

# **FREEBALANCE VERSION 7 TECHNOLOGY BRIEF**

Effective Public Financial Management Enabled by Modern and  
Robust Government Resource Planning Technology



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## EXECUTIVE SUMMARY

FreeBalance, based in Ottawa, Canada, is a global provider of Government Resource Planning (GRP) software for over 30 years focused on the governance needs of the public sector. This experience in more than 25 countries around the world has provided the company with a unique perspective on how effective technology enhances government reform efforts to improve results. This is an important perspective given the high costs related to technology-driven reform efforts experienced by many government organizations.

The purpose of this technical brief is to describe how effective design in software platforms enables effective public financial management. The FreeBalance Accountability Platform, the core technology leveraged by all modules of the FreeBalance Accountability Suite, is used as an example of a modern focused method to assist governance efforts.

The technology underpinning used for software applications for Public Financial Management (PFM) whether GRP, Enterprise Resource Planning (ERP) or custom developed, is critical for short and long-term success. Software platform capabilities can future-proof applications to enable sustainable PFM reform and change. On the other hand, software platforms can generate significant technical debt where it becomes expensive and difficult to adjust systems to government changes. This has led analysts, such as the Gartner Group, to conclude many Tier 1 ERP systems have become “legacy” because of the inability to adapt to accelerating changes in the public sector (Gartner 2014).

This white paper seeks to explain these characteristics to non-technologists.

This white paper concludes modern and open technology designed specifically for government requirements enables financially sustainable reform. In addition, the use of legacy technologies, so prevalent among leading providers of enterprise software, including Tier 1 vendors, adds significant technical debt to government organizations.

Fiscal and reform sustainability in GRP systems is shown to be a combination of technology design and vendor business processes. As a social enterprise, FreeBalance business policies help optimize the “return on governance”.

# GOOD PRACTICES IN SOFTWARE ARCHITECTURE AND OPEN SYSTEMS

The software architecture and system design of any enterprise-class software is critical to achieving implementation success. Software architecture design requires understanding functional components, integration points, semantic models and technical constraints to best meet the needs of targeted customers. FreeBalance developed the web-native FreeBalance Accountability Platform based on good practices in software design including recognizing patterns from previous versions of FreeBalance software and legacy ERP. The insight gathered through this analysis was that legacy software architecture reduces the ability to meet the goals of sustainable PFM reform. Unlike major ERP vendors, FreeBalance decided to develop a new system without any legacy code.

This enabled FreeBalance to develop a domain-driven architecture (Duggan 2012) optimized for GRP needs covering “non-functional” requirements like compatibility, usability, maintainability, and scalability. This was further extended by using a technique of Component Business Modeling (Carter 2007) to identify where value is provided in GRP functions. The resulting “component map” enabled FreeBalance to better coordinate the creation of modules in the FreeBalance Accountability Suite.

Some of the important characteristics of this design for the web-native FreeBalance Accountability Platform include:

- Modern software architecture to **future-proof software applications** and **optimize performance and scalability**
- Open system to enable integration and provide maximum choice of technologies to governments to **optimize costs**
- Use of a consistent platform to support a unified Enterprise Architecture (EA) across government to **optimize the information technology investment**

## Modern Software Architecture

There can be significant confusion about what constitutes “modern” when describing software systems. FreeBalance uses a strict definition using good practices in software architecture that includes:

1. *No client/server software* present requires translation layers between legacy pre-web code and web user interfaces to optimize performance
2. *Multiple-tier design* where there’s complete separation of presentation, business logic and data layers to enable choice and scalability
3. *Significant elimination of customization* as a means to meet customer requirements,

as defined by the Gartner Group (Ganly et al 2014), to reduce costs

4. *Component-based Service-Oriented Architecture (SOA)* enables reuse and facilitates integration

The FreeBalance Accountability Platform achieves this goal of a modern software architecture through:

1. *Completely web-based system* with no client/server code and no legacy proprietary software languages
2. *Multi-tiered design* that separates presentation, business logic and data layers with additional tiers to enhance scalability
3. *Software framework* that provides the foundation for government needs such as multi-language, multiple currencies and

workflow, whose components can be replaced in the future

4. *Component Business Mapping* through unique "government entities" that provide reuse across multiple applications such as a common chart of accounts

It should be noted the majority of leading ERP manufacturers do not meet these objectives (Ganly et al 2014)

through the use of proprietary client/server languages used as core to applications and large monolithic, rather than component-level, designs. Most of these vendors do not have the separation of presentation, business logic and data layers.

## Open System

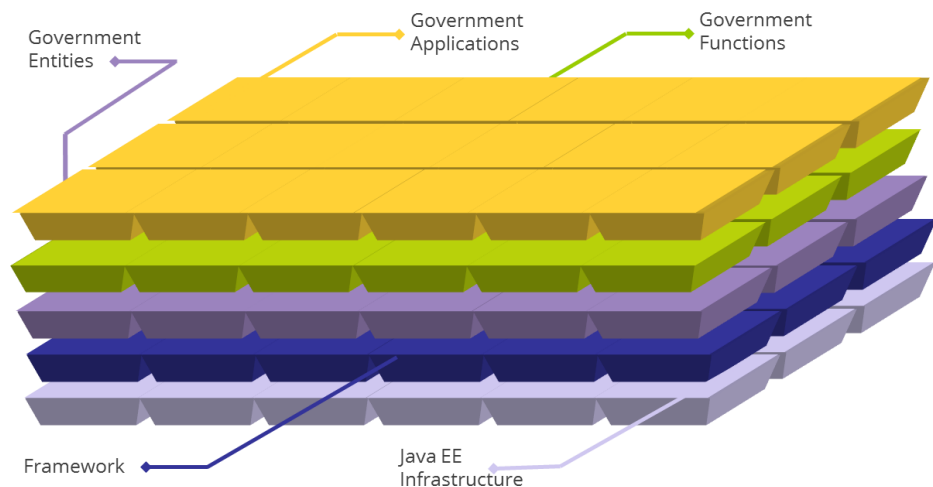
Although FreeBalance leverages the open source Java Enterprise Edition technology and components, the FreeBalance Accountability Platform is a fully commercial product. The open system design of FreeBalance software was selected for numerous reasons:

- *Lower long-term costs* because of the choice to use different systems including commodity hardware (Red Hat 2009), operating systems and middleware with "three to five times in savings by moving to open systems (Brandel 2010)," where the majority of organizations that adopt this approach find that cost savings expectations were met or exceeded (Forrester 2008).
- *Higher reliability and quality* through the participation of many developers that exceed proprietary software in quality, with fewer defects, according to studies

(Northbridge 2015, Coverity 2014, Fauscette 2009, Forrester 2008)

- *Optimal system security*, (Pickel 2013), particularly in government applications (Hellekson 2012, Wheeler 2009), and the increased use of open system components for mission-critical applications (Saran 2015) including in the financial services sector (Forrester 2008).

## FreeBalance Accountability Platform Technology



- *Higher performance and scalability*, (Pickel 2013, Red Hat 2009) through the participation of many developers and the use of good practices in software design.
- *Increased choices* through the escape from lock-in and the move to modern, modular design, "especially legacy applications with lock-in that grows deeper each year (Phipps 2015)." "Closed systems are well-defined and profitable, but only for those who control them. Open systems are just the opposite. They are competitive and far more dynamic. In an open system, a competitive advantage doesn't derive from locking in customers, but rather from understanding the fast-moving system better than anyone else and using that knowledge to generate better, more innovative products (Rosenberg 2009)."

Open systems, like the FreeBalance Accountability Platform, reduces vendor “lock-in” (Wesche 2008). Software lock-in occurs when customers have acquired many proprietary technologies such as databases, middleware, in-memory engineered systems, and applications from a single vendor. The open approach from FreeBalance enables government organizations to change databases, application servers, reporting engines, transaction monitors, operating systems and computer equipment. FreeBalance is able to take rapid advantage of software innovation such as in-memory databases, columnar storage, virtualization and clustering. This also enables government IT organizations to leverage open source technologies or commercial technologies for which they have an expertise.

### Enterprise Architecture

Enterprise architecture initiatives should be harmonized with software portfolio management.

According to *Forrester Research*, portfolio management “captures and organizes information about the application portfolio so that business and IT execs can make prudent decisions around investing/replacing/ retiring applications.

When enterprise architecture is integrated with application portfolio management, the alignment with architecture road maps and business views improves the overall results for business and IT (Peyret et al 2009).”

Enterprise Architecture enables a single point for managing IT risks such as security and data protection (Ingle 2009).

According to the *Government Accountability Office* in the United States, “Effective use of an enterprise architecture (EA) is a hallmark of successful organizations and an essential means to achieving a desired end: Having operations and technology environments that maximize institutional mission performance and outcomes. Among other things, this includes realizing cost savings through consolidation and reuse of shared services and elimination of antiquated and redundant mission operations, enhancing information sharing through data standardization and system integration, and optimizing service delivery through streamlining and normalization of business processes and mission operations. Not using an EA can result in organizational operations and supporting technology infrastructures and systems that are duplicative, poorly integrated, unnecessarily costly to maintain and interface, and unable to respond quickly to shifting environmental factors (GAO 2010).” EA initiatives are critical for governments.

| Benefits from IT-Enabled Connected Government<br>Dr. Pallab Saha |   |
|--|---|
| Internal<br>(to provider agencies and governments)               | External<br>(to consumer citizens and businesses) |
| 1. Avoidance of duplication                                      | 1. Faster service delivery                        |
| 2. Reduction in transaction costs                                | 2. Greater efficacy                               |
| 3. Simplified bureaucratic procedures                            | 3. Increased flexibility of service use           |
| 4. Greater efficiencies  | 4. Innovation in service delivery                 |
| 5. Richer communication & coordination                           | 5. Greater participation and inclusion            |
| 6. Enhanced transparency   | 6. Greater citizen empowerment                    |
| 7. Greater information sharing                                   | 7. Greater openness and transparency              |
| 8. Secure information management                                 |   |

“Most governments worldwide are in the midst of substantial public sector transformation activities. A majority of these initiatives are triggered by the need to have better and seamless government services delivered online. The focus on automating government services often is largely limited to specific ministries and agencies. However, such initiatives lack the cross-ministry / agency viewpoint and co-ordination. This

creates challenges in taking a Whole-of-Government (W-O-G) approach with its concomitant benefits, which are much more than benefits derived by taking agency-centric viewpoints (Saha 2010).” There are significant benefits to developing a Whole-of-Government approach using EA to enable connected government. EA enables e-services and transparency.

Modern enterprise software has transitioned from “integration” through to “unified” design. The FreeBalance Accountability Platform provides a foundation for EA to support integration through a unified and secure “service bus” for many sub-systems, support for centralized government shared-services deployment, and an extensible platform that handles the complete budget cycle to optimize the software portfolio.

# MAXIMIZE SOFTWARE PORTFOLIO INVESTMENT

Information technology is an investment. Technology analysts, the *Gartner Group*, see software as an asset or a liability, depending on the context (Ganly et al 2014). Legacy or dated software can represent “technical debt”, estimated to represent over \$1 Trillion world-wide in 2015 (Norton 2013) by *Gartner*. Maintenance and operations costs result in “insufficient strategic spend (IBM 2012).” Enterprise and GRP software should be considered as part of an asset portfolio, much like an investment.

Portfolio management “enables objective and transparent decisions around investing, consolidating, modernizing, or replacing applications (IBM 2012).” It leads the “identification of applications that could be candidates for decommissioning ... and ... helps create a business case for each application retirement decision and promotes value through long-term saving (Payret 2009).”

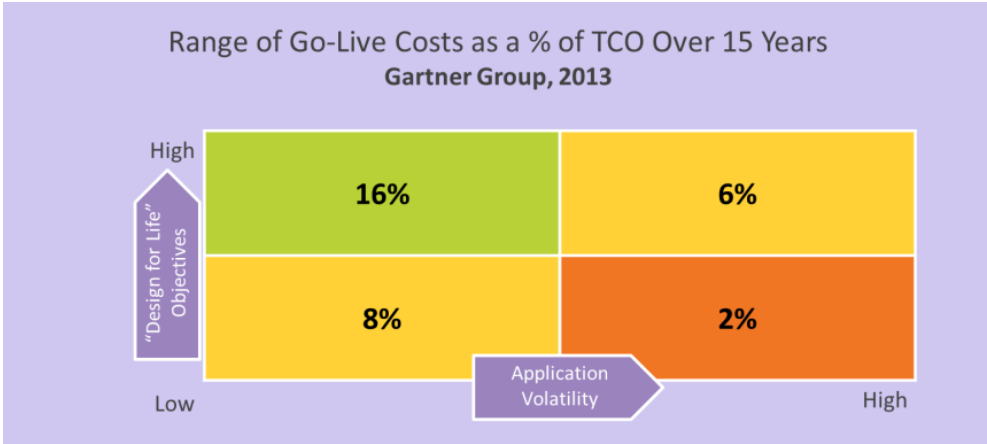
The FreeBalance Accountability Suite use of modern web technology designed specifically for Government Resource Planning can optimize government investments through:

- Adaptable software that supports the **progressive activation** of new functions and features to adjust to PFM reform
- **Technology leapfrog** through the unified design of the FreeBalance Accountability Platform that ensures integration of controls and automates decision-making, audit and transparency information
- Comprehensive and integrated approach to achieve a full **return on governance**

## Progressive Activation

Analysts at *Gartner Group* have analyzed the impact of software choices in large organizations based on design (Ganly et al 2014). The analysis found the 15 year Total Cost of Ownership

(TCO) of enterprise software depended on design. The initial “go live” costs for applications with high volatility, or adaptation over time, where the design was not “for life”, represents but 2% of the TCO. In other words, the 15-year full costs for an application of significant changes that was not designed for such, is 50 times higher than initial costs. The expected PFM reform in governments,



particularly in emerging economies, increases application volatility.

A survey by *Information Week* in 2012 for North American businesses found “changing, upgrading and optimizing their existing enterprise apps is their biggest challenge (Henschen 2012).” The footprint for changing,



upgrading and optimizing is larger in governments, because of the reform agenda. Much of the software used as financial subsystems in governments were not designed for life, particularly custom-developed applications designed to meet immediate needs. These system increase cost and risk while reducing agility (Ganly et al 2014)."

The need for code customization to meet unique needs has been identified as the largest contributor to technical debt. "Gartner now defines legacy as: 'any system that is not sufficiently flexible to meet changing business needs (Ganly et al. 2014).'"

As *Software Advice* concludes: "A traditional ERP system is like the new car you buy every 10 years. A postmodern ERP system is like owning the same car indefinitely, but with various components that can easily be changed out as needed (Burnson 2015)."

The FreeBalance Accountability Suite uses multiple configuration methods including parameters, workflow, data additions, and automated translation to reduce the need for code customization to accelerate implementations and facilitate change.

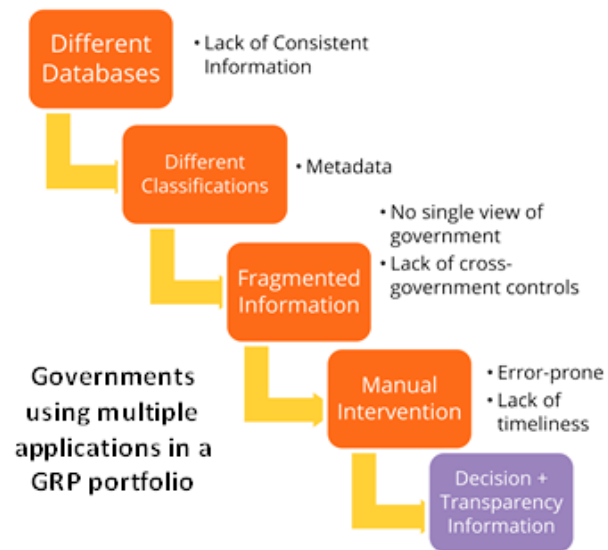
## Technology Leapfrog

"Government organizations continue to be heavily reliant on legacy systems to support their business-critical functions. When practitioners embark on legacy systems replacement projects, they tend to use the legacy software's features as business requirements for its replacement application. This unnecessarily reproduces the business processes that have often emerged from the very technical limitations of the legacy system that is being phased out – a phenomenon referred to as the 'legacy problem.' (Alexandra et al. 2015)." Governments can avoid this scenario by avoiding the trap of old technology. This is based on the idea of technology leapfrogging where "leading

nations may have no incentive to adopt the new ideas; given their extensive experience with older technologies ... lagging nations, however, have less experience; the new techniques offer an opportunity ... new technologies eventually prove to be more productive than the old, there is a reversal of leadership. (Brezis et al. 1991). In fact, "the digital divide between developed countries and developing countries is beginning to close (Hadden 2010)." Interoperability is the key technology leadership opportunity for governments who seek to leapfrog.

*Interoperability* is critical to ensure consistent metadata and controls across financial systems in government. Effective interoperability ensures hand-off among systems so that complete financial lifecycles can be completed and centrally controlled

*Integration* of data among systems is critical to centralizing information for decision-making and transparency. Effective integration ensures that important information is



provided in a timely matter with limited errors.

A system that is fully integrated with full interoperability is considered *unified*. This definition is to distinguish from legacy

software systems that require additional metadata management tools to achieve interoperability and integration even within a suite of software from the same vendor. For example, FreeBalance Version 7 is a fully unified platform to enable seamless integration and interoperability including budget and commitment controls.

Legacy enterprise software enables integration among modules, yet complex metadata management tools are required to make definitions consistent across the suite of applications from a single vendor. Integration management is burden that “has existed since time immemorial ... (yet) these cost impacts are rarely caught up-front ... (resulting in) more ERP costs and lower ROI (Carlton 2015).” Unified design leverages common business components enabling change in a single location.

The “unified” approach used in the FreeBalance Accountability Platform eliminates integration problems. The “lack of integration includes reporting delays, inaccuracy, and lack of visibility (Tyagi 2013),” according to technology analysts, the *Aberdeen Group*.

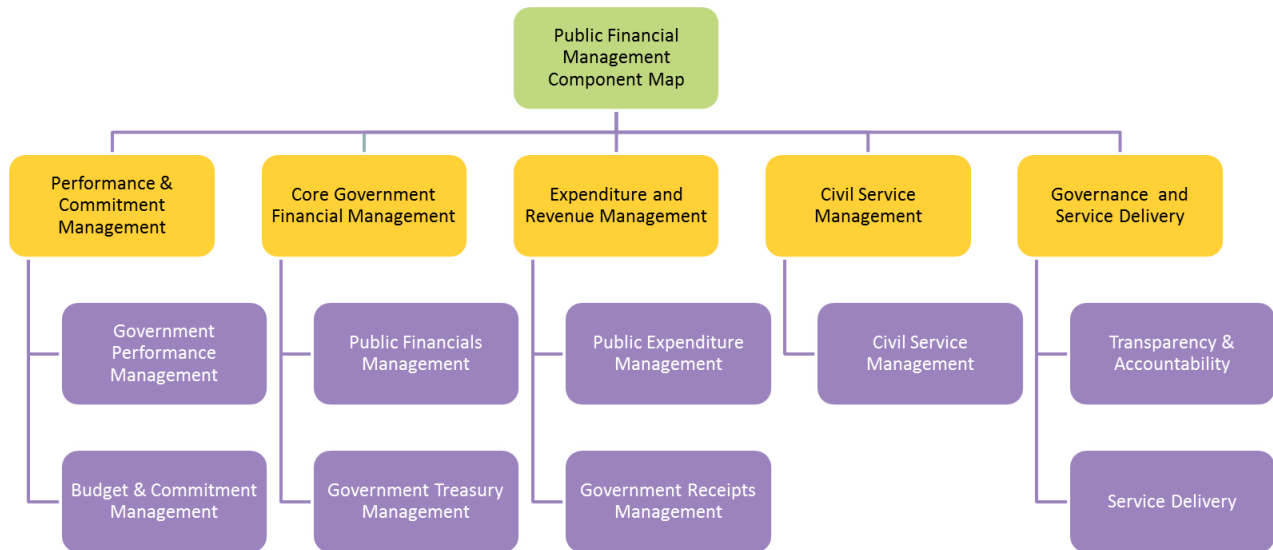
Additional advantages of the unified approach include:

- Consistent and integrated reporting and dashboards because of unified metadata
- Consistent controls and workflow procedures across financial applications ensuring compliant public financial activities
- Ease of fiscal transparency through unified metadata
- Ease of integration with third-party applications because the consistent unified FreeBalance design

## Return on Governance

FreeBalance has developed a 15-year Return on Investment (ROI) calculator that shows

what can be achieved by using a unified GRP system like the FreeBalance Accountability Suite. The FreeBalance ROI calculator uses PEFA assessment data to determine the current PFM state in a country to estimate the possible return in categories of the Public Financial Management Component Map. The returns are significant, even in context of lower human capacity. This helps explain many governance achievements by FreeBalance customers.



(Items in **green** indicate explicitly calculated ROI, other benefits are second order).

- *Budget & Commitment Management:* Where budgets are the fundamental bottom line in government. **Improved budget execution with expenditure controls** that aligns spending to government priorities; improved compliance with government procedures through automation that reduces arrears
- *Government Performance Management:* Improved budget credibility by aligning formulation with government goals; improved decision-making and predictability through dashboards, scenario planning and analytics with up-to-date comprehensive information and early warning and **the creation of credible budgets that improves efficiency**
- *Public Financials Management:* Improved compliance with standards, timeliness of reports and management of assets and inventory; improved efficiency in public

finances through automation and integration among financial systems

- *Government Treasury Management:* **Improved cash, debt and liquidity predictability that increases fiscal space and improves credit ratings**
- *Public Expenditure Management:* **Increased value for money** by aligning spending to government goals and increasing procurement competition
- *Government Receipts Management:* **Improved tax collection efficiency and tax compliance** to increase revenue
- *Civil Service Management:* Improved **civil service performance** through talent and capacity management
- *Transparency and Accountability:* Increased trust in government through budget, procurement, results and transparency portals; improved audit capabilities through access to comprehensive information
- *Service Delivery:* Reduced cost for service delivery through web and kiosk automation of key citizen transactions

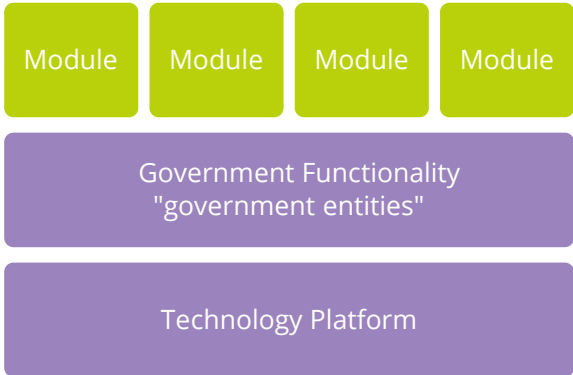
# PUBLIC SECTOR SOFTWARE EXTENSIBILITY

The range of COTS enterprise software does not satisfy all public sector needs. Legislative mandates often make the use of so-called business “best practices” from ERP software illegal. “The legal and regulatory requirements related to the budget management framework must be analyzed (Khan & Pessoa 2010)” in any GRP implementation. Re-purposed software used in the private sector or by a government in a different country can be inappropriate. Governments are faced with comparing the risk of heavily customized ERP software or bespoke development where “there is no single best solution (Murara and Iles 2013).” Bespoke development can be attractive for incremental development “with only a subset of core features being implemented initially and other features being added later (Hashim 2014)” while improving technical and IT capacity, and adapting to unique requirements (Hadden 2009). A hybrid COTS/custom approach leveraging a common technology and business platform, such as the FreeBalance Accountability Platform, can be appropriate approach through:

- Combination of the **best of COTS and custom**, a “hybrid approach”, through accelerated development and sustainable progressive activation and FreeBalance good software development practices
- **Tight integration** of custom development with off-the-shelf FreeBalance modules that meet government requirements
- **Product co-innovation** for the development of new applications with FreeBalance as a partner

## Best of COTS and Custom

Bespoke development for GRP subsystems requires the adoption of a software technology platform, conceptual design and systems architecture.



The FreeBalance Accountability Suite includes a set of applications that are currently available. These applications leverage the FreeBalance Accountability Platform that includes reusable “government entities” or “business objects” from the original

Component Business Model design (Carter, 2007).

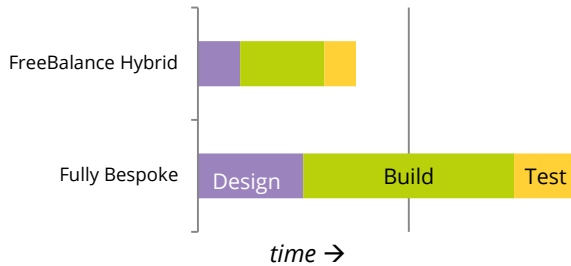
Existing entities are used for the development of new applications and for creating special custom developed software. There are currently 1,937 “government entities” representing 12,899 functional elements within the FreeBalance Accountability Platform.

Some entities are related to generic functions such as attachments, user information, message, task, and workflow. Most entities are related to specific PFM functions like asset, budget, human resources, payment and revenue. Many entities are frequently re-used across many modules such as chart of accounts, commitments and sub-ledger.

The use of reusable components across multiple applications in a Service-Oriented Architecture is considered a good practice in software design. This approach enables assembling existing components to form the core for new development

Government organizations can utilize a hybrid bespoke method by leveraging entities used for FreeBalance COTS applications to accelerate custom development.

### Accelerated Custom Development



FreeBalance provides training to organizations that wish to leverage the FreeBalance Accountability Platform for custom development. This training helps government organizations to follow practices that:

- Enable configuration for future progressive activation
- Leverage methods other than programming, where possible, to reduce the software programming scope
- Support simplified methods of developing specifications and test plans

All government entities provided to government organizations have been commercially tested through rigorous quality assurance procedures and have been implemented in live applications operational in government. The entities are provided to governments through an open Integrated Development Environment (IDE) and a series of tools that enables building, testing and deploying code as a comprehensive technical platform.

The FreeBalance Accountability Platform is fully supported including the release of future government entities. This means the technology core is economically sustainable.

### Tight Integration within the FreeBalance Accountability Suite

The hybrid COTS/custom approach enables government organizations to select modules from the FreeBalance Accountability Suite that meet requirements without customization, combined with specialized bespoke modules. The unified design of the FreeBalance Accountability Platform ensures the combined modules have unified metadata and controls – in other words, centralized information governance “with the stewardship (policy enforcement) and governance (policy setting) of metadata (White 2013).” This has become a critical requirement because “Data governance has shifted from a technology management endeavor to a business imperative (Peyret & Goetz 2014).”

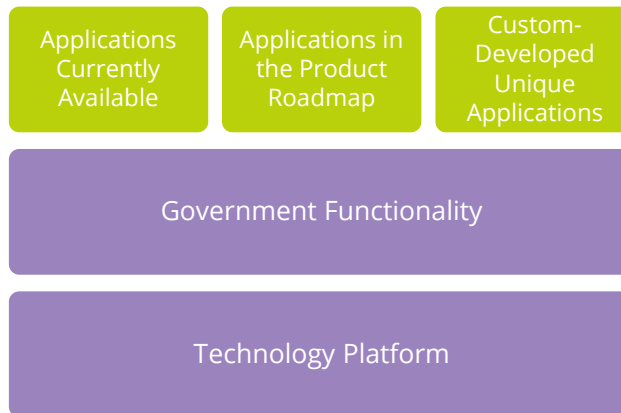
A change to metadata or security profiles occurs in one location and cascades to all COTS and custom modules.

Modules of the FreeBalance Accountability Suite are parameterized to support unique requirements. Some public sector functionality differs broadly across governments while others are more similar. Government organizations can take a strategic approach to a portfolio of custom and COTS.

### Typical Variability of Functional Requirements across the Global Public Sector

| Low Variability  | Medium Variability | High Variability |
|------------------|--------------------|------------------|
| Budget Execution | Payroll            | Procurement      |
| Accounting       | Budget Preparation | Human Resources  |
| Cash Receipts    | Billing Systems    | Grant Management |
| Cash Management  | Property Tax       | Income Tax       |

## Product Co-innovation



Unlike most enterprise software vendors, FreeBalance seeks out government customers with unique requirements. FreeBalance commits to adding functionality in government contracts to enable long-term supportability and eliminate orphan code that increases technical debt.

FreeBalance has a unique product governance method for government customer driven innovation.

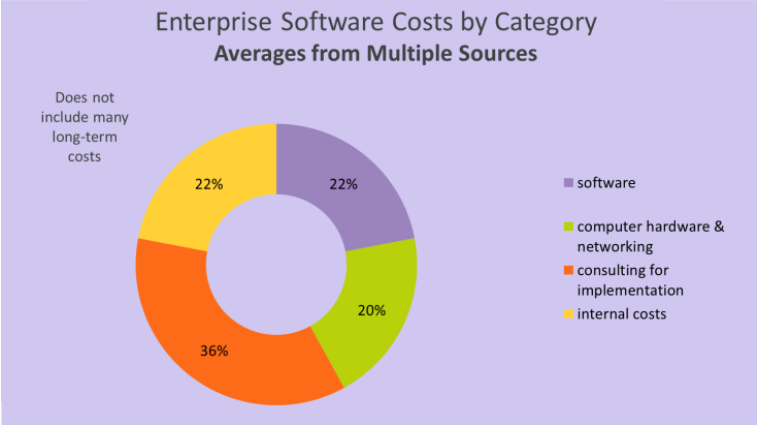
Leading enterprise software companies present their product roadmap to customers at annual conferences. Customers have limited ability to adjust product roadmaps despite the fact that software maintenance fees pay for product enhancements (Gross 2010).

FreeBalance software is considered highly extensible through use of components "supporting reuse through extensibility by applying building block concepts and interoperability (Mahmood & Hill 2011)."

This reuse means that every new FreeBalance application is already partly or mostly built. This enables FreeBalance to work with co-innovation partners to develop custom applications and to accelerate the development of new FreeBalance modules.

# OPTIMIZE THE FREEBALANCE SOFTWARE INVESTMENT

Most studies show software licenses are not the most relevant cost for enterprise-class implementations. Consulting services has been found to be the largest expense for enterprise software implementations with software maintenance and upgrade costs representing the largest long-term expenses. Many organizations underestimate internal costs associated with training, employee retention and IT support. Nevertheless, there are significant costs associated with the acquisition and maintenance of software licenses and the acquisition and maintenance of the technology infrastructure that consists of computer hardware, networking equipment and software middleware, such as relational database systems.



A government organization investment in FreeBalance software can be optimized:

- **Reduced IT costs** by reducing the number of applications and application platforms within the GRP Portfolio
- **Reduced IT risks** through smooth upgrading
- **Reduced cost for additional functions** because of the unique pricing model that leverages the existing investment in FreeBalance software

## Reduced IT Costs

According to IBM, “the more ERP applications and vendors you use, the greater the cost in desktop and technical support, training, development, security and maintenance. The notion of “managing IT as a portfolio of assets similar to a financial portfolio and striving to improve the performance of the portfolio by balancing risk and return (Jeffrey & Liliveld 2004)” is considered a good practice for enterprise-class implementations. Training costs are reduced because all applications operate in a similar fashion. And, a single platform reduces maintenance costs.

In addition, data integrity issues and delays in access and reporting can arise (IBM 2005)

when the portfolio is not effectively managed. A reduced set of enterprise-class applications and platforms “reduce overall complexity, and it can be maintained by fewer resources, potentially yielding a lower total cost of ownership (TCO). A consolidated system validates transactions at the source, rapidly providing accurate data. And by reducing interfaces, an integrated ERP environment helps reduce the risk of inaccurate data and improve data timeliness for reporting and compliance purposes (IBM 2005).” One study showed a 40% costs savings through the use of IT portfolio management good practices (Jeffrey & Liliveld 2004).

Therefore, government organizations can reduce information technology costs by

reducing the number of different systems and technologies in the software portfolio.

The FreeBalance approach of designing software specifically for the public sector reduces implementation times addressing what *IDC Research* says remains “one of the biggest challenges of enterprise organizations (Perry & Dover 2015).”

## Smooth Upgrade Process

Upgrading to new releases of enterprise software represents a significant cost and risk to government organizations. An *Information Week* survey (Henshen 2012) found that the most time-consuming task that represented the higher barriers to success in enterprise software was upgrading and optimizing. This is because most enterprise software is customized. IT

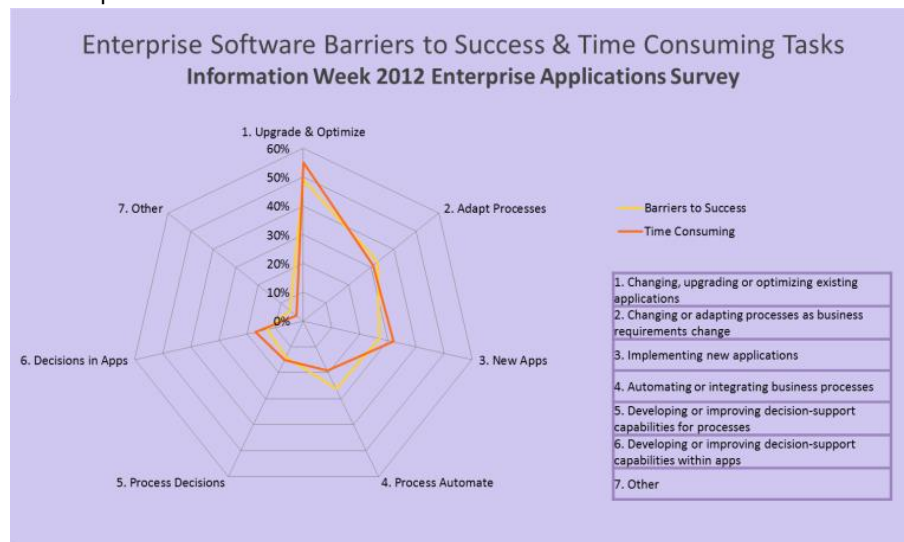
groups are required to analyze the implications of upgrades in depth. Many months are required to determine where the upgrade breaks or duplications the custom code. Significant testing and debugging is required. Third-party consultants are often required.

The latest version of enterprise software includes many new features, yet many organizations are reluctant to upgrade. “To upgrade, or not to upgrade your company's core enterprise applications? That is the vexing decision that haunts companies, CIOs and budget planners everywhere (Wailgum 2010).

The act of updating processes adds more complexity. There is often a need to update customized code.

“It's easy to find businesses that have actually spent 10 times as much money on customizations as on the initial license fees, and still more money to support and carry these customizations forward during a software upgrade, according to Gartner (Karnaracus 2014).”

Unlike other vendors (Wailgum 2010). FreeBalance commits to adding functions to the FreeBalance Accountability Suite. The code developed to support a unique



government requirement is rolled into the mainline of the code to support additional customers. This eliminates orphan custom code, therefore reducing the burden for upgrades.

Many COTS vendors force customers to upgrade to later versions by eliminating support and refusing to fix bugs. There are often complex roadmaps for upgrading across multiple minor versions of the software.

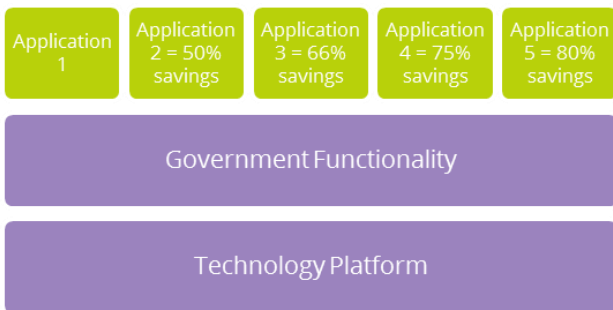
FreeBalance uses a different approach. Government customers are not forced to upgrade versions. Bug fixes are handled on multiple versions. And, there is a single upgrade step from any version beyond the last client/server version to any web version.



## Reduced Cost for Additional Functions

FreeBalance customers can leverage an investment in Version 7 by:

- Reduced cost to use the underlying technology platform for many applications
- Reduced cost to re-use government functionality among applications
- This approach yields about a 40% savings for every new application that is of the same scope as the original purchase

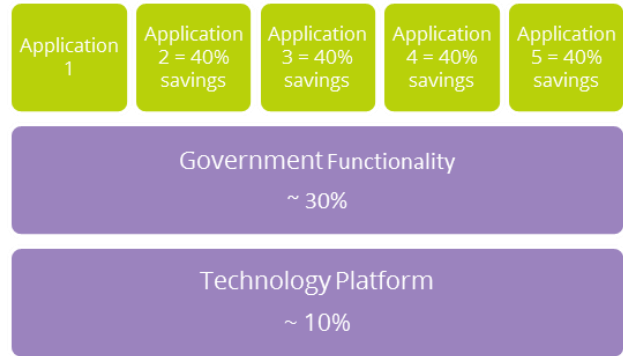


There is an additional savings in FreeBalance Version 7 because new applications re-use government entities that have already been purchased. This provides a credit that results in a savings 80% for the 5<sup>th</sup> application, relative to the first application, when all modules acquired are of similar scope.

This savings increases as applications built of Version 7 are added.

This leveraging of software assets is used to determine whether any financial sub-system ought to be replaced by a FreeBalance or Third Party application.

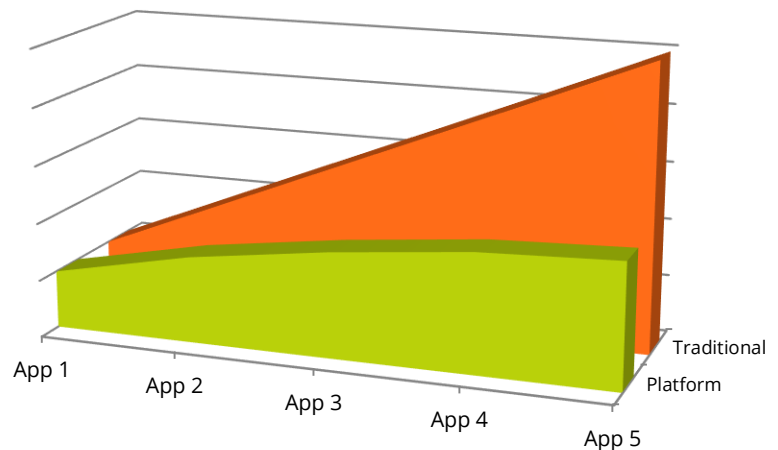
Ultimately, this platform approach to pricing reduces aggregate software costs significantly, as shown on the graph showing the difference between traditional license models and the FreeBalance platform approach.



This FreeBalance business practice appears to be unique in the enterprise software market. There does not appear to be a single vendor whose pricing methodology credits customers for functionality already purchased. It should also be noted that FreeBalance software can be licensed to the functional level so that customers are not forced to pay the price for full modules whose functions will not be used. Unlike almost all large enterprise software vendors, FreeBalance also supports concurrent licensing to help reduce government costs.

### Cumulative Price Implications

*Traditional vs. FreeBalance Platform Approach*



## CONCLUSION: TECHNOLOGY RETURN ON GOVERNANCE

This brief identified the technology and business practices that FreeBalance uses to enable effective and agile management of public finances. The FreeBalance focus on PFM and governance has created a platform designed to optimize affordability and enable progressive activation within the public sector.

The technology characteristics of the FreeBalance Accountability Platform that enables sustainable PFM reform include:

- Modern and open software architecture that follows good practices that “future-proofs” government organizations and reduces vendor “lock-in” and “technical debt”
- High quality COTS approach that also enables rapid development of custom solutions
- Use of configuration rather than customization to enable change and reform
- Unified system design to support Enterprise Architecture programs, reduces duplication, enables integration and ensures compliance with government controls across the budget cycle

FreeBalance business practices that enable sustainable PFM reform include:

- Commitment to new features within the mainline of the code and co-innovation with government customers
- One step upgrades without the need to manage orphan custom code
- Unique pricing model that enables governments to take advantage of functions already purchased

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