

Report No: ACS10692B

Socialist Republic of Vietnam

Study on e-ID Infrastructure to Improve Public Services Delivery

Electronic Identification PPP Report

April, 2015

GITDR

EAST ASIA AND PACIFIC



Standard Disclaimer:

This volume is a product of the staff of the International Bank for Reconstruction and Development/ The World Bank. The findings, interpretations, and conclusions expressed in this paper do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Copyright Statement:

The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. The International Bank for Reconstruction and Development/ The World Bank encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

For permission to photocopy or reprint any part of this work, please send a request with complete information to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA, telephone 978-750-8400, fax 978-750-4470, <http://www.copyright.com/>.

All other queries on rights and licenses, including subsidiary rights, could be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA, fax 202-522-2422, e-mail pubrights@worldbank.org.

Table of Contents

Contents

ABBREVIATIONS	5
2 Executive summary.....	1
3 Introduction.....	5
3.1 Purpose	5
3.2 Project Background	6
4 Review and Analysis of the NID Project Context in Vietnam	8
4.1 Current Technical Context for eID Services in Vietnam	8
4.2 Need for eID Services, and Assessment of Demand	10
4.3 Proposed Electronic Identity Service Delivery Framework	12
5 Defining Public–Private Partnership.....	18
6 Vietnam’s Legal and Regulatory Framework for PPP.....	20
6.1 Forms of PPP Models.....	21
6.2 Key Principles of Vietnam’s PPP Legal Framework	22
6.3 Eligible Infrastructure Sectors for PPP.....	22
6.4 Legal Conditions for Direct State Financial Participation and Support.....	23
6.5 Recommendations for Strengthening PPP Legal and Regulatory Framework	24
7 Assessment of Institutions and PPP Processes in Vietnam.....	27
7.1 Institutions for the Implementation PPP Projects.....	27
7.2 Institutional Procedures and Resources for Preparing and Implementing PPPs.....	28
8 PPP Models and Review of International Lessons Learned	31
8.1 PPP Models for eID and Similar Electronic Government Services	31
8.2 Case Example #1: Albania’s National eID PPP Experience:.....	33
8.3 Case Example #2: eID–related PPPs in the Philippines.....	35
8.4 Case Example #3: Victoria, Australia Mobile Emergency Database Experience.....	39

8.5	Lessons Learned from International Experiences	41
9	Assessment of PPP Options and the Recommended Structure	46
9.1	Identification and Assessment of PPP Structuring Options	46
9.2	Recommended PPP Business Model	49
9.2.1	Recommended eID PPP Pilot Project Structuring Option: BOO.....	49
9.2.2	Recommended PPP Risk–Allocation Matrix.....	49
10	PPP Business Case Description.....	57
10.1	Proposed Service Offering and Tariffs Structure	57
10.2	PPP Financial Model Considerations	58
10.3	Estimated Benefits of PPP vs. Public Sector Provision for Key Stakeholders ..	58
10.4	Assessment of Potential Private Sector Partners	61
10.5	Recommendations.....	62
11	Annex: Recommended Terms of Reference for PPP Transaction Advisor	65

ABBREVIATIONS

<u>Abbreviation</u>	<u>Definition</u>
ASA	Authorized State Agency
BOO	Build Own Operate
BOT	Build Operate Transfer
eID	Electronic Identification
e-KYC	electronic Know-Your-Customer
GoV	Government of Vietnam
IA	Implementation Agreement
ISWT	Inter-Sector Working Team
MIC	Ministry of Information and Communications
MoH	Ministry of Health
MPI	Ministry of Planning and Investment
MPS	Ministry of Public Security
NID	National Identification
EISDF	National Identify Service Delivery Framework
PPP	Public-Private Partnership
VGf	Viability Gap Funding
VSS	Vietnam Social Security

2 EXECUTIVE SUMMARY

The Government of Vietnam (GoV) has expressed a strong interest in exploring the opportunity to deploy a full-fledged Electronic Identity (eID) system in Vietnam. The country is already putting in place the necessary prerequisites for its deployment, including a Public Key Infrastructure (PKI) and the compulsory issuance of national ID cards. These initiatives have been undertaken with World Bank support under the Vietnam ICT Development Project. The GoV is also planning to develop the National e-Authentication Framework (NAF) which will provide the much-needed capacity for users to be able to access government services and social benefits using a single electronic identity, including through mobile phones.

This Public-Private Partnership (PPP) assessment report provides an essential component of the World Bank and the Public-Private Infrastructure Advisory Facility (PPIAF) effort to assist the GoV in formulating a sound strategy for the design and execution of eID systems, including mobile-based identity platforms (mobile ID), in partnership with private service providers. *This report is intended to be read in tandem with the “Vietnam Electronic Identification Technical Report”, which provides the vision and implementation strategy for the proposed eID system in Vietnam.*

Currently, what is known as the People's Identity Card is a paper-based identification issued by the Ministry of Public Security (MPS) at the provincial level to all residents aged 14 and above. Due to the lack of a resident identity creation and deduplication process at the national level, it is possible to issue more than one identity card to one resident. And since there is no established mechanism to ensure that one identity number issued to a resident at the local level is unique nationally, the same identity number could be issued to more than one resident across the provinces. This leads to difficulty in uniquely identifying a resident at the time of service delivery based on the current identity card alone. The present approach to identification results in numerous issues, e.g., undetected misuse of identities and leakages of welfare benefits.

To resolve the various issues confronting Vietnam's service providers and residents with regard to unique identification creation and identity authentication, a technically robust and effective national identity system could have to be put in place. An eID system is a collection of technologies that could enable individuals to electronically prove their identity – or an attribute of their identity – to a given information system. To facilitate the implementation of an eID system, it is proposed that the Electronic Identity Service Delivery Framework (EISDF) be established with the aim of delivering a national-level,

electronic-based service for the unique identification and identity authentication of residents physically or online. Such a system could provide economic and social benefits to the country and its people.

The rationale for a PPP model for eID is compelling. The need for an eID project is clear for Vietnam, and all levels of a countrywide eID program could require new frameworks, processes and technologies. However, many of the required changes are not only capital-intensive, but also technically and commercially complex to manage; it is also outside of the scope and skill set of most governments. Having the private sector perform operations and services on behalf of the Government could be a potential solution beneficial to all. With the private sector financing and operating the eID system, the Government could be in a better position to ensure effective delivery, and the citizens could be receiving a higher quality of service.

This paper provides a summary of the technical context of the National eID (NID) Project; the details are in the “Vietnam Electronic Identification Technical Report” mentioned above. In Vietnam, both public and private service agencies typically require Proof of Identity (PoI) before providing services to individuals. Establishing the identity of an individual and confirming that they are entitled to receive the specified benefits are necessary to the actual delivery of services or payments to the citizen. Hence a robust eID system could need to have a sufficiently trustworthy eAuthentication system as the foundation of a quick and reliable service delivery.

The GoV issues the identity card and number to all residents of Vietnam. It is used as the PoI document by the service providers to establish and authenticate the identity of a resident. The demand for a reliable eID and eAuthentication system in Vietnam has been established through the developmental goals and objectives of the flagship NID Project. The introduction of eID services will allow online electronic identification and authentication/verification as a value-added service that could be an integral part of realizing the expanded NID Project’s goals and objectives; at its completion, the eID function could only be a sub-system of a larger process. Meetings with key stakeholders in Vietnam confirmed that eID services could be of tremendous benefit to a significant number of public sector customer agencies such as Vietnam Social Security (VSS), Ministry of Health (MoH), and Department of Taxation, as well as to private sector enterprises like commercial banks and telecommunications companies.

A review and analysis of Vietnam's legal framework reveal that PPPs are authorized based on regulations currently in force, specifically Decree 108 of 2009, and Decision 71 of 2010 issued by the Ministry of Planning and Investment (MPI). There may be some areas of ambiguity in these decrees regarding the specific legal powers and official duties assigned to stakeholder organizations such as MPI, and Ministry of Finance (MoF), but there are precedents for successfully addressing them.

From the institutional perspective, it is recommended that relevant public sector institutions to be involved in the NID Project, e.g., MOJ, MPI, MPS, Ministry of Information and Communications (MIC); and beneficiary organizations, e.g., MoF, VSS, and MoH, take steps to strengthen their institutional capacity to be able to carry out the PPP procedures described above. Vietnam's pilot PPPs in the transportation sector have addressed these gaps by drafting detailed PPP Implementation Agreements (IA) which spell out specific public sector powers and responsibilities for the individual PPP transactions. A similar type of solution could meet the needs of a future eID PPP project.

International experiences in electronic government services implementation using PPP are still limited. Although the eID sector is growing rapidly worldwide, it is a relatively new service. Consequently, there are only a few PPPs that have been completed in the eID sector. This report examines the experiences and lessons learned in Albania, Australia, and the Philippines. These countries have designed and implemented PPP arrangements for different parts of their eID projects. Key lessons learned that may be of benefit to the NID Project include:

- **Sharing Demand Risks.** For a sector such as eID where level of demand is either unknown or not within the ability of the private partner to control, risk-sharing by the Government such as structuring fixed "availability payments" is often needed.
- **Active Support for Education on and Awareness-building of eID Services.** Governments need to actively help service providers in setting up, seeding and using the new National Identity Number (NIN) database. Without this, service providers (public and private) and end-users tend to continue to rely on traditional paper-based identity mechanisms.
- **Need for Clear Output Standards of Performance.** When dealing with new technologies that the public sector has limited experience with managing, it can be challenging to develop the PPP performance indicators. Time and resources

need to be invested in ensuring that final output performance standards are comprehensive, clear, concise, and unambiguous.

- **eID Data Security.** For PPPs to succeed in the eID sector which could have access to millions of unique identity files and data on citizens, clear measures could need to be incorporated in any PPP contract to ensure that clear standards of data security are met. This includes standards for security, facility, human resources, and operational processes of the private partner, as well as regular auditing to confirm compliance with security standards.

There are four types of PPP structuring options that were identified and assessed based on different combinations of private providers of eID services (single provider vs. multiple providers), and clients and purchases of eID services (single-purchaser vs. multiple purchasers). Of the four options, the recommended PPP structure is of a single private provider rather than a group of multiple qualified providers. The technical and administrative challenges of ensuring inter-operability of multiple private providers, as well the challenges of “fragmentation” of the sector among the various private eID service providers, could not be beneficial to the early development phase of a new project implementing a new concept. One of the key PPP bid evaluation criteria that may be recommended as the basis for awarding a contract in a future tender is, which bidder could require the lowest level of guaranteed minimum revenues from the Government.

The overall conclusion of this assessment is that not only could a PPP be feasible, but that it could also be an attractive option for the GoV as it could be allocating key technical, commercial, and performance risks to a qualified and experienced private partner. The next step could be for the Government to retain qualified PPP transaction advisors to finalize the detailed design of the project who could also prepare tender documents and the PPP contract. They could also advise the Government throughout the process of tendering, bid evaluations, final contract negotiations, and establishment of the Project’s PPP contract monitoring unit and plan. A draft terms of reference for the hiring of PPP transaction advisors is provided as annex to this report.

3 INTRODUCTION

3.1 Purpose

The purpose of this report is to assess the feasibility of a Public–Private Partnership (PPP) contracting structure to deliver the Electronic Identity (eID) and related authentication and verification services that the Government of Vietnam (GoV), individual citizens, businesses, and non–governmental organizations could need in the implementation of the National eID (NID) Project.

The NID Project is a significant, long–term undertaking to assign unique national identification numbers to over 62 million Vietnamese citizens. The proposed NID numbers are to be used in the delivery of services not only by public sector Authorities and Statutory Agencies (ASAs), but also by numerous private sector firms such as commercial banks and financial institutions.

The proposed NID Project comprises several types of services, all of which could function in order for the overall goals and purposes to be met. The initial stage is scheduled for completion in 2020 by which time Vietnam’s entire population could have been assigned unique NID numbers. A crucial service requirement of the Project is for the NID system to perform reliably and quickly. The NID could also be broadly accessible to dozens of public sector ASAs and private sector firms for verifying the unique identity of both individual citizens and firms when public services are being delivered and new accounts are being established.

The focus of this report is to systematically assess the feasibility of the eVerification process to be performed by a qualified private sector partner through a PPP contract. That process could provide an effective and attractive solution with significant, long–term benefits with regard to Value for Money (VfM).

It is highlighted that there are aspects of eID PPP that will need to be examine further. eID are different than traditional e–government projects. It deals with sensitive data about people, and the ownership structure of the data is an integral part of a PPP arrangement. Given the role of private date, policy provisions of security and privacy need to be endemic for eID PPPs. PPP arrangements should include strong provisions to prevent any vendor lock–in, especially for such eID projects.

3.2 Project Background

The assessment on the feasibility of a PPP for the NID Project builds on – and was done in parallel with the “Vietnam Electronic Identification Technical Report”. The technical report defined the vision and implementation strategy for eID-based service delivery in Vietnam. It further defined the innovative and relevant uses of eID in transforming and enhancing the accountability and efficiency of the delivery of a broad range of public and consumer services by the public and private sectors.

National eID systems, including mobile-based identity systems, offer a wide range of important benefits to individuals, governments, and commercial businesses. Digital biometric identification technologies (collectively referred to as eID) significantly expand the scope of formal identification systems that are an essential prerequisite to further economic development. For instance, the inability of an individual to authenticate himself or herself before service providers significantly limits access to basic rights and services in the contemporary setting; they include the ability to vote in elections, and to receive public health care, education benefits, electronically-transmitted payments, and other key technology-based privileges.

Across the globe, governments are putting in place eID systems to accelerate the delivery of services and benefits to those who rely on them the most, i.e., the poorest members of the population. Common examples of the eID-supported public services include the delivery of social benefit; as in the case of disaster relief aid in Kenya and Pakistan, pension benefit to older people in Nigeria, and conditional cash transfers to mothers for their children’s education in India and Tanzania.

The eID services enable key economic innovations for public organizations and private firms: they facilitate stronger electronic authentication, and enable higher value services that require an elevated level of security assurance. The eID also provides major economic benefits by reducing costs and increasing productivity in the public sector, and increasing the application of online services. Increased trust with regard to identities online – and bi-directional trust between parties transacting or communicating online – is also of paramount advantage to all participants. The eID system can help reduce identity fraud and enable individuals to access key services more securely across a range of activities such as mobile banking and payments, and mobile applications for health care.

In the context of the NID Project’s rationale, the GoV has expressed a keen interest in exploring the opportunity of deploying a full-fledged eID system in Vietnam. The GoV is

already piloting a NID system. In addition, the Ministry of Information and Communications (MIC) is putting in place the necessary prerequisites for its deployment – a Public Key Infrastructure (PKI) and a compulsory issuance of NID cards. Several government agencies are being involved in the deployment of the critical PKI, and the GoV has achieved significant progress towards the projected timeline. The Government is also planning to develop the National eAuthentication Framework (NAF) that is envisaged to create the much-needed enabling environment for users to access public services and social benefits with the use of a single eID.

The private sector's role in deploying eID-based service delivery infrastructure is critical as it can potentially ensure the financial viability and sustainability of the Project. Internationally, the role of the private sector in designing, financing, and installing eID infrastructure, and offering eID services such as authentication and verification, has been growing.

Through PPPs, several governments have launched projects for the development of eID systems. The scope of these PPPs varies from assigning the private sector responsibility for one specific eID service (e.g., manufacture and issuance of ePassports) to assigning responsibility for a range of eID services, including electronic verification and authentication. Countries that have pursued PPPs for the development of all, or part, of their eID system have included the Philippines, Albania, Estonia, India, Belgium, Malaysia, Norway and Sweden. The lessons learned from a selected number of these international experiences provide valuable guidance on good practices to emulate in structuring eID PPPs in Vietnam, and on common mistakes and practical pitfalls to avoid. This report examines several of the eID PPP experiences mentioned above.

4 REVIEW AND ANALYSIS OF THE NID PROJECT CONTEXT IN VIETNAM

This section of the assessment report looks into the review and analysis of the current ID landscape in Vietnam, ascertains its need for eID services, and proposes an eID framework for the Government's consideration. The background for the proposed NID Project is laid out according to: (i) its technical context, and (ii) the level of demand needed for eID services. Finally, it presents the envisaged Electronic Identity Service Delivery Framework (EISDF).

4.1 Current Technical Context for eID Services in Vietnam

The eID system is a relatively new concept to most key stakeholders in Vietnam: the public and private sectors, and the individual citizens. To assess the feasibility of a PPP approach to eID services, it is important to understand the technology, and how the Project's eID services could operate. Most of the information summarized here is extracted from the companion technical report prepared, in parallel, for this activity.

In Vietnam, public and private service agencies typically require PoI before providing services to individuals. Residents of Vietnam need to establish their identity on a regular basis before receiving services from providers. This includes common activities as opening a bank account, withdrawing or depositing money, getting a tax code, receiving pension benefits, or availing of healthcare services.

In the current environment, any service agency in Vietnam needs to first establish the identity of individuals and then confirm that they are, in fact, entitled to receive the specified benefits; these are prerequisites to delivering services or payments to the citizens. In an ideal environment, an individual's identity could be unique and verifying that identity could be conducted independent of services availed. In the present practice in Vietnam, establishing entitlement is very specific to each service availed of and has to be done by each service agency separately. For instance, the creation of a health insurance card involves not only individual identity (name, address), but also verification and establishment of health insurance entitlement. Identity establishment typically involves two steps:

- **Identity creation**, the mechanism for establishing an individual's identity by issuing identity token(s) of some form (this may be physical and/or electronic). This is typically a one-time activity.

- **Identity authentication**, the process of verifying “who an individual claims to be” by checking identity tokens assigned to the person. This can be performed manually, electronically, or through a combination of both.

In Vietnam, the MPS issues what is known as the People’s Identity Card to residents aged 14 and above; it comes with a corresponding identity number. The card is presented to service providers as the individual’s PoI document; it establishes and authenticates the identity of the resident at the time of service delivery.

Due to the lack of a reliable resident identity creation and a deduplication process at the national level, it is possible to issue more than one identity card to one resident. Also, since there is no established mechanism to ensure that the identity number issued to a resident at the local level is unique nationally, the same identity number could be issued to more than one resident across the provinces. As a result, it is difficult to uniquely identify a resident at the time of service delivery with the use of the current identity card alone.

In Vietnam today, residents interact with various service providers, each with its own identity creation system and authentication mechanism. Service providers in the public and private sectors typically follow their own process for identity creation and for determining service entitlement eligibility at the time of service delivery. For instance, the Vietnam Social Security (VSS) maintains its own database of beneficiaries, and systems of verifying service entitlements for its various welfare programs such as social insurance, health insurance, etc. A separate identity token, i.e., in the form of a paper-based card, is provided to the resident for each of the programs, and each program uses its own system for identity authentication and entitlement verification.

Set in the technical context described above, identity creation and authentication mechanisms in Vietnam have resulted in these key challenges:

1. Since each programs’ identity creation process is different, the personal information captured for the resident and the procedures for the verification and validation of that information have resulted in the creation of multiple identities for the same resident.
2. There have been leakages of welfare benefits, e.g., in health insurance, due to the creation of multiple and fake identities within the same benefit program as it is not possible to uniquely identify each individual in Vietnam.

3. The inability of public service agencies to correlate the various benefits given to an individual through various programs has resulted in the technical inability to verify correct entitlement status for each resident.
4. Many service providers in the public and private sectors have designed and defined their own customer/beneficiary identification and identity authentication processes following their own requirements, with limited or no inter-operability as most of the identity tokens are accepted only for a specific purpose and at a specific location.
5. Given the current paper-based identity card system, with multiple identities created for the resident at various locations, there is a higher risk of identity theft and misuse of the photocopies of identity documents frequently submitted as proofs. It is relatively easy to forge a physical identity document, but it is difficult to prove that the documents or copies are indeed fakes.
6. The duplication of identity creation processes within “separate silos” by each service provider has increased the overall cost of identification services in Vietnam. Moreover, it has caused significant inconvenience to individual residents who are required to maintain and produce different identity tokens and numbers for every key public service they avail of.
7. The practice of having each service provider design its own specific identity creation and authentication process has led to higher setup costs of authentication mechanisms important to service providers. There have been no efficiencies of scale from a common identity authentication process. The cost inefficiencies will continue to grow if most of the identification tokens provided by the service agencies are physical tokens based on the “what-you-have” approach.
8. At the moment, it is not possible to verify that the person carrying the identity token is indeed its rightful owner, unless it comes with a photograph printed on it.
9. It is difficult to establish misuse of identities and tokens since there is no authentic audit trail. To do so under the current situation could require an exhaustive manual audit process.

4.2 Need for eID Services, and Assessment of Demand

An important task of any assessment of the delivery of a public service through a PPP arrangement is to determine if there is a clearly established need for the service, and if there is a reliable estimate of the level of demand. The estimate of the level of demand

defines the capacity that the private partner will be required to provide which, in turn, determines the level of capital investment needed to provide this capacity.

The overall need for a reliable eID and eAuthentication system in Vietnam is elaborated on in the eID technical report. The proposed eID services will provide online electronic identification and verification/authentication services as a value-added service that will form an integral part of realizing the goals and objectives of the expanded NID Project. The NID system will be made up of eID sub-systems – a collection of technologies that will enable individuals to electronically prove their identity, or an attribute of their identity, to a given information system. A robust eID system in Vietnam could be able to provide quick and reliable service delivery, but it could need to have a sufficiently powerful and trusted electronic authentication and verification system at its foundation.

Key stakeholders in Vietnam have confirmed that eID services could be needed by a significant number of public sector customer agencies – VSS, Ministry of Health (MoH), Department of Taxation, among others – as well as private sector enterprises (commercial banks, telecommunications companies, etc.). The demand for electronic authentication and verification services by this core group of stakeholders is acutely urgent. The absence of available electronic means to identify and verify citizens is a significant bottleneck on these agencies' ability to deliver services to residents in a timely manner. The NID will not be able to function without an efficient and reliable process of verifying and authenticating identities electronically.

While the need for eID services in Vietnam is widely acknowledged by major stakeholders as the essential component of any available, reliable, and sustainable NID project, estimating and quantifying the level of demand for it is challenging due to a combination of factors.

Firstly, the eID technology and the various eServices that comprise the EISDF are fundamentally new concepts in Vietnam. There is little by way of established records of levels of demand in the use of electronic identification and verification services. While there is high-level estimate for the total number of eIDs that could be created (i.e., 62 million current residents in Vietnam), there is no clear timeframe yet for when all relevant public sector agencies will migrate over to the eID system. This is a common challenge faced when attempting to estimate future demand for new eID services.

Secondly, the NID Project is a long-term undertaking that is still being implemented; completion is not expected until 2020. During this timeframe, as eIDs are assigned and

distributed, the demand for eID services could be expected to grow. However, it will be difficult to predict with certainty the ultimate level of demand for the services until the issuance of eIDs is completed and the eID system is in use by all public sector agencies across the country.

Thirdly, an important part of the demand for eID services is expected to come from private sector organizations such as commercial banks, telecommunications companies, airlines, online firms, and any other firm that regularly requires its customers to provide identification. While it is been assumed by most stakeholders contacted in Vietnam that demand for eID services from private firms is expected to grow in the future, it is decidedly difficult to project the level of demand month-by-month or year-by-year during the short- to medium-term (i.e., over the next 3–5 years).

Most demand assessments for proposed PPP projects follow a methodology of first identifying all public sector organizations that could use the new service, and then conducting a systematic survey to assess the level of demand by each public sector subscriber.

Potential public sector subscribers of eID services in Vietnam include MPS, MOJ, VSS, MoF, MoH, Ministry of Labor, Invalids and Social Affairs (MoLISA), General Taxation Department, Citizen Migration Board, National Rural Employment Guarantee Scheme, Vietnam Government Certification Authority, and Vietnam Post and Telecommunications Group (VPTG).

Potential private sector subscribers of the eID services include commercial banks, financial institutions, insurance companies, telecommunications companies, healthcare services, transportation companies, hotels, tourism operators, and other commercial services providers.

4.3 Proposed Electronic Identity Service Delivery Framework

To respond to the technical challenges mentioned in Section 3.1 facing Vietnam's service providers and residents with regard to unique identity creation and authentication, it is essential that an up-to-date, technically robust and effective national electronic identity system be implemented. The proposed EISDF aims to address these challenges and fulfill the needs of the residents and service providers.

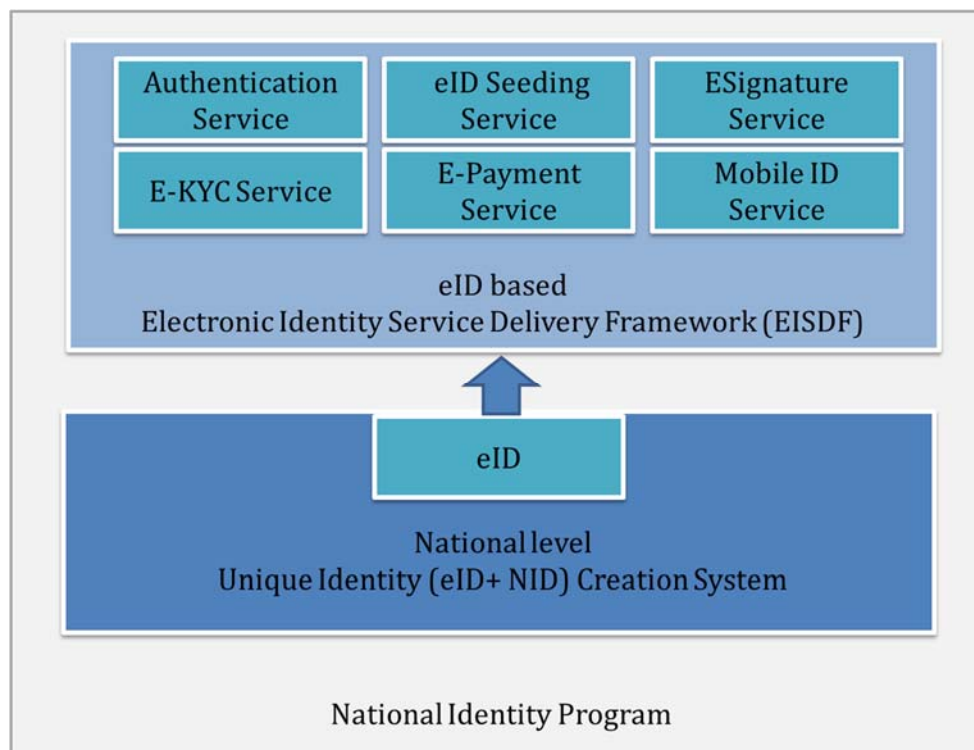


Figure 1: Technical Organization of the National eID System

Services Offered. Some of the key services that may be delivered with the implementation of the EISDF are explained below.

1. **Electronic Identity Authentication Service.** The EISDF could facilitate the delivery of a national-level, electronic-based service for the unique identification and identity authentication of residents physically or online. It could be used by service providers in the public and private sectors for delivering eID-enabled services using eID-enabled applications to their Customers / Beneficiaries / Subscribers (CBS).
2. **Electronic Identity Seeding Service.** The EISDF could provide eID seeding service that enables the use of eID authentication by mapping the CBS profile to its unique National Identity Number (NIN) generated at the national level on registration.
3. **eSignature Service.** The EISDF could put into effect the use of eSignatures by residents on eDocuments in transactions with the public and private sectors. This

could enable paperless eService workflows and do away with the need for physical signatures.

4. **Electronic Know-Your-Customer Service (eKYC).** The EISDF could provide a centralized eKYC process by which a service provider could be able to identify its CBS electronically with the explicit authorization of the latter. The eKYC, being eID-based, could furnish an instant, non-repudiable PoI and Proof of Address (PoA), along with date of birth and gender. In addition, it could also yield the resident's mobile number and email address to the service provider, further streamlining the process of service delivery.
5. **Electronic Payment (ePayment) Service.** The EISDF could provide a centralized eID-based ePayment service through the Electronic Identity Service Delivery Platform (EISDP). With ePayment, government agencies could be able to make fund transfers of public program benefits such as social pension, healthcare benefits, scholarships, etc., to the intended beneficiaries. The ePayment would facilitate seamless transfers of Government-to-Citizen payments to the beneficiary's bank account which is identifiable through the beneficiary's electronic ID.
6. **Mobile ID.** The EISDF could also enable the use of the mobile phones as the mobile ID for delivering identity services. This will greatly expand the level of access and timeliness of eID services to Vietnam's residents.

EISDF Key Concepts. Some of the key concepts that could enable the seamless delivery of the eID services are described below.

1. **Centralized National-level Identity Service Provider.** The envisioned EISDF could be designed and implemented by a centralized, government-owned and national-level identity service provider.
2. **Electronic Identity-enabled Applications and Service Delivery.** Service delivery applications that use eID functions to identify and authenticate the resident could be referred to as "eID-enabled applications". The use of eID-enabled applications may be broadly referred to as "eID-enabled service delivery".
3. **Centralized National-level Identity Creation Process.** The EISDF could be based on a central identity creation system operated by a national government agency that

could issue the eID. A centralized process for identity creation ensures uniqueness of the eID. Hence, the service providers using the EISDF for identity authentication of their CBS could not need to recreate a separate process for its purposes. This could prevent the generation of multiple identities for the same resident by various service providers.

This mechanism could eliminate the need for duplication of effort in identity creation by the service providers, and result in a reduction of the overall cost of identification. The framework could leverage advancement in technology to enable providers to deliver a better quality of service to the residents, and empower the latter to prove their identity anywhere, anytime, and in multiple modes using the global and irrevocable eID.

4. **Identity that is Digital, Online-verifiable and Inter-operable.** The online channel has always proven to increase access, convenience and transparency to the common man. Given that Vietnam has good Internet penetration¹ with fiber optic cables laid all the way to the commune level, and wireless broadband connectivity at the village level with more than 100 percent mobile penetration², there is an increasing demand from the CBS for eServices in both government and private sector organizations. The eServices could require a digital and online-verifiable eID for delivery. The EISDF could leverage advancement in technologies with the use of the eID that is digital, online-verifiable and standard-based inter-operable for unique identification of residents.
5. **Identity Based on NIN, Demographic Attributes, and Biometrics.** The EISDF could leverage the use of the eID as defined by the identity creation process of the MPS. The unique eID could be defined in terms of a person's demographic attributes (name, gender, age, address, etc.), biometrics (fingerprints, iris images) and the central government-issued NIN. Demographic data alone may not guarantee uniqueness; however, they could be linked to the biometric attributes of the individual to create a unique identity for NIN generation.

¹ Report on Internet Statistics of Vietnam – <http://www.thongkeinternet.vn/jsp/trangchu/index.jsp>

² Mobile-cellular subscriptions – http://www.itu.int/en/ITU-D/Statistics/Documents/statistics/2012/Mobile_cellular_2000-2011.xls

6. **Global and Irrevocable NIN.** The NIN could identify the residents and give them the means to clearly establish their identity to public and private agencies across the country. The NIN could have three key characteristics:

- **Permanence.** It could remain the same throughout the lifetime of a resident.
- **Uniqueness.** One resident could have one identity number, and no two residents throughout the country could have the same identity number.
- **Globalness.** The same identifier could be used across applications and domains by the various service providers in the country.

7. **NIN Uniqueness through Biometric Deduplication.** The NIN could be issued by the MPS during the initiation process called enrollment where a resident's demographic and biometric information are collected and the uniqueness of the provided data is established through a process called deduplication. The deduplication process could include running the demographic and biometric information captured during enrollment through the rigorous 1:1 mapping of the two sets of data to yield 99.99 percent accuracy before assigning a unique identity number to the resident. Post deduplication, the NIN may be issued and a letter containing the details sent to the resident.

The digital and online-verifiable eID could reduce the risk of resident identity theft and remove the issues of photocopied fake documents. It is easy to forge paper-based identity documents compared to the digital-based identity, which is verifiable online.

The eID could be issued using the Personal Identity Data (PID) based on an individual's paired demographic and biometric information following the national policy of the Government to ensure inter-operability.

8. **Standardized Identity Supported by Tokens.** The EISDF could support standardized identity tokens of various types, depending on the identity authentication and eSignature requirements of the service providers or their specific programs. The EISDF could support three types of identity token: a personal identification number (PIN), or "what the user knows"; a mobile/One-Time Password (OTP)/digital certification, or "what the user has"; and fingerprints or iris images, or "who the user is". The eID of the resident could be assigned multiple identity tokens that

could be used, as appropriate, for authentication and eSignature based on the business need of the service being rendered.

More technical details on the EISDF are found in the “Vietnam Electronic Identification Technical Report”.

5 DEFINING PUBLIC-PRIVATE PARTNERSHIP

PPP are contracts between a private sector entity and a government entity that calls for the private partner to deliver a desired service and to assume the associated risks. Through PPP, a government is relieved of the financial and administrative burden of providing the service; however, it retains an important role in regulating and monitoring the performance of the private partner.

The popularity of PPP arose out of governments' need for financing to meet increasing demand for expansion and rehabilitation of physical infrastructure such as roads and energy facilities. Employing PPP as a tool for meeting the obligations of governments to their citizens; governments are able to avail themselves of state-of-the-art technology and private sector expertise, while avoiding excessive strains on already-limited budgets. Citizens enjoy improved service delivery without large tax increases, sometimes with decreased user fees, and economic growth flourishes in sectors seeking to compete for lucrative PPP contracts. The PPP model continues to gain acceptance; it has rapidly expanded to all areas of public life, including ICT resources and eID.

There is a vast amount of PPP literature on the potential forms and models. The forms of PPP are characterized by the increasing degree to which responsibilities and risks are transferred from the government to the private sector. The table in Figure 2 summarizes the PPP models and their characteristics.

Type of Contract	Duration (years)	What the Private Contractor Receives	Nature of Private Contractor Performance	Examples
Service Contract (outsourcing)	1–3	Fee from government for performing a non-core service	Definitive, often technical type of service	Website design and management, ICT Capacity Building
Management Contract	3–8	Fee from government for the service and a performance-based incentive	Manage the operation of a government service	Call center staffing; Seat Management , Parking enforcement, regional water supply management
Lease	8–15	All revenues, fees or charges from consumers for the provision of the service; the service provider rents the facility from government	Manage, operate, repair, and maintain, and maybe invest in, a service to specified standards and outputs	Land for ICT Infrastructure Development, Online property registries , Existing airport or port facilities
BOO & BOOT	15–25	The government mostly pays the service provider on a unit basis	Construct and operate, to specified standards, the facilities necessary for service provision	ICT Infrastructure; e-procurement systems; e-business portals ; Network of Kiosks
Concession	15–30	All revenues from consumers service provision; the service provider pays a concession fee to the government and may assume existing debt	Manage, operate, repair, maintain and invest in public service infrastructure to specified standards	Telecom operations and expansion, New airport or seaport facilities, Toll road or bridge

Figure 2: PPP Models and their Characteristics

The next section looks into Vietnam’s legal and regulatory frameworks for PPP covering various models specific to Vietnam’s context, key principles in the legal framework, eligible infrastructure sectors, legal conditions for allowing direct state financial participation and support, and recommendations for strengthening legal and regulatory frameworks.

6 VIETNAM'S LEGAL AND REGULATORY FRAMEWORK FOR PPP

The current legal framework in Vietnam clearly allows for PPP. This section's assessment shows that PPP is authorized according to current regulations in force, specifically the MPI's Decree 108 of 2009, and Decision 71 of 2010. Although there are some areas of ambiguity in these decrees as to the specific legal powers and official duties assigned to each stakeholder organization (such as MPI, MoF, etc.) as regards PPP, there are precedents for successfully addressing them.

The MPI recently drafted a combined decree on PPP to address the specific ambiguities of the previous PPP regulations. The revised version is projected for release in 2014. Additionally, Vietnam's current pilot PPPs in the transportation sector have addressed these gaps through the drafting of detailed PPP implementation agreements that spelled out specific public sector powers and responsibilities for individual PPP transactions. A similar type of implementation agreement solution could satisfy the needs of the proposed eID PPP project.

From the Vietnamese law perspective, investment in PPP means that the State and investors jointly implement projects on development of infrastructure or provision of public services on the basis of project contracts. Legally, PPP projects are basically pilot projects whose implementation is decided by the Prime Minister.

Currently, the legal status of PPP is governed by Decision No. 71 of November 9, 2010, promulgating the regulation on pilot investment in the PPP form. This was adopted in accordance with the Law on Investment, Law on Enterprises and Law on Bidding – all issued in 2005. In terms of PPP investment methods, there is Decree No. 108 of November 27, 2009, which was amended by Decree No. 24 of April 05, 2011, defining PPP investments through contract structures such as Build–Operate–Transfer (BOT), Build–Transfer–Operate (BTO) or Build–and–Transfer (BT).

While Decision 71 and Decree 108 define the overall process of preparing and approving PPPs, the implementation of PPP projects require that investors also comply with other key laws, including the Law on Enterprises, Law on Bidding, Law on Competition, Law on Construction, Law on Credit Institutions, Law on Foreign Currency Management, or other such regulations covering PPP projects in specific sectors.

This report recommends technical solutions to amending and supplementing the legal framework on this matter so that Vietnam could attract more PPP projects, in general, and

eID PPP projects, in particular, and implement them successfully. In this regard, it is further noted that, since there is no specific legal framework yet for an eID PPP, the general regulations on PPP projects could then apply to the eID PPP, if approved.

6.1 Forms of PPP Models

As a matter of law, Decision 71 does not define or restrict specific methods of investment in PPP. Rather, it prescribes in general terms the process for implementing PPP form by which the State and private investors jointly implement projects on development of infrastructure or provision of public services on the basis of project contracts. For the current eID project, a PPP could be required to meet the following legal requirements.

- The State and investor could jointly participate in and implement the project.
- The projects are implemented in the sector of infrastructure and provision of public service and projects as decided by the Prime Minister.
- The participation and coordination between the State and the investor in a project could be carried out through the project contract signed between the State and the investor.
- Currently, the main forms of PPP investment contracts are BOT, BTO, and BT. According to the draft decree, there are new methods of contracting PPP investment and they include: Build–Ownership–Operate (BOO); Finance arrangement–Operate–Transfer (FOT); Build–Transfer–Lease (BTL); and Operations and Management (O&M).
- The BOO contract arrangement has actually been applied in Vietnam (e.g., Thu Duc Water Machine Project). However, this was not mentioned in the Law of Investment of 2005.

International experience has indicated that many ICT and eID PPP contracts have been structured as BOO contracts, with the private partner building new IT assets and systems, operating them for a period, and then keeping (i.e., continuing to own) them after the expiration of the contract. This is because most ICT sector assets become obsolete quite rapidly, and most governments have little interest in inheriting the liability of fully depreciated and technologically outdated assets that are no longer competitive at the end of a PPP contract.

To protect public interests, such BOO contracts nearly always include buyout options for the government, could they chose in the future to acquire the assets themselves. BOO contracts are less complicated for both governments and private operators to draft and

negotiate, compared to BOT structures, as they avoid the issues of trying to specify the condition of future residual assets.

6.2 Key Principles of Vietnam's PPP Legal Framework

The design and drafting of Vietnam's PPP-related laws, decrees, decisions, and other regulations has been guided by the following general principles and conditions.

- The goal of PPPs in Vietnam is to attract new capital investments from the domestic and foreign private sector to develop infrastructure and provide public services.
- Raising new capital investments by the private sector, including investor's equity capital, domestic and foreign debt and other source of private capital, could not increase public sector liabilities such as sovereign guarantees.
- To ensure sustainability and long-term commitment to PPP success, investor's equity capital in PPP projects could be 30 percent of total capital investment. Investors are expected to engage in commercial loans and other forms of borrowing (without government guarantee) for the remaining investments needed.
- Under the draft PPP decree, these principles could be applied more flexibly. For instance, the current condition that investors provide at least 30 percent equity capital could no longer be a strict requirement in all cases. For a project with a total capital investment of VND 1,500 billion, investors could only be required to provide a minimum of 15 percent of the total investment as equity capital. For projects having a total capital investment of more than VND 1,500 billion, the minimum required equity could not be below 10 percent of the capital investment amount.
- The selection of private investors to implement PPP projects could be based on a process that is competitive, fair, transparent, economically efficient, and consistent with the procurement laws of Vietnam, and international competitive bidding standards.

6.3 Eligible Infrastructure Sectors for PPP

The sectors that are currently identified as being eligible for pilot PPP projects are:

- Roads, road-bridges, road-tunnels, ferry-landings
- Railways, railway-bridges, railway-tunnels
- Urban transportation
- Airports, seaports, and river ports
- Clean water supply system

- Power plants
- Healthcare (hospitals)
- Environment (waste treatment plants)
- Other projects for development of infrastructure and provision of public services as decided by the Prime Minister

For infrastructure sectors and projects that are explicitly listed in Decision 71 and Decree 108, line-ministries and local authorities may collect opinions from relevant authorities and submit PPP project concepts to the Prime Minister for approval. The Prime Minister is allowed to select such specific projects for preparation and implementation as PPPs on a case-by-case basis. According to the draft PPP decree, the eligible sectors for PPP will be expanded to cover nearly all projects that provide public services.

Until the draft PPP decree is finalized and formally issued, a PPP project for eID services could need to be approved by the Prime Minister. The criteria for selecting a project for PPP are expected to be based on the following.

- Level of importance, size, and urgency of the project for economic development.
- Expected ability of the project to recover its own costs, including private capital investments from reasonable revenues collected from users (without additional liabilities to or guarantees from the Government).
- Ability of the project to benefit from clear advantages that the private sector can provide, including technologies, innovations, management, experience, and financing.

The NID Project clearly meets the published criteria for selection as a PPP. However, it is recommended that other specifications, if any, under the sole discretion of the Prime Minister, could be identified and fully assessed prior to official submission for approval.

6.4 Legal Conditions for Direct State Financial Participation and Support

Many infrastructure projects offer high economic rates of return based on their high overall benefits (both financial and non-financial) to the national economy; however, their financial rates of return are often lower due to the need to keep end-user tariffs affordable to a large enough number of beneficiaries. As a result, many PPP projects may require additional forms of state participation and support to make projects sufficiently attractive to private investors and commercial lenders.

The Prime Minister has the authority to decide on state participation levels based on requests from relevant state agencies and the appraisal opinions of the MPI. Such direct financial participation in PPPs is often known as Viability Gap Funding (VGF). The total state participation portion is not allowed to exceed 30 percent of the total investment level of a project, except in special cases as approved by the Prime Minister. According to Vietnam's Law on Investment, Law on Bidding, and Law on State Budget, this may take the form of a government guarantee of a tranche of the project's commercial loans, or capital directly provided by the state budget (i.e., grant or subordinated equity).

Although there are limitations to the levels of direct financial participation by the State in a PPP project as regulated in Decision 71 and Decree 108, there are other forms of indirect public sector risk-sharing and contributions to PPP projects that are allowed. These may include the State providing the land that a project needs, or committing to "PPP availability payments" that essentially provide a minimum guaranteed revenue for the project, regardless of how much service is actually being demanded by end users. These important forms of public sector risk-sharing that are expected to be needed in the case of an eID PPP project are evaluated and approved by the State on a case-by-case basis.

6.5 Recommendations for Strengthening PPP Legal and Regulatory Framework

a. Identifying eGovernment and eID Projects as Eligible Sectors for Pilot PPPs

Under Article 4 of Decision 71, there are nine sectors that are explicitly named as eligible for selection as pilot PPP projects. Item 9 of the Article stipulates that other projects not included among the nine cited could obtain approval for PPP project implementation at the Prime Minister's discretion. The current decree does allow "other projects for development of infrastructure and provision of public services as decided by the Prime Minister." This wording is not sufficiently clear on the needs of the proposed eID project seeking to be considered for PPP. In order to remove any uncertainty about selection, it is recommended that the draft decree explicitly mention the eGovernment and eID sectors as eligible for PPP.

b. Principles for Support

According to Decision 71, the list of projects includes their contents and related information. However, the list of PPP projects does not give much information, and no specific support from the Government, VGF in particular, is mentioned. Support from the State is provided only when the feasibility study report is established. Hence, the

participation of the investors to propose PPP projects is limited. In the meantime, the State faces difficulty in obtaining feasibility studies. To alleviate this, it is recommended that the list of investment projects be amended and that the State declare principles for its support of the projects. A declaration of the principles could better attract investor interest in PPPs such as that for the eID.

c. Capital Financed by the State in PPP Projects

Regulations limiting total investment qualified for VGF to 30 percent of capital investment are imprecise. Under current laws, there are barriers to enterprises wishing to invest in PPP projects. It is recommended that the limit be increased to the level of capital investment financed by the State in the projects, based on each specific project's condition to determine the capital participation of the State. Capital investment financed by the State in a joint venture could also remain between the investors and the state-owned enterprises. Furthermore, it is recommended that loans granted with the State's guarantee not be considered as participation of the State.

d. Investment Incentives for PPP Projects in Public Services (eID PPP, eGov PPP, etc.)

The NID Project is an undertaking offered to the public, and clients and users are mainly from the public sector. In addition, the project leads to the development of and a dramatic improvement in technology. Therefore, it is recommended that the draft PPP decree clarify its investment incentives, such as:

- The State could collect revenue and pay expenses incurred from providing services on behalf of the investors.
- The State may have a mechanism to secure minimum profits for the investors.

Summary Recommendations on PPP Legal and Regulatory Frameworks

Based on the assessment of the legal system for PPP projects, and in preparation for the implementation of PPP projects in Vietnam, the following are recommended:

The GoV could stipulate a strict legal framework that clearly demonstrates and ensures its legality to investors in order to encourage investors and/or the private sector to invest in PPP projects in infrastructure and public services. The legal framework can be derived from lessons learned from Singapore, Korea and the United Kingdom where PPP projects are commonly carried out.

Coordination and communications among relevant PPP authorities in Vietnam need to be strengthened. This could increase the efficiency of PPP mechanisms, and build the investment confidence of potential investors. Standardized documents could be designed and drafted to improve the efficiency of implementing PPP projects. These documents could include model contracts, model bid documents (requests for qualifications, requests for proposals), and contract management procedures.

7 ASSESSMENT OF INSTITUTIONS AND PPP PROCESSES IN VIETNAM

7.1 Institutions for the Implementation PPP Projects

According to the current PPP decisions and decrees in Vietnam for the implementation of a PPP project, an Inter-Sector Working Team (ISWT) could be set up by the Minister of Planning and Investment to assist competent state agencies in formulating and implementing the project. Each ISWT could be composed of representatives from various ministries (Planning and Investment, Finance, Justice, and Industry and Trade), the State Bank of Vietnam, and other state agencies relevant to the specific PPP project.

As the NID Project is still at the early stage of being assessed as a potential candidate for PPP, an ISWT has not yet been established for it. Members of the ISWT are to advise their respective ministries, sectors or agencies on the projects. The team is mainly tasked to:

- Appoint its members to join the bidding expert group for selecting consultants to make feasibility study reports, and for selecting investors to implement projects.
- Take part in appraising feasibility study reports and the results of project investor selection.
- Take part in negotiating and finalizing PPP project contracts.
- Assist relevant state agencies in settling problems arising during project implementation.
- Review experience of pilot PPP projects to improve policies on investment in the PPP form, build capacity and develop human resources for sectors and localities.
- Assist relevant state agencies in determining state participation portions in projects.

To promote PPP projects, the GoV has established a steering committee for investment management under PPPs. This committee is an established organization supporting the Government and the Prime Minister in searching, controlling, and implementing projects – particularly PPP projects. The head of the steering committee is the deputy prime minister and its responsibilities with regard to PPP activities include drafting and completing legal frameworks, approving the list of projects, submitting approval requests to the Prime Minister, arranging approved public sector financial contributions and supports to selected pilot projects, and drafting regulations on infrastructure investment funding.

Clarification of PPP Institutional Roles

Due to uncertainties about the specific institutional roles and responsibilities of each of the relevant public sector agencies involved in the NID Project (especially responsibilities for granting specific PPP project approvals), a 29–page Implementation Agreement (IA) or “Pilot Mechanism” was designed and drafted specifically for the project. The IA is essentially a new decree to be issued by the Prime Minister spelling out the roles and responsibilities of each public sector organization specifically for this PPP project. The key features of the IA include:

- Clarified definition of the VGF the State will be contributing to the project, and how it will be managed, disbursed, and monitored.
- Establishment of new public sector units for the project, including an inter-ministerial task team, a procurement and negotiation team, a project management and implementation unit, and budget resources approval mechanisms for these new units.
- Institutional roles and procedures for the tendering and selection of the second private investor in the project.
- Institutional roles and procedures for the issuance of investment certificates.
- Institutional roles and procedures for project implementation.
- Institutional roles and procedures for investment incentives and security provisions for private investors and lenders.

It is envisioned that the draft PPP decree will remove most of the uncertainties and gaps in terms of institutional roles, responsibilities, resources, and procedures for efficiently implementing PPP transactions. The new decree alone may not be sufficient to address all these issues, given the inherent challenges and requirements of getting PPPs completed in Vietnam. It is likely that a new pilot mechanism, or IA, could also be needed to clarify the specific roles, authorities, and responsibilities of each of the key public sector stakeholders for an eID PPP.

7.2 Institutional Procedures and Resources for Preparing and Implementing PPPs

Based on the specific conditions contained in Decree 108 and Decision 71, the process of implementing PPPs within Vietnam’s institutional context features the following specific steps in the PPP project management cycle:

Phase 1: PPP Project Preparation (Selection and Identification)

Phase 2: PPP Feasibility Study Report

Phase 3: Selection of Investors through Tender Process

Phase 4: Project Contract

Phase 5: Issuance of Investment Certificate and Government Guarantees

Phase 6: Conduct of PPP Contract Monitoring and Performance Evaluation

However, the PPP institutional framework provided by Decree 108 and Decision 71 is currently in the process of being updated, and a draft decree is expected to provide more specific and detailed implementation guidelines for the management of PPP transactions.

Interviews with public sector stakeholder organizations in Vietnam – and previous donor-sponsored assessments of Vietnam's PPP environment – indicate that the current institutional framework, as provided by Decision 71, is not clearly understood by a significant number of key stakeholders. Moreover, a potential challenge to implementing an eID PPP is the limited institutional resources and capacity that relevant public sector organizations have to carry out such procedures.

The institutional context for the preparation and implementation of PPPs in Vietnam is defined by the specific institutional procedures of the PPP project cycle, as defined by Decision 71. It is important that the key institutions (MPI, MPS, MIC, VSS, MoH, MoF, among others) involved in the eID PPP project have the resources and capacity – especially PPP management skills – to implement the following procedures.

Phase 1: PPP Project Preparation

Activities for Phase 1 involves: (i) selecting and identifying suitable candidate projects; (ii) completion of the project description/concept paper; and (iii) review of proposed candidate projects and pre-feasibility reports by MPI.

Phase 2: PPP Feasibility Study Report

In Phase 2, the feasibility study, with the input of consultants, is completed. The project's required output level of service is developed and the stakeholder consultation plan is designed and managed. Also in this phase, the project affordability analysis, the demand analysis and technical feasibility analysis are conducted. Other analyses to be prepared are those of project financial feasibility and legal and institutional feasibility. To safeguard against risks, there is the environmental and social impact assessments, risk

identification, and risk analysis and mitigation for developing and recommending the risk allocation structure. Finally, the draft agreement is prepared, and the project is appraised for any VGF, and then presented for approval.

Phase 3: Selection of Investors through Tender Process:

Once the PPP is approved, the request for qualifications may proceed. The qualifications submitted by interested bidders are then evaluated and the Request for Proposal (RfP) is drafted. In the meantime, questions from bidders are entertained and the RfP is finalized. There is a two-part evaluation of bids that follows: technical and legal, and financial.

Phase 4: Project Contract

In Phase 4, the final PPP contracts are negotiated and the ASA's contract management unit is designed and established.

Phase 5: Issuance of Investment Certificate and Government Guarantees

The PPP agreement is reached.

Phase 6: Conducting PPP Contract Monitoring and Performance Evaluation

At this juncture, the executing agency's contract management unit is designed and established. Monitoring takes place with regard to the private partner's reaching project financial closure, performance during construction, and performance during operation/service delivery stage. Management focuses on requests and instances of PPP price adjustment, requests to revise or renegotiate PPP contracts, and any disputes. End-of-PPP contract stage is also managed at this time.

It is recommended that the relevant public sector institutions for the eID project, (e.g., MPI, MPS, MIC) and beneficiary organizations (e.g., MoF, VSS, MoH) take steps to strengthen their institutional capacity to carry out the PPP procedures listed and described above. In addition, these institutions could consider receiving PPP capacity-building assistance from various channels, such as partner-countries or donors.

8 PPP MODELS AND REVIEW OF INTERNATIONAL LESSONS LEARNED

Although the eID sector is growing rapidly worldwide, it is still a relatively new service. Consequently, there are also fewer PPPs that have been completed in the eID sector, as compared to traditional economic infrastructure sectors like power generation, toll roads, maritime ports and container terminals, water treatment facilities, etc. While a set of common performance standards, and terms and conditions have been developed over the past two decades for initiatives like model power purchase agreements (PPAs) across many countries, it is too early to have a common body of standards for PPPs in eID services.

It is worthwhile to examine the PPP experiences of a selected number of countries that have attempted to design and implement PPP arrangement for different parts of the new eID projects and services. This section summarizes the key case data, analyzes the strengths and weaknesses, and provides key lessons learned from the eID-related PPP experiences in Albania, Australia and the Philippines.

It could be noted that technical scope of these eID projects varies across countries, and so does the scope of their eID PPP contracts. For instance, in some countries PPPs have been used for the functions of actually issuing new eIDs to residents and citizens, while in other countries the PPP contracts have focused only on providing access to specific eID services and databases. Therefore, the scope of some of these PPPs in other countries can be expected to differ from the specific scope that is recommended for the eID PPP in Vietnam.

8.1 PPP Models for eID and Similar Electronic Government Services

A PPP for eID services may be defined as a legally enforceable contract between a private sector entity and a government body that requires the private partner to deliver a desired electronic public service. The private sector could have to invest some of its own resources (financial, technological, time, corporate reputation, etc.) and could become responsible for some of the risks in service delivery. Payments to the private partner are made only in exchange for actual performance delivered.

PPP structures are typically output-based. The government defines the required outputs that the private partner could deliver through clear output-based performance standards, and the private partner takes the risk of selecting the inputs (project design, financing, sourcing equipment, construction and installation, maintenance, asset renewals and replacements, etc.) to meet those required output standards. The mechanism that often ensures that the private sector can deliver better services than the public sector

traditionally could be the payment-for-performance principle. Public clients only pay their private partners if the latter make the services available and deliver the required outputs.

PPPs for eID and other eID-related services include a broad range of contracts in which private partners and government bodies each share a different level of the eID project's risks. In some PPPs, governments are responsible for financing and owning the project's underlying electronic network infrastructure and equipment facilities, while the operation of a new eID service that uses this network becomes the contractual responsibility of the private partner. In other cases, the private partner becomes responsible for the design, financing, installation and construction, and operation of a new electronic network, including the delivery of electronic government services.

PPP models that have been used in other countries for eID or eID-related services include:

- **Service Contracts for eID Services and ICT Facilities Management.** Contracting or outsourcing involves the provision of services and infrastructure that have previously been provided by government. Contracting enables government to provide the specifications. Service contracts enable government to procure service provision for a specified period of time. The common PPP contracting mechanisms are service, management, and leasing.
- **Build-Operate-Transfer, and Build-Own-Operate Agreements.** Governments around the world use turnkey projects with consortia of private companies to build information and communication technology, telecommunication and other large infrastructure facilities and networks. Governments in both advanced and developing economies often use BOT agreements in which they buy or lease completed facilities constructed by private investors after the companies have recouped their investment and a reasonable return by operating the facilities for an agreed period of time.
- **Concessions.** Under a concession, the private partner (concessionaire) bears overall responsibility for an entire sector or network of eID services, including the design, technology, financing, operation, maintenance, and periodic asset renewal and replacement. In concessions, the concessionaire services the broad market of retail end users directly, collecting user fees in exchange for each service request or transaction delivered. The fixed assets either remain the legal property of the public authority or revert to public ownership at the end of the concession period.

8.2 Case Example #1: Albania's National eID PPP Experience:

Since 2000, Albania has pulled in an estimated USD 2.45 billion of private sector investments in infrastructure sectors. Most of this (58 percent) has been in the information and telecommunications sectors. Albania has attracted a comparable level of private sector investment in the infrastructure sectors relative to its neighbors in Southeastern Europe. However, private investors and financiers have frequently cited the uncertainties of a country's PPP frameworks – legal, regulatory, and institutional – as a constraint to more investments being completed. This suggests that Albania has the potential to attract more than its current level of PPP investments.

Key PPP stakeholders in Albania such as the Ministry of Economy, Trade and Energy, the American Chamber of Commerce in Albania, the Albania–America Enterprise Development Foundation, and the Institute for Public–Private Policies have indicated that a clear constraint to PPPs in the country are the numerous uncertainties, inconsistencies and even specific legal provisions that prohibit certain forms of private sector participation within the current legal and regulatory framework.

Although several PPP contracts have been signed and implemented in Albania, they have been done on a “pilot–project” basis, without the foundation of a full PPP law that clearly stipulates the required steps, procedures, approvals, and monitoring tasks to ensure PPP sustainability. In 2011, the EBRD commissioned a systematic review and comparative assessment of the PPP legal framework for all EBRD member–countries.

The international law firm of Gide, Loyrett, Nouel (with significant international experience in designing PPP laws and contracts) was hired to undertake this legal assessment. Although Albania did not have a PPP–specific law (it does have a concession law and other laws related to private sector contracts, etc.), Albania received a score of 85 percent on its PPP legal framework, but only 55 percent on its ability to enforce these laws and make them work effectively in practice.³ The general indication is that Albania needs more institutional capacity, authority, and mechanisms to enforce PPP legal and regulatory provisions than the mere introduction of a new PPP legislation.

In April 2013, the PPP Law for Albania was passed and enacted by the Government. It was reported by stakeholders involved in infrastructure project development and PPP–

³ See EBRD PPP Legal Assessment on Albania at:

<http://www.ebrd.com/downloads/legal/concessions/albania.pdf>

supported initiatives in Albania that the design and drafting of this new law was supported with technical assistance from the International Finance Corporation (IFC).

PPP for National eID Documents

The Government of Albania has identified the implementation of a state-of-the-art identification document and electronic passport system as one of its strategic objectives. It includes: (i) central personalization center facilities (infrastructure, IT equipment, systems, PKI); (ii) enrollment facilities infrastructure; (iii) issuance of eID cards to all Albanian citizens above 16 years of age; and (iv) issuance of new electronic passports, compliant with International Civil Aviation Organization (ICAO) standards and European Union (EU) regulations.

The strategic goals of the new project are to facilitate economic development across a broad range of sectors relying on eID procedures and requirements by: (i) providing easier access by individuals, firms, and other stakeholder organizations to key social-economic services rendered by the Ministry of Interior, Ministry of Labor, and other public sector organizations; and (ii) improving security and control in Albania by eliminating identity fraud, forgeries and other related crimes.

Although Albania's privatization and concession laws did allow PPP contracts – such as for eID – to be developed and signed, there were challenges that had to be overcome to clarify the legal procedures for the structuring and implementation of the project. An international tender procedure was followed, with bids publicly opened in February 2008.

The evaluation was done according to the standard of providing the “best value for money”. On May 9, 2008, the French-led consortium of Sagem Sécurité (now Morpho) and the Albanian-American Enterprise Fund (AAEF) was proclaimed winner among seven international consortia that had submitted bids. The concession contract was signed on July 21, 2008, between the Ministry of Interior of the Republic of Albania and the winning consortium. A major portion of the PPP project was financed by the AAEF.

The concession requires the management of the entire production process (enrollment, personalization, issuance and distribution) of high-security biometric identity cards and passports. Over 2.6 million ePassports and 3.2 million eID cards have been issued, bringing many benefits to the Albanian population. Since 2010, ePassport-holders have been traveling in the Schengen Area without a visa; previously, it was a mandatory

requirement for all Albanians. Morpho continues to produce the eID which will integrate additional features for enhanced security.

Throughout the concession period, the project's central personalization site was certified to meet ISO 27000 standards. The eTrusted identity services platform provides convenient, secure access to eServices. Using devices such as computers, tablets and smartphones, Albanian citizens have the ability to carry out both public (e.g., tax declarations, birth certificate applications) and private (e.g., banking, insurance, legal) transactions online.

8.3 Case Example #2: eID-related PPPs in the Philippines

The Philippines was one of the very first developing economies to design and adopt an official long-term policy of expanding a significant portion of its infrastructure through the private sector. Since launching its BOT policy in 1990, the country has achieved important results, including attracting well over USD 58 billion in long-term private investment into its power, telecom, transportation, water, and other infrastructure sectors.

Philippines	
Sector	Investments (USD)
Energy	27,674
Telecom	17,922
Transport	4,351
Water & Sewerage	8,276
Total	58,223

Table 1: Summary of the Philippines' Total Private Sector Investments in Infrastructure (Source: World Bank PPI Database)

Within the eID sector alone, the Philippines has implemented several PPP projects that not only feature the creation and issuance of eID and other documents, but also PPPs for the

provision of public services that rely on eID services such as eAuthentication and eVerification. This includes the National Statistics Office (NSO) Civil Registry System Information Technology Project PPP.

Philippines' PPP Framework:

The launching of the BOT Center in 1990 in the Office of the President was designed as a response to the chronic deterioration of the physical infrastructure and the Government's inability to finance new projects during the 1970s and 1980s. The legal basis came with the passage by the Philippine Congress of Republic Act (RA) 6957 in 1990 that allowed for private sector participation in certain infrastructure sectors. It created an inter-ministerial implementation unit, the BOT Center, authorized to analyze, evaluate, negotiate and award concessions. The BOT program designers in the Philippines determined that in order to succeed, the technical unit could have to be housed at a level above the infrastructure line-ministries.

The BOT Center's role in the Philippines has largely been that of advisor and capacity-building nexus for line-ministries and local governments, and promoter of PPP investment opportunities and policies. The program in the Philippines called for the creation of "BOT/PPP cells" within each of the eligible infrastructure line-ministries to coordinate the respective ministry's PPP project tasks and decisions.

The PPP project approval process in the Philippines is detailed and highly regulated by the BOT Law's implementing rules and regulations to promote transparency and fairness. To get implemented, a project could be evaluated and approved by three different government committees, including the BOT Center evaluating committee and the national investment coordinating committee; the process takes a minimum of three to six months. The approval process requirements have been identified as being a growing impediment to getting PPP projects completed. In other sectors, international competitive tendering procedures are followed for projects such as Manila's two large water concessions, and for the Land Transport Office's eID PPP for vehicle inspection and licensing services.

Philippines Civil Registry System Information Technology Project PPP

In May 2000, the NSO signed a 12-year contract with Unisys Corporation (Philippines) under a BTO scheme for a USD 65 million IT system tasked with the issuance of copies of certificates of birth, death, marriage and similar identity-related documents. The

objective of the system is to allow residents, individuals, and end users the ability to obtain copies of certificates more quickly.

Prior to the project, an informal system of local “fixers” with inside connections had developed a network of who could provide certificates of registration (sometimes valid and sometimes forged) in exchange for expediting fees and bribes. The goal of the project was described by the then-President of the Philippines at the launching of the PPP in 2000 to finally “address the perennial problem on storage and retrieval of records” and to help “eradicate fixers who take advantage of co-Filipinos”.

The specific performance standards set by the NSO for residents to obtain copies of civil registry documents were: (i) 30-minute maximum wait in the Metro Manila area; and (ii) two-hour maximum wait at regional and provincial locations.

The system relies on imaging technology for collecting, storing, managing and accessing all civil registry documents. As verification check, the project also features the collection, storing, and comparison of all authorized city and municipal registrars, and other authorized Civil Registry System (CRS) signatories to protect against forgeries. The PPP project has no direct costs to the Government and is funded through end-user fees.

The “development phase” of the project took seven years, with full operation achieved in the final five years of the 12-year PPP contract. By March 2004, the NSO database had scanned, indexed and loaded records of 73.5 million births (1945–2002), 15.1 million marriages (1945–2002), 2.3 million deaths (1996–2001), and images of vital statistics report for 1960–1998. Aside from the six Census Serbilis Centers (CSCs) in Metro Manila, the NSO rolled out 14 regional and 20 provincial branches.

Philippines' NSO Census Serbilis Centers	
Manila	6

Luzon	18
Visayas	7
Mindanao	10

**Table 2: Total Number of National Census Centers
Under the CRS PPP Project**

Civil Registry System: No. of Identity Documents Digitized	
Birth Certificates	99.8 million
Marriage Certificates	22.1 million
Death Certificates	18.4 million
Total	140.4 million

**Table 3: Philippines Civil Registry System IT PPP Results:
Quantity of Identity Documents Digitized, 2000–2012**

The project's services have helped NSO increase its revenue. It is the country's 11th largest source of public revenue – prior to the PPP, it was not even among the top 20. Customer satisfaction with the NSO CRS has gone up from 19 percent to 82 percent according to a performance evaluation survey conducted by the private partner. Technology-driven enhancements provided by the PPP have included more convenient, secure access to civil registry document services through SMS/text messaging and online services. Additionally, the civil registry services have been brought closer to the customer through the private partner's investment in a broad network of kiosks and mobile access services.

8.4 Case Example #3: Victoria, Australia Mobile Emergency Database Experience

Australia's federal and state governments have used PPPs across a number of sectors, not just in eID and ICT projects, but also in roads, water, hospitals, public buildings, and other infrastructure sectors. The Government of the State of Victoria has implemented several PPPs for the private construction and operation of mobile emergency communications systems for the State Government's police and emergency workers. This has required the private partner to provide near-instant access and authentication of data to a range of identity-related public sector databases such as those for drivers' licenses, property ownership, and criminal records.

State of Victoria's PPP Framework

The State of Victoria, with a population of 5 million, has developed one of the more effective frameworks for implementing PPP projects. In 2000, the State Government launched its comprehensive Partnerships Victoria framework to pursue PPPs. Today Partnerships Victoria has hauled over USD 5 billion new private investments across multiple sectors, among them eID, ICT, transportation, healthcare, and public facilities. The policy made clear that the goal of the PPPs is to achieve an optimal balance of risk-sharing between the public and private sectors, thereby maximizing the value that the State and its citizens receive from investments in infrastructure and public services.

To carry this out, Partnerships Victoria developed, beginning in June 2000 and ending in June 2005, a series of PPP models and guidelines for each step of the PPP project cycle. They included: (i) Partnerships Victoria Policy; (ii) Partnerships Victoria Practitioners' Guide; (iii) Risk Allocation and Contractual Issues Guide; (iv) Public Sector Comparator – Technical Note; (v) Contract Management Framework; (vi) Public Sector Comparator: Supplementary Technical Note; (vii) Use of Discount Rates; and (viii) Standard Commercial Principles.

These widely published models and guidelines have provided clear, practical procedures for public sector agencies to follow in each step of a PPP project implementation. The clear goals of the PPP framework in Australia are to keep the institutional roles and responsibilities of the public sector bodies transparent, and not to complicate the process with numerous reviews and approvals from various oversight bodies.

Mobile Emergency Data Network PPP Project

One of the first PPP projects done in all of Australia was the provision of a new mobile, electronic data network for the State of Victoria's Police and Ambulance Services⁴. The project called for the private partner to design, develop, and operate a data network that could allow police, ambulances, and other emergency response agency personnel to access publicly-available and governmental databases both inside and outside of the vehicles. They included identity-related data and services to simultaneously access police and law enforcement records, drivers' licenses, property ownership records, geographical maps, locator functions, emergency plans, and other electronic data.

PPP Project Scope and Output Service Standards

The overall scope of the project that the private partner had to deliver according to the contract were: (i) general technical services; (ii) project management; (iii) engineering design and development of the Mobile Data Network (MDN); (iv) MDN services implementation and rollout; (v) testing; (vi) documentation; (vii) training; (viii) acceptance; and (ix) operations management and logistics support.

The contract required the private partner to ensure that the new MDN was technically capable of inter-operating with ten existing and emerging radio systems in Australia, including: MPT 1327, DataTAC Public, Mobitex, CDPD, iDEN, GPRS, APCO25, TETRA, GSM, CDMA and Native IP and other mobile communications systems which have, or are reasonably expected to have, wide acceptance in Australia.

Among the specific services that the private partner had to deliver were: (i) transmission of important information about the emergency and the people involved to be sent directly to the emergency response vehicles; (ii) satellite technology to track vehicle location, allowing the closest vehicles to be sent to an emergency situation; (iii) mobile access to databases, such as vehicle registrations and drivers' licenses; (iv) electronic police report submission via computer while in the field.

The project required the operator to provide 99.9 percent guaranteed level of operational reliability throughout the term of the contract. A key goal of the overall project was to ensure high-speed messaging between police and emergency workers in the field, and the databases they needed to access.

⁴ For additional information on this PPP, including copies of the PPP contract see <http://www.partnerships.vic.gov.au/CA25708500035EB6/0/CCF275DF691DCC1CCA2570D9001672A7>

The PPP contract was awarded in 2003 to Motorola Australia Pty. Ltd. for a term of five years, with a two one-year option periods. The total cost of the project's PPP payments (on a net present value basis at the State's cost of capital of 8.65 percent) to the Government was USD 85 million. Following the Partnerships Victoria PPP models, a value-for-money analysis was done to estimate what the project could have cost if it were financed and implemented by the public sector, and it was determined that the State had saved USD 7.8 million (11 percent of the project's costs) by pursuing the PPP solution.

8.5 Lessons Learned from International Experiences

a. Have the Right Reasons for Utilizing PPPs

Governments have historically shown a practice of utilizing PPPs for three main reasons: (i) to supplement a shortage of public funds; (ii) to leverage more flexible labor laws to cut; and (iii) to avoid showing additional liabilities on the balance sheet in jurisdictions where PPPs can be treated as off-balance-sheet items.

Short-term fixes have been shown to lead to poor definition of the business case and ineffective management of PPPs. If government agencies view PPPs only as a supplemental source for augmenting their budget, they may consider other funding and procurement options which will be discussed in greater detail under "Consider Other Funding Sources". A PPP is best utilized as a vehicle for generating value for money. In all the case studies presented, understanding the current context and identifying the right reasons for PPP were instrumental to their success.

To ensure the projects for the GoV's consideration achieve the outcome of value for money, it could incorporate the following areas during the next phase of the eID program implementation:

1. Focus the business case for PPPs on the ability to improve program by leveraging the private sector partner's innovative methodology, skills, products, and management practices.
2. Before an eID PPP project can be approved, consider performing a public sector comparator analysis, or value for money analysis, to demonstrate that the deal will save cost over its total lifetime when compared to government-delivered alternatives.

3. The eID PPP project's business case could be backed up by domain or finance stakeholders/sponsors so that political uncertainty risks can be reduced and the vendor is in a better position to undertake the deal.

b. Understanding and Addressing Common PPP Challenges

It is recommended that the GoV be aware of the most common constraints or challenges to PPP projects – and these are not restricted to eIDs.

1. **Underlining Corruption.** The GoV could safeguard against corruption that may quickly disrupt the good intentions of pursuing eID PPP projects by identifying and introducing countermeasures, e.g., incentives to combat corrupt practices.
2. **Past Failures in Technology Investments Root of Mistrust.** Past public expenditures in technology have not always yielded expected results. In such cases, the public views it as a waste of money and it has become wary of supporting other major investments in ICT or eID.
3. **Perceived Misuse of Taxpayer Money.** When a private operator is introduced into a public service undertaking, there is often the risk that the population will perceive that as tax-payer money being transferred to profit-driven enterprises.
4. **Private Profits in Exchange for Service Quality.** Often the public's perception is that the only way a private operator can make a profit in PPP projects is by cutting corners in service quality. Past failures in large-scale PPP infrastructure projects cast a shadow on current PPP initiatives in other sectors.
5. **Lack of a Public Spokesperson.** PPPs do not have the "champions" that more traditional PPPs have. There is no easily identifiable stakeholder group such as utility customers, doctors, or parents of school children to work with in the early planning stages of a PPP initiative.
6. **Lack of Local Private ICT Industry.** Many emerging market countries lack private ICT industries that are sufficiently developed to partner with the government on eID PPP projects.

c. Conduct Extensive Stakeholder Consultations

It is essential for the project champion to identify and consult with all potential stakeholders, including government agencies, local authorities, end users, and commercial service providers. Conducting a series of consultations could provide critical information important to the project, e.g., likely level of demand, consumers' willingness to pay for services, the degree of interest of operators in participating in PPP projects, and the most suitable technologies and PPP models.

d. Establish the Right Relationship with PPP Partners

Designing the right business case and viewing PPP partners as strategic alliances (which is echoed consistently during the interviews with the private sector) pave the way for eID PPP success. Given the long-term nature of PPP contracts, there is need to manage partner relationships for long-term value for money and performance management.

It is not uncommon for government agencies to focus on traditional contract management centered on strict service-level agreements and penalties, and compliance-driven caps to limit the private partners' earnings. They often dwell on the payout for the life of the contract, and the length of contract such as re-contracting every so often to avoid concerns of political backlash and unfair competition, particularly against local small and mid-size businesses.

To facilitate a positive relationship with PPP partners, the GoV could consider viewing ICT firms as strategic partners, instead of in the context of a usual vendor-client relationship. An effective collaboration needs to be formed under a formal partnership framework with duration of 7–10 years, at the least. No less important are benchmarking the baseline of service performance and defining the desired outcomes for the long term, while establishing a collaborative and clear project management approach with flexible intermediate milestones and knowledge transfer. Finally, putting in place predictable exit strategies, taking into account major project milestones as well as election cycles, could be beneficial to the partnership as well.

e. Build PPP Capacity

There are internal management implications for the GoV when considering PPPs. The most important one is in terms of competencies and resources: the relevant ministry's IT departments may not have traditionally developed the roles necessary to deal with the

legal, financial, and management complexities of eID PPPs. The GoV could consider capacity building in the following ways:

- Establishing a designated eID PPP team comprising both PPP and eID domain specialists, and invest in the training of its staff.
- Hiring contractors to fill competency gaps, e.g., independent verification and validation of the public-sector comparator, a critical part of the business case.
- Combining the project's financial, fiscal, legal and vendor management competencies to analyze and manage risks and enforce contract performance.
- Reviewing lessons learned from non-IT PPPs in Vietnam to build the business case, and develop the competencies, while bearing in mind that IT initiatives have a much higher rate of obsolescence.

f. Consider Other Funding Sources

In addition to PPP as a funding source, the GoV could consider other possible approaches to realizing eID PPP projects such as the technology investment fund and the private venture capital/investment funds discussed below.

- **Technology Investment Fund for eID Projects.** Some governments have experimented with creating pools of money that can be used to finance cross-functional, government-wide initiatives that are innovative or high-risk/high-value. For instance, the Australian federal government plans to create a “reinvestment” fund of AUD 500 million over three years by pooling resources saved through the implementation of the Gershon ICT review.

To facilitate the operations of a technology investment fund, well-defined processes need to be established for fund use by and release to a specific governance authority vested in a council or committee setup. The fund can be replenished via the annual budgeting process, or through savings in agency budgets generated by projects.

The technology investment fund could be an attractive proposition if the line-agencies are not willing to take the implementation risk, but the potential for

return on innovation investment is quite high. It may also be used as an incentive for agencies or groups of government agencies to plan and deploy shared technology solutions more easily. The challenge for undertaking the technology investment fund could be in the sourcing of the initial funding infusion, in the replenishment processes and levels, and in the stewardship.

- **Private Venture Capital (VC) / Investment Funds.** Instead of using venture capital funds from government-specific or agency-specific budgets, government agencies could use venture capital financing from private financial institutions for innovative eID projects. If the ICT initiative is innovative, in demand by the constituents with reasonably high expectations for positive results, then it may attract external venture capital investors.

The GoV may want to keep in mind that investors in the public sector are usually highly conservative, often favoring low risks and certainty in outcomes; while private equities and venture capitalists prefer high-risk projects with high returns. This difference in attitude between the public and private sectors challenges the utilization of VC funds for eID projects.

g. PPP Project Monitoring

The GoV could consider implementing effective governance mechanisms to ensure that public funds are used appropriately, that decisions are promptly made, and that stakeholders conduct themselves responsively. It is also important to ensure that public funds invested in broadband projects deliver tangible benefits so that the funding continues to flow for this type of activity without interruption. Periodic monitoring may be undertaken by public organizations as regular surveillance is usually conducted by the government undertaking the project.

To assist public organizations with their monitoring duties, requirements could be spelled out in the contract with the ICT supplier possibly linking the latter's obligations to the payment schedule, e.g., roll-out milestones, "ready-for-service" dates, number of customers connected, and number of eServices implemented.

9 ASSESSMENT OF PPP OPTIONS AND THE RECOMMENDED STRUCTURE

This section considers the various PPP models and procurement arrangements for structuring the market context of the eID project and the major risk allocation mechanisms between the public sector and the private partner. It also recommends the PPP structure for achieving the envisaged goals and meeting the specific challenges of such an undertaking.

9.1 Identification and Assessment of PPP Structuring Options

The PPP structuring options cover a range from short-term service contracts, which often feature little or no upfront capital investment by the private partner, to long-term BOT and concession contracts, which have contract terms of 20 years or more. Typically, the latter requires private partners to finance tens of millions of dollars of initial capital expenditures. The chart below summarizes the key features that distinguish the major PPP structuring options.

PPP Contract Instrument	Average Contract Term	Provides the Service or the Management	Provides the Working Capital	Receives the Net Income or Covers Net Loss	Provides Long-Term Finance	Legally owns the Assets	Provides Sectoral Planning & Regulates Services
Corporatization & Private Market Finance	in perpetuity	Public	Pub./Priv.	Public	Pub./Priv.	Public	Public
Service Contract	2-3 years	Private	Public	Public	Public	Public	Public
Management Contract	2-5 years	Private	Public	Public	Public	Public	Public
Lease/Affermage	7-15 years	Private	Private	Private	Public	Public	Public
BOT	20 - 30+ years	Private	Private	Private	Private	Public	Public
BOO	20 - 30+ years	Private	Private	Private	Private	Private	Public
Concession	20 - 30+ years	Private	Private	Private	Private	Public	Public
Divestiture & Asset Sales	in perpetuity	Private	Private	Private	Private	Private	Public

For the NID Project, four different PPP structuring options were identified and assessed based on different combinations: (i) single vs. multiple qualified private providers of eID services; and (ii) single vs. multiple clients (and purchasers) of eID services. These PPP structures are:

- **Option 1. BOO:** A single private operator with a single public sector purchaser of eID services, and a guaranteed minimum level of demand/revenue by the government for the private partner.

- **Option 2. Concession:** A single private provider of eID services with multiple individual public sector purchasers of the service. The private partner could bear the risk of challenges in the volume and level of demand for eID services and could not have a minimum guaranteed level of demand or revenue.
- **Option 3. Competitive Outsourcing A:** Multiple private providers are licensed to provide eID services, and each is paid through a single common purchaser (e.g., MIC).
- **Option 4. Competitive Outsourcing B:** Multiple private providers are licensed to provide eID services, and each is paid through user fees, paid by each individual public sector customer (i.e., each line–ministry or public agency).

Matrix of Various PPP Structuring Options:

		Variable 1: Number of eID Service Providers	
		Single Private Provider	Multiple Private Providers
Variable 2: Number of Public Sector Purchasers of eID Services	Single Public Sector Purchaser of eID Services	<u>Option 1: Build-Operate-Transfer (BOO):</u> A single private operator with a single purchaser and a guaranteed minimum level of demand/revenue by government for the private partner.	<u>Option 3: Competitive Outsourcing A:</u> Multiple private providers are licensed to provide eID services to government, each is paid through a common purchaser.
	Multiple Public Sector Purchasers (i.e., individual ministries and public sector agencies)	<u>Option 2: Concession:</u> A single private provider of eID services with individual public sector purchasers. The private partner could bear the “demand risk” and not have a minimum guaranteed level of demand/revenue.	<u>Option 4: Competitive Outsourcing B:</u> Multiple private providers are licensed to provide eID services to government, each is paid by each individual public sector customer (i.e., each public agency or ASA)

The recommended PPP structure is for a single private provider, rather than multiple qualified providers. The technical and administrative challenges of ensuring interoperability among multiple private providers, as well as the risk of “fragmentation” in the sector stemming from such a complex arrangement, could be unappealing. While the GoV may eventually wish to consider options for developing a competitive market structure for specific eID services in the long run, a single private provider of eID for the initial PPP project is recommended.

A key question that the Government could like the PPP feasibility assessment to respond to concerns the minimum guaranteed level of demand that will be needed by private bidders. One of the principal PPP bid evaluation criteria that may be recommended as the basis for awarding a PPP contract in a future PPP tender is which bidder requires the lowest level of guaranteed minimum revenues from the GoV.

Another prime concern for the GoV is to have a private partner with a clear contractual and financial incentive to encourage more public sector agencies to migrate over to the use of eID services. The PPP payment formula, assessed in the business case section below, explores options for structuring clear monetary incentives into the PPP contract for the private partner to work to educate and encourage more public and private sector organizations to use the eID services.

An important dimension of aligning the incentives in a PPP contract is the possibility of revenue-sharing with the government from eID services provided to private sector firms such as banks, telecoms, etc. This could provide the GoV and the NID Project with a new source of revenue so that it is not fully dependent on disbursements from the government budget coming from the general fund.

9.2 Recommended PPP Business Model

9.2.1 Recommended eID PPP Pilot Project Structuring Option: BOO

Based on the above assessment of demand, technical context, and legal and institutional context, the recommended PPP business model structure is for a single private provider of eID services, rather than multiple qualified providers. The BOO model also appears to be the most “balanced” of all PPP structuring scenarios deliberated over, assuming some amount of risk-sharing mechanism at the level of revenue at least. Consequently, most providers are expected to require a minimum level of demand guaranteed by the GoV for any PPP structure to be deemed acceptable. One of the key bid evaluation criteria that could be the basis for awarding a PPP contract is which bidder requires the lowest level of guaranteed minimum revenue from the GoV.

9.2.2 Recommended PPP Risk-Allocation Matrix

The following matrix provides a summary description of the major risks facing the NID Project and the recommended allocation of the risks, including risk-sharing techniques.

#	Risk Name	Risk Description	Risk Allocation			Explanation
			Shared	GoV	Private	
1	Market/ Demand Level Risks	<ul style="list-style-type: none"> The actual quantity of demand from users of eID services is less than anticipated. The project's tariffs or prices are not adjusted according to tariff/payment formulae agreed upon. 	X	X		As a new service with significant uncertainty about levels of demand, this is not a risk that a private operator can control. As a BOO, with a single off-taker, rather than a concession, demand risk could be borne by the GoV.
2	Site/ Facility Location Availability and Acquisition	<ul style="list-style-type: none"> Space, such as data centers, etc., for the project's assets and equipment is not available or has not been acquired. There is uncertainty over how much it could cost to acquire needed site and the timing of its availability. 		X		To ensure both security of eID project facilities and interconnections with relevant government databases and interconnection points, the government could provide the project site.
3	Site Unsuitability	<ul style="list-style-type: none"> Unanticipated adverse site-related conditions are discovered. 		X		The GoV can manage this risk better than the private sector.
4	Environmental	<ul style="list-style-type: none"> The project causes environmental impacts on its surrounding natural resources. 	X			Environmental impacts due the location of project facilities could be borne by the GoV. Environmental impacts due to the performance of the project during its operational phase

#	Risk Name	Risk Description	Risk Allocation			Explanation
			Shared	GoV	Private	
						could be borne by private operator.
5	Workplace and Worker Health, Safety and Permits/ Licenses	<ul style="list-style-type: none"> Relevant regulations and standards on workplace health, worker safety, permits, licenses, etc., are not complied with. 			X	As a private enterprise, the private operator could earn and qualify for its own health and safety permits and licenses.
6	Currency Availability and Transferability	<ul style="list-style-type: none"> Foreign currency is not available to convert project funds from local dong to other hard currencies. Profits earned by the PPP project inside the country cannot be repatriated to its owners outside the country. 		X		As the project will likely be implemented in part by foreign investors and firms, currency availability and transferability risks could be borne by the government.
7	Operating Costs	<ul style="list-style-type: none"> The costs of operating the project are higher than they were expected to be. 			X	Traditional commercial risk better managed by the private partner.
8	Interest Rate	<ul style="list-style-type: none"> Interest rates on any loans used to finance the initial capital investments for the project increase. 			X	Traditional commercial risk better managed by the private partner.

#	Risk Name	Risk Description	Risk Allocation			Explanation
			Shared	GoV	Private	
9	Exchange Rate	<ul style="list-style-type: none"> The dong depreciates in value relative to the hard currencies in which the PPP project's loans and equity investments are denominated. 			X	As the project will likely be implemented in part by foreign investors and firms, exchange rate risks could be borne by the government.
10	Responsibility of Design	<ul style="list-style-type: none"> The design of the project and its facilities, assets, equipment, and operations is inadequate to meet the project's level of demand. 	X			As a key input to the project, design of the eID project could be borne by the private partner. During tendering, private bidders could be required to present their design for review by the government to confirm that they are "technically responsive" and able to meet the performance standards of the eID project.
11	Project Performance Specifications	<ul style="list-style-type: none"> The NID Project's performance standards and design specifications are inappropriate for the project's needs. 	X			Government could bear the risk of selecting the detailed eID performance standards as

#	Risk Name	Risk Description	Risk Allocation			Explanation
			Shared	GoV	Private	
	and Output Standards					outputs that they require the private partner to meet.
12	Design Data	<ul style="list-style-type: none"> Wrong or inaccurate data was used during the project's design and installation. 			X	Government could bear the risk of confirming the data, such as on eID demand levels and performance standards, on which the private partner prepares their design.
13	Procurement, Installation and Construction	<ul style="list-style-type: none"> Completion of the NID Project's construction/installation and commissioning was delayed. 			X	As a project input, based on the design and technology selected by the private partner, the private partner could bear this risk.
14	Construction/ Installation Costs	<ul style="list-style-type: none"> Total construction, equipment supply and installation costs were more than anticipated. 			X	As a project input, based upon the design and technology selected by the private partner, the private partner could bear this risk.
15	Program and Implementation	<ul style="list-style-type: none"> The completion of the project is delayed or there is a cost over-run due to faulty work scheduling. 			X	Traditional commercial risk.

#	Risk Name	Risk Description	Risk Allocation			Explanation
			Shared	GoV	Private	
16	Performance	<ul style="list-style-type: none"> The project is not able to function and operate as fully as planned according to its access, speed, and reliability standards. 			X	Traditional commercial risk.
	Operating Costs and Inflation	<ul style="list-style-type: none"> The cost of operating and maintaining the eID project is higher than expected. 			X	Traditional commercial risk.
17	Maintenance	<ul style="list-style-type: none"> The eID project's assets, equipment, and facilities are not properly maintained. 			X	Traditional commercial risk.
18	Ancillary Features and Interconnections	<ul style="list-style-type: none"> Ancillary infrastructure services that the NID Project needs, interconnection facilities, utilities and public services connections (electricity, etc.) are not provided and completed on time. 		X		Relevant agencies of government can best manage these risks.
19	Residual Assets and Transfer	<ul style="list-style-type: none"> The condition of the NID Project's assets at the end of the contract term is no longer in reliable condition to continue to meet project performance standards. 			X	As BOO, rather than a BOT, residual assets will remain with the private partner. In the PPP contract, government will have the option to "buy out" the private partner and its assets if it

#	Risk Name	Risk Description	Risk Allocation			Explanation
			Shared	GoV	Private	
						chooses, including prior to the expiration of the contract.
20	Regulatory	<ul style="list-style-type: none"> The terms and conditions of the PPP contract about the private operator's ability to collect revenues and to seek reasonable tariff increase in accordance with the contract's price escalation formula are not fulfilled; or new laws, regulations, or taxes are passed which increase the costs or reduce the revenue of the PPP contractor without compensation. 		X		Traditional political and regulatory risks to be borne by government. Government could agree to allow increases in PPP payments to allow private partner to recover the additional costs.
21	Political/ Sovereign	<ul style="list-style-type: none"> The government nationalizes the project. The government terminates the contract without following the PPP contract's termination procedures. 		X		Traditional political and regulatory risks to be borne by government.
22	Force Majeure	<ul style="list-style-type: none"> The project is unable to perform due to natural catastrophes (earthquakes, 	X			Private partner is temporarily excused from its performance

#	Risk Name	Risk Description	Risk Allocation			Explanation
			Shared	GoV	Private	
		flooding, etc.), acts of terrorism, riots, war, etc..				obligations during a force majeure event. Private partner could purchase insurance against these specific risks.

10 PPP BUSINESS CASE DESCRIPTION

10.1 Proposed Service Offering and Tariffs Structure

Based on the findings of this study and experiences with similar PPPs for eID-related services in other countries, it appears that the required output performance standards for Vietnam's eID PPP could be defined in terms of:

- Capacity and volume of eID service requests, queries, or transactions
- Speed of responses to eID requests
- Availability and minimum reliability standards
- Technical inter-operability with required, existing databases
- Training and awareness-building for public and private sector stakeholders on eID and verification procedures and use of the Project's services
- Other technical and project-specific performance standards

The companion technical report provides more detailed descriptions of the output services and standards that the private partner could be required to meet. Additional output standards that the private partner could need to meet include data center construction, eID resource management, disaster recovery, and "continuity of government" to ensure that the eID system will provide an environment acceptable for individual ministries and agencies.

Based on experience with other eID facilities, an eID PPP could be required to pass a Statement on Standards for Attestation Engagements No. 16 (SSAE-16) audit. This will systematically examine a list of security, facility, human resources, and operational processes which the operating organization claims, and then undergo an extensive audit to confirm compliance with those operational claims. International industry standards are available which can both be followed and used for measurement and audit. Those standards fall into the categories of facility, information security, and disaster recovery and continuity of government.

The GoV could consider having a sole implementer to establish the entire Electronic Identity Service Delivery Framework or identify suitable vendors for different services and processes suited for PPP. The high-level processes could include: Enrollment, validation, issuance, services. Enrollment could be done by private sector, but there is a strong case for keeping validation and issuance in the public sector with of course some aspects like dispatch of the ID documents being outsourced. On Services, the underlying IT infrastructure could very well be outsourced, but the oversight and management will need

to be with the public authority. Taking the later approach would require an overall program coordinating role to ensure all services and processes developed by different vendors work seamlessly as one system.

The GoV may consider charging subscription fees to private sector firms (commercial banks, mobile phone operators, airlines, hotels, etc.) that use the Project's eID services for Phase 2 of the eID PPP (i.e., national roll-out). This could provide an additional source of revenue to the GoV that could offset the total cost of the PPP payments to the private partner. This option could be considered carefully before it is applied. If private sector firms are reluctant to pay for eID services, or believe that it is expensive, they may find ways to avoid performing procedures like electronic authentication and verification on their customers, which could reduce the overall benefits of the proposed NID Project to the entire economy. It could also be noted that any fees charged to private firms for using eID services will be passed on to consumers in the form of higher prices for services such as bank account opening, mobile phone number purchase, railway ticketing, etc..

10.2 PPP Financial Model Considerations

In calculating the PPP financial model for eID, the following key considerations may be included:

- Total capital investment required by the private partner to design and install the eID system.
- Private partner possibly financing the pilot project version of the PPP through equity.
- Initial estimated availability payment the MIC could likely pay to a private partner to undertake this project.

10.3 Estimated Benefits of PPP vs. Public Sector Provision for Key Stakeholders

The proposed PPP project's objectives and planned benefits are consistent with the overall policy goals of the GoV as described in Decree 108 and Decision 71. The intended benefits of implementing eID services through a PPP structure, rather than a publicly financed and managed traditional public procurement include:

1. **Better Value for the Public's Money.** A PPP contract structure could be able to

- provide better overall quality of eID services, timeliness, and reliability for the amount of money paid for the service, compared to the level of service that the public sector itself could provide.
2. **Clear, Contracted Service Output Standards.** The PPP structure features a payment in exchange for performance contract, featuring clear minimum output levels of service that the private partner could have to meet. By transferring the risk of making sure that eID services are available and reliable to a private service provider, a PPP contract may better ensure that the project's minimum performance levels are met throughout the life the project.
 3. **Assured Capacity to Provide and Sustain eID Services.** Similar to other emerging market economies, Vietnam's public sector currently faces significant challenges to recruiting and retaining experienced IT specialists to design, manage, and operate eID services. A PPP structure provides an effective means of transferring this responsibility to a qualified private service provider.
 4. **Freeing up Limited Public Sector Capital to be Invested in other Priority Public Projects.** Requiring the private service provider to finance the initial investments required for the eID PPP offers the GoV the opportunity to use its limited public capital for other priority projects.

The key beneficiary stakeholders and their intended benefits are summarized in the table below:

Beneficiary Stakeholder Groups	Key Benefits
GoV and client line–ministries and public authorities. They include, but is not limited to, MPS, MIC, Ministry of Justice (MoJ), MoF, Ministry of Labor, Invalids and Social Affairs (MoLISA), VSS, and Vietnam Posts and Telecommunications Group (VPTG).	<ul style="list-style-type: none"> • Better value for the public's money spent on eID services, including information management and communications. • Avoid public borrowing for financing of eID infrastructure, assets and services. • Assured levels of service for eID, including access, speed, and

	<p>reliability, as required by the PPP contract.</p> <ul style="list-style-type: none"> • Assured privately provided capacity to design, manage, and sustain eID services for GoV. • Greater predictability of eID costs over the life of the project based on PPP contract's tariffs and payments schedule. • Transfer of knowledge from the private sector on the use cloud services and technologies. • Potential revenue stream for the government based on options to charge access fees to private firms using Vietnam's eID services.
--	--

<p>Private Sector Service Providers:</p> <ul style="list-style-type: none"> • Commercial banks and financial institutions, insurance companies, etc.. • Telecommunications companies, especially mobile phone operators. • Private providers of healthcare services. • Transportation companies (airlines, railways, bus operators, etc.). • Hotels, tourism operators, and other commercial services providers. 	<ul style="list-style-type: none"> • Opportunities for profitable private investments in Vietnam's eID and ICT sectors. • Opportunities to offer more ancillary, commercial, and other related electronic and ICT services in Vietnam.
<p>Vietnamese Citizens, Residents, Civil Society, and the Public.</p>	<ul style="list-style-type: none"> • Better value for the public's money spent on public sector ICT and eID management services. • Improved efficiency, access, and reliability of public services management and performance from improved ICT and eID performance.

10.4 Assessment of Potential Private Sector Partners

Based on global experience with eID projects in developed and developing economies, there is clearly proven private sector interest in pursuing PPPs in this sector. The international experience in eID PPPs shows that countries of both levels of economies have been able to attract private investor interests.

The size of the potential market for eID services in Vietnam, with a population of 62 million, is seen as a relatively attractive potential market to private investors. Engagements with leading local Internet and telecommunications service providers have indicated that there is clear interest in an eID PPP project. However, private investors will expect the GoV to assume responsibility for guaranteeing a minimum level of demand for

eID services since this is a new service without a verified record of level of demand in the country. The same private firms engaged were nearly unanimous in concluding that it could not be an attractive market for speculative private investments if it is without a clearcut minimum guaranteed level of demand from the GoV.

Private investors may also be willing to accept the market/demand risks for a larger, nationwide Phase 2 of the PPP project if the pilot phase of the PPP project is successful, and sufficient progress is made in the MPS's NID creation and the migration of more public and private sector service providers over to eID services. Private investors could also be more interested in the pilot PPP if they are allowed the opportunity to bid on the subsequent Phase 2. However, it is not recommended that the private partner selected for the pilot PPP be given preferential treatment in the selection of the winning bid for Phase 2, nor is it recommended that it be allowed to directly negotiate a contract for nationwide eID services without having to go through transparent and competitive procurement.

10.5 Recommendations

a. Consider Implementing a Pilot eID Project

The GoV may wish to consider implementing a pilot eID PPP project to demonstrate clear and visible value to the public and private sector stakeholders. The pilot implementation could leverage on the National ID program which could define the ID number format.

Given the scope of the pilot project, it is recommended that the GoV, along with the National Identity Authority of Vietnam (NIDAV), select the top five service providers from government and private sector organizations to pilot the implementation of the eID seeding service. Government departments that may be involved in the pilot are VSS and MoLISA; and from private sector, the Bank of Vietnam and VNPT.

By pursuing a PPP pilot project to begin with, the larger risks of structuring a bankable PPP for the nationwide eID may be avoided by first testing the operation on a smaller scale.

As a result of the indisputable need for eID services in Vietnam, and the challenges of accurately estimating their level of demand, the following key conclusions and recommendations may be drawn.

1. The uncertainties of the level of demand needed are far too great for a private partner to accept a PPP project, especially at this early stage of the NID Project.

2. The actual level of demand for eID services will be determined by both the rate of completion of the NID creation process and the decisions by public sector organizations to migrate over to using the eID services. The issues governing “project risks” are essentially in the hands of the GoV and the public sector decision makers to consider.
3. Potential private partners for any eID PPP contract will expect that, given the uncertainties of the quantity of demand, the GoV could assume responsibility for guaranteeing a minimum level of demand for eID services that the private partner is expected to provide for the duration of the PPP contract.
4. Once the NID Project has completed the creation of eIDs for the entire Vietnamese population of over 63 million by 2020 – and all of the public and private sector organizations have migrated over to the use of eID services – the total level of demand for eID services is expected to be quite large in terms of the total number of eIDs in the MPS database, the number of public and private services for which eIDs are required, and the frequency of requests for the various eID services such as eAuthentication, eSeeding, eKYC, ePayment, eSignature, etc.. Rather than wait several years for this process to be completed, there are important potential benefits to first providing eID services through a PPP arrangement on a smaller, more manageable pilot project basis. This structure could necessitate a smaller, minimum-guaranteed level of demand to a private partner that will provide the specific eID services of the EISDF to a specific number – e.g., five to start with – of key public sector organizations.

In addition, it is recommended that the GoV prepare specific PPP training initiatives for key stakeholders of the NID Project which will cover techniques in general, and eServices in particular. The meetings with key public sector organizations revealed that there of a low level of understanding of what a PPP is, what it requires in terms of contractual provisions and risk-sharing, and how the public sector’s interests and requirements may be assured.

Concerns expressed by stakeholders also reflect the fact that the PPP is still new concept to Vietnam and familiarity with PPP techniques in the public sector is limited. Many stakeholders expressed concerns over how to ensure that a private service provider could

keep eID data and systems secure, and that the prices charged by a private service provider are acceptable and/or affordable to public sector customers. Such issues could be effectively addressed through PPP training and capacity building which the MPI's PPP unit is currently preparing with technical assistance support from the Asian Development Bank (ADB), Department for International Development (DfID), and Agence Française de Développement (AFD).

The GoV may also wish to provide an IA for the eID PPP to attract partners. The IA could help provide assurance that implementation delays due to uncertainties about institutional roles and authorities are minimized. This is in response to concerns expressed by private investors and other sponsors of PPP projects regarding the clarity of the framework in Vietnam.

The GoV could retain experienced PPP transaction advisors to assist with initiating the eID PPP project. Private ICT service providers have also expressed concerns that the GoV has limited experience so far with preparing, reviewing, structuring, approving, and tendering PPP projects that could lead to implementation delays or unclear project structures. Transaction advisors could be able to help address these issues as their specific tasks could cover finalizing the detailed structure of the PPP, including its full technical output performance standards, risk-allocation structure, and draft PPP contract. They could also be able to support the completion of PPP tendering, procurement, contract awarding, and signing. A sample terms of reference for a transaction advisor is included in the Annex for GoV guidance in the eID PPP implementation.

The proposed pilot is not within the scope of this Technical Assistance and could be undertaken by the GoV upon deliberation on the recommendations proposed in the "Electronic Identification Technical Report" and this report.

11 ANNEX: RECOMMENDED TERMS OF REFERENCE FOR PPP TRANSACTION ADVISOR

DRAFT TERMS OF REFERENCE PPP TRANSACTION ADVISOR VIETNAM ELECTRONIC IDENTITY PPP PROJECT

Introduction

The Government of Vietnam (GoV) wishes to hire a Transaction Advisor to assist it in implementing its Public–Private Partnership (PPP) for the development and operation of an electronic Identity (eID) services project for the country’s public sector. The Transaction Advisor (TA) will be required to complete the PPP transaction in two phases:

- Phase 1: Finalize the detailed structure of the PPP, including the service output standards, tariff setting formula, and full draft PPP contract.
- Phase 2: Support the Government in managing a competitive PPP bidding process which results in a private investor taking responsibility for designing, building, operating, and maintaining the eID Project under the terms of a PPP arrangement. This will include assisting the Government with all aspects of the transaction, including preparing PPP bidding documents and evaluation criteria, and supporting the Government’s PPP Project Committee as required.

Background to the Sector and the Project

The GoV has expressed strong interest in exploring the opportunity to deploy a full-fledged eID system in Vietnam. The country is already putting in place the necessary prerequisites for its deployment, including a Public Key Infrastructure (PKI) and the compulsory issuance of national ID cards. These initiatives have been undertaken with World Bank support under the Vietnam ICT Development Project⁵. The GoV is also planning to develop the National eAuthentication Framework (NAF) that will provide the much-needed capacity for users to be able to access government services and social benefits using a single electronic identity, and through mobile phones.

⁵ The World Bank P079344 Vietnam ICT Development Project, Credit no. 4116–VN.

National electronic identity systems, often implemented as mobile identity projects, offer a wide range of important benefits to individuals, governments, and commercial businesses. Digital biometric identification technologies (collectively referred to as eID) significantly expand the scope of formal identification systems that are an essential prerequisite to further economic development. For instance, the inability of an individual to authenticate himself or herself to service providers significantly limits access to basic rights and services in the modern setting such as the ability to vote in elections; and to receive public healthcare, education benefits, and electronic payments, among others. Across the globe, governments are putting in place eID systems to accelerate the delivery of services and benefits to those who rely on them the most – the poorest citizens.

The eID services enable key economic innovations for both public organizations and private firms: they facilitate stronger electronic authentication, and enable better quality services that require a high level of security assurance to be offered. The eIDs also provide important economic benefits by reducing costs and increasing productivity in the public sector; at the same time, the application of online services is also increased. Establishing trust or assurance about identities online – or even bi-directional trust between parties transacting or communicating online – is also an important benefit to all participants. The eID systems can help reduce identity fraud and enable individuals to access key services more securely across a range of different contexts such as mobile banking and payments, and mobile applications for healthcare.

The private sector's role in deploying eID-based service delivery infrastructure is critical as it can potentially ensure the financial viability and sustainability of the project. Internationally, the role of the private sector in designing, financing, and installing eID infrastructure, as well as offering eID services like authentication and verification, has been growing. Through the PPP, several governments have launched projects for the development of eID systems. The scope of the PPP has varied from assigning the private sector responsibility for one specific eID service (e.g., manufacture and issuance of ePassports) to assigning responsibility for a range of eID services, including eAuthentication and eVerification services. Countries that have pursued PPP for the development of specific components and services of the eID systems have included the Philippines, Albania, Estonia, India, Belgium, Malaysia, Norway, and Sweden.

In 2014, the overall vision and design of Vietnam's National Identity Service Delivery Framework (NISDF) was completed as was an assessment of the feasibility of implementing part of this framework under a PPP. The study was funded by the Public–

Private Infrastructure Investment Advisory Facility (PPIAF) and was executed by a team of specialists (the Team) from the World Bank (WB) in close collaboration with the GoV. This assessment concluded that establishing an eID project for delivering specific eID services through a National eID Service Delivery Platform (NISDP) by way of a PPP structure is feasible and that it could be expected to provide greater benefits and better performance than a government-provided alternative. Key reason for this is that a PPP could provide a better quality of service – with regard to access, speed, and reliability – through the defined standards contained in a PPP contract, and that the Government currently lacks the capacity to reliably and sustainably staff and maintain this technologically intensive service delivery.

The technical rationale for the proposed eID services in Vietnam is well established owing to the efficiency and improved performance it can provide to many service providers in Vietnam's public and private sectors. It is directly supported by the GoV's ambitious National Identify (NID) Project that is currently in the process of creating over 63 million unique electronic identities for Vietnam residents by 2020. Since eID represents a new technology, it is difficult to estimate accurately the future level of demand for it within the public sector as the rate of creation of eIDs and the migration by public agencies over to its use may vary. As a result, the Government has decided to first develop a smaller-scale pilot project that will create the eIDs and provide the services to three selected districts of Hanoi, comprising an estimated population of one million and 100,000 registered mobile identities. It is expected that if this initial pilot phase of the eID PPP project is successful, it will lead to a much larger-scale PPP project and contract for providing eID services on a nationwide basis.

After comparing the costs, requirements, and potential benefits of five different options for structuring a PPP, the recommended PPP structure is for a Build-Own-Operate (BOO) model, featuring a single private partner providing eID services to a single public sector client based on an offtake agreement. The Team determined that based on the lifespan of the project's assets, a PPP contract could have a term of 3–5 years.

The PPP could be structured to meet the legal and procedural requirements of Vietnam's current PPP framework currently defined by:

- Decision No. 71/2010/QĐ-TTg of November 9, 2010, promulgating the regulation on pilot investment in the public-private partnership form (**Decision 71**); and
- Decree No. 108/2009/ND-CP of November 27, 2009, amended by Decree No.

24/2011/ND-CP of April 05, 2011, which defines PPP investments through contract structures that include Build-Operate-Transfer, Build-Transfer-Operate or Build-and-Transfer (**Decree 108**).

It could be noted that a new PPP decree is currently being drafted by the Government which, when it is finally adopted and issued, could provide new and clearer requirements for PPP preparation, approval, and implementation procedures. The PPP contract will be output-based, requiring the private partner to meet specific technical performance standards throughout the term of the contract, or risk having its payments from the Government reduced. These will include clear cut standards for how registered beneficiaries may access eID services, and how quickly such queries and eID services, messages, and confirmations may be completed; there will also be prescribed standards for overall service reliability.

The PPP Transaction Advisor will be required to finalize and then implement a PPP project structure that achieves the Government's objectives as far as possible.

Responsibilities of the PPP Transaction Advisor by Phases

The PPP Transaction Advisor's tasks will be divided into two phases:

- Phase 1: Finalization of the Detailed PPP Structure
- Phase 2: Support to PPP Transaction Implementation and Completion

The approval of the final PPP structure by the GoV and its PPP Project Committee at the end of Phase 1 will be required before the Transaction Advisor may proceed to the implementation stage (Phase 2).

Phase 1: Finalization of PPP Structure

In Phase 1, the Transaction Advisor will be required to:

- Assist the GoV in its consultations with relevant public sector stakeholder organizations in order to achieve consensus on the approach. This could include, but not be limited to, the Ministry of Public Security, Ministry of Justice, Ministry of Information and Communications, Ministry of Planning and Investment, Office of the Prime Minister, Ministry of Finance, Vietnam Social Security, Ministry of Health, and selected local commercial banks and

telecommunications companies.

- Obtain approval for the proposed PPP structure and approach prior to moving to the implementation stage.
- Organize and implement a stakeholders' workshop to explain in detail the recommended alternative.

Stakeholder Consultation and Management

The GoV wishes to include all major stakeholders in its desire to actively involve the private sector in the NID Project. At the end of Phase 1, the Transaction Advisor will conduct a workshop where the results of the analysis and its recommendations for implementation in Phase 2 will be presented. In the workshop, the TA will also submit his/her recommendations for likely PPP financing alternatives.

Detailed PPP Structure Document

At the conclusion of the review and consultation, the Transaction Advisor will prepare a detailed PPP structure document. This document could set out the recommended transaction structure in detail, including the allocation of all risks and responsibilities between the public and private sectors, the final PPP payment formula, and all of the output performance standards that the private partner will be required to meet according to the PPP contract. These are expected to include, but not be limited to:

- Capacity and volume of eID service requests, queries, or transactions
- Speed of responses to eID requests
- Availability and minimum reliability standards
- Technical inter-operability with required existing databases
- Training and awareness building for public and private sector stakeholders on eID and verification procedures and use of the project's services
- Other technical and project-specific performance standards

Approval to Proceed to PPP Implementation

The detailed concept document will be reviewed by the Government's PPP Project Committee, and the Office of the Prime Minister. Approval will be required before the Transaction Advisor may proceed to the implementation stage (Phase 2).

Phase 2: PPP Transaction Implementation

Once approval is obtained at the end of Phase 1 to proceed to Phase 2, the Transaction Advisor will support the Government in managing the implementation's tendering and procurement. This will include supporting the process of pre-qualifying potential private bidders, preparing all documents required in the procurement process, supporting the Government's PPP Project Committee in responding to questions and requests for clarification from bidders, assisting with evaluation, negotiations, closing, and the design of PPP contract management and performance monitoring arrangements. Specific tasks are expected to include:

- Designing and drafting the PPP agreement.
- Drafting the Request for Qualifications (RfQ) document (including minimum qualification requirements).
- Preparing the draft PPP Request for Proposal (RfP) document.
- Submission of all tender documents to the Government's PPP Project Committee for review and approval.
- Advising on the completion of required PPP pre-tendering preparations (acquiring needed sites and access to facilities, educating key stakeholders on eID service delivery and PPP requirements, establishing the PPP performance monitoring and contract management plan, etc.).
- Drafting and issuing a Request for Expressions of Interest (REoI) announcement of the forthcoming eID PPP project and bidding opportunity to the private sector, and evaluating the responses received.
- Drafting and issuing a PPP project Information Memorandum (InfoMemo), accurately summarizing all key data about the project's structure for interested private investors, as well as conducting PPP Investors' Conferences.
- Drafting and issuing the PPP project's Request for Qualifications (RfQ) document, receiving and assisting the Government to evaluate the responses received.
- Preparing possible project physical site inspections (i.e., bidder walkthrough) of relevant data center locations or interconnection facilities for the project, and preparing "virtual" data rooms for private bidders (i.e., data on the eID pilot project's assets, beneficiary organizations, eID database creation, etc.).
- Issuing the draft RfP and drafting responses to bidders' questions and requests for clarification (private bidders to review full draft of PPP agreement, bidding format and requirements prior to finalization of all bid documents), all the

while creating an environment where bidders can perform due diligence during their bid preparations.

- Issuing the final PPP tender documents and receipt of final technical and financial bids.
- Supporting the Government in establishing the PPP Tender Evaluation Committee.
- Supporting the Technical Evaluation Committee in evaluating PPP technical and legal proposal bids and in the announcement of results.
- Supporting the evaluation of PPP financial and cost bids and announcement of the selected PPP bidder.
- Supporting the Government in the final updating, negotiation, and signing of the PPP contract.
- Assisting in the establishment of the Government's PPP Performance Monitoring and Contract Management Unit
- Supporting the Government in monitoring the PPP project company's progress in reaching financial closure.
- Supporting the Government's PPP Performance Monitoring and Contract Management Team in supervising PPP performance during installation/construction (Government and Special Purpose Vehicle agreement on appointment of independent advisor/supervising engineer during installation/construction).

Qualifications

The PPP Transaction Advisor will be expected to demonstrate skills and experience in the following areas:

- PPP transaction implementation
- Project financial analysis
- Information and communications technology and eGovernment services
- Legal review and drafting
- PPP contract management and performance monitoring

The PPP Transaction Advisor's experience in each of these areas will be evaluated. The Transaction Advisor could have strong experience in Information and Communications Technology (ICT) and eGovernment sectors worldwide, including in

developing countries. Both the firms' bidding for the Transaction Advisor Consultancy and the individual staff members being proposed for the project could demonstrate experience in these areas.