**PEMPAL Treasury Community of Practice Workshop**

# Thematic Group on Use of IT in Treasury Operations

## Tbilisi, Georgia

On October 5-7, 2015, PEMPAL Treasury Community of Practice (TCOP)[1] held a meeting of the thematic group on Use of Information Technologies in Treasury Operations in Tbilisi, Georgia. The workshop was organized as part of the TCOP action plan implementation and was aimed at exchanging experiences regarding issues with FMIS implementation in TCOP member countries. The topic is of particular relevance for PEMPAL member countries as many have been either transitioning from a traditional manual processing environment to implementing automated financial management information systems or upgrading existing systems to better use modern technology. The event also served as the forum for updating the ICT Working Group activity plan for the ensuing year. The meeting was attended by 53 specialists representing 10 countries (Albania, Azerbaijan, Belarus, Georgia, Kazakhstan, Moldova, Montenegro, Russian Federation, Tajikistan, and Turkey). The workshop was largely facilitated by the Leadership Group of TCOP, particularly Nino Tchelishvili – Deputy Head of the State Treasury of Georgia, with support from World Bank experts.[2] Logistical support was provided by the PEMPAL Secretariat based at the World Bank Office in Moscow.

**Mr. Nodar Khaduri**, Minister of Finance of Georgia formally opened the workshop. In welcoming participants, he emphasized that as Minister he was very proud of the quality and professionalism of the ICT support provided to the MoF by the Finance Analytical Service (FAS). **Mr. Lasha Khutsishvili,** Deputy Minister responsible for ICT, joined the Minister in welcoming PEMPAL participants, and stated that in his view the FAS was a leader in providing ICT services in Georgia and represented a useful service delivery model for other countries to consider. **Mr. Vugar Abdullayev,** Chair of the PEMPAL Treasury Community of Practice, noted that this was the third event hosted by Georgia for the TCOP, and thanked the Minister for their ongoing contribution and for his personal commitment. He noted that the Minister

[1] The Public Expenditure Management Peer-Assisted Learning network (PEMPAL) is aimed at improvement of efficiency, effectiveness and transparency of public expenditures in the countries of Central and Eastern Europe and Central Asia. The program supports activities aimed at uniting practicing specialists in the field of public finance in communities of practice for the purpose of peer learning by means of benchmarking performance results for conducting reforms in the area of public finance. For additional information about PEMPAL, please visit: www.pempal.com.

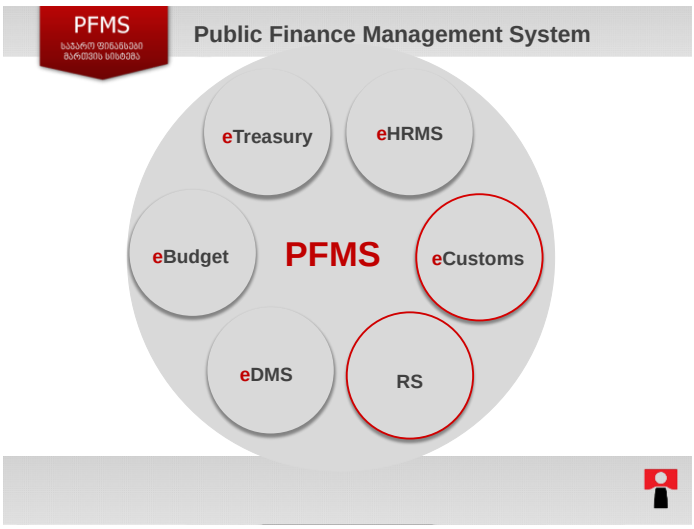
[2] Elena Nikulina, Cem Dener, Ion Chicu and Mark Silins

had also opened a TCOP plenary meeting in 2014 by indicating how important PEMPAL was for knowledge sharing to his country. **Ms. Elena Nikulina**, PEMPAL Team Leader, World Bank, also thanked Georgia for its ongoing support, not just to TCOP, but to PEMPAL in general. Prior to this event Georgia had already been the leading country in hosting events. Elena also indicated that it was appropriate that this specific event be held in Georgia, a country that had made significant progress in modernizing its PFM systems, largely driven through its ICT reform agenda.

The thematic program commenced with presentations by the host country primarily delivered by specialists from the FAS, which is a separate legal entity in Georgia established to provide ICT services to the Ministry of Finance (MoF). While FAS was primarily established to support the development of the government's public financial management information system requirements, it has also developed a human resource management system and provides cloud based data management services for a range of government organizations.

**Mr. Giorgi Kurtanidze,** Head of FAS, delivered the first presentation for the workshop providing an overview of the Public Finance Management System (PFMS) which currently supports central government, 76 self governing units and two autonomous republics. The system (see Slide below) comprises six sub-systems, spanning budget preparation and execution, debt management, revenue management and human resource management.

01_FAS_2015_PFMS_Overview_Ku




The software has been purpose built for Georgia by FAS. Georgia had initially decided to acquire and customize an off-the-shelf software (COTS solution), however, as their understanding of the challenges and costs involved grew, they eventually decided to build rather than buy. FAS believes this has proven to be the best option for Georgia, as it has created a more flexible and responsive development environment for the Georgian context. One challenge early on for Georgia was a lack of understanding regarding functional requirements of the future information system. If a COTS solution had been acquired at that point, this would have most probably involved extensive customization, at a high cost. Daily transactions are now approaching 10 million, including 1.2 million accounting entries. Future plans include: further integration with the State Procurement System and the new Single Tax Code; expanding coverage to include 400 autonomous legal entities and 3000 schools; and expansion of Balance Sheet reporting capacity in support of accrual accounting including non-financial assets and inventory.

**Mr. Dimitri Rakviashvilli**, Head of the Software Development Department, FAS, delivered the next presentation on the PFMS System Architecture. He indicated that overall PFMS has a distributed architecture design. Each core system while integrated and dependent on other systems, are also able to operate independently for periods of time for specific business processes. The six core sub-systems also interface with a range of

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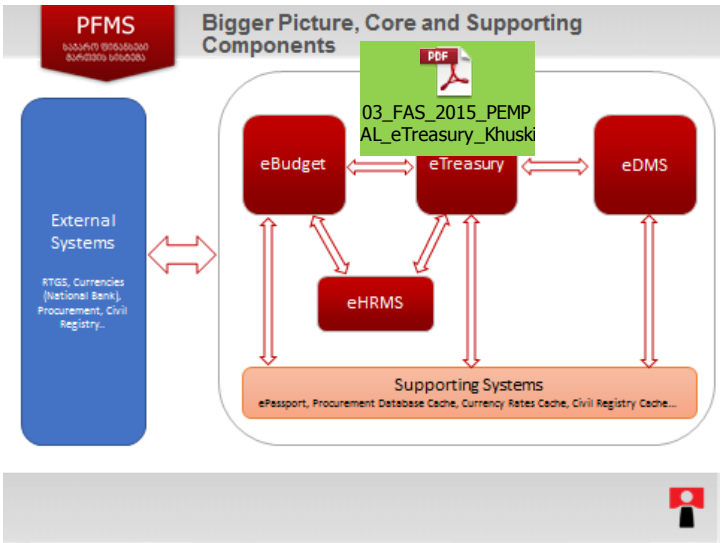
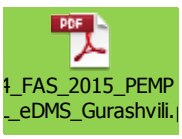
external systems such as Procurement and the bank settlement systems such as RTGS. The PFMS also accesses a range of support systems to ensure data integrity. (see slide below). Dimitri indicated that a multitude of benefits are realized from the distributed architecture design, including increased scalability and stability, lower prospect of "Single Points of Failure"[3], mitigation of the likelihood of interruptions to business continuity, more flexibility for further system development, and simplified project management. The PFMS is also designed in accordance with service oriented architecture principles (SOAP), ensuring that the systems are "client" oriented in design.

The next series of presentations focused on specific sub-systems with PFMS and included live demonstrations of these systems.

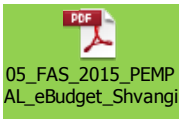



**Mr. Alexsandre Khuskivadze**, Head of the Research and Systems Analysis Department, FAS, delivered a presentation on the State Treasury Electronic Service System, ***eTreasury***. The system was first established in 2010 and is a work in progress. eTreasury is currently primarily an automated payments system which interfaces with Procurement and Payroll to generate payment transactions which are passed electronically to the bank settlement system via the National Bank. Accounting and the related general ledger function is currently developed just for the payroll component of eTreasury. The new single tax code will also see revenues added to the general ledger in the near future with plans to expand to a full general ledger and accrual accounting by 2020.

**Mr. Giorgi Gurashvili**, Senior Analyst of the Research and Systems' Analysis Department, delivered the next presentation on the Electronic Debt Management System, ***eDMS.*** Development of the system commenced in 2011 with an initial version launched in 2012, which was updated in 2015. A further version is planned for release in 2016. The system provides a single tool for collating all debt (internal and external) and grant information. It generates payment transactions, allows planning including for the budget, and includes historical data back to 1997 for analytical purposes. It also includes capabilities to notify stakeholders regarding upcoming debt servicing obligations.




**Mr. Guram Shvangiradze,** Senior Analyst of the Research and Systems' Analysis Department, delivered the fifth presentation of the day on the Budget Management Electronic System, ***eBudget***. Development of ***eBudget*** commenced in 2010. The system supports budget preparation, analysis and reporting and includes standard reports and user defined reporting tools. It also supports budget development for specific projects and can import reports from other PFMS systems as required by the user.




[3] A single point of failure (SPOF) is a part of a system that, if it fails, will stop the entire system from working, www.wikipedia.com

A further four presentations were delivered by FAS in the afternoon of day one including:

- Systems Integration;

06_FAS_2015_PEMP AL_PFMS_System Int

- Project Management Methodology;

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- Tools and Technology usage in PFMS application lifecycle management process;

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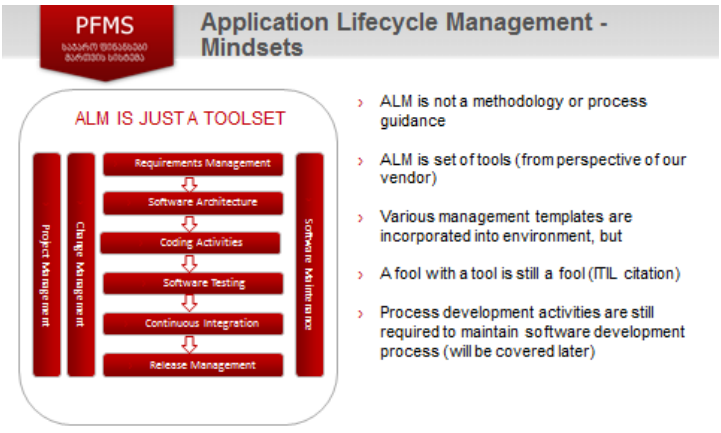
- TFS Iteration Time Tracking and Reporting

09_FAS_2015_PEMP AL_TFS_Time Manage

**Some of the key messages from the presentations included:**

- The integration of sub-systems is achieved through the establishment of standard protocols for including the application programming interface (API) of the core system;
- SOAP[4] is also used for defining data structures and relationships;
- Web Service Description Language (WSDL) is also used to build the security around the proxy library;
- Application Lifecycle management (ALM) is a toolset used by FAS to manage the development and maintenance of the application software (see slide below);
- FAS uses a team Foundation Source Control System to ensure it can manage the huge range of source code (software programming) in a structured way. This ensures control over versions of the software and also reduces the likelihood of errors in deleting code;
- It is also possible to have two version of the same source (software) code operating in parallel at one time;
- FAS has a number of core elements for project managing its ALM and developing software: Microsoft Solution Framework (MSF) for Agile, where fast and responsive software development is required using minimal resources; IBM's Rational Unified Process (RUP), and ITIL [5] and




[5] **ITIL**, formerly an acronym for **Information Technology Infrastructure Library**, is a set of practices for IT Service Management (ITSM) that focuses on aligning IT services with the needs of business. In its current form (known as ITIL 2011 edition), ITIL is published as a series of five core volumes, each of which covers a different ITSM lifecycle stage, www.wikipedia.org

Prince2[6] as its core infrastructure and process management framework. FAS has developed its own customized manual for utilizing these tools; and

- FAS uses Team Foundation Server (Microsoft) to manage its project teams for application development. This means it can monitor resources used and report on progress.

Day one concluded with round table discussions of participants joined by the hosts.

**Box One -Key Observations at end of Day one on the Georgian ICT model and Systems**

- The workshop was impressed with the results being achieved by FAS and Georgia and therefore felt their application development methodology was appropriate;
- ITIL was the preferred infrastructure and process management framework of the workshop participants;
- FAS has managed to ensure a strong connection between ICT development and the business users, which was a significant challenge for most countries;
- The FAS approach to develop customized solutions improved the likelihood that all of the business requirements were included in the applications being developed;
- The Agile approach presented some risks which may not sit well with a more conservative management approach in some countries;
- While FAS development of its employees was admirable, it also increased the prospect that staff with these advanced skills will be lost to better paying employers;
- Accounting and the General Ledger must be the core of any FMIS. FAS did not focus on this much during day one.

Day two commenced with a recap of day one by Elena Nikulina and Mark Silins who congratulated FAS for the comprehensive set of presentations which was demonstrated by the questions during the day, along with the discussions during the small group work at the end of the day.

**The key messages gleaned from day one were:**

- FAS has a clear overall integrated strategic direction - it understands Georgia's overall system requirements. At the same time it has taken a modular/project approach to systems development that allows each module to be operated independently but at the same time as part of a complete integrated system. Together all of the modules create a comprehensive framework - this reduces transactions costs and duplication of functions and processes;
- Georgia continues to develop its systems organically and incrementally, based on its priorities and in accordance with its domestic requirements while still largely reflecting international good practice and requirements – this reflects its use of the Agile development framework;
- Georgia will have an integrated approach across the general government sector e.g. central, subnational government and even non-commercial entities of general government, when it expands to cover 7000 further users in the next three years. – this will be extremely helpful when Georgia moves to consolidated reporting. In many countries, particularly larger economies, it has been challenging if not impossible to develop a single software solution across such a broad client base. Sometimes this is due to unique requirements, sometimes it is more politically driven;

[6]PRojects IN Controlled Environments, version 2 is a project management methodology, www.wikipeida.com

- The Agile approach also reduces some risks - when you go for COTS packages you must define requirements upfront (or you will incur large additional modification costs). Many emerging countries will not have a comprehensive understanding upfront and this is a significant contributing factor to long lead times before major systems are implemented and to a degree, has contributed to failures in system implementations. Agile approach used by Georgia is pragmatic and allows foe more flexibility during the system development process;
- FAS is also very entrepreneurial and uses modern tools and practices – providing hot fixes to some problems in 20 minutes – this contrasts with the long lead times for upgrades or patch releases for most COTS FMIS systems;
- FAS is proactive in delivering services. This is an important lesson for other countries. If Treasury and its support functions take the initiative to modernize it can actually increase the role and responsibilities of the organization - modern decision makers are looking for drivers of change. However, the opposite is also a risk for entities that do not take the initiative - if you do not evolve and modernize it is conceivable that another government or commercial entity will make you redundant;
- Georgia has not taken the standard or usual path for PFM systems development. Normally, the General Ledger supporting accounting is first order element, with the other components/modules of the system added over time. Development of the system in-house allowed this deviation from the usual path. However, it also resulted in very slow progress in designing the General Ledger and has implications for the reporting capacity of the system;
- There are some risks with the Georgian approach, which are also linked to the organic way in which modules are developed. In particular, there is a risk of missing some key functional elements in the design. For example, Georgia releases authority to spend against appropriations quarterly, but based on the current system design, it can not record commitments against the annual appropriations. While Georgia ensures that all procurement actions remain within the appropriations (through the plan and outside the PFMS) it has not at present established the required link between commitments and budget execution control, and this also creates gaps in effective cash management.


The first presentation on Day Two was By **Ms. Nino Tchelishvili**, Deputy Head of the State Treasury, and member of the PEMPAL Leadership Group, on The *Implementation of a Single Tax Code in Georgia*. This was the only functional presentation on the agenda, included because of its significant reform implications, including integration within the PFMS. The single tax code project has the overall objective of improving tax forecasting, planning and administration. This will be achieved by automating and simplifying the way tax is lodged by tax-payers, in particular taxpayers no longer need to know exactly how to record different types of payments or taxes – the system and collection agencies will determine this. Importantly, Georgia has eliminated its separate tax refund accounts, consolidating these cash balances in the TSA, which improves cash management and forecasting. One issue in terms of recognition for Georgia, is that while the cash is recognised as an inflow when it is received, Georgia has determined that it will not recognise the revenue in the accounts until the legally defined collection date. This will cause some issues in terms of reconcilation between the cash and accrual recognition of revenues.

The second presentation on day two was by **Mr. Cem Dener**, Lead Governance Specialist, and Global Lead, Integrated Digital Solutions, World Bank, on the *Organizational Models for Managing ICT in the Public Sector*. Cem noted that there had been significant growth in government PFM ICT investment across the world. However, improvements in resource management had not been commensurate with this significant investment, which was partly due to the fragmented nature of implementation. Countries are now well placed to reexamine current systems to seek better integration and reengineer business processes, which will improve performance and reduce costs. Cem emphasised that ICT was essential but complex and that effective ICT required a more contemporary client oriented approach (see Figure 3)

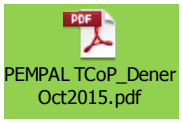



***Figure 3 – Shifting from Traditional to Contemporary ICT Model***

| Traditional | Contemporary |
|---|---|
| Technology focus | Process focus |
| "Fire-fighting" | Preventative |
| Reactive | Proactive |
| Users | Customers |
| Isolated, silos | Integrated, countrywide |
| "One off", adhoc | Repeatable, accountable |
| Informal processes | Formal good practices |
| IT internal perspective | Business perspective |
| Operational specific | Service orientation |

Cem also highlighted nine core recommendations from the OECD for effective use of digital technology including:

1. Using technology to improve government accountability, social inclusiveness and partnerships;
2. Creating a data-driven culture in the public sector;
3. Ensuring coherent use of digital technologies across policy areas and levels of government;
4. Strengthen the ties between digital government and broader public governance agendas;
5. Reflecting a risk management approach to address digital security and privacy issues;
6. Developing clear business cases to sustain the funding and success of digital technologies projects;
7. Reinforcing institutional capacities to manage and monitor project implementation and operations;
8. Assessing existing assets to guide procurement of digital technologies; and
9. Reviewing legal and regulatory frameworks to allow digital opportunities to be seized;

The presentation also introduced four possible organizational models for managing public financial management ICT in government:

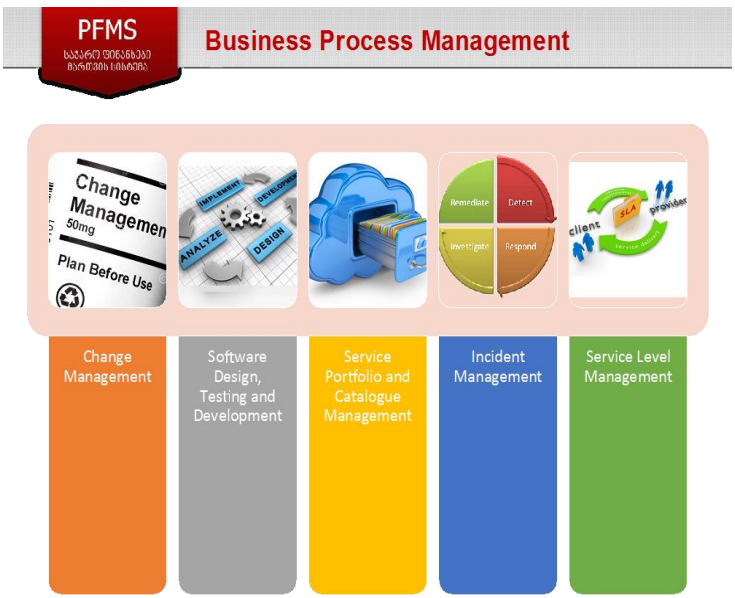
1. Internal ICT units within the MoF;
2. Separate statutory bodies but still accountable to the MoF;
3. Outsourcing the function, through contracting for services; and
4. A hybrid model that combines two or all of the above three options.

The presentation generated a lot of discussions and also provided the framework basis for small group sessions in the second half of day two.

**Mr. Giorgi Kurtanidze,** from the host country Georgia, delivered the next presentation on the FAS organisational model. Giorgi, indicated that circumstances in Georgia led to a decision to create a separate statutory body for FAS, which was the second model highlighted in the presentation by Cem Dener. The separate statutory body allows FAS to pay more market oriented salaries, and to develop other reward systems to overcome one of the biggest challenges for government in ICT, competitive remuneration. It also allows FAS to have a more commerical orientation, including developing and selling key products to supplement its budget revenues. FAS, receives 80% of its reveneues from MoF, and generates 20% through additional services, mainly to other government agencies, including "cloud" data storage services. While FAS has the primary focus of supporting the MoF in automating its business processes and ensuring data and system security and business continuity, it also has a broader role to promote eGovernance.

12_FAS_2015_PEMPAL_AboutFAS_Kurtan

FAS has a traditional top down organizational structure based on core functions, which it supplements with a horizontal structure for key ICT projects that require a discrete set of deliverables. Members for each project team are drawn from the functional departments depending on the skill sets required for each project. Thus most employees have at least two accountability relationships within FAS, one to the functional departmental manager, and one to the project manager. Employees may have further accountability relationships if they are involved in two or more projects.




The final presentation for day two was delivered by **Mr. Vazha Goginahsvili**, on the PFMS infrastructure. PFMS infrastructure is designed to ensure business continuity across all its systems. As a result it operates a "mirrored" hot site, which is located outside of Tbilisi to mitigate the risks associated with any interruption to business continuity. It has also sought to diversify software and hardware in use to further reduce the likelihood of specific failures which could interrupt operations. All

13_FAS_2015_PEMPAL_Infrastruct

systems are actively monitored, with mechanisms in place to warn of any failures or issues. (see slide below) demonstrates how FAS focuses business continuity around its business processes.

The remainder of Day 2 was devoted to discussions regarding organizational structures for ICT in government. Each country participated in one of two groups and delivered a presentation on their organisation model in operation, and provided examples of issues and challenges. The groups were then requested to discuss the following:

*Based on experiences of countries represented in the group, discuss organizational models for IT support of the Treasury /MOF and associated technical and non-technical challenges.*

*Which solutions can the groups recommend for those challenges?*

*Pros and Cons of Each Model identified by the Groups*

- Centralized ICT is a stronger option rather than a decentralized model as it is easier to manage;
- There are risks with the statutory entity model - in-house models ensure more responsive service and still allow the option to purchase support as required. While this view was expressed in the group others also indicated that they would like to move to the FAS model for ICT;
- In all cases it is important for the MoF to have a strategic focus on ICT that does not fragment decisions about ICT – the capacity of the ICT unit to guide and influence this focus is very important;
- A major risk for separate ICT units is the loss of support of the MoF. A focus on client needs must be maintained at all times;
- The stage of reforms in broader ICT applications has a big impact on the model that will apply – for example the move to web-based interfaces allowed a centralized approach. This was not possible in the past;
- The size of the country may determine the best approach – consolidation makes sense in many cases, particularly for smaller economies;
- If there are no qualified human resources outsourcing is probably the best option;
- It is important to have ICT for the whole MoF rather than just the Treasury.

***In summary the overall conclusion was that the local environment, historical context and local capacity will determine the best solution for each country. However, centralization was seen as the more sensible approach going forward.***

A summary of the key technical and non-technical challenges identified in the two groups is reflected in Box 2 below.

**Box 2 – Summary of Group discussion on organizational models for ICT in government**

**Technical challenges faced by IT support services and possible solutions**

- Infrastructure development including servers
- Lake of stable external sources of technical support

- Too many competing technical and system requirements which are scheduled for implementation in the short term
- Ensuring a structured protocol to cover all ICT reforms – e.g. PRINCE2
- Out dated software which must be upgraded
- Business continuity is a challenge and the need to implement proper change management protocols
- Issues with complex technical matters e.g. Virtualization
- Fragmentation of the ICT function and software - lack of interoperability of different software
- Keeping up with the rapid changing trends in ICT including application development tools – for example the decision to discontinue support of Silverlight
- If you develop software in-house external changes requiring modifications will pose a much greater challenge than the use of COTS software as the software developer will do the modifications and upgrades for you
- Significant resources are required to support decentralized systems - personnel, infrastructure,
- It is complex and takes time to integrate decentralized systems and processes into a centralized system – It requires strong coordination and regular monitoring of the plan of action
- It is important to have high quality data communication channels - dedicated channels are preferred
- Maintaining the operations of server rooms and the location and setup of the equipment in modern server rooms
- The application of cloud technologies
- Productivity of system (support of simultaneous connections)
- Ensuring the integrity of the system through the audit of IT
- Continuing to increase the capacity of the system to meet emerging demands
- Inadequate levels of security in an automated environment for users to operate the systems
- Meeting new technical requirements in a timely fashion

**Non-technical challenges faced by IT support services and possible solutions**

- Improvement of IT procedures
- Small size of in-house staffing
- Knowledge management and ensuring competence of all staff
- Insufficient level of training of users for introduction / operation of systems - Organization of continuous process of professional development, using modern tools.
- Lack of local country capacity due to the small size of the country
- Senior managers who are not technical proficient and blame the software
- Difficulty retaining skilled employees given salary and other constraints – need to be inventive in motivating staff
- Political challenges across organizational units which make project management of ICT for different clients a challenge
- Complexity in communication between the customer and the developer – Introduction of methodology of project management in IT.
- Continuous changes in the regulatory base and the short term demands for completion of system changes. This in turn can make it difficult to attract IT experts given the challenging work environment

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The World Bank support team were invited to comment on the group reports. Cem Dener congratulated the groups and highlighted the strong correlation between his presentation on Day 2 and the technical and non-technical issues highlighted by the groups. The key challenge is how to ensure ICT is relevant and implemented in a way that ensures a return on the investment. He encouraged countries to undertake a review of the existing arrangements using tools such as

COBIT[7], which is something akin to a PEFA[8] assessment for ICT. Mark Silins also added the following comments:

- Despite group one having just two of the four models mentioned by Cem in his presentation, within these two types, in-house and statutory bodies for ICT, each country had some unique features. It is clear that the specific history, culture, environment and political dimensions influence the preferred structure that is in place;
- For most countries the staffing levels allocated to the core IFMIS/Treasury system are relatively small - this poses some risks, particularly if staff depart. Most countries mitigate this risk by purchasing in specific support for more complex technical requirements. This however, also requires a market for this support in the country or close by;
- The Customer focus of Georgia and its strong relationship with its clients was discussed at length. Georgia has moved from the traditional "user" concept to focus on a strong "client" centric relationship. The clients in Georgia also appear to have a strong understanding of ICT and its requirements, which supports a stronger relationship. This is not always the same in other countries.

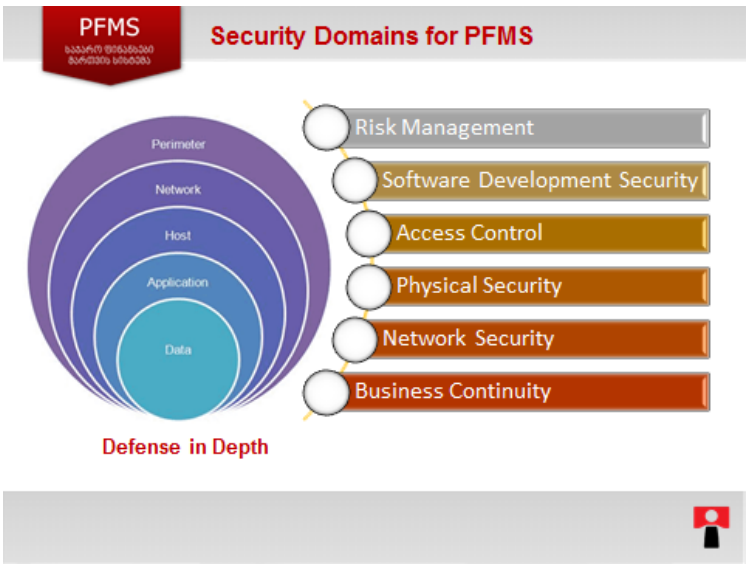
The final major session for the workshop focussed on Information Security issues and involved three country presentations: **Mr. Vazha Goginashvili**, Head of Systems Administration Department, FAS, Georgia, **Mr. Andrew Narchuk**, Head of Perspective Division, MoF Belarus; and **Mr. Nazim Gasimzade**, Head of Information Technologies Department, State Treasury Agency, Azerbaijan. Andrew and Nazim are also members of the ICT thematic group Leadship team. The key messages from the three presenters were:

IT security - Georgia_Eng.pdf

IT security - Belarus_Eng.pdf

IT security - Azerbaijan_Eng.pdf

- A layered security approach eliminates single points of complete compromise; (see slide below)
- Keeping design and implementation simple reduces security risk;
- Reusing existing system components that have already proven resilience reduces the "attack surface" ;
- Information security is about integrity, availability, confidentiality, authentication and safety of both the systems and the users of the systems;
- Security is not just technical, it also




[7] Control Objectives for Information and Related Technology (COBIT) is a framework created by ISACA for information technology management and IT governance. It is a supporting toolset that allows managers to bridge the gap between control requirements, technical issues and business risks, www.wikipedia,.com

[8] Public Expenditure and Accountability. For more information please refer to www.pefa.org

has elements in relation to the law, such and policies and standards, and organisationally, such as segregation of duties;

- Ensuring the integrity of the transfer of information particularly financial information is critical and this is achieved through PKI - Public Key Infrastructure (PKI), which is the hardware, software, people, policies, and procedures needed to create, manage, distribute, use, store, and revoke digital certificates and manage public-key encryption[9];
- Enterprise Information Security Architecture (EISA) is an important methodology to ensure information security is aligned to the overall organisations core goals and objectives. It is about optimizing business process and security architecture, and ensuring a common language and methodology for information security across the organization and systems. It also makes the system more flexible and adaptive to change.

Discussions ensued in small groups following the three presentations regarding the following question:

***"Which dimensions of FMIS security issue are most acute in your country?"***

A summary of the key points is presented in Box 3.

**Box 3 – Key Country issues with FMIS Security**

- 90% of the threats are internal users of the system, the employees. It is important to ensure organizational and legal measures are in place to ensure compliance - it is also important to ensure an appropriate culture of compliance is institutionalized;
- Ensuring system access is limited to the parts of the systems that each user requires; and using specific software to control security;
- Ensure licensed software is used - pirated software does not have the rigorous security testing and may even be intentionally corrupted;
- Each country should have a special body responsible for information security that ensures regulations are in place and monitored - on occasions these bodies can imped the proper use and development of systems and therefore they should issue guidance in this area which should also be monitored;
- Developing a correct security model and infrastructure;
- IT security should be separate from operations and be at a high level;
- Information Security processes must be in place;
- Ensuring Confidentiality, Integrity and Availability, (CIA)[10] needs are in place;
- ISO27000[11] – compliance with this standard is beneficial, but it is very costly;
- The move to more open architecture and web-based access will make security more important but could also increase costs significantly.

This brought the formal elements of the workshop to a close. The ICT Working Group and TCOP leadership team, along with the World Bank resource team were invited to provide comments regarding the workshop, what was acheived and the key messages, which are summarized below:

- FAS clearly demonstrated the importance of a positive relationship with its key client, MoF;

[9] www.wikpedia.com
[10] A model designed to guide policies for information security within an organization.
[11] See www.27000.org

- The importance of shifting from a user to a Customer focus - we saw this in Georgia and the ICT Working Group has previously also seen this in South Korea;
- The relationship between service provider and client is not a new one. Automation and computerization is expensive and must be given a heavy focus. We must reengineer business processes and avoid duplication in terms of services to the population;
- Information security is critically important but for many of our countries we are only starting to understand and implement this. We discussed the costs involved in compliance as a barrier, but Georgia has achieved this, apparently limiting the costs, which gives us food for thought;
- Utilizing technology effectively is the key to enhancing the client relationship. The investments are large but the client is not always well equipped to use the tools. ICT units need to coach and nurture its customer base;
- Planning is key - planning for the ICT support functions and development of an implementation plan is critical. Equally important is planning on the HR side, to ensure you retain key staff and can readily replace them; and
- FAS has managed to retain staff using other than just financial incentives. One key message was the linkage between the work of FAS and the development of Georgia as a country - knowing that your work is making a difference can be an additional incentive;
- The marketing aspect for ICT is also important. One impressive element of FAS is the very professional way every official presented material and themselves. Working Group members should ensure they too can demonstrate the benefits and the costs of the work undertaken. This will largely ensure that decision makers see ICT as a critical service provider and do not question the benefits to government.
- The content of this event was fantastic and extremely useful. PEMPAL continues to improve at every event and it demonstrates how invaluable it is as a resource for member countries;

The final session of the event was devoted to discussions on the future working plans of the TCOP thematic group on Use of Information Technologies in Treasury Operations. As a result of the discussion, decision to organize two videoconferences till the end of FY 2016 was taken. Belarus will lead the first one scheduled for December 2015, devoted to information security topic. The second videoconference will be held in May-June, 2016, where the experience of Kazakhstan in interaction with the providers supporting IFMIS will be demonstrated. The group is also interested in the Czech Republic and Austria's experience in FMIS implementation, suggesting the TCOP resource team to organize a study visit in one of these countries.

All workshop materials can be found at the PEMPAL web-site: http://www.pempal.org/event/eventitem/read/142/377