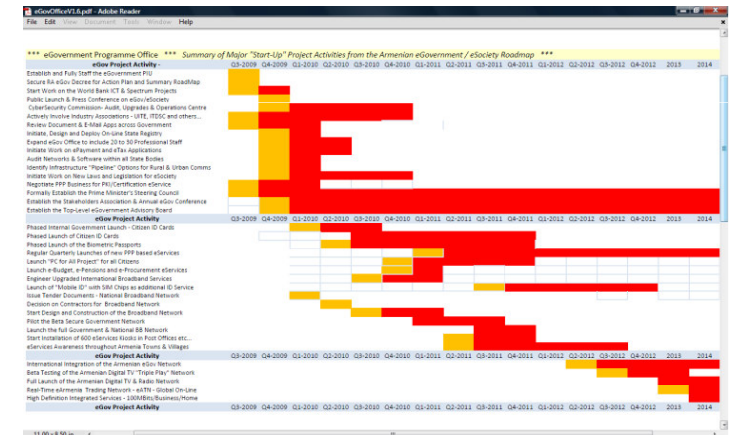


A RoadMap for “*Real-Time*” Armenia



Dr David E Probert
VAZA International

Yerevan, Armenia
26th June 2009

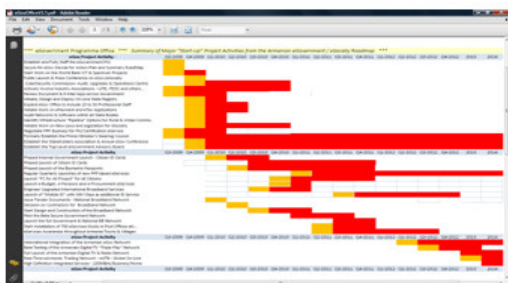


Download Presentation On-Line @ www.caps.am/Armenia-RoadMap.pdf



"Roadmap for Real-Time Armenia"

E-Government, E-Commerce and E-Security



"Increasing Business Opportunities for the Armenian ICT Cluster through the development of E-Government, E-Commerce and E-Security"

**** Report Prepared by: Dr David E Probert – VAZA International ****

Executive Summary

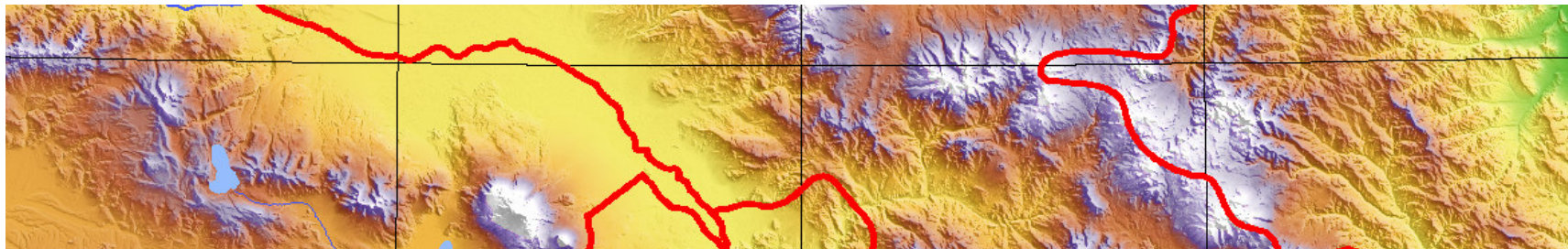
a) MISSION: This final report summarises and documents the outcomes from my 21 day Mission to Armenia. The primary tasks, funded by USAID/CAPS Armenia were to support the Ministry of Economy in the further development of the National eGovernment RoadMap, as well as providing expert advice in the area of the proposed "Triple Play" Broadband Network, Cybersecurity, eGovernance, Public-Private Partnerships (PPP), ICT Vertical Clusters and e-Gov Interoperability Standards. During the course of this work, I conducted an extensive review of all previous materials including an analysis of the experience "Best Practices" of more than 20 other countries.

b) ANALYSIS: This work was challenging since it required the practical integration and prioritization of a diverse range of both partially funded and proposed projects. A key section within the report is the overall integrated 5 year eGovernment RoadMap and supporting Project Spreadsheet. The successful implementation of such a long term multi-dimensional programme will require the establishment of an eGovernment Programme Office with a full range of business & technical skills

Download Final Report @ www.caps.am/Real-Time-Armenia.pdf



- Analysis of International “Best Practice”
- eGovernment / eSociety RoadMap
- eServices Matrix and Priorities
- CyberSecurity Programme
- Interoperability Standards and Security
- eGovernance Organisation
- Next Immediate Steps : 2009 - 2010





- ❖ Reviewed eGov in more than 20 countries including USA, UK, Germany, Estonia, Israel, Jordan, South Korea, and Singapore
- ❖ Early Adopters such as USA/UK started in 1999
- ❖ Most advanced eGov countries have central eGov Programme Office , usually reporting to Prime Minister’s Office
- ❖ eGov Office matures as CEO/CIO/CSO Organisation
- ❖ Successful countries worked to outsource Government eServices as PPP Business Ventures over multi-year cycle
- ❖ eServices should be prioritised and phased in according to their national importance & available project resources





Armenian eGovernment

.....eGovernment Projects

- E-Pensions – NASDAQ OMX
- Citizen ID Cards – CBA, Police & MinEconomy
- PKI/Certification & e-Signatures – MinEconomy PIU
- PC for ALL – EIF

.....and also Centres & Institutions

- NORQ Centre – Ministry for Labour & Social Affairs
- Mergelyan Institute - YCRDI – Various Applications



eGov Interoperability Standards

- UNDP Study (2007) surveyed 8 eGov InterOperability Standards and concluded UK/Germany were “Best”
- UK Standards following adopted International Standards including ISO/IEC, W3C, IETF, ITU, ICAO
- Suggest that Armenian technical specialists review the UK eGovernment Technical Standards (58pages), and prepare localised version during Q3/Q4 2009.
- Also consider the EU/EIF (2005) which provides European Level Interoperability Framework.



Interoperability Standards(1)

The UK eGovernment Technical Standards Catalogue V6.2 includes:

- **Interconnection & Web Services:** E-Mail Transport, e-Mail Security, DNS, FTP, Newsgroup, Real-Time Messaging Services, LAN/WAN Interworking, Encryption Algorithms, Signing, Key Transport, Hashing, Directory Services, Web Services
- **Data Integration:** Semantic Web Standards, RDF, OWL, UML, Data Transformation and Modelling, XML Signatures, Encryption, and Access Control, and XML PKI.
- **Content Management – MetaData:** Data Definition, Content Syndication, MetaData Harvesting, Distributed Searching (Z39.50), Content Sensitive Linking, Identifiers



Interoperability Standards(2)

- **E-Services Access:**
 - Computer Workstations - includes all media types : images, animation, video, vector graphics, spreadsheets, presentations, scripting.
 - Mobile Phones: WAP, GPRS, SMS, MMS
 - IP Conferencing: Assembly, Audio, Video, Data, Control and Signalling
 - VoIP: Gateway Control, Application Layer Signalling, Extended RTCP
 - Smart Cards: Extensive Standards from ISO/IEC, including ISO 14443, and including - applications, electrical, physical, communications, & security.
 - Biometrics : Biometric Data Exchange including fingerprints, facial image & iris scans, and also smart machine readable travel documents – passports
- **Vertical Applications :**
 - e-Learning, e-Health and Social Care, e-Finance, eCommerce, e-Procurement , e-Logistics , and Workflow Management .



EGOV : SECURITY STANDARDS

- ❖ Framework for comprehensive security policy from Information Security Forum : ISF
- ❖ Security Standards includes the ISO/IEC – 27000 Series – 27001 and 27002 & 2700x
- ❖ Also ITU (International Telecomms Union) has compatible X805 Security Standard
- ❖ Countries such as the USA , UK and Germany have full-time “Cybersecurity” teams
- ❖ Armenian Government requires full-time eSecurity Team to implement & monitor Policy





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Information Security Forum

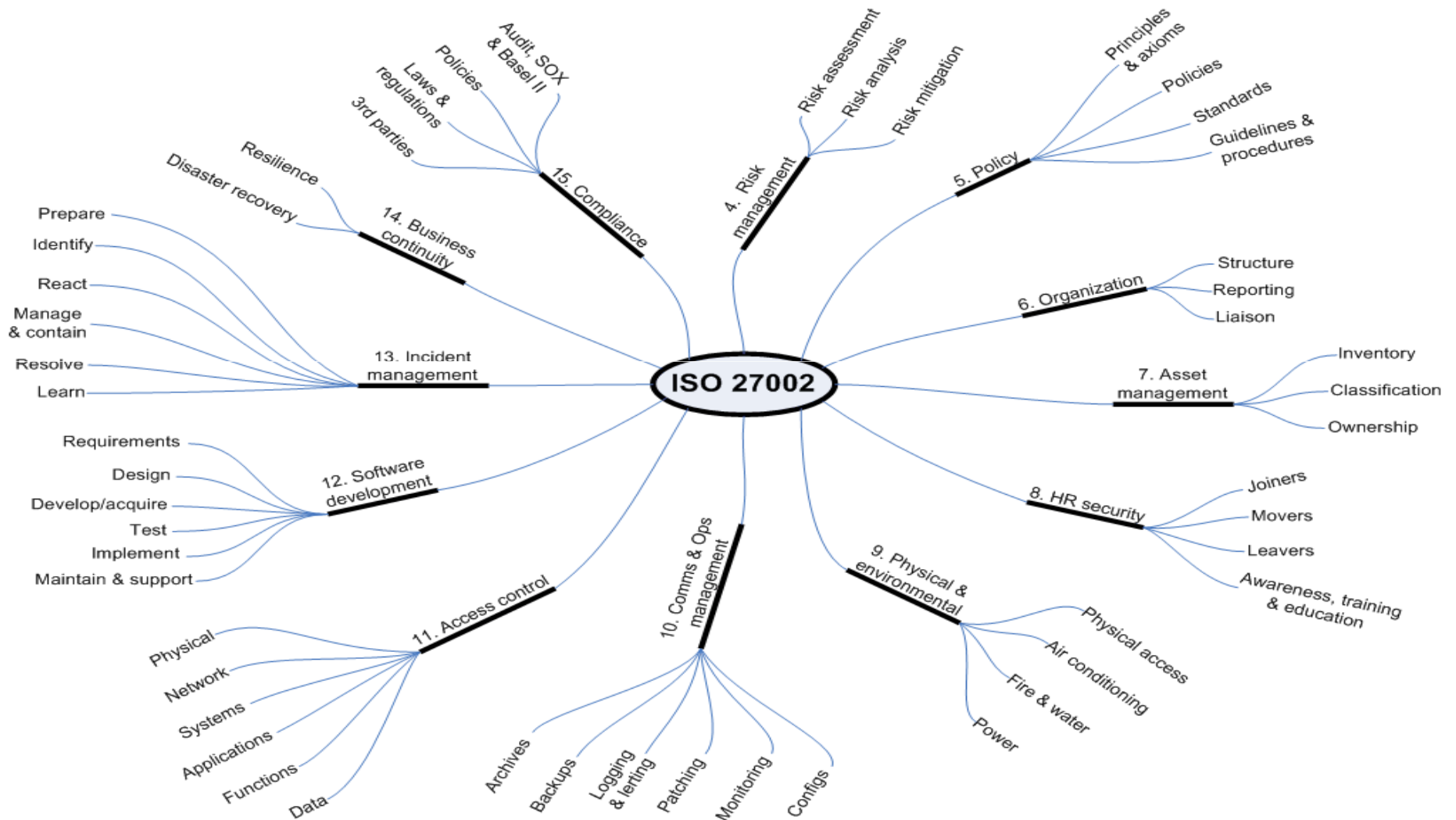
“Top ISF Security Themes”

Aspect	The Standard of Good Practice
Security Management	Keeping the business risks associated with information systems under control within an enterprise requires clear direction and commitment from the top, the allocation of adequate resources, effective arrangements for promoting good information security practice throughout the enterprise and the establishment of a secure environment.
Critical Business Applications	A critical business application requires a more stringent set of security controls than other applications. By understanding the business impact of a loss of confidentiality, integrity or availability of information, it is possible to establish the level of criticality of an application. This provides a sound basis for identifying business risks and determining the level of protection required to keep risks within acceptable limits.
Computer Installations	Computer installations typically support critical business applications and safeguarding them is, therefore, a key priority. Since the same information security principles apply to any computer installation - irrespective of where information is processed or on what scale or type of computer it takes place - a common standard of good practice for information security should be applied.
Networks	Computer networks convey information and provide a channel of access to information systems. By their nature, they are highly vulnerable to disruption and abuse. Safeguarding business communications requires robust network design, well-defined network services, and sound disciplines to be observed in running networks and managing security. These factors apply equally to local and wide area networks, and to data and voice communications.
Systems Development	Building security into systems during their development is more cost-effective and secure than grafting it on afterwards. It requires a coherent approach to systems development as a whole, and sound disciplines to be observed throughout the development cycle. Ensuring that information security is addressed at each stage of the cycle is of key importance.



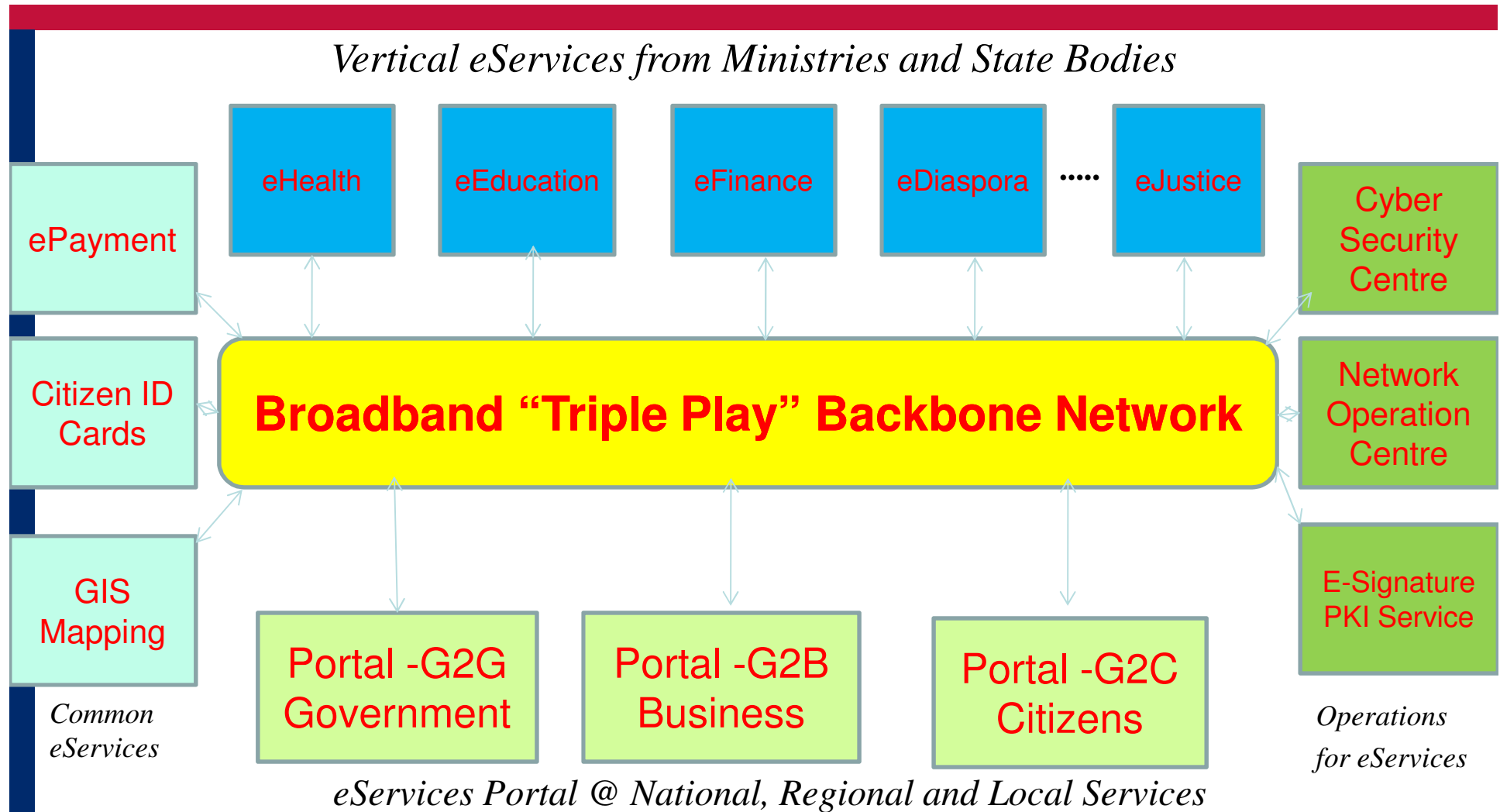


ISO27002: Security Standard - Scope





E-Government Architecture





eServices Matrix(1): PPP Model

ArmeniaFinal Report20-21.pdf - Adobe Reader

File Edit View Document Tools Window Help

*** "Proposals for e-Government, e-Commerce and e-Security Development in Armenia" ***

Table 4.1 – Summary of eService Development Opportunities for PPP Ventures

Government Organisation, Ministry and State Bodies	eService Development Opportunities - PPP	Suggested eGovernment Timescale and Priority
HealthCare	Personal Health Records, Appointments, Telemedicine	2011 – HIGH
Foreign Affairs	Visas, Passports, Embassies, Worldwide Diplomatic Service	2010 – HIGH
Economy	eGovernment Programme Unit, On-Line Economic Reports, e-Pensions, NASDAQ OMX	2010 – HIGH
Nature Protection-Environment	Nature Reserve Proposals, Hunting & Fishing Licences	2011 – LOW
Education & Science	Distance Learning, Multimedia Courses, Video Lectures	2011 – HIGH
Transport & Communications	Travel Details, Road Conditions and Closures, Communications Services & Operators	2011 – MED
Justice	On-Line Laws, e-Signatures, New Legislation for eServices	2010 – HIGH
Agriculture	Farming – Crop & Animal Prices, Weather, Planning Tools for Farmers, Resources	2012 – LOW
Finance	eBudgets, eTaxes, ePayments	2010 – HIGH
Energy & Natural Resources	Utilities, Mineral Exploration Licences, Geological Maps	2012 – LOW
Defense	CyberWarfare, CyberDefense, Integration of Physical and Virtual Defence Solutions	2010 – HIGH
Labour & Social Affairs	Welfare Payments, Social Benefits, ID Card Integration	2011 – MED

Author: Dr David E Probert : Final Report to USAID/CAPS : June 2009 : Page 20

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*** "Proposals for e-Government, e-Commerce and e-Security Development in Armenia" ***

Urban Development	Planning Applications, 3D Plans, Architecture & Town & Village Development Plan Proposals	2012 – LOW
Diaspora	DiasporaNet – Web2.0 App, and migration to eATN (Armenian Trading Network)	2010 – HIGH
Emergency Situations	On-Line Alerts, Seismic, Nuclear, Storms, Floods, Fires, Action Alerts to Staff, Rescue Service – Crisis Co-ordination	2011 – HIGH
Sport & Youth Affairs	Services, Bookings, Events	2012 – LOW
Culture	Concerts Bookings, Events	2012 – MED
National Security Service	CyberSecurity Solutions, Protection against Attacks, Information Security-eGOV	2010 – HIGH
Republic of Armenia Police	Internal Domestic Passports, ID Cards, Driving Licences, Biometric Passports, On-Line Fines, Court Judgments, Criminal Records Database	2010 – HIGH
Nuclear Safety	On-Line Sensors, Leaks, Crisis Management Centre	2012 – MED
Real Estate Cadastre	Land Cadastre On-Line	2011 – MED
State Property Mgt	Asset Management – RFID	2011 – MED
State Revenue	Budget, Treasury Management, On-Line Investments, On-Line Tax & Customs Payments	2011 – HIGH
Civil Aviation	Airport Schedules, Bookings, ICAO Standards & Regulations	2011 – LOW
Central Bank of Armenia -TBD	Support for Citizen ID Cards and Biometric Passports - TBD	2010 – HIGH

Author: Dr David E Probert : Final Report to USAID/CAPS : June 2009 : Page 21



eServices Matrix (2): PPP Model

ArmeniaFinal Report21-22.pdf - Adobe Reader

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*** "Proposals for e-Government, e-Commerce and e-Security Development in Armenia" ***

Urban Development	Planning Applications, 3D Plans, Architecture & Town & Village Development Plan Proposals	2012 – LOW
Diaspora	DiasporaNet – Web2.0 App, and migration to eATN (Armenian Trading Network)	2010 – HIGH
Emergency Situations	On-Line Alerts, Seismic, Nuclear, Storms, Floods, Fires, Action Alerts to Staff, Rescue Service – Crisis Co-ordination	2011 – HIGH
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Author: Dr David E Probert : Final Report to USAID/CAPS : June 2009 : Page 21

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*** "Proposals for e-Government, e-Commerce and e-Security Development in Armenia" ***

Territorial Administration : 11 Armenian Districts + Karabakh	Regional eServices, Hospitals, Schools, Social Welfare Portal	2011 – HIGH
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Table 4.2 Common eService Development Opportunities for PPP Ventures

Horizontal eServices	Description	Timescale and Priority
ePayments	Option for ePayment for Government Taxes and Services, with secure Banking & Credit Card Gateways	2010 – HIGH
State Registry of Citizens	Essential database for the operation of practically all eServices, especially ID Cards and Biometric Passports	2010 – HIGH
PKI Certification/Authentication and eSignatures Services	Scalable Solution Urgently required to support all transactional eServices	2010 – HIGH
GIS Land Mapping & Planning	Geographic Information Systems required for all Land Planning, Energy Utilities, Telecomms & Mobile Operators	2011 – MED
Citizen ID Cards/Passports	Top Priority in order to provide citizens with e-Identify	2010 – HIGH
Network Service Operations	Developed as an integral component of the new Secure Government & Public Broadband Networks	2010/2011 – MED
CyberSecurity Centre/CERT - includes Pan-Government Business Continuity and Disaster Recovery Plans	All eGovernment eServices & Operations require embedded security in order to be trusted for on-line transactions.	2011 – MED
Crisis Management Centre	Emergency Centre & Resources	2011 – MED
Government e-Library	Dynamic interactive search for on-line laws, decrees & guides.	2011 – MED

Author: Dr David E Probert : Final Report to USAID/CAPS : June 2009 : Page 22



Matrix.pdf - Adobe Reader

File Edit View Document Tools Window Help

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Economy	eGovernment Programme Unit, On-Line Economic Reports, e-Pensions, NASDAQ OMX	2010 – HIGH
Nature Protection-Environment	Nature Reserve Proposals, Hunting & Fishing Licences	2011 – LOW
Education & Science	Distance Learning, Multimedia Courses, Video Lectures	2011 – HIGH

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eServices Matrix (4): PPP Model

Matrix.pdf - Adobe Reader

Transport & Communications	Travel Details, Road Conditions and Closures, Communications Services & Operators	2011 – MED
Justice	On-Line Laws, e-Signatures, New Legislation for eServices	2010 – HIGH
Agriculture	Farming – Crop & Animal Prices, Weather, Planning Tools for Farmers, Resources	2012 – LOW
Finance	eBudgets, eTaxes, ePayments	2010 – HIGH
Energy & Natural Resources	Utilities, Mineral Exploration Licences, Geological Maps	2012 – LOW
Defense	CyberWarfare, CyberDefense, Integration of Physical and Virtual Defence Solutions	2010 – HIGH
Labour & Social Affairs	Welfare Payments, Social Benefits, ID Card Integration	2011 – MED

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Matrix.pdf - Adobe Reader

File Edit View Document Tools Window Help

*** "Proposals for e-Government, e-Commerce and e-Security Development in Armenia" ***

Urban Development	Planning Applications, 3D Plans, Architecture & Town & Village Development Plan Proposals	2012 – LOW
Diaspora	DiasporaNet – Web2.0 App, and migration to eATN (Armenian Trading Network)	2010 – HIGH
Emergency Situations	On-Line Alerts, Seismic, Nuclear, Storms, Floods, Fires, Action Alerts to Staff, Rescue Service – Crisis Co-ordination	2011 – HIGH
Sport & Youth Affairs	Services, Bookings, Events	2012 – LOW
Culture	Concerts Bookings, Events	2012 – MED
National Security Service	CyberSecurity Solutions, Protection against Attacks, Information Security-eGOV	2010 – HIGH

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eServices Matrix (6): PPP Model

Matrix.pdf - Adobe Reader

Republic of Armenia Police	Internal Domestic Passports, ID Cards, Driving Licences, Biometric Passports, On-Line Fines, Court Judgments, Criminal Records Database	2010 – HIGH
Nuclear Safety	On-Line Sensors, Leaks, Crisis Management Centre	2012 – MED
Real Estate Cadastre	Land Cadastre On-Line	2011 – MED
State Property Mgt	Asset Management – RFID	2011 – MED
State Revenue	Budget, Treasury Management, On-Line Investments, On-Line Tax & Customs Payments	2011 – HIGH
Civil Aviation	Airport Schedules, Bookings, ICAO Standards & Regulations	2011 – LOW
Central Bank of Armenia -TBD	Support for Citizen ID Cards and Biometric Passports - TBD	2010 – HIGH

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eServices Matrix (7): PPP Model

Matrix.pdf - Adobe Reader

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*** "Proposals for e-Government, e-Commerce and e-Security Development in Armenia" ***

Territorial Administration : 11 Armenian Districts + Karabakh	Regional eServices, Hospitals, Schools, Social Welfare Portal	2011 – HIGH
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State Registry of Citizens	Essential database for the operation of practically all eServices, especially ID Cards and Biometric Passports	2010 – HIGH
PKI Certification/Authentication and eSignatures Services	Scalable Solution Urgently required to support all transactional eServices	2010 – HIGH

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eServices Matrix (8): PPP Model

Matrix.pdf - Adobe Reader

GIS Land Mapping & Planning	Geographic Information Systems required for all Land Planning, Energy Utilities, Telecomms & Mobile Operators	2011 – MED
Citizen ID Cards/Passports	Top Priority in order to provide citizens with e-Identify	2010 – HIGH
Network Service Operations	Developed as an integral component of the new Secure Government & Public Broadband Networks	2010/2011 – MED
CyberSecurity Centre/CERT - includes Pan-Government Business Continuity and Disaster Recovery Plans	All eGovernment eServices & Operations require embedded security in order to be trusted for on-line transactions.	2011 – MED
Crisis Management Centre	Emergency Centre & Resources	2011 – MED
Government e-Library	Dynamic interactive search for on-line laws, decrees & guides.	2011 – MED

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EGOV ROADMAP: 2009 - 2014

- ❖ Phase Zero – Q3 - 2009 – RA Government Decree
- ❖ Phase One – Q4 – 2009 - Public Announcement & Launch
- ❖ Phase Two – Q3 – 2010 - Design & Engineer eServices & Net
- ❖ Phase Three – Q1 – 2012 - Intl eGov Extensions + DigitalTV



“Security”

-

Dual Summits of Mt Ararat

-

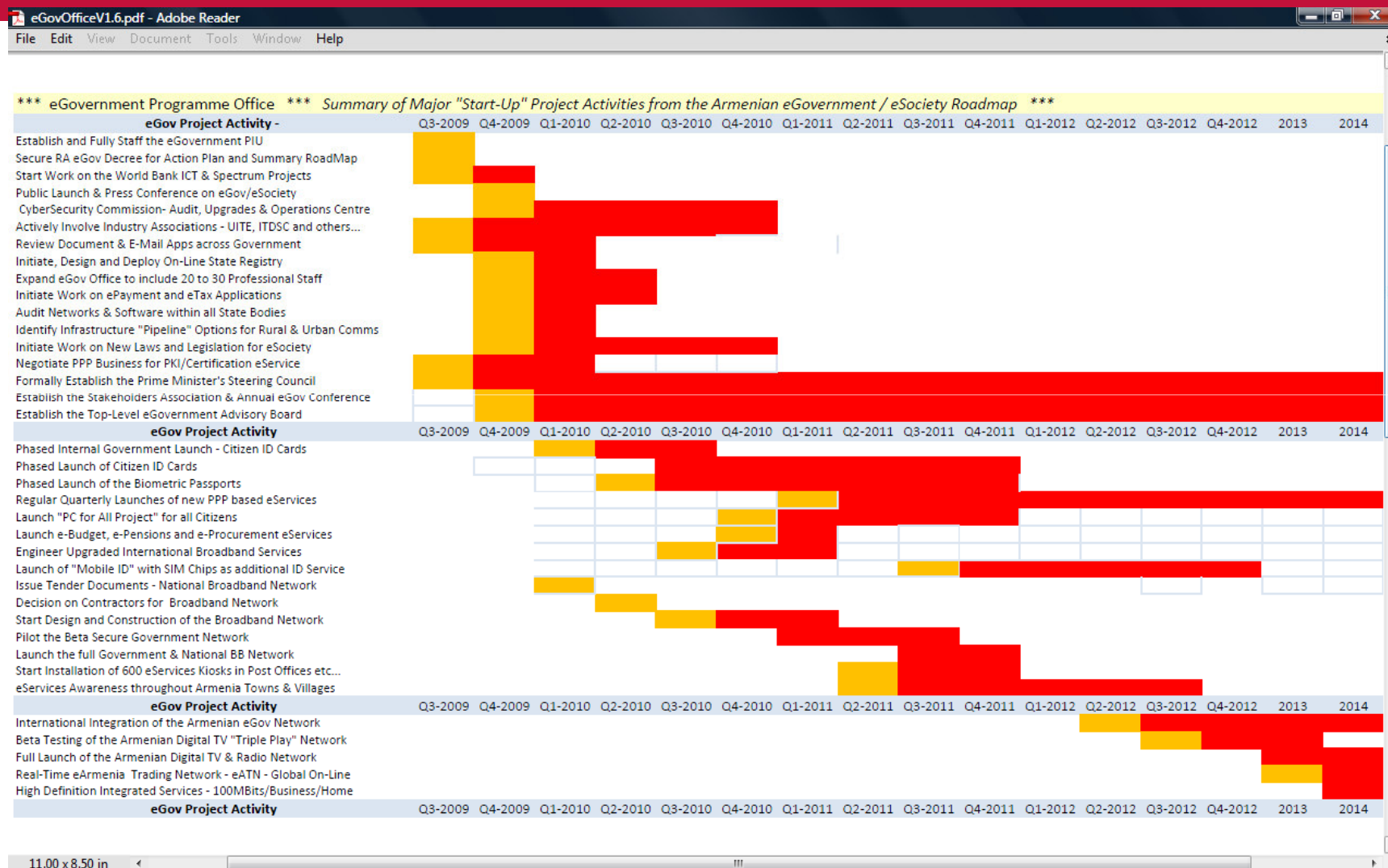
“Growth”



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eGov RoadMap-1: 2009 - 2014





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eGov RoadMap-2: 2009 - 2014

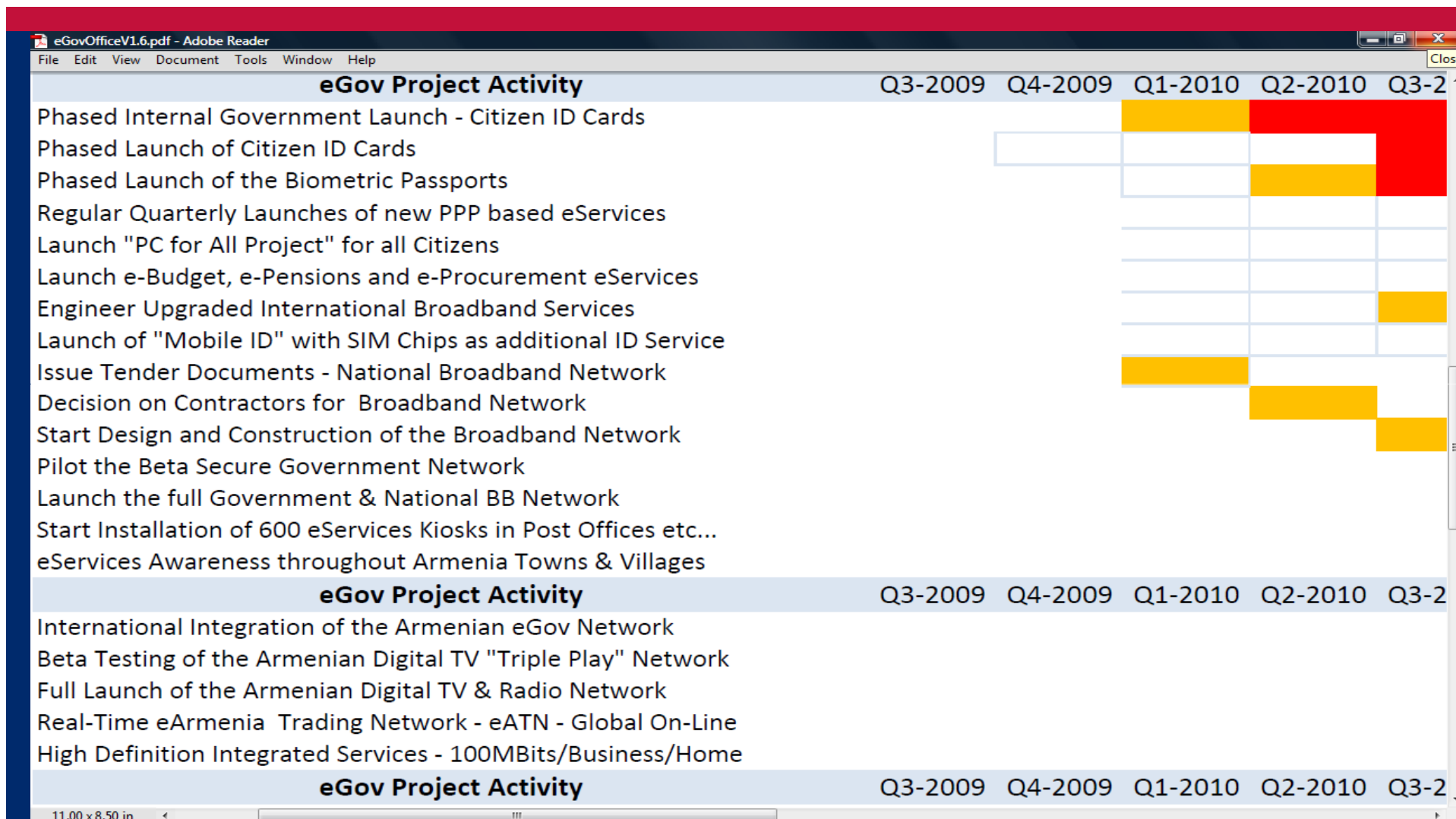
*** eGovernment Programme Office *** Summary of Major "Start-Up" Project Activities				
eGov Project Activity -	Q3-2009	Q4-2009	Q1-2010	Q2-2010
Establish and Fully Staff the eGovernment PIU	Yellow			
Secure RA eGov Decree for Action Plan and Summary RoadMap	Yellow	Red		
Start Work on the World Bank ICT & Spectrum Projects	Yellow	Yellow		
Public Launch & Press Conference on eGov/eSociety		Yellow	Red	Red
CyberSecurity Commission- Audit, Upgrades & Operations Centre		Yellow	Red	Red
Actively Involve Industry Associations - UITE, ITDSC and others...	Yellow	Red	Red	Red
Review Document & E-Mail Apps across Government	Yellow	Red	Red	Red
Initiate, Design and Deploy On-Line State Registry		Yellow	Red	Red
Expand eGov Office to include 20 to 30 Professional Staff		Yellow	Red	Red
Initiate Work on ePayment and eTax Applications		Yellow	Red	Red
Audit Networks & Software within all State Bodies		Yellow	Red	Red
Identify Infrastructure "Pipeline" Options for Rural & Urban Comms		Yellow	Red	Red
Initiate Work on New Laws and Legislation for eSociety		Yellow	Red	Red
Negotiate PPP Business for PKI/Certification eService	Yellow	Red	Red	Red
Formally Establish the Prime Minister's Steering Council	Yellow	Red	Red	Red
Establish the Stakeholders Association & Annual eGov Conference		Yellow	Red	Red
Establish the Top-Level eGovernment Advisory Board		Yellow	Red	Red



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eGov RoadMap-3: 2009 - 2014





- eGovernance Council: Chaired by the Prime Minister
- eGovernment Programme Office: Supervised by the Minister of Economy, with Management Responsibility
- Non-Exec Advisory Board: Prominent Business Professionals serving as Advisors to the Council
- Stakeholder Group: Invited Businesses, Institutions and Industry Associations & Councils such as UITE & ITDSC



eGovernment Programme Office

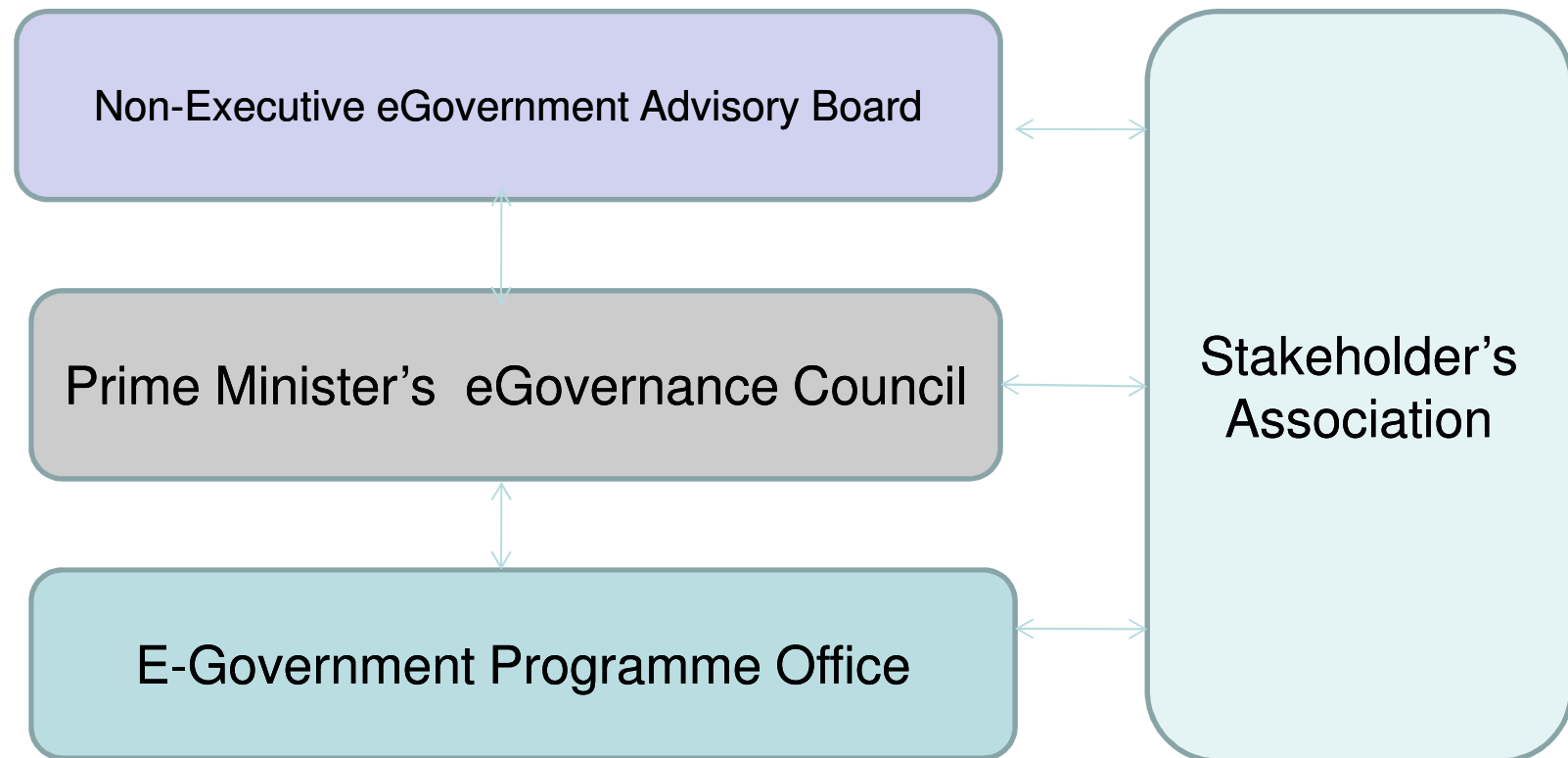
- Business Incubation and Management of new Government eServices
- Management of PPP Tender Documents, Review and Decisions,
- Working with EIF, in the provision of specialised incubationsupport
- Liaison with Ministries and other State Bodies regarding eServices.
- On Going Policy Development for the Armenian eSociety Programme
- On-Going Public Relations regarding PPP Tenders & eService Launches
- Establishing and communicating eGovernment Standards & Interoperability
- Primary responsibility for the establishment and operation of the Government PKI Certification and eSignature Generic Applications.
- Cross-Government Liaison with Ministry of Justice, National Assembly and others regarding new Legislation for eCommerce & Cyberspace.
- Management Support & Guidance with regards to the creation and launch of the public Government Web Portals for Citizens, and Business
- Primary co-ordination of eGovernment and eServices Awareness and Training Programmes with other Ministries, State Bodies and Regional Institutions.



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eGovernance Organisation





eGovernment Office – Staff Skills

- Project Managers – eServices
- PPP Tender & Bid Management
- Standards, Architecture & Compliance
- Cyber Security Technical Specialist
- Legal Support – PPP Contracts
- Financial Support – Investment & Audit
- Public Relations – Citizens & Business

.....20 to 30 Staff with \$3m to \$5m budget – 2009 to 2012 years



ICT Cluster Opportunities (1)

- PPP Ventures for Generic Government Services :
 - PKI/Certification/e-Signatures
 - E-Payments / e-Banking
 - Web Portal Services
 - GIS Land Mapping & Planning
 - Citizen ID Cards and Biometric Passports
 - Network Service Operations
 - Real-Time CyberSecurity as well as BCP/DR
 - National & Last-Mile Broadband Infrastructure
 - On-Line Crisis & Emergency Management Centre



ICT Cluster Opportunities (2)

- Possible PPP Ventures for Vertical Applications:
 - eHealthCare: Personal Health Records, On-Line Appointments, Telemedicine, On-Line Pharmacies
 - eEducation & Sciences: Distance Learning, MultiMedia Training Courses, Streamed Video Lectures
 - Real Estate Cadastre: On-Line Planning integrated with National GIS/Cadastre System for Development
 - Diaspora Services: DiasporaNet – Web2.0 applications migrating to eATN – Armenian Trading Network.
 - Regional Administration: Portal for regional hospitals, schools, planning applications, social welfare.



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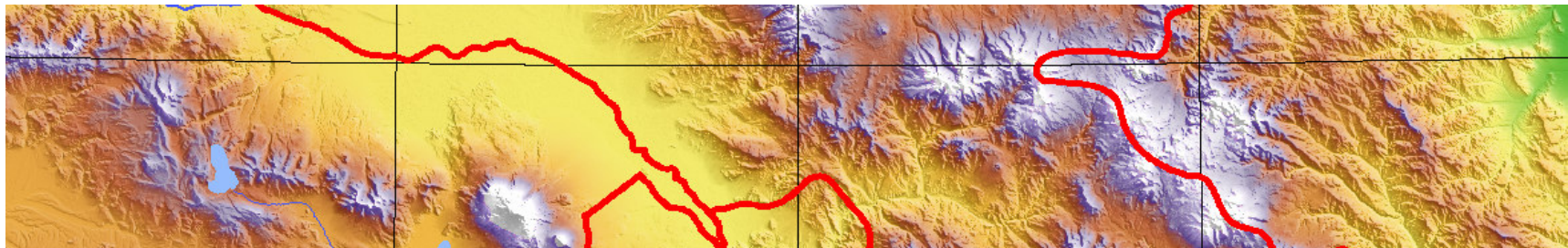
10 Principles of Armenian eGov

- Open Peer to Peer Network
- Shared Risk and Shared Reward
- Outsource eServices as PPP Ventures
- Embedded Security Everywhere
- Awareness, Education and Training
- One Team – One Standard
- Focused on Citizens & Business
- Real-Time Project Management
- Compelling On-Line Content
- Always implement “Best Practice”



Next Practical Steps: 2009 - 2010

- **Q3 2009 – July/August/September** - *ORGANISE e-GOVERNANCE*
- **Q4 2009 – Oct/Nov/December** - *LAUNCH AWARENESS & PROJECTS*
- **Q1 2010 – Jan/Feb/March** - *PPP BUSINESS VENTURES*
- **Q2 2010 – April/May/June** - *BUILD eSERVICES & eNETWORKS*





Q3 2009 : *ORGANISE e-GOVERNANCE*

- Secure Government Decree supporting the Roadmap and eGovernance Organisation
- Establish the eGovernance Organisation at each level as recommended in final report
- Review and refine the PPP eServices Matrix including more precise service details
- Start work on the World Bank ICT & Spectrum Allocation Programmes
- Review eMail and eDocument Applications (Mulberry, Norq etc) across Government
- Consider PKI/Certification as a possible PPP Security Venture
- Actively work with ITDSC and UITE with regards to ICT Business Cluster Participation
- Business & Project Plan Review of Citizen ID Card & Biometric Passport Programmes
- Establish the GEDA – Gyumri Enterprise Development Association - for TechnoPark
- Initiate Training & Certification for Project Management, eSecurity, and eStandards



Q4 2009 : *LAUNCH AWARENESS & PROJECTS*

- Public Launch, Press Conference for “Real-Time” Armenia Programme
- Recruit Professional Staff for the eGovernment Programme Office
- Commence “Hand-on” Government Computer, Software & Security Audit
- Initiate, Design and Deploy the On-Line State Citizen/Business Registry
- Negotiate and Secure International Loans & Investment for PPP Ventures
- Promote eGov participation from all Government Ministries and State Bodies
- Start to work with Ministries to further define early eService candidates
- Negotiate PPP Venture for PKI/Certification, as well as eHealth & eEducation
- Establish the StakeHolders Association and Annual eGovernment Conference
- Initiate work on new Legislation for eBusiness, eFraud, & Identify Theft.



Q1 2010 : *PPP BUSINESS VENTURES*

- Launch of the Citizen ID Cards to Government Staff as Beta-Trial
- Start work on the eTax, ePayment and eBudget Programmes
- Set up eGov Cybersecurity commission to review and upgrade eSecurity
- Develop and Issue the Tender Documents for Secure Government Intranet
- Launch the NASDAQ-OMX Pilot e-Pensions Beta-Service to Pension Brokers
- Identify Rural and Urban Infrastructure (pipelines) for fibre cables
- Continue to define and short-list new eServices for PPP Ventures
- Review plans for “Triple Play” Broadband Net– Digital TV, VoIP, & Internet
- Actively promote eGov/eSoc Programme to overseas investors & enterprises
- Work with ICT Cluster to create PPP Venture for Web Services & Portal



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Q2 2010 : *BUILD eSERVICES & eNETWORKS*

- Decisions on Contractors/Partners for the Secure Government Intranet
- Agree eService Projects with all “high-priority” Ministry & State Applications
- eGovernment Programme Office is now fully professionally staffed (20 to 30)
- Quarterly Meetings of the Prime Minister’s eGovernment Steering Council
- Consider Armenian Government eGov “RoadShow” to attract investors
- Agree the new Legislation for eBusiness, eFraud, ID Theft and On-Line Crime.
- Launch the Biometric Passports through Beta-Trial to Government Staff
- Full launch of the PKI/Certification and e-Signature/e-Payment Services
- Review options with partners to expand International Broadband Connectivity
- Quarterly Meeting of Govt/ICT Cluster via UITE, ITDSC & Stakeholder Group



Next Practical Steps: Major Project Dimensions

- eSociety & eGovernment Awareness & Education
- eCommerce: Launch PPP Ventures for ICT Cluster
- eSecurity: Boost levels of national cybersecurity
- eNetworks: Design & Engineer Broadband Backbone
- Professional Skills: Identify, train, certify and deploy project, technical & business management for the eGovernment Programme Office & eServices



Risks of Failure for Armenia...

Armenia is currently in 103th Place in UN eGov League (2008).....

.....Failure to move forward with an eGov RoadMap would mean:

- ❖ Increased Regional & International Business & Political Isolation
- ❖ Reduced Future Competitiveness of the Armenian ICT Cluster
- ❖ No improvements in Armenian Government efficiency & productivity
- ❖ Poor access levels to broadband services for citizens & businesses
- ❖ Increase in the “digital divide” between the information rich & poor

.....After 10 years - now is the time to stop talking & analysis and to start designing, building and engineering the eGov & eSociety for Armenia!



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COMPETITIVE ARMENIAN PRIVATE SECTOR

Positive Outcomes for Armenia...

- ❖ Improved Economic Growth – GDP – particularly in ICT Business Cluster.
- ❖ Reduced Government Budget through the PPP outsourcing of eServices.
- ❖ Improved Lifestyles, including Healthcare, Education & Social Welfare.
- ❖ “Real-Time” Armenia as a growing international Business Hub for eCommerce.



“Secure Services”

“Economic GDP Growth”



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- A RoadMap for - *“Real-Time”* Armenia

...Thank-You!...

Computer Integrated Telephony (CIT) – Established and led British Telecom's £25M EIGER Project during the mid-1980s' to integrate computers with telephone switches (PABX's). This resulted in the successful development and launch of CIT software applications for telesales & telemarketing operations in a worldwide marketplace.

Blueprint for Business Communities – Visionary Programme for Digital Equipment Corporation during late-1980's that included the creation of the "knowledge lens" and "community networks". The Blueprint provided the strategic framework for Digital's Value-Added Networks Business that secured significant contracts for enterprise networks.

European Internet Business Group (EIBG) – Established and led Digital Equipment Corporation's European Internet Group for 5 years, from 1994 to 1999. Projects included support for the national Internet infrastructure for countries across EMEA as well as major enterprise, government & educational Intranet deployments. Dr David Probert was a sponsoring member of the European Board for Academic & Research Networking (EARN/TERENA) for 7 years (1991 → 1998)

Supersonic Car (ThrustSSC) – Worked with Richard Noble OBE, and the Mach One Club to set up and manage the 1st Multi-Media and e-Commerce Web-Site for the World's 1st Supersonic Car – ThrustSSC – for the World Speed Record.

Secure Wireless Networking – Business Director & VP for Madge Networks to establish a portfolio of innovative fully secure wireless Wi-Fi IEEE802.11 networking products with technology partners from both UK and Taiwan.

Networked Enterprise Security - Appointed as the New Products Director (CTO) to the Management Team of the Blick Group plc with overall responsibility for 55 professional engineers & a diverse portfolio of hi-tech security products.

Republic of Georgia – Senior Security Adviser – Appointed by the European Union to investigate and then to make recommendations on *all* aspects of IT security, physical security and BCP/DR relating to the Georgian Parliament.

Dr David E. Probert is a Fellow of the Royal Statistical Society. He has a 1st Class Honours Degree in Mathematics (Bristol University) & PhD from Cambridge University in Self-Organising Systems (Evolution of Stochastic Automata) , and his full professional biography is featured in the Marquis International Directory of Who's Who in the World – 2007 / 2009 Editions.