceará's contribution will be monthly payments for services rendered by the private partner. Current operating costs for SEAD's data center are running at about R$200,000 a month, and at least this much in real terms should be available. As more services from other secretariats are centralized, the monthly operating costs of these centers probably could become available for payments to the private partner. Improvements in efficiency would be another source of "finance" – how much could be saved after allowing for improved security and better quality of service would be established during the feasibility study.

As for financing of the private partner, the International Finance Corporation (IFC) is already seeking to make pilot investments in firms providing outsourcing services for e-Government in Brazil, and has indicated an interest in principle in financing these projects, or rather the private sector partner. Baring Capital, a private equity firm with HQ in New York and a São Paulo office, is preparing a fund which might invest in these kind of projects, and H&A Consultant Peter Knight met with their Brazilian representative. The fund is not yet ready, but they will maintain contact.

Any future e-Brazil or Brazil e-Government project that might be developed at the federal level with state participation and financed by the Inter-American Development Bank (IADB) or World Bank might also increase the availability of funds in Ceará for e-Government work and thereby provide additional comfort to the private sector partner that the state government would have the resources necessary to meet its commitments under a PPP or other outsourcing contract. H&A verified that both the IADB and the World Bank are interested in such projects should they be proposed by the State Governments and/or the Federal government and receive the Federal Government's priority for its international borrowing program (the federal government must give a guarantee for any IADB or World Bank operations, but not for IFC operations). The Brazilian National Economic and Social Development Bank (BNDES) official responsible for PPPs told H&A Consultant Peter Knight that BNDES' priority goes to road and railway projects, and that e-government infrastructure is not on their priority list.

Private sector partners are particularly interested in how the Ceará state Guarantee Fund for PPPs will be regulated and implemented. IBM representatives stated that IBM would

not participate in a conventional outsourcing contract, and would be interested in a PPP only if they found the Guarantee Fund credible.

Three private sector companies – IBM Brasil, Itautec, and Lanlink – met with SEAD and ETICE and H&A consultant. All three companies have formally expressed interest in the data center project, including willingness to collaborate during the feasibility study, in letters which are included in Annex V. Participation in the feasibility study and even the preparation of a bidding document is not prohibited in the Brazilian PPP legislation, while it definitely is in the conventional contracting framework (Law 8666).

H. US EXPORT POTENTIAL

1. Estimation of Export Potential

To estimate the potential for US exports that could eventually be created by the data center project, it is necessary to resort to certain assumptions, namely:

- The feasibility study results in the successful implementation of an upgraded and expanded data center within SEAD
- Of the investment cost for the datacenter, 50 percent would be accounted for by imports from the US.

There are further uncertainties associated with the estimation of the resultant export potential. The cost to set up a data center depends on a large number of variables – the number and size of the data bases involved, the choice of data center technology, whether the data center can also serve other clients (other state or municipal governments, private sector firms, NGOs, etc.) and so on.

Because the costs are so situation-specific, it is extremely difficult, if not impossible, to make more than order-of-magnitude estimates about the aggregate value of equipment and software for data center implementation. Still, it seems reasonable to assume that the investment for hardware and software should not be less than R$15 million estimated by SEAD and ETICE. Using an exchange rate of R$2.5 per US$, this would be US$6 million, of which US$3 million would be purchased from US suppliers. SEAD and ETICE is assuming that only state secretariats, other agencies (e.g. DETRAN), and eventually Ceará's municipal governments (above all the state capital, Fortaleza) can be clients of the data center. Should a legal finding be made that private sector clients would be allowed, the cost of the data center could be higher, and the import component as well. But at this point it appears unlikely that the State of Ceará government will permit private sector clients.

A Brazilian subsidiary of IBM, IBM Brasil, and two Brazilian companies making extensive use of US software and hardware, Itautec and Lanlink, met with SEAD and ETICE and H&A consultant. These companies have formally expressed interest in the data center project, including willingness to collaborate during the feasibility study, in letters which are included in Annex V.

Moreover, a number of US firms have already begun supplying services, software, integration, and equipment to the State of Ceará. Should this project go forward, these companies, as well as others, would stand to benefit.

2. Potential US Suppliers

The range of state-of-the-art technologies that may be engaged in data centers is not that large. At a minimum, it includes the following:

- Servers
- Storage area networks (SAN)
- Server switches, routers, HBA
- Software, particularly security (anti virus/spam/hackers), database, server. e-mail, and datacenter management software

Identification of specific US suppliers is complicated by the fact that a considerable number of companies supply the data center market. For example in servers, IBM, HP, Dell, Sun, Silicon Graphics, Cubix, Aspen Systems, and Dell come to mind, but there are many more specialized producers. Table 6 presents a list of some potential suppliers in the categories mentioned above. Many if not most of these suppliers are active in Brazil and have networks partners for sales.

Table 6: US-Based Suppliers of Data Center Hardware and Software

Category / Products	**Potential Suppliers**
Servers	IBM, HP, Dell, Sun, Silicon Graphics, Cubix, Aspen Systems, and Dell
Storage	IBM, HP, EMC, Aberdeen,
Networking Technologies	Avaya Cisco Systems Juniper Networks Pulse Communications 3-Com
"Content-Related" Hardware	Sun Hewlett-Packard IBM Teradata
Software	Oracle, Microsoft, Acentis, Kronos, Symantic, McAfee, numerous other suppliers; however, Brazilian directives on the use of "open-source" software may be restrictive of US exports

I. FOREIGN COMPETITION

US companies are clearly dominant in the market for ICT and e-government hardware, software, and services (including outsourcìng) as well as in telecommunications equipment, but these firms face increasing competition from European and Asian suppliers and manufacturers. A USTDA financed feasibility study for the State of Ceará, would help US suppliers get in at an early stage in the development of a new market for outsourcing of e-government infrastructure in Ceará and potentially other states – especially São Paulo, which is considering a similar PPP for data centers..

On the implementation side, it is most likely that a significant share of implementation services will be delivered by Brazilian subsidiaries of US firms. US systems integrators, such as IBM and UNISYS can expect competition from European and Asian firms, but above all from Brazilian firms, such as Itaútec and Lanlink. These firms and Brazilian data center operators like Tivit, however, tend to use predominantly hardware and software from US firms and their Brazilian affiliates.

Table 7 lists some foreign competitors in the same categories provided in Table 6.

Table 7: Non-US Suppliers of Data Center Hardware and Software

Category / Products	**Potential Suppliers**
Servers	NEC, Toshiba, Fujitsu
Storage	Fujitsu, NEC
Networking Technologies	Fujitsu, NEC, Nortel,
"Content-Related" Hardware	Fujitsu, NEC
Software	SAS

J. IMPACT ON THE ENVIRONMENT

The proposed Ceará state data center project is unlikely to have any significant negative impact on the environment, especially since it would merely consolidate and upgrade existing data centers. The project will have no discernable detrimental effect on waterways, vegetation, or ground cover. In fact, it should have a positive effect as it represents the consolidation of the many different mini data centers. The techniques for installing and maintaining data center equipment are standard and are not expected to result in any environmental impact. In particular, the benefits of IT and the consolidation of the many separate data centers within the state and the many different benefits that this consolidation generates should have a positive impact on the environment. Nevertheless, the proposed feasibility study will include an environmental impact assessment.

K. IMPACT ON US LABOR

Funding for the proposed data center project will result in the creation of US jobs as major software integrators, hardware, and equipment items are purchased from US manufacturers. This could be directly if a US firm or its Brazilian affiliate becomes the private sector partner (or member of a consortium), or indirectly if a Brazilian or even a European or Asian firm were to be the partner, since US suppliers are dominant in the market for data center hardware and software. If TDA finances the initial feasibility study and the contractor works closely with the US firms that expressed interest in this project, the likelihood of an increase in US jobs is even greater.

Financing this feasibility study and the actual execution of the data center project will not result in the transfer or displacement of US jobs to Ceará or other states. The feasibility study is designed to facilitate communication and cooperation between the Government and the private sector both within Ceará and more broadly, in Brazil. Moreover, TDA finance of the feasibility study will not be used to assist in the development of an export-processing zone or any other commercial zone that could have a negative impact, direct or indirect, on US jobs.

L. QUALIFICATIONS OF CONSULTANT TEAM

General Qualifications of Consultant Team

As is evident from the accompanying Terms of Reference (TOR; see Annex I), the proposed TA is multidisciplinary in nature. Accordingly, the skill sets and expertise of the Consultant Team are expected to be diverse. The following general attributes on the part of the Consultant Team are considered critical to the successful outcome of the Technical Assistance for a detailed feasibility study of the project:

PPP Specialists

- Knowledgeable about international and Brazilian legislation governing PPPs (one Brazilian, one International expert)
- Knowlegeable about international experiences with PPPs, especially those involving hardware and software subject to rapid technological change

Specialist in Brazilian public budget finance project analysis

- Knowledgeable in Brazilian public budget finance, competitive bidding and public contracts

Specialist in project analysis

- Expertise in the economic and financial analysis of projects and feasibility studies involving rapid technological change

Information technology specialists

- Experience in ITIL, COBIT, ISO and other methodologies and standards of governance for ICTs
- Experience with calculation of total cost of ownership (TCO) for ICTs (not just operating costs)
- Experience with outsourcing of ICTs, must include experience with outsourcing of datacenters
- Experience with management of complex information technology contracts
- Experience in defining and monitoring service level agreements (SLAs) for ICTs
- Experience in setting up, managing, and operating datacenters

Furthermore, the following additional attributes are also considered critical to a successful outcome:

- Willingness of Consultant Team members to spend two weeks in Fortaleza and up to one week more in Brazil (São Paulo and Brasília are most likely locations).
- A work plan ensuring close collaboration and interaction with SEAD and ETICE
- The capability to deliver quality results and recommendations in timely fashion

We will now consider the specific composition of the Consultant Team for the recommended TA.

Team Composition and Experience

In terms of the composition and particular credentials of the Consultant Team, it is judged that the team should consist of the following:

- One (1) Team Leader
- One (1) International PPP Expert
- One (1) Brazilian expert in PPP legislation
- One (1) ICT specialist with datacenter expertise
- One (1) ICT specialist with experience in management of complex information technology contracts, including total cost of operations (TCO) and return on investment (ROI) analysis
- One (1) Brazilian Government Budget analyst/local liaison
- One (1) Brazilian Project Analyst
- One (1) Procurement Specialist

More specific descriptions follow.

Team Leader:

- At least fifteen (15) years' experience in the ICT industry
- Strong background in one of major areas of the TA (Datacenters, PPPs, Definition of SLAs, economic and financial project analysis)
- Both a US and an international perspective on the ICT industry, with the international perspective preferably gained through on-the-ground project work, ideally in the area of data centers
- Management, organizational and cross-cultural skills and perspective to structure, oversee and carry out the Feasibility Study effectively
- Ability to communicate findings effectively and to liaise appropriately within the SEAD and ETICE framework and with other stakeholders, including other Ceará public sector entities and potential private sector partners

International PPP Expert:

- At least five (5) years' experience with PPPs in more than one country, preferably including PPPs involving the use of rapidly changing technologies
- Ability to assess technical feasibility, price/performance, trade-offs, etc., of a variety of possible contractual frameworks, including conventional multi-year service contracts as well as PPPs

Local Brazilian Lawyer Specializing in Brazilian PPP legislation and regulation (*regulamentação*)

- Familiarity with the federal, Ceará, and other state legislation and regulations governing PPPs in Brazil as well as with the legislation governing concessions and service contracts
- Ability to conduct necessary research and legal/regulatory diligence
- High degree of fluency in English would be an advantage

ICT Specialist with Data Center Experience

- At least ten (10) years' experience in the telecom/ICT industry, including hands-on experience with datacenters and outsourcing contracts for data centers
- At least five (5) years' experience in defining and monitoring (SLAs) for ICTs.

ICT Specialist with experience in ICT Governance issues

- At least ten (10) years' experience in the telecom/ICT industry, including hands-on experience with management of complex information technology contracts
- Experience in defining and monitoring service level agreements (SLAs) for ICTs

- Expertise in the economic and financial analysis of projects and feasibility studies involving rapid technological change, including total cost of operations (TCO) and return on investment (ROI) analysis

Project Coordinator

The responsibilities of the Project coordinator include, but are not limited to, the following:

- Basic support logistics for everyone on team and their support people to ensure a smooth running of the project, such as deliverable coordination (formatting, timeliness, and other coordination),
- Travel coordination,
- Arranging workshops and conferences in person and by telephone.
- Managing and editing of deliverables, thereby ensuring that the deliverables closely follow the scope of work outlined. This way there are no surprises.
- Reviewing, coordinating and distributing presentation materials, both the electronic and paper versions of presentations.
- Developing and creating a library of resource material so that all consultants have easy access to any resource material, 24 x7, maintaining the library
- Arranging housing and payments for project related expenses,
- Coordinating with Project Manager on Project Finance issues such as expense payments, consultant time
- Arranging logistics for conferences and workshops
- Ability to speak and write Portuguese and English

Brazilian Public Budget Analyst:

- Duly qualified/accredited Brazilian expert with extensive knowledge of Brazilian government budgetary processes, competitive bidding and public contracts
- Familiarity with Brazilian federal, state and municipal public IT enterprises in Brazil
- Ability to serve as local liaison, set up meetings (secretarial service available)

Brazilian Project Analyst

- Expertise in the economic and financial analysis of projects and feasibility studies involving rapid technological change
- High degree of fluency in English would be an advantage

Procurement Specialist

- At least five (5) years expertise in Procurement processes, compiling and writing proposals and bidding documents (*editals)*
- Familiarity with IT, Telecom and Datacenter
- Familiarity with the purchasing process

- Fluency in Portuguese would be advantage

In practice, it is unlikely that the backgrounds of the team members will fit the above profiles exactly. However, the collective qualifications of the Consultant Team should correspond to those described. If a proposed Consultant Team offers a comparable skill set but with a different distribution, or a basic arrangement different from the four-member team plus Local Legal/Regulatory Expert and Local Liaison described above, it must be clearly demonstrated how such a team can efficiently carry out the full scope of the Feasibility Study.

Suggested Evaluation Criteria

It is suggested that the selection of the Contractor be based on the following criteria:

Criterion	**Max. Points**
Expertise and skills of proposed personnel	50
Proposed approach to the TA and to the individual tasks	30
Pertinent international experience and cross-cultural skills	20
Total:	**100**

M. JUSTIFICATION

As this report has documented, the Government of the State of Ceará is heavily committed to consolidating and outsourcing data center services, at least for corporate (government-wide) applications. It is also accelerating its development of e-Government services (including one-stop-shops – *Casas do Cidadão*), and including digital inclusion through community telecenters (*Ilhas Digitais*). The US offers a rich repository of data center and e-Government experience and US suppliers are dominant in data center hardware and software.

Ceará seeks to be the first Brazilian state to develop a consolidated state data center using the PPP legal framework, but is willing to consider more conventional outsourcing contracts.

Moreover, the involvement of a US-based Consultant Team in carrying out the proposed feasibility study should work to the advantage of US-based suppliers of data center solutions. These suppliers are strong in the major technological areas but who face growing competition from foreign suppliers. H&A believes that initiatives to develop outsourced government data center services in Brazil present a significant export opportunity for US suppliers (see Section G), and even moreso if the Ceará project generates an interest in similar projects in other Brazilian states and even the Federal Government.

Accordingly, H&A believes that funding of the feasibility study on behalf of SEAD and ETICE would represent a good use of USTDA resources.

N. TERMS OF REFERENCE

The proposed Terms of Reference for the proposed Feasibility Study are attached as Annex I.

O. BUDGET

The proposed Budget for the proposed Feasibility Study is attached as Annex II.

P. RECOMMENDATIONS

H&A recommends that USTDA fund the Feasibility Study project in question, under the conditions set forth in the TOR, at a budget level of $180,690 for Phase One and $84,330, if a PPP framework is used or $76,530 if a standard commercial service contract is used, for Phase Two.

Q. CONTACTS

A complete list of persons and institutions contacted in the conduct of the DM is included in Annex III.

ANNEXES

ANNEX I: TERMS OF REFERENCE: Ceará State Data Center Project

INTRODUCTION

The State Government of Ceará, through the Coordination of Strategic Management of IT (CGETI), a unit of SEAD, intends to establish a modern, secure data center to consolidate the state government's IT infrastructure. The basic objectives of this project are to meet the growing demand for information and communications technology (ICT) to support the State of Ceará's e-Government program (applications, services, and portals) with agility, flexibility and efficiency under the strategic management of the state. The new data center would provide better quality services at lower costs, improving government efficiency and facilitating the life of citizens through better health, education, public safety and other services.

SEAD expects that the eventual USTDA-financed feasibility study would produce the necessary documentation describing the project, various economic scenarios, risk analysis, return on investment analysis (ROI), studies of total costs, and economic studies and reports taking into account worldwide experience with data centers that would allow SEAD and ETICE to submit the data center project to the head of the state government and its IT Superior Council and then to the state Managing Council for PPPs (*Conselho Gestor de Parcerias Público-privadas* – CGPPP) for analysis. This data and analysis will enable the State to decide whether they should proceed with international competitive bidding using Ceará's PPP legislation, approved in December 2004, or use an alternative financing mechanism. The feasibility study would recommend how to remunerate the contracted company or companies, using objective performance criteria, for the services derived from the investments that will have to be done initially and periodically for the renewal and upgrading of the infrastructure over the period of the PPP contract.

USTDA assistance will be divided into two phases – the feasibility study per se (Phase I), and, if the project is approved for bidding, preparation of the bidding documents (*edital*) (Phase II). USTDA will consider funding for Phase II after the State of Ceará, through its Managing Committee of the Program of Public Private Partnerships, approved the project; determined the mechanism by which it will implement the project (i.e., PPP or conventional service contract); and secured the required approvals for implementing the project. As such, we have divided the budget into two separate grants, and payments under the second grant will begin only if the project is approved for preparation of the *edital*.

SCOPE OF WORK

PHASE 1

TASK 1: PREPARATION AND BACKGROUND RESEARCH

The Contractor shall research the Brazil ICT and e-Government sectors. This would include background information on various e-Government programs, PPP Legislation,

both on the State and Federal level. The review should also include a review and assessment of PPP projects, both successful and non-successful projects, in other countries. In conducting this review, first priority should be identifying PPP projects for data centers. If these are few or none, then PPP projects where the technologies used are changing rapidly, with significant expected reductions in costs over time as hardware and software has to be updated because of technological/economic obsolescence, should be included. In addition to PPPs, projects for data centers and other projects involving rapid technological change and operating under alternative medium-term and long-term contractual frameworks should be studied. A minimum of ten relevant PPPs or similar medium to long term contract projects meeting these specifications should be included in the study.

Deliverable: A report including case studies of relevant projects, identifying best practices and pitfalls or lessons relevant to the Ceará data center project

TASK 2: CONDUCT A NEEDS/REQUIREMENTS ANALYSIS FOR THE DATA CENTER

The consultant team members shall travel to Fortaleza to review the current situation; meet with the Project's Sponsors and the key stakeholders in the project, State of Ceará's Secretariat of Administration (SEAD) and ETICE (the Information Technology Company of Ceará), State Secretary of Planning (also the Vice Governor and responsible for PPPs), the Secretary of Administration (SEPLAN), and the Secretariat of Infrastructure (SEINFRA); and conduct a needs/requirements analysis for the Data Center.

The contractor should already be very familiar with the State and Federal PPP legislation, e-Government initiatives, as well as Governmental public budget finance and project analysis in Brazil and Ceará.

The basic objectives of this project are to meet the growing demand for information and communications technology (ICT) to support the State of Ceará's e-Government program (applications, services, and portals) with agility, flexibility and efficiency under the strategic management of the state.

The Contractor will

- Meet with the project sponsor and major stakeholders to gain additional insights into their needs, interests, and expectations
- Visit each of the seven significant current data centers in secretariats/agencies of the State of Ceará and conduct a needs and requirement analysis of each of the needs of the centers and determine the best method to meet these needs within the new consolidated data center.
- Identify factors which would help SEAD and ETICE get more secretariats/agencies of the State Government and *Municípios* to become clients of the centralized data center

- Conduct basic cost/benefit analyses for the seven largest potential client secretariats/agencies for the data center to help SEAD and ETICE get these key potential clients to join the project
- Identify at least five potential private sector clients for the new SEAD and ETICE data center and estimate their potential demand
- Conduct a security analysis of the present all seven above mentioned principal data centers and determine the best course of action to take to ensure the security and privacy of the information contained in the data centers.
- Quantify the benefits in unit cost reduction and improved quality for data center services which can be achieved with the new data center
- Estimate future demand for services of the centralized state government data center and also the demand in the State of Ceará for data center services of municipal governments and the private sector given the possibility that the centralized data center might serve other clients than the secretariats and agencies of the State of Ceará

Deliverable: Needs and Requirement Assessment document

TASK 3: DEVELOP FUNCTIONAL SPECIFICATIONS, ARCHITECTURE, AND DATA CENTER DESIGN

The contractor will:

- Analyze the findings from Task 2 and develop specifications regarding the architecture and design of the data center
- Develop more precision in the estimates of network designs, equipment needs and capacity, and resulting capital expenditure and operating costs
- Propose service level agreement (SLAs) for the new centralized data center
- Prepare a list of prospective US-based sources of supply for the data center and contact information, as required by USTDA

Deliverable: Data Center Design and Architecture

TASK 4: REVIEW OF LEGAL/REGULATORY ISSUES RELATED TO PPPS

The Contractor will

- Assess the status of PPP legislation at the national level and whether the incompatibilities between the Federal PPP law and the Ceará state PPP law have been resolved
- Identify the next steps the state government needs to take to reconcile any remaining incompatibilities
- Explore and assess whether PPP is the best legal outsourcing framework for this project or should an alternative outsourcing contract vehicle be used – this assessment should include a review of the alternative outsourcing contract

vehicles and the legal pros and cons of each (at a minimum, federal law 8666 and the PPP legislation)

- Explore any possible legal and operational issues relating to the legal entities which the PPP legislation require be set up to implement PPPs (*Sociedades de Propósito Específico* – SPEs)
- Ascertain whether a legal ruling on whether the private partner in the proposed PPP can serve clients besides the state government of Ceará has been made by the State Attorney General's Office (PGE) and any other relevant legal or judicial agencies that must pass off on this issue
- Determine and assess whether all the necessary *Regulamentos* for the PPP legislation have been issued or if not, what is their status
- Visit with Government officials and companies located in Brasília and in São Paulo to obtain information on any similar data center outsourcing initiatives in the public and private sectors – at a minimum this will include visits to
    - SERPRO (the federal IT company with responsibilities similar to that of ETICE)
    - DATAPREV (the federal social security data agency)
    - DATASUS (the federal Ministry of Health's unit resonsible for collecting, processing , and disseminating information on health)
    - Ministry of Finance, Federal Tax Service (*Secretaria de Receita Federal*)
    - PRODESP (São Paulo State company with responsibilities similar to that of ETICE and preparing a similar but much larger data center outsourcing project)
    - TIVIT (private data center company in São Paulo, formerly Optiglobe)
    - Oracle (provider of data center services, including complete outsourcing arrangements called Oracle On Demand)

Deliverable: Legal/Regulatory Status and Review Report.

TASK 5: ECONOMIC AND FINANCIAL ANALYSIS OF THE PROJECT

The Contractor will:

- Quantify the benefits in unit cost reduction and improved quality for data center services which can be achieved with the new data center
- Assess all aspects of project feasibility (technical, economic, financial, political, legal and organizational) and their interrelations
- Prepare economic scenarios, risk analysis, rate return analysis, analysis of total cost of operation
- Recommend how to remunerate the private sector client and how the Government of Ceará can share in productivity improvements arising from the use of more efficient technologies and increased returns to scale over the life of the PPP or other outsourcing contract.

Deliverables:
Economic and Financial Analysis Report and report recommending the most effective structure of the project and supporting legal, economic and financial rationale

TASK 6: ORGANIZATIONAL PREPAREDNESS ASSESSMENT

The contractor will review the organizational preparedness of SEAD and ETICE to assist SEAD with human capacity issues relating to the development of the enhanced data center.

A particular focus of this task is the attendant human-resource requirements (number of personnel, skill sets, etc.), together with the corresponding capacity-building (training) activities. SEAD and ETICE will have to provide overall guidance in the design of information systems, web pages, and associated databases and conduct the organizational reforms that will enable the new data center to function effectively, reaping economies of scale and eliminating excess personnel and equipment throughout the state government. The contractor should assess SEAD and ETICE's capabilities to perform these functions and any others the contractor deems essential and recommend training programs to remedy any deficiencies detected and provide for a continuing training program to maintain and enhance these capabilities in the light of relevant technological and organizational changes

Deliverable: Organizational preparedness report

TASK 7: CONDUCT AN ENVIRONMENTAL ASSESSMENT

The Contractor will conduct a preliminary review of the project's anticipated impact on the environment with reference to federal, State of Ceará and relevant municipal requirements and those of multilateral lending agencies, including the World Bank, the International Finance Corporation, and the Inter-American Development Bank. This review should identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for a full environmental impact assessment if and when the project moves forward to the implementation stage. This includes the identification of steps that will need to be undertaken by the project sponsor subsequent to the study's completion and prior to project implementation.

Deliverable: Environmental assessment report

TASK 8: DEVELOPMENTAL IMPACT ANALYSIS

The Contractor should identify and assess the developmental outcomes that would be expected if the Project is implemented in accordance with the recommendations of the Study. The Contractor should focus on estimating the Project's potential benefits in any

or all of four areas: additions to infrastructure or industrial capacity; nature and effects of any legal/regulatory changes resulting from the Project; expected human capacity building; technology transfer and its effects. The analysis of potential developmental benefits should be as concrete and detailed as possible and include at least one specific example of developmental impact for each area that is relevant for the Project. Any significant developmental impacts outside the four areas listed above should also be included.

Deliverable: A report setting forth the findings and opinions as specified above.

TASK 9: PLANNING FOR PROJECT IMPLEMENTATION

The Contractor will assess and determine whether the critical success factors for project implementation have been met and the project risks identified have been accounted for and mitigated to the extent possible. The analysis should include the following risk factors and specify how they can be mitigated:

- The PPP Guarantee Fund be regulated, implemented, and well administered
- A successful change management process be conducted in the affected secretariats and government agencies
- The government shares with the private sector benefits of productivity increases arising from technological change, and not just the costs
- Continual monitoring of the contractual conditions in relation to the market is carried out – provisions for this need to be incorporated in the contract itself
- Training of state personnel in the management of outsourcing, SLA, SLM, etc.
- Clear definition of contract objectives (scope, service levels, metrics, requirements, etc.)
- Support from top government managers
- Priority for payments to private sector partner for strategic and critical activities outsourced
- Establishment and application of penalties for non compliance with contract conditions
- Definition of a clear process exiting from the contract and transition to another supplier
- The partnership between public and private sides becomes a conventional client and supplier relationship
- Other critical success factors inherent in outsourcing processes for IT

The Project Implementation Report will recommend the most appropriate structure for the project, summarize the steps that need to be undertaken by the government to implement the project according to recommended structure, e.g. any legal actions to reconcile the state and federal PPP legislation, the process of *regulamentação*, the steps involved with the creation of the new legal entity that is required if the project goes

forward as a PPP - the SPE, the establishment of the state guarantee fund, and also address the phased approach/evolving scope of the State Data Center (as outlined in Figure 6 where additional services and clients are added). The report should address the issue of how SEAD and ETICE can adapt the PPP or service contract to incorporate the evolving scope of the project.

Deliverable: Project Planning and Implementation Report

TASK 10: PRESENTATION AND FINAL PHASE I REPORT

Upon concluding all tasks listed above, the Contractor will travel to Fortaleza to formally present to both SEAD and ETICE the findings and recommendations and a near final version of the report. The Grantee will be able to use this opportunity to ask questions or provide further comments and suggestions based on the presentation and draft of the Final Phase I Report.

After the Presentation, the contractor will make the final changes suggested by the Grantee and submit the Final Phase I Report to both the Grantee and to USTDA. The Contractor shall ensure that the Final Report is a substantive and comprehensive report of all of the work performed in accordance with these Terms of Reference, including all deliverables. The Final Report must be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Contractor must identify prospective U.S. sources of supply in Final Report to be submitted to the Grantee and USTDA in accordance with Clause I of Annex II of the Grant Agreement.

The Final Phase I Report shall be a comprehensive document covering and synthesizing the findings of all the preceding tasks, providing SEAD and ETICE with the appropriate information, recommendations and guidelines. In the event that the Final Report contains confidential information, or information not yet made public, the Consultant Team shall take appropriate steps to ensure that sensitive information is not released inopportunely.

Deliverable: Phase I Final Report

PHASE II

TASK 11: PREPARATION OF TOR FOR A BIDDING DOCUMENT FOR PPP OR OUTSOURCING CONTRACT

The consultant team members shall travel to Fortaleza and work with SEAD and ETICE personnel and potential private sector partners to assist in preparing a bidding document (*Edital*) for the PPP or other outsourcing contract for data center services consistent with Brazilian and Ceará State legal requirements. The level of effort would be greater in the

course of an *edital* for a PPP than for a conventional (Law 8666) contract, and this is reflected in two separate Phase 2 budgets – one for each contingency.

Deliverable: Project *Edital*

TASK 12: PRESENTATION AND FINAL PHASE II REPORT

Upon concluding the preparation of the project *edital*, the Contractor, while still in Fortaleza will formally present to both SEAD and ETICE the findings and recommendations of Phase II and a near final version of the report. The Grantee will be able to use this opportunity to ask questions or provide further comments and suggestions based on the presentation and draft of the Final Phase II Report.

After the Presentation, the contractor will make the final changes suggested by the Grantee and submit the Final Phase II Report to both the Grantee and to USTDA. The Contractor shall ensure that the Final Report is a substantive and comprehensive report of all of the work performed in accordance with these Terms of Reference for Phase II, including all deliverables. The Final Phase II Report must be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Contractor must identify prospective U.S. sources of supply in Final Report to be submitted to the Grantee and USTDA in accordance with Clause I of Annex II of the Grant Agreement.

The Final Phase II Report shall be a comprehensive document covering and synthesizing the findings of all the preceding tasks, providing SEAD and ETICE with the appropriate information, recommendations and guidelines. In the event that the Final Report contains confidential information, or information not yet made public, the Consultant Team shall take appropriate steps to ensure that sensitive information is not released inopportunely.

Deliverable: Phase II Final Report

ADDITIONAL COMMENTS

Comment 1: All Deliverables are to be supplied in the English language. Additionally, the Final Report and Presentation should be translated into Portuguese. The Local Specialist(s) on the Consultant Team shall ensure the quality and accuracy of the translation.

Comment 2: More specific requirements concerning the composition of the Consultant Team are given in Section K of the DM report.

Comment 3: Successful execution of the TA presupposes that 1) the Consultant Team establishes a close working relationship between the Consultant Team and both SEAD and ETICE. 2), that the team is prepared to spend the necessary amount of time on-site in-country; and 3) the consultant team has appropriate access to SEAD, ETICE, and other government officials and personnel, resources and data. Successful performance of the

TA is obviously dependent on full and timely availability of the resources in question. It is expected that candidate firms for carrying out the TA will address these issues in their proposals, both in general terms and in terms of specific requirements (e.g., for desk space, phone/fax, Internet connection).

Comment 4: The requirement that the Consultant Team include (a) Local Specialists was noted in Section K. The sponsor has suggested two possible firms that they have worked with in the past who might be interested in working with the consultant team or assisting them in locating a Brazilian PPP specialist attorney. These firms are Brisa and Florencia Ferrer Research & Consulting. Both these firms are located in São Paulo. There addresses are as follows.

Brisa
Rua Francisco Tramontano, 100 - 11.o andar
CEP: 05686-010 - São Paulo/SP
Tel.: +55(11) 3755-8100
FAX: +55(11) 3755-8111
Paulo.toledo@brisa.org.br (President)
www.brisa.org.br

Florencia Ferrer Research & Consulting
Rua Hungria 574 Cj. 71 Jardim Europa.
São Paulo- SP- Brasil
01455-903
Tel: +55 (11) 3031 4688
Fax: +55 (11) 3812 0616
florencia@florenciaferrer.com.br (Director President)
www.florenciaferrer.com.br

ANNEX II - SECTION N

Technical Assistance To The State Of Ceará - Data Center Project Phase I

Table 1

(Breakdown of labor costs by task in Table 2)

DIRECT LABOR (DL) (*)	NAME, TITLE & LABOR CATEGORY	DAILY (8HR) RATE	# PERSON DAYS	TOTAL
	Team Leader	$1,100	42	$46,200
	Int'l PPP Expert	$1,000	14	$14,000
	ICT Specialist w/Data Center Expertise	$1,000	23	$23,000
	ICT Specialist w/ ICT Governance Expertise	$1,000	23	$23,000
	Local Brazillian PPP Expert	$500	21	$10,500
	Brazilian Govt Budget Analyst	$500	21	$10,500
	Brazilian Project Analyst	$500	21	$10,500
Total			**165**	
OTHER DIRECT LABOR	Project Coordinator	$910	11	$10,010
TOTAL DIRECT LABOR				**$147,710**
OTHER DIRECT COSTS	(ODC)			
International Travel	US-Fortaleza (via Sao Paulo)	1200	4	$4,800
Domestic Travel within Brazil				
	Sao Paulo-Fortaleza	310	5	$1,550
	Fortaleza-Brasilia	235.25	3	$706
	Brasilia-Sao Paulo	200	3	$600
Ground Transportation				$750
PER DIEM -$	Fortaleza 10 days@216	2160	3	$6,480
	Fortaleza 4 days@216	1296	1	$1,296
	Sao Paulo 4 days@246	984	3	$2,952
	Brasilia 3 days @144	432	3	$1,296
Local Support Travel & Perdiem			20	$3,000
OTHER				
Visas		100	4	$400
Communications				$400
Translation				$8,000
Supplies, Copy & Reproduction				$750
TOTAL OTHER DIRECT COSTS (ODC)				**$ 32,980**
TOTAL BUDGET				**$ 180,690**

Notes:
(*) Labor rates for each specialist and/or subcontractor contain no mark-up for holidays, vacation, or sick-leave.

Assumptions:2 round trips for Team Leader, one trip each for the two ICT specialists

Per diems are equal to total estimated in-country days of US Consultant Team. Per diem rate is based on the US Government rates
Rates shown are taken from the US State Department website: http://www.state.gov/m/a/als/prdm/2004/28724.htm

Local Support Expenses cover transportation and per diems for local staff for trips to Brasilia and São Paulo

Cheap Fares to Brazil can be obtained through BACC Travel at 1800-222-2746 (www.bacctravel.com)

Technical Assistance To The State Of Ceará - Data Center Project Phase I

Table 2 -- Breakdown of Labor Costs per Task

(Total Phase I Costs in Table 1)

DIRECT LABOR (DL) (*)	NAME, TITLE & LABOR CATEGORY	DAILY (8HR) RATE	# PERSON DAYS		COST
Task 1					
Preparation & Background	Team Leader	$1,100	12	$	13,200
	Int'l PPP Expert	$1,000	12	$	12,000
	ICT Specialist w/Data Center Expertise	$1,000	4	$	4,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	4	$	4,000
	Local Brazillian PPP Expert	$500	7	$	3,500
	Brazilian Govt Budget Analyst	$500	2	$	1,000
	Brazilian Project Analyst	$500	2	$	1,000
	Project Coordinator	$910	2	$	1,820
Subtotal Task 1			***45***	***$***	***40,520***
Task 2					
Needs/Requirements Analysis	Team Leader	$1,100	3	$	3,300
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000	2	$	2,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	2	$	2,000
	Local Brazillian PPP Expert	$500	2	$	1,000
	Brazilian Govt Budget Analyst	$500	2	$	1,000
	Brazilian Project Analyst	$500	2	$	1,000
	Project Coordinator	$910	1	$	910
Subtotal Task 2			***14***	***$***	***11,210***
Task 3					
Data Center Design	Team Leader	$1,100	3	$	3,300
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000	3	$	3,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	3	$	3,000
	Local Brazillian PPP Expert	$500	2	$	1,000
	Brazilian Govt Budget Analyst	$500	2	$	1,000
	Brazilian Project Analyst	$500	2	$	1,000
	Project Coordinator	$910	1	$	910
Subtotal Task 3			***16***	***$***	***13,210***
Task 4					
Legal/Regulatory Review	Team Leader	$1,100	2	$	2,200
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000		$	-
	ICT Specialist w/ ICT Govt Expertise	$1,000		$	-
	Local Brazillian PPP Expert	$500	4	$	2,000
	Brazilian Govt Budget Analyst	$500		$	-
	Brazilian Project Analyst	$500		$	-
	Project Coordinator	$910	1	$	910
Subtotal Task 4			***6***	***$***	***5,110***

Task 5					
Economic & Financial Analysis	Team Leader	$1,100	2	$	2,200
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000	1	$	1,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	1	$	1,000
	Local Brazillian PPP Expert	$500		$	-
	Brazilian Govt Budget Analyst	$500	6	$	3,000
	Brazilian Project Analyst	$500	4	$	2,000
	Project Coordinator	$910	1	$	910
Subtotal Task 5			***15***	***$***	***10,110***
Task 6					
Organizational Preparedness	Team Leader	$1,100	2	$	2,200
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000	2	$	2,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	2	$	2,000
	Local Brazillian PPP Expert	$500		$	-
	Brazilian Govt Budget Analyst	$500		$	-
	Brazilian Project Analyst	$500		$	-
	Project Coordinator	$910	1	$	910
Subtotal Task 6			***6***	***$***	***7,110***
Task 7					
Environmental Assessment	Team Leader	$1,100	1	$	1,100
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000		$	-
	ICT Specialist w/ ICT Govt Expertise	$1,000		$	-
	Local Brazillian PPP Expert	$500		$	-
	Brazilian Govt Budget Analyst	$500		$	-
	Brazilian Project Analyst	$500	1	$	500
	Project Coordinator	$910	1	$	910
Subtotal Task 7			***2***	***$***	***2,510***
Task 8					
Developmental Impact Analysis	Team Leader	$1,100	2	$	2,200
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000		$	-
	ICT Specialist w/ ICT Govt Expertise	$1,000		$	-
	Local Brazillian PPP Expert	$500		$	-
	Brazilian Govt Budget Analyst	$500	3	$	1,500
	Brazilian Project Analyst	$500	4	$	2,000
	Project Coordinator	$910	1	$	910
Subtotal Task 8			***9***	***$***	***6,610***

Task 9					
Project Implementation Plan	Team Leader	$1,100	2	$	2,200
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000	2	$	2,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	2	$	2,000
	Local Brazillian PPP Expert	$500	2	$	1,000
	Brazilian Govt Budget Analyst	$500	2	$	1,000
	Brazilian Project Analyst	$500	2	$	1,000
	Project Coordinator	$910	1	$	910
Subtotal Task 9			***12***	**$**	**10,110**
Task 10					
Phase 1 Final Report	Team Leader	$1,100	13	$	14,300
	Int'l PPP Expert	$1,000	2	$	2,000
	ICT Specialist w/Data Center Expertise	$1,000	9	$	9,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	9	$	9,000
	Local Brazillian PPP Expert	$500	4	$	2,000
	Brazilian Govt Budget Analyst	$500	4	$	2,000
	Brazilian Project Analyst	$500	4	$	2,000
	Project Coordinator	$910	1	$	910
Subtotal Task 10			***45***	***$***	***41,210***
Total Direct Labor Phase 1	Team Leader	$1,100	42	$	46,200
	Int'l PPP Expert	$1,000	14	$	14,000
	ICT Specialist w/Data Center Expertise	$1,000	23	$	23,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	23	$	23,000
	Local Brazillian PPP Expert	$500	21	$	10,500
	Brazilian Govt Budget Analyst	$500	21	$	10,500
	Brazilian Project Analyst	$500	21	$	10,500
	Project Coordinator	$910	11	$	10,010
Total Phase I Specialists			**165**	**$**	**147,710**
TOTAL DIRECT LABOR				**$**	**147,710**

ANNEX II - SECTION N

Technical Assistance To The State Of Ceará - Data Center Project Phase II- PPP Structure

Table 3

(Breakdown of labor costs by task in Table 2)

DIRECT LABOR (DL) (*)	NAME, TITLE & LABOR CATEGORY	DAILY (8HR) RATE	# PERSON DAYS	TOTAL
	Team Leader	$1,100	14	$15,400
	Int'l PPP Expert	$1,000	2	$2,000
	ICT Specialist w/Data Center Expertise	$1,000	12	$12,000
	ICT Specialist w/ ICT Governance Expertise	$1,000	12	$12,000
	Local Brazillian PPP Expert	$500	11	$5,500
	Brazilian Govt Budget Analyst	$500	6	$3,000
	Brazilian Project Analyst	$500	6	$3,000
	Procurement Specialist	$1,000	6	$6,000
Total			69	**$58,900**
OTHER DIRECT LABOR	Project Coordinator, Brazil	$910	7	$6,370
TOTAL DIRECT LABOR				**$65,270**
OTHER DIRECT COSTS	(ODC)			
International Travel	US-Fortaleza (via Sao Paulo)	$ 1,200	4	$4,800
Domestic Travel within Brazil	Sao Paulo-Fortaleza	$ 300	4	$1,200
Ground Transportation				$350
PER DIEM -$	Fortaleza 10 days@216	$ 2,160	3	$6,480
	Fortaleza 5 days@216	$ 1,080	1	$1,080
Local Support Travel & Perdiem			10	$1,500
OTHER				
Communications				$400
Translation				$3,000
Supplies, Copy & Reproduction				$250
TOTAL OTHER DIRECT COSTS (ODC)				**$ 19,060**
TOTAL BUDGET				**$ 84,330**

Notes:
(*) Labor rates for each specialist and/or subcontractor contain no mark-up for holidays, vacation, or sick-leave.

Assumptions: 1 round trip for Team Leader and 2 round trips for the ICT specialists

Per diems are equal to total estimated in-country days of US Consultant Team. Per diem rate is bqased on the US Government rates
Rates shown are taken from the US State Department website: http://www.state.gov/m/a/als/prdm/2004/28724.htm

Local Support Expenses cover transportation and per diems for local staff for trips to and from São Paulo

Cheap Fares to Brazil can be obtained through BACC Travel at 1800-222-2746 (www.bacctravel.com)

Technical Assistance To The State Of Ceará - Data Center Project Phase II-8666 Structure

Table 3

(Breakdown of labor costs by task in Table 2)

DIRECT LABOR (DL) (*)	NAME, TITLE & LABOR CATEGORY	DAILY (8HR) RATE	# PERSON DAYS	TOTAL
	Team Leader	$1,100	14	$15,400
	ICT Specialist w/Data Center Expertise	$1,000	12	$12,000
	ICT Specialist w/ ICT Governance Expertise	$1,000	12	$12,000
	Brazilian Govt Budget Analyst	$500	6	$3,000
	Brazilian Project Analyst	$500	6	$3,000
	Procurement Specialist	$1,000	6	$6,000
Total			56	**$51,400**
OTHER DIRECT LABOR	Project Coordinator	$910	7	$6,370
TOTAL DIRECT LABOR				**$57,770**
OTHER DIRECT COSTS	(ODC)			
International Travel	US-Fortaleza (via Sao Paulo)	$ 1,200	4	$4,800
Domestic Travel within Brazil	Sao Paulo-Fortaleza	$ 300	4	$1,200
Ground Transportation				$350
PER DIEM -$	Fortaleza 10 days@216	$ 2,160	3	$6,480
	Fortaleza 5 days@216	$ 1,080	1	$1,080
Local Support Travel & Perdiem				$1,200
OTHER				
Communications				$400
Translation				$3,000
Supplies, Copy & Reproduction				$250
TOTAL OTHER DIRECT COSTS (ODC)				**$ 18,760**
TOTAL BUDGET				**$ 76,530**

Notes:
(*) Labor rates for each specialist and/or subcontractor contain no mark-up for holidays, vacation, or sick-leave.

Assumptions: 1 round trip for Team Leader and 2 round trips for the ICT specialists

Per diems are equal to total estimated in-country days of US Consultant Team. Per diem rate is bqased on the US Government rates
Rates shown are taken from the US State Department website: http://www.state.gov/m/a/als/prdm/2004/28724.htm

Local Support Expenses cover transportation and per diems for local staff for trips to and from São Paulo

Cheap Fares to Brazil can be obtained through BACC Travel at 1800-222-2746 (www.bacctravel.com)

Technical Assistance To The State Of Ceará - Data Center Project Phase II - PPP Structure

Table 4 -- Breakdown of Labor Costs per Task

(Total Phase II Costs in Table 3)

DIRECT LABOR (DL) (*)	NAME, TITLE & LABOR CATEGORY	DAILY (8HR) RATE	# PERSON DAYS		COST
Task 1					
Preparation of Edital	Team Leader	$1,100	10	$	11,000
	Int'l PPP Expert	$1,000	2	$	2,000
	ICT Specialist w/Data Center Expertise	$1,000	10	$	10,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	10	$	10,000
	Local Brazillian PPP Expert	$500	10	$	5,000
	Brazilian Govt Budget Analyst	$500	5	$	2,500
	Brazilian Project Analyst	$500	5	$	2,500
	Procurement Specialist	$1,000	5	$	5,000
	Project Coordinator	$910	3.5	$	3,185
Subtotal Task 1			***60.5***	***$***	***51,185***
Task 2					
Preparation of Phase II Report	Team Leader	$1,100	4	$	4,400
	Int'l PPP Expert	$1,000		$	-
	ICT Specialist w/Data Center Expertise	$1,000	2	$	2,000
	ICT Specialist w/ ICT Govt Expertise	$1,000	2	$	2,000
	Local Brazillian PPP Expert	$500	1	$	500
	Brazilian Govt Budget Analyst	$500	1	$	500
	Brazilian Project Analyst	$500	1	$	500
	Procurement Specialist	$1,000	1	$	1,000
	Project Coordinator	$910	3.5	$	3,185
Subtotal Task 2			***15.5***	***$***	***14,085***
GRAND TOTAL				**$**	**65,270**

Technical Assistance To The State Of Ceará - Data Center Project Phase II - 8666 Structure

Table 4 -- Breakdown of Labor Costs per Task

(Total Phase II Costs in Table 3)

DIRECT LABOR (DL) (*)	NAME, TITLE & LABOR CATEGORY	DAILY (8HR) RATE	# PERSON DAYS		COST
Task 1					
Preparation of Edital	Team Leader	$1,100	10	$	11,000
	ICT Specialist w/Data Center Expertise	$1,000	10	$	10,000
	ICT Specialist w/ ICT Governance Expe	$1,000	10	$	10,000
	Brazilian Govt Budget Analyst	$500	5	$	2,500
	Brazilian Project Analyst	$500	5	$	2,500
	Procurement Specialist	$1,000	5	$	5,000
	Project Coordinator	$910	3.5	$	3,185
Subtotal Task 1			***48.5***	***$***	***44,185***
Task 2					
Preparation of Phase II Report	Team Leader	$1,100	4	$	4,400
	ICT Specialist w/Data Center Expertise	$1,000	2	$	2,000
	ICT Specialist w/ ICT Governance Expe	$1,000	2	$	2,000
	Brazilian Govt Budget Analyst	$500	1	$	500
	Brazilian Project Analyst	$500	1	$	500
	Procurement Specialist	$1,000	1	$	1,000
	Project Coordinator	$910	3.5	$	3,185
Subtotal Task 2			***14.5***	***$***	***13,585***
GRAND TOTAL				**$**	**57,770**

ANNEX III: CONTACTS

List of Persons Met, Fortaleza

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GOVERNO DO ESTADO DO CEARÁ
SECRETARIA DA ADMINISTRAÇÃO

Ofício nº 284 /2005/CGETI/SEAD

Fortaleza, 20 de Julho de 2005

Prezada Senhora,

O Governo do Estado do Ceará tem nos últimos anos investido bastante no aperfeiçoamento da gestão, visando melhorar os seus processos e atender melhor o cidadão. O Governo Eletrônico (e-Gov), através das tecnologias da informação e comunicação (TIC´s), é ferramenta fundamental para dar o salto de qualidade desejado pelo governo e a sociedade cearense. Para dar suporte ao programa de governo eletrônico, frente às crescentes demandas, o estado precisa melhorar sua infra-estrutura tecnológica.

Dentre outras ações, o estado pretende implantar um Data-Center de forma a atender as aplicações e serviços de tecnologia da informação, tanto de escopo interno quanto para atendimento do cidadão. Para o Data-Center, estamos analisando a possibilidade de implantá-lo dentro da modalidade de contratação das Parcerias Público-Privada (PPP).

Portanto, o Governo do Estado do Ceará vem manifestar formalmente o interesse em realizar o estudo de viabilidade, apoiado pela USTDA, para a implantação do seu Data-Center. O programa estadual de PPP é estratégico para o governo do estado e o projeto de Data-Center será priorizado dentro desse programa. O governo mobilizará o que for necessário para o estudo e posterior implantação do projeto, estando inclusive determinado a ser protagonista no pioneirismo das parcerias público-privadas no país.

Atenciosamente,

CARLOS MAURO BENEVIDES FILHO
Secretário da Administração

Ilma. Sra. Anne Mckinney,
Country Manager
America Latina e Caribe
USTAD

ESTADO DO CEARÁ
SECRETARIA DO PLANEJAMENTO E COORDENAÇÃO

OFÍCIO GS Nº 709 /2005 **Fortaleza, 29 de julho de 2005**

Prezado Senhor,

Cumprimentando-o cordialmente, referimo-nos ao Programa de Parceria Público Privada do Estado do Ceará, autorizado pela Lei nº 13.557, de 30.12.04.

A propósito, encaminhamos a Vossa Senhoria cópia do Programa do PPP, que cria normas gerais, disciplina os interesses de cada parceiro, e os termos que deverão ser bem evidenciados por ocasião das diversas formas de contratação, observando-se os direitos, as obrigações, os prazos e o sistema de remuneração adequada, as garantias, etc.

Vale ressaltar, um ponto importante é o que trata da compatibilidade da Lei de Diretrizes Orçamentárias (LDO), do Plano Plurianual (PPA), e da Lei Orçamentária Anual (LOA) com os projetos previstos, ou seja, a identificação da inclusão dos projetos nos diferentes instrumentos de planejamento e gestão. Para *atender a esses princípios* e diretrizes, o Governo do Estado está analisando propostas de assessoria especializada para realizar estudos de viabilidade econômica, financeira e legal dos projetos, bem como interesse do mercado.

Esclarecemos que, até o final de agosto de 2005, pretendemos promover a regulamentação do Conselho Gestor do Programa de Parceria Público-Privada (CGPPP), e a estruturação do Fundo Fiduciário (Garantidor).

Informamos que o Estado do Ceará priorizará os programas de PPP cuja ótica implique em investimentos em áreas sociais e de infra estrutura, que permitam e sejam capazes de criar condições adicionais para o crescimento econômico e a inclusão social, objeto principal do Plano de Governo 2003-2006.

Então, nesse contexto está contemplado a Implantação do DATA CENTER Governamental, que contribuirá para a eficiência da gestão pública, e em última análise produz benefícios sociais importantes, constituindo-se em um grande centro de tecnologia. Assim, é com expectativa que gostaríamos de obter consultoria que proporcionasse estudos em relação a esse projeto.

Esclarecemos também, o fato de contarmos com uma ampla carteira de oportunidades, e a impossibilidade de executar a sua totalidade, por restrições previstas, inclusive na própria Lei do PPP, que limita as contratações anuais até o valor correspondente a 1% (um inteiro percentual) da Receita Corrente Líquida - RCL, implicará, além de estudos de viabilidade econômica, avaliações criteriosas que

Centro Administrativo Governador Virgílio Távora, Av. Ministro José Américo, s/n - Ed. SEPLAN - 3º andar
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possam determinar os mais importantes impactos sociais e padrões de risco e retorno adequados.

Finalmente, estamos colocando o Sr. Francisco Assunção e Silva à disposição de Vossa Senhoria para prestar os esclarecimentos que porventura venham a se tornar necessários, pelos seguintes meios de comunicação: fone (85) – 3101-4526, fax (85) – 3101-4518 e e-mail fassuncao@seplan.ce.gov.br.

Cordialmente,

Francisco de Queiroz Maia Júnior
Secretário

Ao Senhor
Peter T. Knight
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São Paulo, 29 de julho de 2005

À
ETICE – Empresa de Tecnologia da Informação do Ceará

Sr. Paulo Alcântara Saraiva Leão

Prezado Senhor,

A Itautec Philco S/A vem por meio desta informar que tem total interesse em participar do projeto de Data-Center Governamental do Ceará através de PPP.

É nosso desejo também a participação nas fases de definição e escopo do projeto, pois dispomos de profissionais especializados além de Produtos e Serviços que muito poderão contribuir para o sucesso deste desafio.

Atenciosamente,

Mario Paulo

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Brasília, 29 de junho de 2005

Empresa de Tecnologia da Informação do Ceará - ETICE

Sr. Paulo Alcântara Saraiva Leão
Diretor-Presidente

Prezado Senhor,

Em atenção ao Ofício nº 29/2005 de V.Sa., vimos agradecer a atenção no compartilhamento das informações acerca dos planos do Governo do Estado do Ceará em desenvolver estudos para contratação de serviços de *Data Center* na modalidade de Parceria Público-Privada (PPP).

A IBM Brasil, através da sua divisão de vendas para o Setor Público e da sua unidade de consultoria IBM BCS (Business Consulting Services), tem acompanhado com interesse os desdobramentos do tema PPP's em todo o Brasil, por entender que este pode vir a se constituir em importante ferramenta estratégica para a Administração Pública, no sentido de permitir o aparelhamento do Estado com a infra-estrutura de Tecnologia da Informação adequada para uma gestão pública eficaz e melhores serviços ao cidadão.

Neste sentido, manifestamos nosso interesse em participar dos estudos iniciais ora conduzidos junto a USTDA, compartilhando idéias e experiências que nos serão de muita valia para avaliação desta e demais oportunidades de negócios utilizando o modelo PPP. Em contrapartida, esperamos poder colaborar com a nossa longa experiência como líderes mundiais na oferta de Serviços de TI.

O Senhor Renato Vianna (IBM BCS) estará entrando em contato com V.Sas. para alinhamento dos objetivos e cronogramas desta fase inicial de estudos.

Atenciosamente,

André Marcus Leal Sodré
Executivo Setor Público
IBM Brasil

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Ao
Governo do Estado do Ceará

At. Sr. Paulo Alcântara Saraiva Leão – Presidente da ETICE

Prezados Senhores,

Lanlink Informática Ltda, empresa nacional, sediada em Fortaleza (CE), principal parceira na região Nordeste de fabricantes líderes no mercado mundial de tecnologia da informação, como Microsoft, IBM e CISCO, vem, por meio deste documento, manifestar seu interesse em apoiar as atividades contempladas pelo Estudo de Viabilidade da implantação de solução "Data-Center do Governo do Estado do Ceará via PPP", bem como participar de futuros negócios advindos deste projeto, seja no formato PPP ou demais formatos a serem apontados pelo Estudo de Viabilidade.

Fortaleza, 15 de julho de 2005.

François Charles Rosa Boris
Diretor Presidente